

Abigail L. Noyce

Curriculum Vitae

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Address: Department of Psychological and Brain Sciences,
Boston University, Boston, MA.

Phone: 1-617-440-3640

Email: anoyce@bu.edu

Twitter: [@abbynoyce](https://twitter.com/abbynoyce)

Education

Ph.D., Psychology	Brandeis University, Waltham, MA	February 2014
M.A., Psychology	Brandeis University, Waltham, MA	August 2012
B.A., Psychology	University of New Hampshire, Durham, NH	May 2007

Academic positions

Postdoctoral Associate; Ruth L. Kirschstein Postdoctoral Fellow Supervisors: David Somers and Barbara Shinn-Cunningham Department of Psychological and Brain Sciences Boston University, Boston, MA	2014 – present
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Grants and Funding

NIH grant F32-EY026796, Individual Fellowship, Principal Investigator Ruth L. Kirschstein National Research Service Award <i>Multiplexed frontal cortex organization for flexibility in short-term memory</i>	2016 – 2018
Travel grants, Center for Computational Neuroscience and Neural Technology, Boston University, & Center of Excellence for Learning in Education, Science, and Technology (CELEST)	2014 – 2016
Travel grant, Graduate School of Arts and Sciences, Brandeis University	2013
NIH grant T32-GM084907, pre-doctoral trainee <i>Brain-Body-Behavior Interface in Learning and Development Across the Lifespan</i>	2009 – 2011

Leadership experience

New Chapter Mentor, Learning Unlimited	2011 – 2016
Co-President, CELEST Student and Post-Doc Organization	2011 – 2012

Non-Academic

- Executive Board, Arisia convention 2015 – 2017
 Asst. Division Head & Division Head, Technical Services Division, Arisia convention 2009 – 2016
 Managed 50–70 volunteer staff and \$10,000–\$20,000 budget to provide AV and theatrical tech for four-day annual event.

Peer-reviewed publications

- Noyce**, A. L., Cestero, N., Michalka, S. W., Shinn-Cunningham, B. G., & Somers, D. C. (2017). Sensory-biased and multiple-demand processing in human lateral frontal cortex. *Journal of Neuroscience*, *37*, 8755–8766.
- Noyce**, A. L., Cestero, N., Shinn-Cunningham, B. G., & Somers, D. C. (2016). Short-term memory stores are organized by information domain. *Attention, Perception, & Psychophysics*, *78*, 960–970.
- Noyce**, A. & Sekuler, R. (2014). Oddball distractors demand attention: Neural and behavioral responses to predictability in the flanker task. *Neuropsychologia*, *65*, 18–24.
- Noyce**, A. & Sekuler, R. (2014). Violations of newly-learned predictions elicit two distinct P3 components. *Frontiers in Human Neuroscience*, *8*, 374.
- Maryott, J., **Noyce**, A., & Sekuler, R. (2011). Eye movements and imitation learning: Intentional disruption of expectation. *Journal of Vision*, *11*(1:7), 1–16.

J. Maryott & A. Noyce shared first authorship.

Current projects

- Gilman, A. T., McVicar, E. L., **Noyce**, A. L., & Ware, C. (in preparation). Working memory for multisensory stimuli.
- Lynch, J. D., Shinn-Cunningham, B. G., Somers, D. C., & **Noyce**, A. L. (in preparation). Working memory capacity estimates are better predicted by task domain than by sensory modality.
- N. Cestero and J. D. Lynch are undergraduate research mentees.

Conference presentations and peer-reviewed abstracts

Talks

- Noyce**, A. L., Tobyne, S. M., Michalka, S. W., Osher, D. E., Shinn-Cunningham, B. G., & Somers, D. C. (2017, May). *Visual, spatial, or visuospatial? Disentangling sensory modality and task demands in frontal cortex*. Presented at the annual meeting of the Vision Sciences Society, St. Pete Beach, FL.
- Noyce**, A. L., Michalka, S. W., Cestero, N., Shinn-Cunningham, B. G., & Somers, D. C. (2016, May). *Frontal lobe contributions to auditory and visual working memory*. Presented at the annual meeting of the Vision Sciences Society, St. Pete Beach, FL.

- Noyce, A. & Sekuler, R.** (2016, May). *Nonparametric statistical approaches to neuroimaging data*. Presented at the 171st meeting of the Acoustical Society of America, Salt Lake City, UT.
- Noyce, A. L., Somers, D. C., & Shinn-Cunningham, B. G.** (2016, February). *Auditory attention networks in the frontal lobe show strong sensory modality preferences*. Presented at the annual midwinter meeting of the Association for Research in Otolaryngology, San Diego, CA.
- Noyce, A. & Sekuler, R.** (2012, May). *Short-term memory resolution changes faster than capacity in visuomotor sequence learning*. Presented at the annual meeting of the Vision Sciences Society, Naples, FL.

Selected Posters

- Noyce, A. L., Michalka, S. W., Tobyne, S. M., Osher, D. E., Shinn-Cunningham, B. G., & Somers, D. C.** (2017, May). *Frontal lobe network contributions to audiovisual perception, attention, and memory*. Poster presented at the annual meeting of the Association for Psychological Science, Boston, MA.
- Bressler, S., Liu, D., Cunningham, W., Shinn-Cunningham, B., & **Noyce, A.** (2016, May). *Your brain doesn't know: A visual P300 experiment of "The Dress"*. Poster presented at the annual meeting of the Vision Sciences Society, St. Pete Beach, FL.
- Cestero, N., **Noyce, A. L.**, Shinn-Cunningham, B. G., & Somers, D. C. (2016, May). *MVPA reveals specialization and generality of sensory-biased regions of frontal cortex*. Poster presented at the annual meeting of the Vision Sciences Society, St. Pete Beach, FL.
- Lynch, J. D., **Noyce, A. L.**, Shinn-Cunningham, B. G., & Somers, D. C. (2016, May). *Memory capacity is further limited when sensory modality and task are mismatched*. Poster presented at the annual meeting of the Vision Sciences Society, St. Pete Beach, FL.
- Noyce, A. L., Michalka, S. W., Shinn-Cunningham, B. G., & Somers, D. C.** (2015, October). *Auditory and visual biases in 'multiple-demand' regions of human lateral frontal cortex*. Poster presented at the annual meeting of the Society for Neuroscience, Chicago, IL.
- Noyce, A. L., Cestero, N., Shinn-Cunningham, B. G., & Somers, D. C.** (2015, May). *Space depends on time: Informational asymmetries in visual and auditory short-term memory*. Poster presented at the annual meeting of the Vision Sciences Society, St. Pete Beach, FL.
- Noyce, A. L., Somers, D. C., & Shinn-Cunningham, B. G.** (2015, February). *Time vs. space: Modality-appropriateness and cross-modal recruitment in auditory and visual short-term memory*. Poster presented at the annual midwinter meeting of the Association for Research in Otolaryngology, Baltimore, MD.
- Noyce, A. & Sekuler, R.** (2014, May). *Individual differences in obligatory processing of unexpected, intentionally-ignored events*. Poster presented at the annual meeting of the Vision Sciences Society, St. Pete Beach, FL.

- Noyce, A., Payne, L., & Sekuler, R. (2014, April).** *Short-term memory requires stable modulation of EEG alpha oscillations.* Poster presented at the annual meeting of the Cognitive Neuroscience Society, Boston, MA.
- Noyce, A. & Sekuler, R. (2013, October).** *Leaky ignoring and the visual mismatch negativity in the flanker task.* Poster presented at the annual meeting of the Psychonomics Society.
- Noyce, A. & Sekuler, R. (2012, April).** *Source localization of EEG signals generated during sequence learning and expectation monitoring.* Poster presented at the annual meeting of the Cognitive Neuroscience Society, Chicago, IL.
- Noyce, A. & Sekuler, R. (2011, May).** *Surprises are mistakes: An EEG source localization study of prediction errors.* Poster presented at the annual meeting of the Vision Sciences Society, Naples, FL.
- Noyce, A., Maryott, J., & Sekuler, R. (2010, May).** *Unexpected events, predictive eye movements, and imitation learning.* Poster presented at the annual meeting of the Vision Sciences Society, Naples, FL.
- Noyce, A., Dobiás, J. J., Hetley, R., & Stine, W. W. (2007, August).** *Distortion and rigidity in rotating random-dot textures.* Poster presented at the European Conference on Visual Perception, Arezzo, Italy.

Seminars and colloquia

Frontal cortex in short-term memory for space and time University of New Hampshire, Durham, NH	2016
Auditory and visual attention in prefrontal cortex Massachusetts Institute of Technology, Cambridge, MA	2016
Neural flexibility underlying attention and memory Juniata College, Huntingdon, PA	2015
Sequences, predictions, and prediction monitoring University of Waterloo, Waterloo, ON	2013
Mistakes and mismatches: Systematic effects of prediction errors Brandeis University	2013
A mixture model of sequence learning Brandeis University	2011
Neural mechanisms of expectation monitoring Brandeis University	2011
Expectations and visuomotor learning Brandeis University	2009

Teaching Experience

Brandeis University, Instructor

Perception: Human, Animal, Machine	2012
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Brandeis University, Teaching Fellow

Intro. to Psychology	2013
Research Methods	2010, 2012
Behavioral Neuroscience	2011
Perception: Human, Animal, Machine	2010
Statistics	2009
Intro. to Cognitive Neuroscience	2009

MIT Educational Studies Program, Instructor

Cognitive Neuroscience (summer course for advanced high schoolers)	2008, 2009
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Research students supervised and mentoredBoston University undergraduates

Ningcong Tong '18

Kyle Gomez '18 BU USPIN fellow; UROP grant

Gavin Belok '17 now Research Assistant, Harvard Medical School

Nishmar Cestero '16 Senior Honors Thesis; now Ph.D. student, Columbia University

James Lynch '16 UROP grant; Senior Honors Thesis; now Research Technician, Boston University

Kelly Martin '14 now Ph.D. student, Georgetown University

Boston University graduate students

Cricket Clayton MEng '18 LEAP student, Boston University

Norick Bowers MA '15 now Ph.D. student, University of California Berkeley

Brandeis University undergraduates

Arielle Keller '16 now Ph.D. student, Stanford University

Brian Dorfman '16 now teacher for teens w/ autism, New England Center for Children

Avi Aizenman '13 now Ph.D. student, University of California Berkeley

Rebecca Meyer '11 now Research Assistant, Burke Rehabilitation Hospital

Five of my research students have now begun Ph.D. programs in the field. Two are working in clinical settings. Six worked or are working as research assistants and lab managers after graduating.

Additional Pedagogical Training

Alan Alda Communicating Science Workshop Intensive two-day workshop on connecting with an audience	2016
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An Introduction to Evidence-Based STEM Teaching Center for the Integration of Teaching, Learning, & Research Online course with local Boston University learning community	2015
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Professional activities and service

Ad-hoc reviewer: *eLife*, *Journal of Vision*, *Memory & Cognition*, *Psychonomic Bulletin & Review*

Panels on cognitive neuroscience at science fiction conventions	2014 – 2017
Undergraduate thesis committees, Boston University:	
Nishmar Cestero, Undergraduate Program in Psychology	2016
James Lynch, Undergraduate Program in Neuroscience	2016
Volunteer outreach teacher, MIT Educational Studies Program	2004 – 2016
Organized BU Brain, Behavior, and Cognition outside speakers series	2014 – 2016
Organized CompNet workshop on prediction errors in cognition	2013
Editorial board, <i>Inquiry: UNH Undergraduate Research Journal</i>	2006 – 2007

Membership in professional organizations

Association for Psychological Science
Association for Research in Otolaryngology
Cognitive Neuroscience Society
Psychonomic Society
Society for Neuroscience
Vision Sciences Society

References

David C. Somers
Professor and Chair, Psychological and Brain Sciences
Boston University, Boston, MA 02215
1-617-358-1372, somers@bu.edu

Barbara G. Shinn-Cunningham
Professor, Biomedical Engineering
Boston University, Boston, MA 02215
1-617-353-5764, shinn@cns.bu.edu

Robert W. Sekuler
Professor, Psychology
Brandeis University, Waltham, MA
1-781-736-3277, sekuler@brandeis.edu