

# Michael A. Cohen

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## Academic Positions

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2017-Present *Amherst College*  
Assistant Professor  
Department of Psychology and Program in Neuroscience

2014-2017 *Massachusetts Institute of Technology*  
Postdoctoral Fellow  
Department of Brain and Cognitive Sciences  
(Advisor: Nancy Kanwisher)

## Education

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2014 *Harvard University* Ph.D. Cognition, Brain, and  
(Advisors: Ken Nakayama & George A. Alvarez)

2007 *Tufts University* B.A. Philosophy  
(Advisor: Daniel C. Dennett)

## Research Support

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2018 – present – National Science Foundation – Cognitive Neuroscience Grant

2014 – 2017 – National Institute of Health - National Research Service Award

2010 – 2013 – National Science Foundation - Graduate Research Fellowship

## Publications

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**Cohen, M.A.**, Ostrand, C., Frontero, N., Pham, P-N (2019) Characterizing a snapshot of perceptual experience. *PsyArXiv*. doi: <https://psyarxiv.com/nm5uc/>

**Cohen, M.A.** & Rubenstein, J. (2019) How much color do we see in the blink of an eye? *PsyArXiv*. doi: [10.31234/osf.io/enywt](https://doi.org/10.31234/osf.io/enywt)

**Cohen, M.A.**, Dilks, D., Koldewyn, K., Weigelt, S., Feather, J., Kell, A., Keil, B., Fischl, B., Zollei, L., Wald, L., Saxe, R, Kanwisher, N. (2019) Representational similarity precedes category selectivity in the developing ventral visual pathway. *NeuroImage*, 197, 565-574.

Störmer, V.S., **Cohen, M.A.**, Alvarez, G.A. (2019) Tuning attention to object categories: Spatially global effects of attention to faces in visual processing. *Journal of Cognitive Neuroscience*, 16, 1-11.

**Cohen, M.A.** (2019) What is the true capacity of visual cognition? *Trends in Cognitive Sciences*, 23,83-86

- Cohen, M.A.**, Alvarez, G.A., Nakayama, K., & Konkle, T. (2017) Perceptual processing of object categories can be predicted across all of higher-level cortex. *Journal of Neurophysiology*, 117, 388-402.
- Jackson-Nielsen, M., **Cohen, M.A.**, & Pitts, M. (2017) Ensemble perception requires attention. *Consciousness and Cognition*, 48, 149-160.
- Cohen, M.A.**, Dennett, D.C., & Kanwisher, N. (2016) What is the bandwidth of perceptual experience? *Trends in Cognitive Science*. 20, 324-335.
- Cohen, M.A.**, Dennett, D.C., & Kanwisher, N. (2016) Ensemble perception, summary statistics, and perceptual awareness: A response. *Trends in Cognitive Sciences*, 20, 643.
- Cohen, M.A.**, Rhee, J.Y., & Alvarez, G.A. (2016) Limits on perceptual encoding can be predicted from known receptive field properties of human visual cortex. *Journal of Experimental Psychology: Human Perception & Performance*, 42, 67-77.
- Long, B.L., Konkle, T., **Cohen, M.A.**, & Alvarez, G.A. (2016) Visual shape features distinguish objects of different real-world sizes. *Journal of Experimental Psychology: General*, 145, 95-109.
- Cohen, M.A.**, Nakayama, K., Konkle, T., Stantić, M., & Alvarez, G.A. (2015) Visual awareness is limited by the representational architecture of the visual system. *Journal of Cognitive Neuroscience*, 27, 2240-2252.
- Cohen, M.A.**, Konkle, T., Rhee, J.Y., Nakayama, K., & Alvarez, G.A. (2014) Processing multiple visual objects is limited by overlap in neural channels. *Proceedings of the National Academy of Sciences, USA*. 111, 24, 8955-8960.
- Cohen, M.A.**, Cavanagh, P., Chun, M.M., & Nakayama, K. (2012) The attentional requirements of consciousness. *Trends in Cognitive Sciences*, 16, 411-417.
- Cohen, M.A.**, Cavanagh, P., Chun, M.M., & Nakayama, K. (2012) Response to Tsuchiya et al.: considering exogenous and endogenous attention. *Trends in Cognitive Sciences*, 16, 528.
- Cohen, M.A.**, Alvarez, G.A., & Nakayama, K. (2011) Natural scene perception requires attention. *Psychological Science*, 22, 1165-1172.
- Cohen, M.A.**, & Dennett, D.C. (2011) Consciousness cannot be separated from function. *Trends in Cognitive Sciences*, 15, 358-364.
- Cohen, M.A.**, & Dennett, D.C. (2012) Response to Fahrenfort and Lamme: defining reportability, accessibility, and sufficiency in conscious awareness. *Trends in Cognitive Sciences*, 16, 157.
- Pinto, Y., Otten, M.A., **Cohen, M.A.**, Horowitz, T.S., & Wolfe, J.M. (2011) The boundary conditions for Bohr's law: When is reacting faster than acting? *Attention, Perception and Psychophysics*, 73, 613-620.
- Cohen, M.A.**, Evans, K.K., Horowitz, T.S., & Wolfe, J.M. (2011) Auditory and visual memory in musicians and nonmusicians. *Psychonomic Bulletin and Review*, 18, 586-591.
- Evans, K.K., **Cohen, M.A.**, Tambouret, R., Horowitz, T.S., & Wolfe, J.W. (2011) Does visual expertise affect visual recognition memory? *Attention, Perception and Psychophysics*, 73, 30-35.

**Cohen, M.A.**, Pinto, Y., Howe, P.D.L., & Horowitz, T.S. (2011) The what/where trade-off in multiple object tracking. *Attention, Perception and Psychophysics*, 73, 1422-1434.

Horowitz, T.S. & **Cohen, M.A.** (2010) Direction information in multiple object tracking is capacity limited by a graded resource. *Attention, Perception, and Psychophysics*, 72, 1765-1775.

Pinto, Y., Howe, P.D.L., **Cohen, M.A.**, Horowitz, T.S. (2010) The more often you see an object, the easier it becomes to track. *Journal of Vision*, 4, 1-15.

Howe, P.D.L., **Cohen, M.A.**, Pinto, Y., & Horowitz, T.S. (2010) Distinguishing between parallel and serial accounts of multiple object tracking. *Journal of Vision*, 11, 1-13.

**Cohen, M.A.**, Horowitz, T.S., & Wolfe, J.M. (2009) Auditory recognition memory is inferior to visual recognition memory. *Proceedings of the National Academy of Sciences, USA*. 106, 14, 6008-6010.

Horowitz, T.S., Wolfe, J.M., Alvarez, G.A., **Cohen, M.A.**, & Kuzmova, Y.I. (2009) The speed of free will. *Quarterly Journal of Experimental Psychology*, 62, 2262-2288.

Kunar, M.A., Carter, R., **Cohen, M.A.**, & Horowitz, T.S. (2008) Telephone conversation impairs sustained visual attention via a central bottleneck. *Psychonomic Bulletin and Review*, 15, 1135-1140.

## Book chapters

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**Cohen, M.A.** & Chun, M.M. (2018) Attention and consciousness: Change blindness, inattentional blindness, and the attentional blink. *Blackwell Companion to Consciousness*. (ed.) Max Velmans.

Howe, P.D.L., Evans, K.K., Pedersini, R. Horowitz, T.S., Wolfe, J.M., & **Cohen, M.A.** (2009) Attention: Selective Attention and Consciousness. *Encyclopedia of Consciousness*, (ed.) William P. Banks. Vol. 1, pp. 61-75. Oxford: Elsevier.

## Manuscripts

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Yamins, D., **Cohen, M.A.**, Hong, H., Kanwisher, N. & DiCarlo, J.J. (*in progress*) The emergence of face-selective units in a convolutional neural network that has never seen a face.

## Award and Honors

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2013 – Derek Bok Teaching Award – Consciousness Explored

2012 – Elsevier/Vision Research Travel Award

2012 – Derek Bok Teaching Award – Intro. to Cognitive Neuroscience

2012 – Mind, Brain, and Behavior Graduate Student Award, Harvard University

2011 – Association for the Scientific Study of Consciousness Travel Award

2011 – Derek Bok Teaching Award – Intro. to Cognitive Psychology

2007 – Phi Beta Kappa – Tufts University

2007 – Summa Cum Laude – Tufts University

2007 – Helen M. Cartwright Prize in Philosophy – Tufts University

## Teaching Experience

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Consciousness and the Brain (Instructor) – Amherst College, Spring 2018.  
Introduction to Psychology (Instructor) – Amherst College, Spring 2018.  
Behavioral Neuroscience (Instructor) – Amherst College, Fall 2017.  
Brain Sciences of the Future (Instructor) – Amherst College, Fall 2017.  
Cognitive and Brain Sciences of the Future (Instructor) – Tufts University, Fall 2016.  
Consciousness and the Brain (Instructor) – MIT, Spring 2016.  
Consciousness Explored (Co-Instructor: Daniel C. Dennett) – Tufts University, Spring 2015.  
Consciousness Explored (Teaching Assistant) – Harvard University, Spring 2013 (Dr. Ken Nakayama).  
Cognitive Neuroscience (Teaching Assistant) – Harvard University, Fall 2012 (Dr. Daniel Schacter and Dr. George Alvarez).  
Cognitive Psychology (Teaching Assistant) – Harvard University, Fall 2011 (Dr. Jennifer Wagner).  
Introduction to Psychology (Teaching Assistant) – MIT, Fall 2009 (Dr. Jeremy Wolfe).  
Introduction to Psychology (Teaching Assistant) – MIT, Fall 2008 (Dr. Jeremy Wolfe).

## Invited Talks

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*Johns Hopkins University* – Fall 2019 – Characterizing the richness of perception under different attentional states.

*Dartmouth College* – Spring 2019 – What is a snapshot of perceptual experience?

*University of Wisconsin, Madison* – Fall 2018 – What is a snapshot of perceptual experience?

*University of California, Berkeley* – Fall 2017 – Ensemble statistics and the richness of visual perception.

*Aarhus University (Denmark)* – Spring 2017 – Ensemble statistics and the richness of visual perception.

*Dartmouth College* – Fall 2016 – The functional organization of the visual system: How does it constrain behavior and develop?

*Amherst College* – Fall 2016 – The organization of the brain limits visual cognition.

*Wellesley College* – Spring 2016 – Restoring the senses with gene therapy and brain machine interfaces.

*Vassar College* – Spring 2016 – How the organization of the brain limits what we see.

*University of Arizona* – Spring 2016 - How the organization of the brain limits what we see.

*Skidmore College* – Spring 2016 - How the organization of the brain limits what we see.

*Computational and Systems Neuroscience Workshop* – Spring 2016 – Massive readout of object categories across higher-level visual cortex.

## Guest Lectures

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*Anatomical constraints on perception and memory*

Representation and the brain – Dr. James Haxby & Dr. Adina Roskies– Fall 2014 – Dartmouth College

The human face – Dr. Ken Nakayama – Fall 2013 – Harvard University

Concepts and the brain – Dr. Alfonso Caramazza – Fall 2013 – Harvard University

*Consciousness (topics include attention, neural mechanisms, and clinical disorders)*

Animal consciousness – Dr. Daniel Dennett – Spring 2016 – Tufts University

Conscious perceptual experience – Dr. Daniel Pollen – Spring 2015 – Harvard University

Contemporary Issues in Psychology– Dr. Mahzarin Banaji – Spring 2015 – Harvard University

Mind and Brain – Dr. Daniel Dennett – Fall 2014 – Tufts University

A Systems Neuroscience Approach to Consciousness– Dr. Daniel Pollen – Fall 2013 – Harvard University

Puzzles of the Mind: Humans, Animals, & Robots – Dr. Guven Güzeldere – Spring 2013 – Harvard University

*Free will, decision-making, and Cognitive Neuroscience*

Contemporary Issues in Psychology– Dr. Mahzarin Banaji – Spring 2013 – Harvard University

Contemporary Issues in Psychology– Dr. Mahzarin Banaji – Spring 2012 – Harvard University

*Cognitive neuropsychology*

Neuropsychology and Visual Cognition – Dr. Ariel Goldberg– Fall 2014 – Tufts University

## Students Supervised

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\* Students who are co-authors on publications or conference abstracts

^ Thesis students

^Sydney Baumgardt (Amherst College) –Fall 2019-Spring 2020

^Kayla Hall (Amherst College) –Fall 2019-Spring 2020

^Illyas Tezekbaev (Amherst College) –Fall 2019-Spring 2020

Sebastian Montesinos (Amherst College) –Spring 2019-Fall 2019

\*^Jordan Rubinstein (Amherst College) –Fall 2018-Spring 2019

\*Nicole Frontero (Amherst College) –Spring 2018-Spring 2019

\*Caroline Ostrand (Amherst College) –Spring 2018-Spring 2019

\*^Phuong-Nghi Pham (Amherst College) –Fall 2017-Spring 2018

^Jason Darrell (Amherst College) –Fall 2017-Spring 2018

\*^Mirta Stantic (Harvard University) – Spring 2013-Spring 2015

Morgan Henry (Harvard University) – Spring 2013 – Spring 2014

Sarah Cormiea (Northeastern University) – Fall 2012 – Spring 2013

\*Juliana Rhee (Harvard University) – Spring 2010 – Summer 2012

Ilana Bergelson (University of Chicago) – Summer 2010

## Presentations

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- Kyroudis, A., **Cohen, M.A.**, & Pitts, M. (2018) Neural activity linked with visual awareness and task-relevance in a novel 2x2 design. Presented at the Association for the Scientific Study of Consciousness, Ontario, Canada.
- Cohen, M.A.**, & Rubenstein, J. (2019) Characterizing a snapshot of perception under different attentional states. Presented at the Association for the Scientific Study of Consciousness, Ontario, Canada.
- Cohen, M.A.**, Ostrand, C., & Frontero, N. (2019) Characterizing a snapshot of perceptual experience. Presented at the Vision Sciences Society, Florida, USA.
- Kyroudis, A., **Cohen, M.A.**, & Pitts, M. (2018) Neural activity linked with visual awareness and task-relevance in a novel 2x2 design. Presented at the Annual Meeting of the Society for Neuroscience, San Diego, California.
- Cohen, M.A.**, Ostrand, C., & Pham, P-N. (2018) What is a snapshot of perceptual experience? Presented at the Cognitive Science Association for Interdisciplinary Learning, Portland, Oregon.
- Cohen, M.A.**, Ostrand, C., & Pham, P-N. (2018) What is a snapshot of perceptual experience? Presented at the Association for the Scientific Study of Consciousness, Krakow, Poland.
- Cohen, M.A.** (2017) Ensemble statistics and the richness of visual perception. Presented at the Association for the Scientific Study of Consciousness, Beijing, China.
- Cohen, M.A.** (2017) Ensemble statistics expand the richness of visual perception. Presented at the Vision Sciences Society, Florida, USA.
- Cohen, M.A.**, Dilks, D.D., Feather, J., Koldweyn, K.K., Weigelt, S., & Kanwisher, K. (2016) Common representational structures across the visual hierarchy in children and adults. Presented at the Vision Sciences Society, Florida, USA.
- Jackson-Nielsen, M., **Cohen, M.A.**, & Pitts, M. (2016) Ensemble perception requires attention. Presented at the Vision Sciences Society, Florida, USA.
- Cohen, M.A.**, Konkle, T., Rhee, J.Y., Nakayama, K., & Alvarez, G.A. (2015) Processing multiple visual objects is limited by overlap in neural channels. Presented at the Association for the Scientific Study of Consciousness, Paris, France.
- Yamins, D., **Cohen, M.A.**, Hong, H., Kanwisher, N. & DiCarlo, J.J. (2015) The emergence of face-selective units in a model that has never seen a face. Presented at the Vision Sciences Society, Florida, USA.
- Cohen, M.A.**, Nakayama, K., Konkle, T., & Alvarez, G.A. (2015) Visual awareness is limited by the functional organization of the higher-level visual cortex. Presented at the Vision Sciences Society, Florida, USA.
- Störmer, V.S., **Cohen, M.A.**, & Alvarez, G.A. (2015) Tuning attention to high-level objects: Spatially global effects of attention to faces in visual processing. Presented at the Vision Sciences Society, Florida, USA.

- Cohen, M.A.**, Konkle, T., Nakayama, K., & Alvarez, G.A. (2014) A ubiquitous and uniform representational structure across higher-level visual cortex. Presented at the Vision Sciences Society, Florida, USA.
- Cohen, M.A.**, Rhee, J.Y., & Alvarez, G.A. (2013) Spatial interference within receptive fields for high and low-level visual stimuli. Presented at the Vision Sciences Society, Florida, USA.
- Long, B.L., Konkle, T., **Cohen, M.A.**, & Alvarez, G.A. (2013) Real-world size influences visual search efficiency. Presented at the Vision Sciences Society, Florida, USA.
- Cohen, M.A.**, & Dennett, D.C. (2012) A multi-access model of consciousness. Presented at the Association for the Scientific Study of Consciousness, Brighton, UK.
- Cohen, M.A.**, Konkle, T., Rhee, J.Y., Nakayama, K., & Alvarez, G.A.. (2012) A High-level neural similarity predicts inter-stimulus competition. Presented at the Vision Sciences Society, Florida, USA.
- Cohen, M.A.**, & Nakayama, K. (2011) Visual attention is necessary for visual awareness. Presented at the Association for the Scientific Study of Consciousness, Kyoto, Japan.
- Cohen, M.A.**, Nakayama, K., Konkle, T., & Alvarez, G.A. (2011) Competition for working memory resources depends on the stimuli being remembered. Presented at the Vision Sciences Society, Florida, USA.
- Cohen, M.A.**, Alvarez, G.A. & Nakayama, K. (2010) Natural scene perception requires attention. Presented at the Vision Sciences Society, Florida, USA.
- Cohen, M.A.**, Horowitz, T.S., & Wolfe, J.M. (2009) Auditory Recognition Memory is Inferior to Auditory Recognition Memory. Presented at the Vision Sciences Society, Florida, USA.
- Horowitz, T.S., **Cohen, M.A.**, Howe, P.D.L., & Wolfe, J.M. (2009) Do Multiple Object Tracking and Letter Recognition use the Same Visual Attention Resource? Presented at the Vision Sciences Society, Florida, USA.
- Howe, P.D.L, **Cohen, M.A.**, Pinto, Y., & Horowitz, T.S. (2009) Distinguishing between parallel and serial accounts of multiple object tracking. Presented at the Vision Sciences Society, Florida, USA.
- Cohen, M.A.**, Horowitz, T.S., & Wolfe, J.M. (2009) Auditory recognition memory is inferior to visual recognition memory. Presented at the Vision Sciences Society, Florida, USA.
- Howe, P.D.L, **Cohen, M.A.**, Pinto, Y., & Horowitz, T.S. (2009) Humans can simultaneously attend to eight moving objects. Presented at the Psychonomics Meeting, Boston, MA.
- Horowitz, T.S & **Cohen, M.A.** (2009) Do distractors disrupt prediction in multiple object tracking? Presented at the Psychonomics Meeting, Boston, MA.
- Cohen, M.A.**, & Horowitz, T.S. (2008) Multiple Object tracking is capacity limited by a graded resource. Presented at the Tufts University Conference on Cognitive Neuroscience, Boston, USA.
- Rich, A.N., Van Wert, M.J., **Cohen, M.A.**, & Horowitz, T.S. (2008). Avoiding distraction: The effects of salient singletons on tracking moving objects. Presented at the 35th Australasian Experimental Psychology Conference, Fremantle, Australia.

Rich, A.N., Van Wert, M.J., **Cohen, M.A.**, & Horowitz, T.S. (2008). Multiple object tracking is surprisingly robust to abrupt onsets. Presented at the Vision Science Society, Florida, USA.

Kunar, M.A., Carter, R., **Cohen, M.A.**, & Horowitz, J.M. (2008) Telephone conversations impair sustained visual attention via a central bottleneck. Presented at the Vision Science Society, Florida, USA.

**Cohen, M.A.**, Howe, P.D.L., Horowitz, T.S., & Wolfe, J.M. (2008) Support for a postdictive Account of the Flash-lag Effect. Presented at the Vision Science Society, Florida, USA.

Horowitz, T.S., & **Cohen, M.A.** (2008) Distractors are more than foils in multiple object tracking. Presented at the European Conference on Vision and perception, Utrecht, Netherlands.

Horowitz, T.S. & **Cohen, M.A.** (2008) Slots vs. resources in multiple object tracking. Presented at the Psychonomics Meeting, Chicago, USA.

## Journal Reviewing

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*Editorial Board:* Frontiers in Consciousness Research (2015-2018)

*Ad-Hoc Reviewing:* Trends in Cognitive Sciences; Current Biology; Journal of Neuroscience; PLoS Computational Biology; Psychological Science; Journal of Experimental Psychology: General; Cognition; Journal of Experimental Psychology: Human Perception & Performance; Experimental Brain Research; Journal of Vision; Vision Research; Consciousness and Cognition; Attention, Perception, and Psychophysics; Visual Cognition; PLoS One; Quarterly Journal of Experimental Psychology; Minds and Machines; Linguistic Sciences.