

Monica A. Gates

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Education

University of California, Berkeley, PhD student in Neuroscience, *2016-present*
Advisor: Prof. Tom Griffiths (Psychology, Cognitive Science)

University of Cambridge, Master of Philosophy in Biological Science (Psychology), *2015-2016*
Advisor: Dr. Zoe Kourtzi (Experimental Psych.), one-year research (not taught) program
Thesis: "Impact of Task Structure on Strategies in Statistical Learning"

Wellesley College, Bachelor of Arts in Neuroscience *2011-2015*
Magna cum laude (GPA: 3.82/4.00), departmental honors, Phi Beta Kappa, Sigma Xi
Advisor: Prof. Bevil Conway (Neuroscience)
Thesis: "Neural Correlates of the Bezold-Brücke Perceptual Color Shift"

Publications

J.F. Fisac, **M.A. Gates**, J.B. Hamrick, C. Liu, D. Hadfield-Menell, M. Palaniappan, D. Malik, S.S. Sastry, T.L. Griffiths, and A.D. Dragan (2017). Pragmatic-Pedagogic Value Alignment. *International Symposium on Robotics Research*.

Gates, M.A., Suchow, J.W., and Griffiths, T.L. (2017). Empirical tests of large-scale collaborative recall. *Proceedings of the 39th Annual Conference of the Cognitive Science Society*. Selected for oral presentation.

Gagin, G., Bohon, K.S., Butensky, A., **Gates, M.A.**, Hu, J.Y., Lafer-Sousa, R., Pulumo, R.L., Qu, J., Stoughton, C.M., Swanbeck, S.N. and Conway, B.R. (2014). Color-detection thresholds in rhesus macaque monkeys and humans. *Journal of vision*, 14(8), 12.

Awards

Data on the Mind Summer Workshop, UC Berkeley, *June 2017*

Center for Brains, Minds, and Machines (CBMM) Summer Course, Marine Biological Laboratory at Woods Hole, MA, *Aug. 2017*

NSF Graduate Research Fellowship Honorable Mention, 2017

BAIR First-Year Travel Stipend, Berkeley Artificial Intelligence Research Lab, *2016*

Goldwater Scholarship Honorable Mention, Barry Goldwater Scholarship and Excellence in Education Foundation, 2014

Beckman Scholar, Arnold and Mabel Beckman Foundation, 2014-2015

Travel Grant to Cosyne (Computational and Systems Neuroscience meeting), NSF- and Brain Corporation-funded, Mar. 2015

Horton-Hallowell Graduate Research Fellowship, Wellesley College, 2015

Russell Prize in Neuroscience Senior Prize (awarded to graduate with most promise in academic research), Wellesley College, 2015

Center for Brains, Minds, and Machines (CBMM) Summer Undergraduate Research Program, M.I.T., Summer 2014

Posters and Presentations

** indicates equal contributions*

Posters

Gates, M.A.* and Veuthy T.*, Bayet L., Gerstenberg T., Smith K., Tessler M.H., and Tenenbaum J. (2017). Modeling Political Correctness. Presented as a poster at Berkeley Neuroscience Retreat 2017 in Tahoe City, CA.

Gates, M.A. and Conway, B.R. (2015). Responses to Color and Luminance in Macaque Monkeys and Humans. Presented as a poster at Beckman Scholars Annual Research Symposium in Irvine, CA.

Gates, M.A. and Conway, B.R. (2015). Responses to Color and Luminance in Macaque Monkeys and Humans. Presented as a poster at Northeast Under/Graduate Organization for Neuroscience (NEURON) Conference in Hamden, CT.

Gates, M.A., Gagin, G., Bohon, K.S. and Conway, B.R. (2014). Responses of Macaque PIT Neurons to Color and Luminance. Presented as a poster at M.I.T. CBMM/BCS Summer Poster Session in Cambridge, MA.

Gates, M.A. and Conway, B.R. (2014). Quantification of Macaque Glob Cell Single-Unit Responses. Presented as a poster at Wellesley College Summer Research Poster Session in Wellesley, MA.

Gates, M.A.*, Galina, G.*, Hu, J.Y.*, Conway, B.R. (2013). Cellular and Behavioral Investigations of Color in Macaques. Presented as a poster at the Faculty for Undergraduate Neuroscience Social at the Society for Neuroscience Conference in San Diego, CA.

Gates, M.A. and Conway, B.R. (2013). Single-Unit Responses to Color in Macaque V4 Cells. Presented as a poster at Wellesley College Summer Research Poster Session in Wellesley, MA.

Hu, J.Y.*, **Gates, M.A.***, and Conway, B.R. (2013). Latencies of V4T Cells in Response to Variations in Hue, Saturation, and Luminance. Listed on the poster presented at National Collegiate Research Conference at Harvard University in Cambridge, MA.

Oral Presentations

Gates, M.A.* and Veuthey T.*, Bayet L., Gerstenberg T., Smith K., Tessler M.H., and Tenenbaum J. (2017). Modeling Political Correctness. Presented as a talk at Brains, Minds, and Machines Summer School in Woods Hole, MA.

Gates, M.A., Suchow, J.W., and Griffiths, T.L. (2017). Empirical tests of large-scale collaborative recall. Presented as a talk at the Proceedings of the 39th Annual Conference of the Cognitive Science Society Conference.

Gates, M.A., Suchow, J.W., and Griffiths, T.L. (2016). Large-scale empirical comparison to models of social memory. Invited Speaker. Presented as a talk at the DARPA UC Berkeley NGS2 Visit in Berkeley, CA.

Gates, M.A., Suchow, J.W., and Griffiths, T.L. (2016). Models of Social Cognition. Invited Speaker. Presented as a talk at the Dallinger Kick-Off Event at UC Berkeley in Berkeley, CA.

Grahmann, P.*, Li, A.*, **Gates, M.A.*** and Conway, B.R. (2015). Conway Lab Presentation. Presented as a split talk for the Wellesley College Summer Research Program at Wellesley College in Wellesley, MA.

Chuang, G.*, **Gates, M.A.***, Cho, E.*, Lee, E.*, and Conway, B.R. (2014). Conway Lab Presentation. Presented as a split talk for the Wellesley College Summer Research Program in Wellesley, MA.

Gates, M.A.*, Hu, J.Y.*, Qu, J.*, Yeagle, E.*, and Conway, B.R. (2013). Conway Lab Presentation. Presented as a split talk for the Wellesley College Summer Research Program in Wellesley, MA.

Broader Impacts

online resources, public engagement, mentoring, teaching

Online Resources

Science Outreach Website Developer, *Summer 2016-Present*

Science outreach website aimed at undergraduates in science, especially female undergraduates and undergraduates in computational cognitive science: <http://womenincocosci.com>

Student Blogger, Admission Office of Wellesley College, *Fall 2011-Spring 2015*

Blogged weekly to inform potential students about college life, particularly as a female scientist. Represented Wellesley Class of 2015.

- Continue to blog weekly about graduate life, *Spring 2015-Present*

Public Engagement

Interactive science activities

Volunteer Scientist in Elementary Schools, Bay Area Scientists in Schools (BASIS), *2017-present*

With a group of four other female scientists, developed and volunteer monthly to teach a science lesson on the brain and senses to first-graders in Berkeley.

- Copy editor for the Berkeley Science Review, April 2017 edition, UC Berkeley, *Apr. 2017*
- Science Café (Cambridge Festival of Science) and volunteering at hands-on interactive activities (Cambridge Festival of Science), University of Cambridge, *Mar. 2016*
- Volunteer at the Cambridge Hands-On Summer Roadshow (two-day event), UK, *July 2016*

Research talks aimed at public audiences

Gates, M.A., Perez-Pozuelo, I. and Kourtzi, Z. (2016). Predicting what's next—how we learn patterns from a probabilistic world. Presented as a talk at CamBRAIN Neuroscience Society meeting at the University of Cambridge in Cambridge, UK.

Gates, M.A., Perez-Pozuelo, I. and Kourtzi, Z. (2016). Predicting what's next—how we learn patterns from a messy (probabilistic) world. Presented as a talk at Graduate Research Day 2016 at Lucy Cavendish College, University of Cambridge in Cambridge, UK.

Gates, M.A., Perez-Pozuelo, I. and Kourtzi, Z. (2016). Predicting what's next—how we learn patterns from a messy (probabilistic) world. Presented as a talk at the International and Ethnic Minorities Student Mini-Conference at Lucy Cavendish College, University of Cambridge in Cambridge, UK.

Gates, M.A. and Conway, B.R. (2015). Neural Responses to Color and Luminance. Presented as a talk at Lucy brainSTEMMs event at Lucy Cavendish College, University of Cambridge in Cambridge, UK.

Gates, M.A. and Conway, B.R. (2015). Neural Responses to Color and Luminance. Presented as a talk at Ruhlman Conference at Wellesley College in Wellesley, MA.

Gates, M.A.*, Hu, J.Y.*, and Conway, B.R. (2013). Latency in V4/PIT Vision Cells. Presented as a talk at Ruhlman Conference at Wellesley College in Wellesley, MA. **indicates equal contributions*

Career event talks

- Psi Chi Graduate Panel: 1-hour panel with USF students, University of California San Francisco, *Oct. 2017*
- Volunteer at Girls Advancing in STEM (GAINS) Conference 2017: 30-minute panel and 1-hour career mixer with high school women, Stanford University, *Apr. 2017*
- Multiple 3-minute talks describing job (scientist) with 13-14 year-olds, *, *Mar. 2016*
- 15-minute talks leading an activity and describing job (scientist) with 14-15 year-olds, *, *Apr. 2016*
- Career day activities with 11-12 year-olds, *, *Apr. 2016, twice in May 2016, June 2016*
- *Locations: Bassingbourn, Cambourne, and Chesterton Village Colleges (England)

Mentoring

Adaptive Brain Lab, 2015-2016

Harry Potts (undergraduate), Zena Ahmed (undergraduate)

Conway Lab, 2012-2016

Erica Wu (high school), Anran Li (undergraduate), Patricia Grahmann (undergraduate), Jessica Keleman (undergraduate), Isabelle Rosenthal (undergraduate), Eileen Cho (undergraduate), Evelyn Lee (undergraduate), Galen Chuang (undergraduate), Hannah Schmidt (undergraduate), Youngju Choi (high school)

Teaching

Math Tutor for the Prison University Project, San Quentin State Prison, *Summer 2017*

Tutored a student in elementary algebra. The Prison University Project offers a liberal arts education, included college and college-preparatory classes, to people incarcerated at San Quentin.

Course Module Developer, Center for Brains, Minds, and Machines at M.I.T., *Summer 2015*

Developed a course module on fMRI that will be used for a new undergraduate course on the interdisciplinary study of intelligence at CBMM partner schools. Worked with Professor Ellen Hildreth (Computer Science, Wellesley College).

Neuroscience Tutor, Wellesley College, *Fall 2014*

Computer Science (MATLAB) Tutor and T.A., Wellesley College, *Spring 2014*