
MARIEL ROBERTS

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Education

- Ph.D., Experimental Psychology** 2020
New York University, New York, NY
Doctoral Advisor: Marisa Carrasco, Ph.D.
Dissertation: *Attention and perceptual learning in special populations*
- M. Phil., Experimental Psychology** 2019
New York University, New York, NY
- M.A., Experimental Psychology** 2017
New York University, New York, NY
- B.A., Biological Basis of Behavior, with Honors** 2012
University of Pennsylvania, Philadelphia, PA
Magna Cum Laude; Dean's List; Nu Rho Psi (national neuroscience honor society)

TEACHING EXPERIENCE

- Term Assistant Professor in Department of Psychology** Fall 2020 - present
Barnard College of Columbia University
Taught a full-time 5-credit course load each year
Fall semester: 3 sections of Introductory Laboratory in Experimental Psychology & 2 sections of Perception Laboratory
Spring semester: 1 lecture section and 2 recitation sections of Introductory Statistics
- Adjunct Professor in Department of Psychology** Summer 2021
College of Arts & Sciences of New York University
Intensive 6-week undergraduate elective of 24 students, equivalent to regular term course
Primary responsibilities: designed course syllabus, prepared active learning exercises, facilitated class discussions, created novel lecture and assessment material (daily quizzes, exam questions, weekly homeworks), held weekly office hours
- Guest Lecturer in Department of Psychology** Fall 2019
College of Arts & Sciences of New York University
Undergraduate Perception course of ~120 students
Primary responsibility: presented lecture on *Pitch perception*
- Class Instructor in Department of Psychology** Summer 2019
College of Arts & Sciences of New York University
6-week (equivalent to regular term course) undergraduate Perception course of 25 students
Primary responsibilities: designed course syllabus, prepared active learning exercises, facilitated class discussions, created novel lecture and assessment material (daily quizzes, exam questions, weekly homeworks), held weekly office hours

Guest Lecturer in Department of Psychology Spring 2019
 College of Arts & Sciences of New York University
 Advanced graduate elective "Topics in Perception and Attention" of 23 students
 Primary responsibility: presented lecture on *Attention in special populations*

Teaching Assistant in Department of Psychology Fall 2018
 College of Arts & Sciences of New York University
 Undergraduate course "Introduction to Cognitive Neuroscience" of ~80 students
 Led two weekly recitation sections of ~20 students each
 Primary responsibilities: created PowerPoint presentations to accompany discussions of empirical research papers, graded exams and students' research papers, held weekly office hours

Teaching Assistant in Department of Psychology Fall 2017
 College of Arts & Sciences of New York University
 Undergraduate Perception course of ~120 students
 Led two weekly recitation sections of ~30 students each
 Primary responsibilities: created PowerPoint presentations to review weekly lecture content, graded weekly quizzes and three exams, held weekly office hours

Tutor in Department of Psychology Summer 2017
 College of Arts & Sciences of New York University
 Tutored one student throughout summer semester for undergraduate Perception course

Guest lecturer in Department of Psychology Fall 2013, Fall 2014, Fall 2018, Fall 2019
 College of Arts & Sciences of New York University
 Freshman seminar "How We See" of ~15 students
 Primary responsibilities: lectured and led discussions about various topics in perception, provided verbal and written guidance and feedback on students' scientific research and reaction papers

HIGHER EDUCATION TRAINING: COURSES COMPLETED

NYU Graduate School of Arts and Sciences Teaching Certificate Program
 8-week non-credit courses that explore the theory and practice of university teaching

Preparing Future Faculty 1: The Art & Craft of Teaching	2019
Preparing Future Faculty 2: Achieving Success through Communication	2019

HIGHER EDUCATION TRAINING: WORKSHOPS ATTENDED

NYU Center for the Advancement of Teaching Workshops

Motivating Student Learning	2019
How We Learn	2019
How To Be a Researcher & Teacher	2019
Discussion-Based Teaching	2019
Making Learning Stick	2019
Mentoring College Students	2019
Is This Going to Be on The Test?	2019

FELLOWSHIPS & AWARDS

NYU Graduate School of Arts and Sciences Dean's Dissertation Fellowship	2019 - 2020
Psych. Dept. Nominee: GSAS Dean's Outstanding Graduate Student Teaching Award	2019
National Science Foundation Graduate Research Fellow	2015 - 2017; 2018 - 2019
NYU Student Government Assembly Conference Fund Travel Grant	2019
NYU-NIH Vision Training Grant	2017 - 2018
NYU Dean's Student Travel Grant	2015
NYU MacCracken Program Award	2014 - 2015

MENTORSHIP

Psychology major advisees (Department of Psychology, Barnard College of Columbia University)

Anya Raj (2021-present)
Desiree Webb (2021-present)
Maria Sanchez-Mangas (2021-present)
Qinlan Yang (2021-present)
Gehan Du (2020-present)

Master's students (NYU's Graduate School of Arts & Science Mentorship Program)

Carrie Lott (2019-present)
Ayijiuli Abudukadeer (2019)
Natalie Nagpal (2018)

Research Mentor to undergraduate students (Carrasco lab)

Julia Payne (2018-present): awarded New York University's DURF* grant 3 times
Sanjana Manjunath (2018-2019): awarded New York University's DURF* grant 2 times
Elizabeth Eberts (2017): participant in NYU's NSF-funded Summer Undergraduate Research Program
Imaad Sidiqqi (2012-2013): co-supervision of honors research thesis

RESEARCH EXPERIENCE

New York University, Research affiliate 2020 - present
Collaborator: Professor Marisa Carrasco
Department of Psychology
New York, NY

New York University, Doctoral candidate 2014 - 2020
Principal Investigator: Professor Marisa Carrasco
Department of Psychology
New York, NY

New York University, Lab manager 2012 - 2014
Principal Investigator: Professor Marisa Carrasco
Department of Psychology
New York, NY

* Dean's Undergraduate Research Fund, a competitive grant dedicated to undergraduate research

University of Pennsylvania, Honors thesis student Principal Investigator: Abass Alavi, M.D. Department of Radiology, Hospital of the University of Pennsylvania Philadelphia, PA	2011- 2012
New York University, NSF-funded Summer Undergraduate Research Program (SURP) Principal Investigator: Professor Marisa Carrasco Department of Psychology New York, NY	2011
University of Rochester Medical Center, Research intern Principal Investigator: Professor Tania Pasternak Center for Visual Science Rochester, NY	2010
Smithsonian's National Zoo & Conservation Biology Institute, Research intern Principal Investigator: Jesús E. Maldonado, Ph.D. Center for Conservation Genomics Washington D.C.	2009

PEER-REVIEWED PUBLICATIONS

Roberts, M. & Carrasco, M. Attention in the absence of microsaccades. In Prep.

*Purokayastha, S., ***Roberts, M.**, & Carrasco, M. Microsaccades around the visual field. In Prep. *co-first authors

Roberts, M. & Carrasco, M. (2022). Exogenous attention generalizes location transfer of perceptual learning in adults with amblyopia. *iScience*, 25(3), 103839. doi: 10.1016/j.sci.2022.103839

Purokayastha, S., **Roberts, M.**, & Carrasco, M. (2021). Voluntary attention improves performance similarly around the visual field. *Attention, Perception & Psychophysics*, 83(7), 2784-2794. doi: 10.3758/s13414-021-02316-y

Roberts, M., Ashinoff, B., Castellanos, F. X., & Carrasco, M. (2017). When attention is intact in ADHD. *Psychonomic Bulletin & Review*, 25(4), 1423-1434. doi: 10.3758/s13423-017-1407-4.

Roberts, M., Cymerman, R., Smith, R. T., Kiorpes, L., & Carrasco, M. (2016). Covert spatial attention is functionally intact in amblyopic human adults. *Journal of Vision*, 16(15), 1-19. doi: 10.1167/16.15.30.

Dugué, L., **Roberts, M.**, & Carrasco, M. (2016). Attention reorients periodically. *Current Biology*, 26(12), 1595-1601. doi: 10.1016/j.cub.2016.04.046.

Cavanaugh, M. R., Zhang, R., Melnick, M. D., Das, A., **Roberts, M.**, Tadin, D., Carrasco, M., & Huxlin, K. R. (2015). Visual recovery in cortical blindness is limited by high internal noise. *Journal of Vision*, 15(10): 9, 1-18. doi: 10.1167/15.10.9.

He, K., Woodman, N., Boaglio, S., **Roberts, M.**, Supekar, S., & Maldonado, J. (2015). Molecular phylogeny supports repeated adaptation to burrowing within small-eared shrews of the genus of *Cryptotis* (Eulipotyphla, Soricidae). *PLoS ONE*, 10(10), e0140280. doi: 10.1371/journal.pone.014028

TALKS

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| Vision Sciences Society Annual Meeting, St. Pete Beach, FL
<i>Exogenous attention generalizes perceptual learning in adults with amblyopia</i> | 2020 |
| Invited talk, University of Washington, host Dr. Yeatman
<i>Visual attention in amblyopia</i> | 2019 |
| Cognition & Perception 4th year talk, New York University
<i>Attention and perceptual learning in amblyopia</i> | 2018 |
| Cognition & Perception Mini-Convention, New York University
<i>Attention reorients periodically</i> | 2016 |
| Cognition & Perception Mini-Convention, New York University
<i>Covert spatial attention is functionally intact in amblyopic human adults</i> | 2015 |
| Honors Research Symposium, University of Pennsylvania
<i>Use of 18F-FDG-PET for quantitative assessment of temporal lobe epilepsy on brain metabolism</i> | 2012 |
| Center for Neural Science SURP Research Symposium, New York University
<i>The effect of attention on visual perceptual learning: defying location specificity?</i> | 2011 |

PEER-REVIEWED CONFERENCE ABSTRACTS & POSTER PRESENTATIONS

- Purokayastha, S., **Roberts, M.**, & Carrasco, M. (2020). Microsaccades around the visual field. *Vision Sciences Society Annual Meeting*, St. Pete Beach, FL.
- Roberts, M.** & Carrasco, M. (2019). Exogenous attention and anticipatory fixation stability. *Journal of Vision*, 19(1), 265-265.
- Purokayastha, S., **Roberts, M.**, & Carrasco, M. (2019). Does endogenous attention compensate for spatial performance fields? *Journal of Vision*, 19(10): 265b-265b.
- Roberts, M.**, Ashinoff, B. K., Castellanos, F. X., & Carrasco, M. (2017). Endogenous and exogenous attention are functionally intact in adults with ADHD. *Journal of Vision*, 17(10): 699-699.
- Dugué, L., **Roberts, M.**, & Carrasco, M. (2016). *Attention reorients periodically*. Center for Visual Science 30th Annual Symposium: The Future of Attention, University of Rochester, Rochester, NY.
- Ashinoff, B., **Roberts, M.**, Castellanos, F. X., & Carrasco, M. (2015). Exogenous spatial attention in adults with ADHD is intact. *Perception*, 44:110-111.

- Dugué, L., **Roberts, M.**, & Carrasco, M. (2015). Occipital TMS modulates the effect of attention on contrast sensitivity. *Perception*, 44:110-111.
- Roberts, M.** & Carrasco, M. (2015). Amblyopic adults demonstrate intact endogenous spatial attention. *Journal of Vision*, 15(12): 1339-1339.
- Carrasco, M., **Roberts, M.**, & Kiorpes, L. (2014). Exogenous spatial attention in amblyopic adults is intact. *Perception*, 43, S8.
- Carrasco, M., **Roberts, M.**, Cymerman, R., Smith, R. T., & Kiorpes, L. (2014). Intact functioning of exogenous spatial attention in amblyopic adults. *Journal of Vision*, 14(10): 539-539.
- Cavanaugh, M., Melnick, M., Zhang, R., **Roberts, M.**, Das, A., Tadin, D., Carrasco, M., & Huxlin, K. (2014). Residual inefficiencies of recovered vision in cortically blind fields—insights from the equivalent noise analysis. *Journal of Vision*, 14(10): 659-659.

PROFESSIONAL MEMBERSHIPS & SERVICE

Vision Sciences Society
 New York Academy of Sciences
 Ad-hoc reviewer for Nature Reviews Psychology
 Ad-hoc reviewer for Scientific Reports
 Ad-hoc reviewer for Journal of Vision
 braiNY: Greater New York City Chapter of Society for Neuroscience
 NOGN: Neuroscience Outreach Group at NYU

OUTREACH & UNIVERSITY SERVICE

Get Psych-ed with Barnard Pre-College Program in partnership with The Young Women's Leadership Schools, Guest Instructor	Spring 2022
Volunteer with Neuroscience Outreach Group at NYU (NOGN)	2016 - 2020
World Science Festivals, Biobus, Family Night at New York Hall of Science	
NYU Women in Science, graduate student mentor & panelist	2016 - 2020
Volunteer co-organizer for annual prospective Ph.D. student weekends	2014 - 2020
Lead doctoral student organizer for NYU MA research conference	2017 & 2018
Led workshops for MA students on how to make effective poster presentations	
National Science Foundation Virtual Mentor	2016
Doctoral student judge for NYU MA research conference	2015

SKILLS

Experimental	Design, data collection, and analysis of perceptual psychophysical studies Eye movement recording (Eyelink 1000, ISCAN) and analysis Figure editing using Inkscape
Programming	Matlab: experimental programming (MGL toolbox), data analysis, figure creation SPSS Statistics R: data processing, statistical analysis and visualization

GitHub: uploading, revising, and sharing code
Command-line operation in UNIX terminal
Basics of HTML for personal website maintenance

- Neuroimaging** Certified user of the magnetic resonance image (MRI) facility
Experimental design of fMRI studies
Data analysis (FSL, Freesurfer, SPM Toolbox)
Anatomical segmentation of 18F-FDG-PET scans (ROVER software)
- TMS** Certified transcranial magnetic stimulation (TMS) operator
Magstim Rapid2 Plus1 stimulator (3.5T), 70mm figure-of-eight coil
Brainsight Neuronavigation system (Rogue Research)
FASTSCAN digital laser scanner
Experimental design of TMS studies, phosphene thresholding, data collection
- Administrative** Successful initial submission and maintenance of institutional review board protocols
Assistance with successful grant submissions (NIH R01, NSF)
Maintenance of Endnote reference library
Creation and maintenance of lab website and internal wiki