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 2018
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

Department of Psychology, Barnard College
New York, New York

Perception Laboratory, Class instructor Fall 2020
Taught two sections of an undergraduate course of about 30 students
Primary responsibilities:
- designed course syllabus
- prepared active learning exercises
- facilitated class discussions
- created novel lab experiment material
- held weekly office hours

Introduction to Experimental Psychology Laboratory, Class instructor Fall 2020
Taught three out of four sections of an undergraduate course of 96 students
Primary responsibilities:
- helped design the syllabus
- prepared active learning exercises
- facilitated class discussions
- created novel assessments
- held weekly office hours

Department of Psychology, College of Arts & Sciences, New York University
New York, New York

Perception, Guest lecturer Fall 2019

Lectured on pitch perception to an undergraduate course of ~120 students

Perception, Class instructor Summer 2019

Intensive 6-week undergraduate elective of 25 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

Topics in Perception and Attention, Guest lecturer Spring 2019

Lectured on attention in special populations to an advanced graduate elective of 23 students

Introduction to Cognitive Neuroscience, Teaching assistant Fall 2018

Led two weekly recitation sections of about 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

Perception, Teaching assistant Fall 2017

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

Perception, Tutor Summer 2017

Tutored one student throughout summer semester

How We See, Guest lecturer Fall 2013, Fall 2014, Fall 2018, Fall 2019

Freshman seminar 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

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

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

MENTORSHIP

Master's students (NYU's Graduate School of Arts & Science Mentorship Program)
Carrie Lott (2019)
Ayijiuli Abudukadeer (2019)
Natalie Nagpal (2018)

Research Mentor to undergraduate students (Carrasco lab)
Shannon Chen: as part of NYU's CAS-GSAS Mentorship program
Julia Payne (2018-2020): 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

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

RESEARCH EXPERIENCE

New York University, Doctoral student 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

University of Pennsylvania, Honors thesis student 2011 – 2012
Principal Investigator: Abass Alavi, M.D.
Department of Radiology, Hospital of the University of Pennsylvania
Philadelphia, PA

New York University, NSF-funded Summer Undergraduate Research Program (SURP) 2011
Principal Investigator: Professor Marisa Carrasco
Department of Psychology
New York, NY

University of Rochester Medical Center, Research intern 2010
Principal Investigator: Professor Tania Pasternak
Center for Visual Science
Rochester, NY

Smithsonian's National Zoo & Conservation Biology Institute, Research intern 2009
Principal Investigator: Jesús E. Maldonado, Ph.D.
Center for Conservation Genomics
Washington D.C.

PEER-REVIEWED PUBLICATIONS

Roberts, M., Badde, S., & Carrasco, M. Attention affects visual perception in the absence of microsaccades. In Prep.

Roberts, M. & Carrasco, M. Exogenous attention generalizes perceptual learning in adults with amblyopia. Under review.

Purokayastha, S., **Roberts, M.**, & Carrasco, M. (2020). Voluntary attention improves performance similarly around the visual field. Under review.

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

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.

Dugué, L., **Roberts, M.,** & Carrasco, M. (2016). Attention reorients periodically. *Current Biology*, 26(12), 1595-1601.

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.

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.

TALKS

Vision Sciences Society Annual Meeting, Virtual conference 2020
Exogenous attention generalizes perceptual learning in adults with amblyopia

Invited talk, University of Washington, host Dr. Yeatman 2019
Visual attention in amblyopia

Cognition & Perception 4th year talk, New York University 2018
Attention and perceptual learning in amblyopia

Cognition & Perception Mini-Convention, New York University 2016
Attention reorients periodically

Cognition & Perception Mini-Convention, New York University 2015
Covert spatial attention is functionally intact in amblyopic human adults

Honors Research Symposium, University of Pennsylvania 2012
Use of 18F-FDG-PET for quantitative assessment of temporal lobe epilepsy on brain metabolism

Center for Neural Science SURP Research Symposium, New York University 2011
The effect of attention on visual perceptual learning: defying location specificity?

PEER-REVIEWED CONFERENCE ABSTRACTS & POSTER PRESENTATIONS

Purokayastha, S., **Roberts, M.**, & Carrasco, M. (2020). Microsaccades around the visual field. *Vision Sciences Society Annual Meeting*, Virtual conference.

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
braiNY: Greater New York City Chapter of Society for Neuroscience
Ad-hoc reviewer for Scientific Reports
Ad-hoc reviewer for Journal of Vision

OUTREACH & UNIVERSITY SERVICE

Volunteer with Neuroscience Outreach Group at NYU (NOGN)	2016 – present
World Science Festivals, Biobus, Family Night at New York Hall of Science	
NYU Women in Science, graduate student mentor & panelist	2016 – present
Volunteer co-organizer for annual prospective Ph.D. student weekends	2014 – present
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