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# 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 Siddiqi (2012-2013): co-supervision of honors research thesis

## 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

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

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  
brainNY: 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

<b>Experimental</b>	Design, data collection, and analysis of perceptual psychophysical studies Eye movement recording (Eyelink 1000, ISCAN) and analysis Figure editing using Inkscape
<b>Programming</b>	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
<b>Neuroimaging</b>	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)
<b>TMS</b>	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
<b>Administrative</b>	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