

Andra Mihali

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- Education and Research**
- New York State Psychiatric Institute / Columbia Psychiatry** April 2019 - present
Postdoctoral researcher, prof. Guillermo Horga
- New York University, Center for Neural Science** Summer 2018 - April 2019
Postdoctoral researcher, prof. Wei Ji Ma
- New York University, Graduate School of Arts and Sciences** Fall 2012 - Spring 2018
Ph.D. in Neural Science: Systems, Computation and Behavior, advised by prof. Wei Ji Ma
Fall 2013 - Spring 2018
Thesis: *Measures and models of covert visual attention in neurotypicals and ADHD*
Rotation student, profs. Andre Fenton and Wendy Suzuki Fall 2012 - Fall 2013
- Elective courses:** Neural population coding, Computer modeling of neuronal systems, Understanding in brain research, Machine learning and computational statistics (audit), Psychophysics (audit), Bayesian modeling of behavior (audit), Computational psychiatry (audit)
- Columbia University, Columbia College** 2007 - 2011
B.A., Major in Biochemistry, Minors in Psychology and Mathematics
Research assistant in the lab of prof. Stephen Rayport, Center for Molecular Therapeutics, Columbia University Medical Center 2008 - 2012
- Additional training:**
Neural Data Analysis Summer School, Cold Spring Harbor Laboratory 2015
Science Communication Workshops I and II, NYU - instructor Stephen Hall 2013, 2014
International Summer School in Cognitive Science, New Bulgarian University, Sofia 2012
- Awards**
- NYU FAS Postdoctoral Travel Grant 2019
NYU Student Senators Council (SSC) Conference Fund 2017
NYU GSAS Dean's Student Travel grant 2015
NYU MacCracken Fellowship 2012 - 2017
Columbia University Scholars Program Summer Enhancement Fellowship 2009
Columbia Summer Undergraduate Research Fellowship 2008
Professor Van Amringe Mathematics Prize for first years 2008
Columbia University Dean's List 2007 - 2009, 2011
Columbia University Global Scholars Program 2007 - 2011
Romanian National Chemistry Olympiad - Gold and Bronze, large team for IChO 2005, 2006
Romanian National Mathematics Olympiad - Honorable mention 2003
- Publications**
- Visual perception, attention, short-term memory and fixational eye movements:**
1. A low-level perceptual correlate of behavioral and clinical deficits in ADHD. *Computational Psychiatry*, 2018, doi:10.1162/cpsy_a_00018.
- **Mihali***, A, Young*, AG, Adler, L, Halassa, MM, Ma, WJ
Press coverage: McGovern Institute for Brain Research at MIT
 2. Bayesian microsaccade detection. *Journal of Vision*, 2017, 17(1), 13. doi:10.1167/17.1.132017.
- **Mihali***, A, van Opheusden*, B, Ma, WJ
 3. Microsaccades in ADHD. In preparation.
- **Mihali**, A, Ma, WJ
 4. Psychophysics of visual search with heterogenous distractors. In preparation
- **Mihali**, A, Ma, WJ

5. Descriptive and normative accounts of color localization performance in visual short-term memory. In preparation
- Singh, A, **Mihali**, A, Chou, WC, Ma, WJ

Neurobiology and biochemistry:

6. Dopamine neuron dependent behaviors mediated by glutamate cotransmission. *eLife* 2017; 6:e27566, doi: 10.7554/eLife.27566.
-Mingote, S, Chuhma, N, Kalmbach, A, Siena, AC, Wang, Y, **Mihali**, A, Sferrazza, C, Zucker-Scharff, I, Welch, MG, Lizardi-Ortiz, J, Sulzer, D, Moore, H, Gaisler-Salomon, I Rayport, S
7. Genetic mouse models of resilience as a guide to novel therapeutic approaches to neuropsychiatric disorders: focus on schizophrenia. *Expert Reviews in Neurotherapeutics*, 2012, 12(7): 785–799. doi: 10.1586/ern.12.60.
-**Mihali***, A, Subramani*, S, Kaunitz*, G, Rayport, S, Gaisler-Salomon, I
8. Synaptic underpinnings of altered hippocampal function in glutaminase deficient mice during maturation. *Hippocampus*, 2012, 22(5):1027-39. doi: 10.1002/hipo.22014
-Gaisler-Salomon, I, Wang, Y, Chuhma, N, Zhang, H, Columbic, Y, **Mihali**, A, Arancio, O Sibille, E Rayport, S

Other writing

9. Interview with a neuron. *The Cooper Square Review of Science, Medicine and Technology*

Conference posters

1. Perceptual and executive behavioral deficits in ADHD and their differential correlation with microsaccade rate. *Society of Biological Psychiatry Annual Meeting*, 2018.
- **Mihali***, A, Young*, AG, Adler, L, Halassa, MM, Ma, WJ
2. Characterizing behavior and microsaccades in ADHD using a mixed sensory - executive psychophysical paradigm. *Computational Cognitive Neuroscience*, 2017.
- **Mihali***, A, Young*, AG, Adler, L, Halassa, MM, Ma, WJ
3. Is location information lost from visual short-term memory? *Vision Sciences Society Annual Meeting*, 2017, Vol.17, 104. doi:10.1167/17.10.104 2017
-**Mihali**, A, Ma, WJ
4. A Bayesian model for microsaccade detection. *Vision Sciences Society Annual Meeting*, 2015, 15(12):1275. doi: 10.1167/15.12.1275
-**Mihali***, A, van Opheusden*, B, Ma, WJ
5. Selective reduction of glutaminase in dopamine neurons impairs glutamate cotransmission and leads to a schizophrenia resilience phenotype. *Society of Biological Psychiatry Annual Meeting*, 2014, 75 (9), 175S-175S
-Mingote, S, Chuhma, N, Kalmbach, A, Wang, Y, **Mihali**, A, Gellman, C, Zucker-Scharff, I, Sferrazza, C, Field, BC, Hirschberg, D, Welch, M, Inbar, BI, Krueger, K, Moore, H, Gaisler-Salomon, I, Rayport, S
6. Selective reduction of glutaminase in dopamine neurons leads to reduced susceptibility to amphetamine sensitization: relevance to schizophrenia resilience. *Society for Neuroscience Annual Meeting Abstract* 2013
-Mingote S, Chuhma, N, Wang, Y, **Mihali**, A, Gellman, C, Zucker-Scharff, I, Sferrazza, C, Field, BC, Inbar, BP, Krueger, K, Moore, H, Rayport, S
7. An inquiry-based neuroscience curriculum emphasizing the scientific method. *Society for Neuroscience Abstract* 2012
-Gelman, C, Sitko, A, Varodayan, FP, Burgos, A, Deihle, D, Remole, K, Crumiller, M,

Pham, T, Wu, M, Rabinowitz, G, Martin Hernandez, AL, Saotome, K, **Mihali**, A, Spatzer, A, Murray, A, Reibstein, L, Alamu, O, Jensen, CL, Rayport, S, Yu, H

Talks

1. The psychophysics of visual search with heterogeneous distractors. Talk to be presented at *Vision Sciences Society Annual Meeting*, May 2019
2. Perceptual variability, cognitive control and microsaccades in neurotypicals and ADHD. Lab meeting of Guillermo Horga, Columbia University Medical Center, September 2018
3. Perceptual variability, cognitive control and microsaccades in neurotypicals and ADHD. Lab meeting of Yael Niv, Princeton, July 2018
4. Measures and models of covert visual attention in neurotypical function and ADHD. Thesis defense, NYU, Apr. 2018
5. Bayesian microsaccade detection. NYU, Nov. 2015
-**Mihali**, A, van Opheusden, B, Ma, WJ
6. Do hippocampal cells display directional selectivity? NYU, Oct. 2013
-**Mihali**, A, Ku, S, Suzuki, W

Mentoring

Research mentor. High school student Aditi Singh Summer 2017- present

- 2018: awarded the "Exceptional Accomplishment in Behavioral Science" at the Westchester Science and Engineering Fair (WESEF)
- 2019: Regeneron Science Talent Search (STS) Finalist

Teaching

Graduate teaching Assistant. New York University.

- From Illusions to Inference, prof. Wei Ji Ma. Spring 2014
- Cellular and Molecular Neurobiology, profs. Alex Reyes and Chiye Aoki Fall 2013

Undegraduate teaching assistant. Columbia University.

- Calculus I, II and Linear Algebra, Physical Chemistry I: Thermodynamics and Kinetics, various terms 2008 - 2011

Service and outreach

Judge. Westchester Rockland Fifteenth Annual Subregional Junior Science and Humanities Symposium (JSHS) Spring 2018

Teacher. Outreach visit at Crossroads Juvenile Detention Center Fall 2017

Member. Scientist Action and Advocacy network, NYU. Contributed literature research for the Raise the Age, Solitary confinement and Vaccine projects 2016 - present

Teacher. Neuroscience Outreach Group at NYU (NOGN), Columbia University Neuroscience Outreach (CUNO) 2011 - present

Mentor. Columbia College Women (CCW); Science, Technology and Engineering Program (STEP) 2015 - 2018

Volunteer teacher. Let's Get Ready Harlem (SAT) 2008 - 2010

Other activities

Coordinator. First-Year Dialogue discussion leader about the novels *Americanah*, *Behold the dreamers*, NYU 2017-2018

Member. NeuWrite, NYU 2015-present

Organizer. NYU Center for Neural Science Retreat Mohonk Mountain House, Fall 2015

Tutor. Ivy League Tutors Network (high school science and math), Columbia University Tutoring and Translating Agency 2007 - 2012

Executive Vice President of Communications, Editor, Symposium coordinator. Columbia Undergraduate Science Journal 2009 - 2011

Science outreach coordinator. Columbia Scientists and Engineers for a Better Society

2007 - 2011

Exhibit organizer. Through the looking glass - An Exploration of Art and Science 2010 - 2011

Photographer, Photo editor. Columbia Daily Spectator 2008 - 2011

Photography exhibits: Art Exhibit at Columbia University Medical Center (2011, 2012), Window to Russia, East-Central Europe, and Eurasia at Harriman Institute (2009), Summer Photography Show at Postcrypt Art Gallery, Columbia University 2008 - 2010

Photography portofolio: <http://andramihali.daportfolio.com/>

Skills

Programming: Extensive experience with MATLAB/Psychtoolbox and Latex. Some experience with Unix shell scripting, C++, Python and R.

Reviewing

Ad-hoc reviewer for: *Journal of Neurophysiology*, *Journal of Vision*, *Psychiatry Research*