

CATALINA MENGYAO YANG

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EDUCATION

University of Toronto, Toronto, ON **2022 - exp. 2027**

Ph.D. in Psychology

Advisors: Drs. Katherine Duncan and Morgan Barense

Columbia University, New York, NY **2019 - 2022**

Honors B.S. in Neuroscience and Behavior

GPA: 3.88

Tufts University, Medford, MA **2018 - 2019**

BS & BFA Combined Degree Program with the School of the Museum of Fine Arts

GPA: 4.0

RESEARCH EXPERIENCE

Ph.D. Student | Duncan Lab and Barense Lab, University of Toronto **2022 - present**

Project: Original research program investigating the neural mechanism of prediction errors and memory updating.

Honors Thesis Student | The Metcalfe Lab, Columbia University **2020 - 2022**

Project: Thesis project on how later learning experiences improve or impair initial memories

- Design novel memory paradigm and conduct human subject data collection and analysis using Gorilla, SONA, Prolific, and R for thesis manuscript and presentation

Project: The effects of intellectual humility on curiosity and cognitive monitoring

- Assisted with participant recruitment and data cleaning using Qualtrics and R

Research Assistant | The Davachi Lab, Columbia University **2021 - 2022**

Project: Thematic generalization in threat conditioning and the retroactive memory effect

- Running auxiliary experiments examining participants' baseline memory performance
- Overseeing the recruitment and interview of participants, data collection and analysis using SONA, PsychoPy, R

Research Intern | The Losonczy Lab, Columbia University **2019 - 2021**

Project: Visualizing place-tuned synaptic activity in hippocampal neurons in behaving mice

- Reconstructed 3D morphologies of neurons and assisted in data segmentation using Image-J, Neurolucida, and Neuron
- Created scientific illustrations for conference posters and paper (in prep)
- Assisted with rodent behavioral training

Independent Project Student, Columbia Psychology Department **Summer 2021**

Program: Summer Internship Program in Psychological Science, Columbia University

Project: Ten-week independent research project exploring the effect of category structure on retroactive changes in memory

- Conducted extensive literature review to identify research gap; designed novel paradigm and ran data simulation in R to address my research question
- Received intensive R programming and Bayesian statistics training
- Created and presented a research poster at end of program conference

RESEARCH PRESENTATIONS

Negrean, A., Liao, Z., Li, D., **Yang, C.M.**, McClain, N., Holder, D., Chavarha, M., Evans, S.W., Lin, M.Z, & Losonczy, A. (2021, November). Behavioral state-dependent electrical signaling of neuronal dendrites. Poster presented at the Society for Neuroscience Conference.

Yang, C.M., Thorp, J.N, Metcalfe, J. (2021, October). Examining the Effect of Category Structure on Retroactive Changes in Memory. Poster presented at the Undergraduate Research Symposium, Columbia University, NY.

Yang, C.M., Thorp, J.N, Metcalfe, J. (2021, August). Examining the Effect of Category Structure on Retroactive Changes in Memory. Poster presented at the Summer Internship Program in Psychological Science Conference, Columbia University, NY.

Negrean, A., Kim, C.D, Li, D., Jeong, J.S., **Yang, C.M.**, Holder, D., Zhang, J., Chavarha, M., Evans, S.W., Lin, M.Z, & Losonczy, A. (2019, November). Optical Measurement of Dendritic Membrane Potential in Behaving Mouse Hippocampus. Poster presented at the Society for Neuroscience Conference, Chicago, IL.

AWARDS & HONORS

Doctoral Recruitment Award (CAD \$5,000), University of Toronto	2022
Dean’s list, Columbia University	2019 - 2022
Dean’s list, Tufts University	2018 - 2019

TEACHING & LEADERSHIP EXPERIENCE

Teaching Assistant | University of Toronto **Fall 2022**
PSY220, Introduction to Social Psychology

Teaching Assistant | Columbia University **Spring 2021**
PSYC2220, Cognition: Memory and Stress

Ballroom Dance Instructor | Columbia University Ballroom Club **2021-2022**
Smooth and International styles

Art Instructor | Feather Press Studio **2016-2019**
Painting, drawing, sculpture, and printmaking classes

Certified black belt Instructor | Amherst Martial Arts School **2016 - 2018**
Tae Kwon Do youth classes

SKILLS & TRAINING

Programming languages: R, Python

Research applications: Neurolucida, Neuron, Image-J, Gorilla, Qualtrics

Applications: Adobe Photoshop, Indesign, Illustrator

Wet lab training: Rodent handling and behavioral training, Rodent surgery training

Art and Design: 10 years of training in drawing, painting, printmaking, graphic design

Languages: Mandarin Chinese (native or bilingual proficiency); Latin (intermediate)

OUTREACH

Mentorship Chair | Columbia Neuroscience Society **2021 - 2022**

- Oversaw mentorship program for neuroscience majors
- Organized panels and workshops on neuroscience topics, research skills, and career paths