

## Melanie Gordon

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### EDUCATION

**Rutgers University- Newark;** Newark, NJ 07102 2024- Present

Neuroscience, Ph.D. at the Center for Molecular and Behavioral Neuroscience

Advisors: Elizabeth Holly, Ph.D.

*Focus:* The impact of early life stress on dopamine kinetics and adulthood decision-making.

**Rutgers University- Newark;** Newark, NJ 07102 2021-2023

Major(s): Bachelor of Arts in Neuroscience and Behavior (GPA: 3.7/4.0)

Bachelor of Arts in Psychology (GPA: 4.0/4.0)

Advisors: Mauricio Delgado, Ph.D. & Jamil Bhanji, Ph.D.

Thesis: Smoking withdrawal-related stress and associations with smoking behavior, craving, and coping strategies

### HONORS & AWARDS

Graduate School of Newark (GSN) Travel Grant 2025

Mei-fang Cheng Award Recipient 2024

Summer Undergraduate Research Fellowship 2023

Dean's List 2021-2023

National Honors Society 2018

### AFFILIATIONS

Tau Sigma National Honors Society 2022

American Psychological Association 2021

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### POSTERS

**M.G. Roloff** (2024) Stress, Cravings, and Coping in Smoking Withdrawal.

Senior Honors Thesis presented at Rutgers University Research Week 2024.

N. J. Dennis, J. P. Bhanji, A. Riahinezhad, T. Bulgin, **M. Roloff**, H. Morales, M. Halfield, L. Piotrowiak, M. R. Delgado (2025) Neural and affective responses to positive autobiographical memory differentiate smoking behavior.

Presented by Nicholas Dennis at Social and Affective Neuroscience Society Conference 2025.

**M.G.Gordon**, J. Ghaly, E.N. Holly (2025) Cut Off, Tuned Up: Adolescent Social Isolation Amplifies Dopamine Signaling in the Dorsomedial Striatum

Presented at Gordon Research Seminar & Conference: Catecholamines. August 2025.

Presented at Rutgers Annual Brain Health Institute (BHI) Symposium, December 2025.

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### RESEARCH

**Doctoral Thesis Lab** September 2024- Present

Rutgers University- Newark

PI: Elizabeth Holly, Ph.D.

Project description: Consequences of adolescent social isolation on dopaminergic release kinetics in adulthood

**Lab Manager & Research Coordinator**

January 2024- August 2024

Rutgers University- Newark

PI: Elizabeth Tricomi, Ph.D.

Project Description: 1) *Neural Investigations of Feedback-Based Learning* 2) *The Role of Math Anxiety in Processing Feedback about Math Performance*

- Held weekly lab meetings where we discussed different articles brought in by the PI, graduate and undergraduate students, and me.

- I created a new IRB protocol and collaborated with other labs to obtain all the necessary information for a new project.
  - I submitted a new IRB protocol to Rutgers University's eIRB and made all necessary changes.
- I attended a graduate-level psychology statistics course (see relevant coursework below) to improve my understanding of and skills in R.
- I worked with a graduate student on their new project using PsychoPy.
- I ran participants in behavioral tasks and participated as a confederate for other research studies.

### **Post-Baccalaureate Research Assistant**

*January 2024- August 2024*

Rutgers University- Newark

PI: Mauricio Delgado, Ph.D.

Project Description: *Affective Responses in Smokers and Non-Smokers*

- Responsible for compiling participant data and transferring it to a remote server.
- Created data dictionaries for different study components and uploaded them to a remote server.
- Did a complete analysis of participant fMRI data through CONN Toolbox in MATLAB.

### **Senior Honors Thesis**

*May 2023- December 2023*

Rutgers University- Newark

Advisors: Mauricio Delgado, Ph.D. & Jamil Bhanji, Ph.D.

Project Description: *Affective Responses in Smokers and Non-Smokers*

Thesis: Smoking withdrawal-related stress and associations with smoking behavior, craving, and coping strategies

- I investigated the relationship between stress, craving, and mood in cigarette smokers.
- I ran participant sessions, including autobiographical interviews and fMRI scanning sessions
- I collected and analyzed participants' behavioral and neural data for my thesis using R and RStudio.
- I presented findings at Research Week 2024 (see presentations)

### **Undergraduate Research Assistant**

*August 2022- December 2023*

Rutgers University- Newark

PI: Mauricio Delgado, Ph.D.

Project Description: *Affective Responses in Smokers and Non-Smokers*

- I attended weekly lab meetings, where I presented articles and data from my thesis.
- I assisted graduate students with data collection and programming experiments with PsychoPy and MATLAB.
- I ran participant sessions, including autobiographical interviews and fMRI scanning sessions
- I ensured that participant data was up to date for the scanning sessions and all necessary paperwork was printed and signed.
- I completed my Senior Honors Thesis (see above).

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## **ATTENDED CONFERENCES AND WORKSHOPS**

**Catecholamines 2025** hosted by Gordon Research Conferences in Newry, Maine, USA.

**NYCPW 2025** hosted by Mount Sinai Center for Computational Psychiatry in New York, NY, USA.

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## **TEACHING**

### **Neuroscience Research Methods**

*Spring 2026*

- Lead lab sessions for undergraduate students at Rutgers University-Newark
- Graded students weekly assignments and final paper

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## **RELEVANT SKILLS & TRAININGS**

**Programming:** MATLAB, Python, R

**Certifications:** Lab Safety Training / RTK-HAZCOM / Chemical Hygiene / Biosafety / Blood Borne Pathogen. Rodent survival surgery.

**Equipment:** Fast scan cyclic voltammetry (FSCV), Patch clamping, Vibratome, Fiber Photometry, Neurolucida microscope, Confocal Microscope

**Rodent:** Handling, toe clipping, stereotaxic surgery (implants, viral injections), transcardial perfusions, ear punching, tissue collection, estrous cycle collection, breeding.

**Experimental Design Software:** PsychoPy, Qualtrics, Pavlovia, CONN Toolbox

**Statistical Software:** SPSS, RStudio, Demon

**Clinical Interviewing:** Positive and Negative Affect Schedule, Ecological Momentary Assessment, Questionnaire of Smoking Urges, Autobiographical Memory Questionnaire

**Neuroimaging:** Siemens 3T Prisma Certified Level 2 Operator

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