

# Jacqueline M. Beltrán

beltranjackie555@gmail.com | 619-243-9366

## **EDUCATION**

### **Icahn School of Medicine at Mount Sinai (ISMMS)**

**08/2021 – Present**

Ph.D., Neuroscience

Advisors: Laurel Morris, Ph.D. & James Murrough MD, Ph.D.

Collaborator: Angela Radulescu, Ph.D.

### **University of California, Santa Barbara (UCSB)**

**09/2015 – 06/2019**

Bachelor of Science, Biopsychology

## **RESEARCH EXPERIENCE**

### **Icahn School of Medicine at Mount Sinai (ISMMS) – New York, NY**

**06/2022 – Present**

Graduate Student, Neuroscience/Psychiatry Departments

- Facilitate inclusive clinical research practices by administering the Trier social stress test to Spanish-speaking individuals, to broaden the scope of stress response research.
- Develop computational models of learning in Python to quantify behavioral data in relation to functional brain activity.
- Code statistical models in R to conduct analyses on longitudinal data collected from a mobile digital health application that surveys participant's mood.
- Adapt neuroimaging techniques to preprocess and analyze images acquired using 7-Tesla MRI.
- Administer a novel, real-time neurofeedback treatment intervention using 7-Tesla MRI.
- Assess the efficacy of a novel neurofeedback-based treatment intervention in patients with depression using advanced neuroimaging techniques and a battery of clinical assessments.

### **Post-Baccalaureate Research Education Program (PREP) Scholar**

**08/2020 – 07/2021**

ISMMS, Psychiatry Department

New York, NY

- Utilized EEG and clinical assessments to study the largely uncharacterized neurobehavioral syndrome of misophonia.
- Designed an auditory EEG task to differentiate brain responses to misophonic trigger sounds across people with misophonia and healthy controls.
- Translated Institutional Review Board documents from English to Spanish and communicated with families to develop and launch a family-mediated virtual intervention in Peru with the purpose of improving outcomes in autism spectrum disorder during the COVID-19 Pandemic.
- Responsible for the literature review for manuscript writing.

### **Research Assistant**

**04/2018 – 06/2019**

California Alliance for Minority Participation (CAMP) Research Program

Santa Barbara, CA

- Researched the early acquisition of methamphetamine (MA) and cocaine addiction through operant conditioning and conditioned-place preference tests in B6 mice.
- Developed a research proposal in collaboration with the Principal Investigator, Dr. Karen Szumlanski, and graduate student, hypothesizing that stimulating reward subcircuits would increase MA-seeking behavior.
- Attended weekly professional development workshops and seminars purposed towards developing oral presentation skills and learning about current research.

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## HEALTHCARE EXPERIENCE

### **Medical Assistant (Float)**

**10/2019 – 04/2020**

Planned Parenthood of the Pacific Southwest

San Diego, CA

- Adapted to different workflows and work environments when traveling to different clinics throughout San Diego County to provide Medical Assistant services.
- Completed an average of 12 patient intakes per day, obtaining informed consent and screening for medical history and intimate partner violence.
- Assisted clinicians during Intrauterine Device and Nexplanon implant procedures by scribing, ordering labs, collecting specimens, and ensuring clinicians had the necessary supplies to complete the procedure.
- Counseled patients through various birth control options to ensure they received the birth control method that works best for them.
- Obtained patient vital signs and performed blood draws along with deltoid and ventrogluteal injections as directed by clinicians.

### **Volunteer in Service Learning Trip**

**03/23 – 03/31/2019**

Medlife

Tena, Ecuador

- Assisted local doctors in bringing quality healthcare to 349 patients with limited access to medical care.
- Measured patient vital signs, examined patient medical history and assisted with patient diagnosis in order to provide patients with adequate treatment options.
- Maintained confidentiality of patients, families, and any sensitive situations.
- Facilitated communication between doctors, patients and volunteers by providing interpretation between English and Spanish.

### **Health Promotion Intern**

**08/2017 – 06/2018**

UCSB Health & Wellness

Santa Barbara, CA

- Facilitated workshops to groups of 10-20 students centralized on healthy eating and living, body image, and eating disorder awareness.
- Coordinated with a group of 3 in bringing the first annual National Eating Disorder Awareness Week to the UCSB campus through a week of event programming and a social media campaign.
- Developed a new protocol for maintaining an organized and detailed tracking of food and nutrition related programming expenditures.

## HONORS & AWARDS

- **Society for Affective Science Diversity Trainee Award (\$685.00)** **03/2024**
- **Diversity in Neuroscience Award for Promoting Diversity, Equity, Inclusion and Good Climate** **05/2023**  
*The Friedman Brain Institute 14th Annual Neuroscience Retreat, New York, NY.*
- **Computational Psychiatry Conference Travel Award Recipient (€1,000)** **04/2023**

## GRANT SUPPORT

- **Diversity Supplement Training Grant, R01MH116953 (\$97,018.00)** **01/2023 – 12/2023**  
*National Institute of Mental Health*
- **Undergraduate Research & Creative Activities Grant (\$750)** **12/2018**  
*University of California Office of Undergraduate Education*

## PUBLICATIONS

- **Beltrán JM**, Jacob Y, Mehta MM, Hossain T, Adams A, Fontaine S, Torous J, McDonough C, Johnson M, Delgado A, Murrough JW, Morris L. Digital measures of activity and motivation impact depression and anxiety in the real world. *Nature partner journals Digital Medicine* (2025), doi: <https://doi.org/10.1038/s41746-025-01669-0>

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- Morris LM, **Beltrán JM**, Murrough JW, Morel C, Cross-species dissection of the modular role of the ventral tegmental area in depressive disorders, *Neuroscience* (2025), doi: 10.1016/j.neuroscience.2025.02.008
- Szumlinski, K.K., **Beltrán, J.**, van Doren, E., Jimenez Chavez, C.L., Domingo-Gonzalez, R.D., Reyes, C.M., Ary, A.W., Lang, A., Guo, W., Worley, P.F., Huber, K.M., Evidence for phosphorylation-dependent, dynamic, regulation of mGlu5 and Homer2 in 2 expression of cocaine aversion in mice, *eNeuro* (2023), doi: <https://doi.org/10.1523/ENEURO.0423-22.2023>
- Banker, S.M., Na, S., **Beltrán, J.**, Koenigsberg, H.W., Foss-Feig, J.H., Gu, X., Schiller, D., Disrupted computations of social control in individuals with obsessive-compulsive and misophonia symptoms, *ISCIENCE* (2022), doi: <https://doi.org/10.1016/j.isci.2022.104617>
- Brown C., **Beltran J.**, Fultz E., Tran T., Barger B., Williams N., Yen W., Park A., Kippin T., Szumlinski K. Investigating the Role of Corticostriatal Glutamate Signaling in Methamphetamine Reward and Reinforcement, *FASEB Journal* (2022), doi: <https://doi.org/10.1096/fasebj.2022.36.S1.R6288>

## PRESENTATIONS

- **Talks**
  - **Examining the impact of activity and motivation on depression and anxiety in the real world** 04/2025  
*Biomedical Engineering and Imaging Institute, New York, NY*
  - **Assessing the role of the ventral tegmental area in reward processing using 7-Tesla MRI** 03/2024  
*Society for Affective Science Annual Conference, New Orleans, LA.*
  - **Investigating the role of Homer2 in cocaine addiction** 06/2019  
*UCSB CAMP Spring Symposium, Santa Barbara, CA.*
  - **Investigating the role of reward subcircuits in methamphetamine addiction vulnerability** 08/2018  
*UCSB Summer Research Symposium, Santa Barbara, CA.*
- **Posters (selected)**
  - **Investigating the neural encoding of reward prediction errors and anhedonia using 7-Tesla MRI** 04/2025  
*Society of Biological Psychiatry, Toronto, ON.*
  - **Validating mood and anxiety symptom capture in the real-world and exploring the influence of physical activity** 05/2024  
*American Psychiatric Association Annual Meeting, New York, NY.*
  - **Exploring neural correlates of reward and punishment learning in depression using 7-Tesla MRI** 07/2023  
*Computational Psychiatry Conference, Dublin, Ireland.*
  - **Improving Outcomes in Minority Children with Autism Spectrum Disorder Affected By the COVID-19 Pandemic through the Evaluation of a Telehealth Family-Mediated Intervention (\*co-author)** 05/2022  
*International Society for Autism Research, Austin, TX.*
  - **Exploring the effects of real-time biofeedback of the ventral tegmental area with 7-Tesla MRI for the treatment of depression** 10/2022  
*Real-time Functional Imaging and Neurofeedback Conference, New Haven, CT.*
  - **Neural processes associated with agency discrimination in misophonia** 04/2021  
*The Friedman Brain Institute 13th Annual Neuroscience Retreat, New York, NY.*
  - **Investigating the role of reward subcircuits in methamphetamine addiction vulnerability** 05/2018  
*UCSB Undergraduate Research Colloquium, Santa Barbara, CA.*

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## **MEMBERSHIPS/COMMUNITY INVOLVEMENT**

- Organizer – *Center for Computational Psychiatry Speaker Series* – 08/2024 – Present  
ISMMS, New York, NY
- Student Teacher – *Mentoring in Neuroscience Discovery at Sinai* – 10/2023 – Present  
ISMMS, New York, NY
- Mentee – *Diversity Innovation Hub, Innovation & Entrepreneurship Pathway Program* – 06/2024 – 08/2024  
ISMMS, New York, NY.
- Mentee – *Scientist Mentoring and Diversity Program for Biotechnology Scholar* – 05/2023 – 05/2024  
*International Center for Professional Development*, Virtual.
- Mentee – *Bristol Myers Squibb, Organization for Latino Achievement*, Virtual. 03/2022 – 12/2022
- Co-Chair – *Students for Equal Opportunity in Science* – ISMMS, New York, NY. 07/2021 – 02/2024
- PREP Student Council Representative – ISMMS, New York, NY. 10/2020 – 07/2021
- Pathmaker Intern – *Palomar Medical Center*, Escondido, CA. 12/2019 – 03/2020
- Volunteer – *MedLife* – UCSB, Santa Barbara, CA. 10/2018 – 06/2019
- Member – *Reality Changers*, San Diego, CA. 08/2014 – 06/2015

## **MENTORSHIP**

- Tanvi Patel (New York University, undergraduate student) 11/2024 – Present
- Tasnim Hossain (The Bronx High School of Science, research volunteer ; 07/2022 – 08/2023  
undergraduate student at Tufts University)
- Brenda Mejia (UCSB, undergraduate student ; 01/2019 – 06/2019  
Milestones Academy Plus, Chief Operations Officer)

## **SKILLS**

- **Computer skills:** R, Python, AFNI, Linux, Microsoft Suite, Literature Review (PubMed, Google Scholar)
- **Quantitative skills:** functional MRI analysis, generalized linear models, mixed effects models, reinforcement learning algorithms
- **Language:** Native/Fluent in Spanish