

Jacqueline M. Beltrán

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EDUCATION

Ph.D., Neuroscience

Expected May 2026

Icahn School of Medicine at Mount Sinai (ISMMS)

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

Collaborator: Angela Radulescu, Ph.D.

Bachelor of Science, Biopsychology

06/2019

University of California, Santa Barbara (UCSB)

HONORS & AWARDS

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

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

1. **Beltrán JM***, Li M*, Jacob Y, Butler G, Mehta MM, Murrough JW, Radulescu A, Morris L., VTA network dominance in depression confers distinct psychopathological states through blunted neural tracking of reward prediction errors. (*Submitted*) *co-first
2. **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>
3. Morris L, **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
4. Szumlinski K.K., **Beltrán J.**, van Doren E., Jimenez Chavez CL, Domingo-Gonzalez RD, Reyes CM, Ary AW, Lang A, Guo W, Worley PF, Huber KM, Evidence for phosphorylation-dependent, dynamic, regulation of mGlu5 and Homer2 in expression of cocaine aversion in mice, *eNeuro* (2023), doi: <https://doi.org/10.1523/ENEURO.0423-22.2023>
5. Banker SM, Na S, **Beltrán J**, Koenigsberg HW, Foss-Feig JH, 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>
6. 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

- **Invited 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

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- 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 7T 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 7T 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 7T 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

RESEARCH EXPERIENCE

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| Doctoral Researcher | 06/2022 – Present |
| ISMMS, Neuroscience/Psychiatry Departments | New York, NY |
| <ul style="list-style-type: none">• Formulate and test statistical models in R to analyze longitudinal real-world patient data collected from a mobile digital health application over a 30-day period.• Perform data curation in Python to provide insight into behavioral patterns predictive of psychiatric symptoms in the real-world.• Build computational models of learning in Python to quantify behavioral differences in reward learning and in relation to functional brain activity acquired using 7-Tesla MRI.• Administer a novel, real-time neurofeedback treatment intervention and assess its efficacy for the treatment of depression using 7-Tesla MRI and clinical assessments.• Facilitate inclusive clinical research practices by administering the Trier social stress test to Spanish-speaking individuals, to broaden the scope of stress response research. | |
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| Post-Baccalaureate Research Education Program (PREP) Scholar | 08/2020 – 07/2021 |
| ISMMS, Psychiatry Department | New York, NY |
| <ul style="list-style-type: none">• 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.• Conducted literature review for manuscript writing. | |

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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 Szumlinski, 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.

HEALTHCARE EXPERIENCE

Medical Assistant (Float)

10/2019 – 04/2020

Planned Parenthood of the Pacific Southwest

San Diego, CA

- Worked across 8 different clinic sites throughout San Diego County, adapting to different workflows and work environments to provide Medical Assistant services.
- Assisted clinicians during women's reproductive health procedures by scribing, ordering labs, and collecting specimens.
- Provided care and delivered contraceptive counseling tailored to patient needs in both English and Spanish.
- Completed an average of 12 patient intakes per day, obtaining informed consent and screening for medical history and intimate partner violence.
- Obtained patient vital signs and performed blood draws along with deltoid and ventrogluteal injections as directed by clinicians.

Medlife Volunteer

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 Department of 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.

MEMBERSHIPS/COMMUNITY INVOLVEMENT

- Student Teacher – Mentoring in Neuroscience Discovery at Sinai – ISMMS, New York 10/2023 – Present
- Organizer – Center for Computational Psychiatry Speaker Series – ISMMS, New York 08/2024 – 06/2025
- Mentee – Diversity Innovation Hub, Innovation & Entrepreneurship Pathway Program – ISMMS, New York 06/2024 – 08/2024
- Mentee – Scientist Mentoring and Diversity Program for Biotechnology Scholar – International Center for Professional Development, Virtual 05/2023 – 05/2024
- Co-Chair – Students for Equal Opportunity in Science – ISMMS, New York 07/2021 – 02/2024
- Mentee – Bristol Myers Squibb, Organization for Latino Achievement, Virtual 03/2022 – 12/2022
- PREP Student Council Representative – ISMMS, New York 10/2020 – 07/2021

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| • 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 |

PEER REVIEW

Neuroscience

Biological Psychiatry

MENTORSHIP

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| • Tanvi Patel (New York University, undergraduate student) | 11/2024 – Present |
| • Mao Nozaki (Washington University in St. Louis, undergraduate student) | 05/2025 – 08/2025 |
| • Tasnim Hossain (The Bronx High School of Science, research volunteer ;
undergraduate student at Tufts University) | 07/2022 – 08/2023 |
| • Brenda Mejia (UCSB, undergraduate student ;
Milestones Academy Plus, Chief Operations Officer) | 01/2019 – 06/2019 |

SKILLS

- **Scientific communication:** Scientific writing, health education, oral and poster presentations.
- **Technical & Analytical:** R, Python, AFNI, Linux, data visualization, statistical modeling, neuroimaging, reinforcement learning, Microsoft Office, Literature Review (PubMed, Google Scholar).
- **Clinical:** Clinical assessments, IRB, patient engagement.
- **Languages:** Native/fluent in Spanish.