



# **Lester G. Rodriguez Santos**

**Emails:** [lester.rodriguez@yale.edu](mailto:lester.rodriguez@yale.edu) | [lester.rodriguez.santos@gmail.com](mailto:lester.rodriguez.santos@gmail.com)

## **EDUCATION**

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**Graduate Student, Interdepartmental Neuroscience Program**  
Yale School of Medicine (YSM) – New Haven, CT

**August 2022 - Present**

**Bachelor of Science, Molecular and Cellular Biology**  
University of Puerto Rico, Rio Piedras Campus (UPR-RP) – San Juan, PR  
**Honors:** Summa Cum Laude

**August 2016 - May 2020**

## **WORKSHOPS**

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**Neurohackademy**  
University of Washington eScience Institute  
**Instructors:** Dr. Ariel Rokem and Dr. Noah Benson

**August 2023**

- Received broad instruction on different neuroimaging and data science topics during a 2-week long intensive bootcamp led by instructors from many different academic institutions.
- Completed a collaborative group project applying graph theory to study the relationship between the organization of resting-state networks and metabolic demands in the brain measured by FDG PET.

**fMRI Image Acquisition and Analysis Course**  
Center for Translational Research in Neuroimaging and Data Science  
**Instructors:** Dr. Vince Calhoun, Dr. Kent Khiel and Dr. Tor Wager

**June 2021**

- Learned about the tools and software used to analyze neuroimaging data in a 3-day intensive course.
- Practiced data analysis techniques with a mock dataset using MATLAB and SPM12.

## **RESEARCH EXPERIENCE**

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**Graduate Student Researcher**  
Department of Psychiatry, Yale School of Medicine – New Haven, CT  
**Supervisors:** Dr. Kelly Cosgrove and Dr. Sarah Yip

**August 2022 – Present**

- Interested in combining different neuroimaging modalities, primarily fMRI and PET, to study substance abuse in clinical populations.
- Used graph theory metrics to analyze changes in the organization of resting-state networks after an acute administration of Oxycodone in drug-naïve subjects.
- Applied machine learning algorithms to separate sources of PHNO binding in smokers and non-smokers during an amphetamine challenge with PET.

**NIDA Postbaccalaureate Fellow**  
National Institute on Drug Abuse, National Institutes of Health – Baltimore, MD  
**Supervisor:** Dr. Elliot Stein

**July 2020 – July 2022**

- Worked on clinical protocols studying substance use disorders with multimodal imaging technologies.
- Received training on clinical procedures and data analysis.
- Conducted an independent research project to study changes in the occurrence of distinct brain states with dynamic resting-state connectivity in nicotine smokers after transitioning towards acute abstinence.

**Undergraduate Research Assistant****August 2018 – May 2020**

Biology Department, Rio Piedras Campus of University of Puerto Rico – San Juan, PR

**Supervisor:** Dr. Carmen Maldonado

- Worked in a preclinical laboratory using rodents to study the neurobiology of anxiety-like behaviors.
- Received training on pharmacological manipulations, biochemical assays, and behavioral paradigms.
- Developed an independent research project to assess the potential anxiolytic effects of a cannabinoid antagonist and its interactions with the oxytocinergic system.

**NIDA Summer Research Intern****June 2019 – July 2019**

Center for Studies of Addiction, University of Pennsylvania – Philadelphia, PA

**Supervisor:** Dr. Anna Rose Childress

- Interned at a clinical laboratory studying relapse vulnerability in patients with cocaine use disorder.
- Received training on clinical procedures, patient interactions, and data analysis.
- Completed a summer research project to analyze data from a fMRI aversive cue-reactivity task in participants with cocaine use disorder and relate BOLD signal estimates to cocaine relapse metrics.

**WORK EXPERIENCE**

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**GSAS Professional Experience Fellow****August 2023 – Present**

Office of New Haven Affairs, Yale University – New Haven, CT

**Supervisor:** Maria Parente

- Providing support to scientific outreach programs at Yale for K-12 students from the New Haven area.
- Position will also encompass researching and developing new programming initiatives within STEM.

**Instructor, Innovations in Science and Technology (IST) Track****June 2023 – July 2023**

Yale Young Global Scholars (YYGS), Yale University – New Haven, CT

**Supervisor:** Dr. Maria Eugenia Panero

- Developed and taught seminars on neuroscience-related topics to high school students.
- Supervised CAPSTONE projects in the field of biology.
- Facilitated discussion sessions on daily science lectures presented by Yale faculty.

**GSAS Professional Experience Fellow****January 2023 – May 2023**

Program to Advance Training in Health &amp; Sciences, Yale University – New Haven, CT

**Supervisor:** Dr. Giovanna Guerrero-Medina

- Organized professional development programming for undergraduate students from underrepresented backgrounds in science and medicine.
- Developed a proposal for a novel group-based peer-mentoring initiative between current students and alumni to facilitate mentorship in an informal and relaxed environment.

**FELLOWSHIPS/AWARDS/HONORS**

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**Wu Tsai Institute Graduate Fellow****August 2022 - Present**

Wu Tsai Institute, Yale University

**Award for Undergraduate Research in Biology****June 2021**

Department of Biology, UPR-RP

**Research and Creativity Award from the College of Natural Sciences****June 2021**

College of Natural Sciences, UPR-RP

**College of Natural Sciences Dean's Honor List****August 2016 – May 2020**

College of Natural Sciences, UPR-RP

## LEADERSHIP EXPERIENCE

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### Science Cafe Co-Chair, Open Labs at Yale

January 2022 - Present

- Tasked with organizing different outreach events for K-12 students from the New Haven area that teach them about science through seminars and demonstrations.

### Seminar Series Subcommittee Co-Chair, NIH Postbac Committee

June 2021 – June 2022

- Organized the monthly postbaccalaureate seminar series and yearly postbaccalaureate elevator pitch talks at the National Institutes of Health.

### Outreach Coordinator, National Neuroscience Student Association UPR-RP

Augusts 2019 – May 2020

- Developed seminars and activities on neuroscience for high school students in Puerto Rico.
- Led discussions on substance abuse for kids of the Casa de Niños Manuel Fernández Juncos orphanage.

## OUTREACH

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### Fellow, Wu Tsai Institute's Student and Postdoc Committee

August 2023 – Present

- Developing scientific outreach initiatives for schools in the greater New Haven area that focus on neuroscience and cognition.

### Mentor, Científico Latino's Graduate School Mentorship Initiative Program

August 2023 – Present

- Mentoring students from underrepresented backgrounds as they transition towards graduate school.

### Mentor, YBDIC Next-Generation Excellence Initiative Mentoring Program

January 2022 – May 2023

- Mentored two undergraduate students during a 5-month program to help them navigate the transition period towards graduate school or postbaccalaureate opportunities.

### Volunteer, STEM Mentors at Yale

September 2022 – December 2022

- Participated in college essay writing workshops to help local high school students with applications.

### Volunteer, Educando con Amor / Ciencia en Español

April 2021 – June 2022

- Organized multiple science seminars and demonstrations in Spanish for Hispanic K-12 students.

### Panelist, NIDA Summer Research Internship Career Q&A

August 2021

- Spoke to summer interns at the NIH on how to navigate the early stages of their academic careers.

### Panelist, What you need to know about post-bacc programs?

January 2021

- Offered advice to undergraduate students at the UPR-RP on how to obtain postbaccalaureate fellowships.

## INVITED TALKS

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### Guest Speaker, Behavioral Neuroscience Program

April 2023

Quinnipiac University, Hamden CT

Contact: Dr. Todd Ahern

- Presented initial portions of my research as a new graduate student to undergraduates in the Behavioral Neuroscience program at Quinnipiac University
- Spoke about my trajectory in academia and offered advice on graduate school applications.
- Answered questions from the audience on research, academia and life as graduate student.

## POSTER PRESENTATIONS

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**L. G. Rodriguez**, j. R. Fedota, t. J. Ross, b. J. Salmeron, h. U. Deshpande, e. A. Stein. Relationship between affective and behavioral composite factors and dynamic resting-state functional connectivity in sated and acutely abstinent smokers. Society for Neuroscience 2022. November 2022.

**Rodríguez L**, Childress AR, Regier P, Suh JJ, Jagannathan K, Young K, Darnley S, Taylor M. Brain response of cocaine patients to aversive cues in fMRI correlates with drug use outcomes. 27th Annual Puerto Rico Neuroscience Conference 2019, Bayamón, PR. December 2019.

**Rodríguez L**, Muñoz P, Ramos A, Encarnación V, Olmedo E, González F, Norzé W, Maldonado-Vlaar CS. Effects of chronic and acute inhibition of cannabinoid CB2 receptor on anxiety levels and oxytocin activity. Society for Neuroscience, 2019, Chicago, IL. October 2019.