



Lester G. Rodriguez Santos

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EDUCATION

PhD Student, Interdepartmental Neuroscience Program August 2022 - Present
Yale School of Medicine – New Haven, CT

Bachelor of Science, Molecular and Cellular Biology August 2016 - May 2020
University of Puerto Rico, Rio Piedras Campus – San Juan, PR
Honors: Summa Cum Laude | **Cumulative GPA:** 3.97

RESEARCH EXPERIENCE

PhD Student August 2022 – Present
Department of Psychiatry, Yale School of Medicine

Supervisors

Dr. Kelly Cosgrove (kelly.cosgrove@yale.edu)

Dr. Sarah Yip (sarah.yip@yale.edu)

- Combining fMRI and PET to study the acute effects of stimulant drugs on the healthy brain.
- Project: Prediction of the subjective effects of methamphetamine using connectome-based predictive modelling.
- Project: Applying independent component analysis on [¹¹C]PHNO PET data to isolate sources of binding.

NIDA Postbaccalaureate Fellow July 2020 – July 2022
National Institute on Drug Abuse, National Institutes of Health

Supervisor

Dr. Elliot Stein (estein1@gmail.com)

- Ran a clinical research protocol to longitudinally study treatment outcomes for smoking cessation.
- Received training in clinical procedures and data analysis for behavioral and neuroimaging data.
- Project: Studying changes in dynamic functional connectivity states in smokers after acute abstinence.

Undergraduate Research Assistant August 2018 – May 2020
Biology Department, University of Puerto Rico - Rio Piedras Campus

Supervisor

Dr. Carmen Maldonado (carmen.maldonado7@upr.edu)

- Worked in a preclinical laboratory using rodents to study the neurobiology of anxiety-like behaviors.
- Received training in pharmacological manipulations, biochemical assays, and behavioral paradigms.
- Project: Assess the anxiolytic effects of a cannabinoid antagonist and its interactions with oxytocin.

NIDA Summer Research Intern June 2019 – July 2019
Center for Studies of Addiction, University of Pennsylvania

Supervisor

Dr. Anna Rose Childress (childress@pennmedicine.upenn.edu)

- Summer intern at a clinical laboratory studying relapse vulnerability in patients with Cocaine Use Disorder.
- Received training in clinical procedures, patient interactions, and data analysis.
- Project: Identifying brain regions where aversive cue-induced activity correlated with cocaine relapse metrics.

RESEARCH EXPERTISE, TECHNIQUES & SKILLS

Expertise

Substance Use Disorders
Psychostimulants
Amphetamine
Methamphetamine
Dopamine
Functional Magnetic Resonance Imaging
Task-Based fMRI
Resting-State fMRI
Functional Connectivity
Large-Scale Brain Networks
Positron Emission Tomography
Pharmacokinetic Modelling
Drug Challenge Studies
Drug-Induced Dopamine Release
Dopaminergic Radiotracers

Techniques

General Linear Modelling
Regression Analysis
Seed-Based Functional Connectivity
Graph Theoretical Metrics
Network Based Statistic
Connectome-Based Predictive Modelling
Independent Component Analysis

Skills

Human Subjects Research
Clinical Study Management
Participant Recruitment
Participant Interactions
Task Administration
Statistical Analyses and Modelling
Data Visualization and Interpretation

WORK EXPERIENCE

GSAS Professional Experience Fellow

August 2023 – Present

Office of New Haven Affairs, Yale University

Supervisors

Dr. Maria Parente (maria.parente@yale.edu)

Dr. Rick Crouse (richardbcrouse@gmail.com)

- Providing support to scientific outreach programs at Yale for K-12 students from the New Haven area.
- Position also involves researching and developing new programming initiatives within STEM education.
- Data analysis to discover gaps in programming or student recruitment and assess student outcomes.

GSAS Professional Experience Fellow

January 2023 – May 2023

Program to Advance Training in Health & Sciences, Yale University

Supervisor

Dr. Giovanna Guerrero-Medina (giovanna.guerrero-medina@yale.edu)

- Organized professional and academic development programming for undergraduate students from underrepresented backgrounds pursuing degrees 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.

TEACHING EXPERIENCE

Teaching Fellow, Principles of Neuroscience (INP 710)

August 2024 – December 2024

Interdepartmental Neuroscience Program, Yale School of Medicine

Supervisors

Dr. William Cafferty (william.cafferty@yale.edu)

Dr. Angeliki Louvi (angeliki.louvi@yale.edu)

Instructor, Innovations in Science and Technology (IST) Track

June 2024 – July 2024

Yale Young Global Scholars (YYGS), Yale University

Supervisors

Durel Crosby (durel.crosby@yale.edu)

Instructor, Innovations in Science and Technology (IST) Track Yale Young Global Scholars (YYGS), Yale University Supervisors Dr. María Eugenia Panero (mariaeugenia.panero@yale.edu)	June 2023 – July 2023
Undergraduate Biology Tutor, Cell Biology (BIOL 4350) Biology Department, University of Puerto Rico - Rio Piedras Campus Supervisor Dr. Rosaura Ramirez (rosaura.ramirez@upr.edu)	January 2020 – May 2020
Teaching Assistant, Neuropharmacology & Drugs (BIOL 3576) Biology Department, University of Puerto Rico - Rio Piedras Campus Supervisor Dr. Rosaura Ramirez (rosaura.ramirez@upr.edu)	August 2019 – December 2020

SPECIALIZED TRAINING & WORKSHOPS

Intermediate Teaching Workshop: Teaching Quantitative Reasoning Poorvu Center for Teaching and Learning, Yale University	April 2025
Intermediate Teaching Workshop: AI in the Classroom Poorvu Center for Teaching and Learning, Yale University	February 2025
Positron Emission Tomography - Pharmacokinetics Course NeuroReceptor Mapping 2024, The Neuro. Montreal Neurological Institute	May 2024
Learning Community: Entering Mentoring in STEM Poorvu Center for Teaching and Learning, Yale University	April 2024
Intermediate Teaching Workshop: Play in the Classroom Poorvu Center for Teaching and Learning, Yale University	March 2024
Intermediate Teaching Workshop: Classroom Teaching Observation Poorvu Center for Teaching and Learning, Yale University	February 2024
Intermediate Teaching Workshop: Mental Health in the Classroom Poorvu Center for Teaching and Learning, Yale University	November 2023
Fundamentals of Teaching in the Sciences Poorvu Center for Teaching and Learning, Yale University	October 2023
Neurohackademy University of Washington eScience Institute	August 2023
fMRI Image Acquisition and Analyses Course Center for Translational Research in Neuroimaging and Data Science (TRENDIS)	June 2021

FELLOWSHIPS/AWARDS/HONORS

2024 Graduate Research Fellowship Award (GRFP) The National Science Foundation	April 2024 - Present
WTI Graduate Fellowship The Wu Tsai Institute, Yale University	August 2022 - Present
Class of 2020 - Award for Undergraduate Research in Biology Department of Biology, University of Puerto Rico - Rio Piedras Campus	May 2020

Class of 2020 - Research and Creativity Award from the College of Natural Sciences **May 2020**
College of Natural Sciences, University of Puerto Rico - Rio Piedras Campus

Honors Tuition Exemption **August 2017 – May 2020**
University of Puerto Rico - Rio Piedras Campus

College of Natural Sciences Dean's Honor List **August 2016 – May 2020**
College of Natural Sciences, University of Puerto Rico - Rio Piedras Campus

LEADERSHIP EXPERIENCE

Director, Open Labs at Yale **December 2024 – Present**
Yale University

Outreach Co-Chair, WTI Student and Postdoc Collective **August 2024 – Present**
The Wu Tsai Institute, Yale University

Science Cafe Co-Chair, Open Labs at Yale **January 2022 – December 2024**
Yale University

Seminar Series Subcommittee Co-Chair, NIH Postbac Committee **June 2021 – June 2022**
National Institutes of Health

Outreach Coordinator, National Neuroscience Student Association **Augusts 2019 – May 2020**
University of Puerto Rico - Rio Piedras Campus

MENTORSHIP/COMMUNITY SERVICE/OUTREACH

Thesis Committee Member, NeuroGRAD PhD Program **August 2024 – Present**
Department of Biology, University of Puerto Rico - Rio Piedras Campus

Member, INP Outreach Program **August 2023 – Present**
Interdepartmental Neuroscience Program

Research Mentor, Dr. Garcia Rinaldi Foundation Summer Program 2024 **June 2024 – July 2024**
Dr. Garcia Rinaldi Foundation

Mentor, Program to Advance Training in Health Sciences **August 2023 – December 2023**
Yale School of Medicine

Mentor, Graduate School Mentorship Initiative Program **August 2023 – December 2023**
Científico Latino

Mentor, Next-Generation Excellence Initiative Mentoring Program **January 2022 – May 2023**
Yale Biological and Biomedical Diversity and Inclusion Collective

Volunteer, Ciencia en Español **April 2021 – June 2022**
Educando con Amor

Member, Pre-Medical Association of Puerto Rico **August 2018 – May 2019**
University of Puerto Rico - Rio Piedras Campus

Member, MEDLIFE **August 2017 – May 2019**
University of Puerto Rico - Rio Piedras Campus

TALKS/PANELS/SCIENCE COMMUNICATION

- Invited Speaker (In Person)** **June 2025**
Stanford Neurosciences – Leaders of the Future 2025 Symposium, Stanford University
Title: Connectome-Based Encoding of Subjective but Not Physiological Effects of Methamphetamine
Host: Dr. William J. Giardino (willgiar@stanford.edu)
- Panelist: NIDA Postbac Alumni Panel (Online)** **May 2025**
National Institute on Drug Abuse, National Institutes of Health
Host: Christie Brannock (cbrann@intra.nida.nih.gov)
- Panelist: Graduate Experiences and Research Journeys (Online – In Spanish)** **April 2025**
Neurobridges: Connecting Brains and Boricuas, University of California Irvine
Host: Gimarie Irizarry Martinez (girizarr@uci.edu)
- Panelist: Science Communication and Outreach for Busy Scientists (In Person)** **April 2025**
2025 SACNAS New England Chapter Community Gathering
Host: Dr. Giovanna Guerrero-Medina (giovanna.guerrero-medina@yale.edu)
- Invited Speaker (Online – In Spanish)** **February 2025**
Científicos al Servicio en Línea, Ciencia Puerto Rico
Title: Using Neuroimaging to Study the Function of the Human Brain
Recording: [YouTube Link](#)
Host: Elvin Estrada (elvin.estrada@cienciapr.org)
- Invited Speaker (Online)** **February 2024**
Exploring Science, OpenLabs at Yale
Title: Mind Readers – Studying The Brain in Humans
Recording: [YouTube Link](#)
Host: OpenLabs at Yale (open.labs.contact@gmail.com)
- Invited Speaker (In Person)** **April 2023**
Behavioral Neuroscience Program, Quinnipiac University
Title: How temporary drug states can impact brain function and behavior
Host: Dr. Todd Ahern (todd.ahern@quinnipiac.edu)
- Invited Speaker (In Person)** **November 2022**
Science Café, OpenLabs at Yale
Title: Neuroimaging – Studying Brain Activity in Humans
Recording: [YouTube Link](#)
Host: OpenLabs at Yale (open.labs.contact@gmail.com)
- Panelist: NIDA Summer Research Internship Career Q&A (Online)** **August 2021**
National Institute on Drug Abuse, National Institutes of Health
Host: Dr. Albert Avila (albert.avila@nih.gov)
- Panelist: What you need to know about post-bacc programs? (Online)** **August 2021**
NIH Blueprint ENDURE: NeuroID Program, University of Puerto Rico - Rio Piedras Campus
Host: Dr. Carmen Maldonado (carmen.maldonado7@upr.edu)

POSTER PRESENTATIONS

Lester Rodriguez Santos, Hanna Molla, Marzieh Babaeianjelodar, Kelly Cosgrove, Harriet de Wit, Sarah Yip. (2024). *Connectome-Based Encoding of Subjective but Not Physiological Effects of Methamphetamine*. 63rd Annual Meeting of the American College of Neuropsychopharmacology, Phoenix, AZ.

Lester G. Rodriguez, Ansel T. Hillmer, Katina C. Calakos, Sarah W. Yip, Kelly P. Cosgrove. (2024). *Data-Driven Independent Component Analysis To Isolate Dopamine Receptor Subtype-Specific Binding Sources of [11C]-(+)-PHNO During An Amphetamine Challenge Study of Tobacco Smokers and Nonsmokers*. NeuroReceptor Mapping (NRM) 2024, Montreal, QC, Canada.

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

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

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*. Neuroscience (SfN) 2019, Chicago, IL.

POSTERS

Muñoz Rodríguez P.A., **Rodríguez Santos L.G.**, Norzé W., Ramos Rolón A.P., Encarnación Cortés V.S., Olmedo E.M., Maldonado-Vlaar C.S. (2021). *The interplay between oxytocin and CB1 receptors in the endocrine, mesolimbic and limbic systems of rats followed by the effects of chronic oxytocin intranasal administration in exercise and anxiety-like behaviors*. Neuroscience (SfN) 2021 (Online).

Ramos Rolón A.P., Muñoz Rodríguez P.A., **Rodríguez Santos L.G.**, Norzé W., Encarnación Cortés V.S., Olmedo E.M., Maldonado-Vlaar C.S. *The effects of the endocannabinoid receptors 2 (CB2) and voluntary wheel running in depression-like behaviors in rats*. Neuroscience (SfN) 2021 (Online).

Norzé W., **Rodríguez Santos L.G.**, Muñoz Rodríguez P.A., Ramos Rolón A.P., Encarnación Cortés V.S., Olmedo E.M., Maldonado-Vlaar C.S. (2021) *A crosstalk between Transient Receptor Potential Vanilloid 1 and Cannabinoid receptor 1 within the limbic system regulates anxiety and depression-like behaviors*. Neuroscience (SfN) 2021 (Online).

Muñoz Rodríguez P.A., **Rodríguez Santos L.G.**, Norzé W., Ramos Rolón A.P., Encarnación Cortés V.S., Olmedo E.M., Padilla J.M., Maldonado-Vlaar C.S. (2020) *Effects of intranasal oxytocin administration in exercise and anxiety-like behaviors in rats*. 7th Annual American Society for Biochemistry and Molecular Biology (ASBMB) Research Symposium (Online).

Muñoz Rodríguez P.A., **Rodríguez Santos L.G.**, Norzé W., Ramos Rolón A.P., Encarnación Cortés V.S., Olmedo E.M., Maldonado-Vlaar C.S. (2019) *Effects of intranasal oxytocin administration in exercise and anxiety-like behaviors in rats*. 27th Annual Puerto Rico Neuroscience Conference, Bayamón, PR.

Norzé W., **Rodríguez Santos L.G.**, Muñoz Rodríguez P.A., Ramos Rolón A.P., Encarnación Cortés V.S., Olmedo E.M., Maldonado-Vlaar C.S. (2019) *Effect of fatty-acids amylase inhibitor (FAAH) on TRPV1 and CB1R receptors regulating anxiety and depression behaviors within the mesolimbic system*. 27th Annual Puerto Rico Neuroscience Conference, Bayamón, PR.

Muñoz Rodríguez P.A., **Rodríguez Santos L.G.**, Norzé W., Ramos Rolón A.P., Encarnación Cortés V.S., Olmedo E.M., Maldonado-Vlaar C.S. (2019) *Effects of intranasal oxytocin administration in exercise and anxiety-like behaviors in rats*. Neuroscience (SfN) 2019, Chicago, IL.

Norzé W., **Rodríguez Santos L.G.**, Muñoz Rodríguez P.A., Ramos Rolón A.P., Encarnación Cortés V.S., Olmedo E.M., Maldonado-Vlaar C.S. (2019) *Effect of fatty-acids amylase inhibitor (FAAH) on TRPV1 and CB1R receptors regulating anxiety and depression behaviors within the mesolimbic system*. Neuroscience (SfN) 2019, Chicago, IL.

PUBLICATIONS

Rodriguez-Santos, L., Molla, H., Babaeianjelodar, M., Cosgrove, K., de Wit, H., & Yip, S. W. *Connectome-Based Encoding of Subjective but Not Physiological Effects of Methamphetamine*. In preparation.

CONFERENCES

Poster Presenter, 63rd Annual ACNP Meeting JW Marriott Desert Ridge Resort and Spa – Phoenix, AZ	December 2024
Program Recruiter, SACNAS 2024 National Diversity in STEM Conference Phoenix Convention Center – Phoenix, AZ	October 2024
Poster Presenter, NeuroReceptor Mapping 2024 McGill University – Montreal, QC, Canada	May 2024
Attendee, Neuroscience (SfN) 2023 Walter E. Washington Convention Center – Washington, D.C.	November 2023
Poster Presenter, Neuroscience (SfN) 2022 San Diego Convention Center – San Diego, CA	November 2022
Program Recruiter, SACNAS 2022 National Diversity in STEM Conference Puerto Rico Convention Center – San Juan, PR	October 2022
Attendee, Real-Time Functional Imaging and Neurofeedback Meeting 2022 Yale University – New Haven, CT	October 2022
Poster Presenter, 27th Annual Puerto Rico Neuroscience Conference Central University of the Caribbean – Bayamon, PR	December 2019
Poster Presenter, Neuroscience (SfN) 2019 McCormick Place Convention Center – Chicago, IL	October 2019

REFERENCES

Kelly Cosgrove, Ph.D. (Current PI)
Professor of Psychiatry, Neuroscience and Radiology
Yale School of Medicine
kelly.cosgrove@yale.edu

Sarah W. Yip, Ph.D. (Current PI)
Associate Professor of Psychiatry
Yale School of Medicine
sarah.yip@yale.edu

Maria Parente, Ph.D. (Current Supervisor)
Associate Director of Public School Partnerships
Yale University
maria.parente@yale.edu

Elliot Stein, Ph.D. (Previous PI)
Special Volunteer, Neuroimaging Research Branch
National Institute on Drug Abuse
estein1@gmail.com

Carmen S. Maldonado-Vlaar, Ph.D. (Previous PI)
Professor of Biology
University of Puerto Rico - Rio Piedras Campus
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Giovanna Guerrero-Medina, Ph.D. (Previous Supervisor)
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