

Name: Esteban Fernández Rodríguez
Birthdate: June 24, 1995
Birthplace: San Juan, Puerto Rico
Citizenship: U.S. Citizen

Field of specialization

Doctoral student in biology with focus in neurobiology of addiction.

Education

University of Puerto Rico, Río Piedras Campus, PR (Current)
Doctor in Philosophy, Neurobiology
Mentor: José E Lizardi Ortiz, Ph. D & Dr. Carlos Jiménez.
Thesis title: (Structure-Activity Relationships of Amphetamine-Type Stimulants on the Alpha 7 Nicotinic Acetylcholine Receptors.)

University of Puerto Rico, Humacao Campus, PR
Bachelor's in science, Biology

June 2019

Research Experience

University of Puerto Rico, Medical Sciences Campus, San Juan PR

The Institute of Neurobiology

Lab Technician

October 2021

Technical Expertise:

- Electrophysiological techniques, including [1] single-channel analysis, [2] two-electrodes voltage clamp.
- Molecular biology and biochemical techniques, including recombinant DNA, binding studies, heterologous expression systems, protein expression in bacteria and insect cells.
- *Xenopus* oocyte microinjection and two-electrode voltage clamp techniques.
- Taught students, postdoctoral fellows, collaborators, and visiting investigators how to perform electrochemical and electrophysiological experiments in oocytes.
- Molecular biology techniques, including bacteria culture, transformation, electrophoresis, PCR, DNA purification, cRNA preparation among other minor techniques on proper maintenance and laboratory rules.

Ongoing Projects:

Uncover new receptors locations and interactions that are targeted by amphetamines-type stimulants to unveil new therapeutic approaches for psychostimulants addiction.

Understand the physiological role of nicotinic acetylcholine receptors in the striatum, their contribution to the development or expression of addictive behaviors to amphetamine-type stimulants.

Poly pharmacology: Structure-based drug design of drugs that simultaneously targets nicotinic receptors and monoamine transporters.

Other appointment and liscences

University of Puerto Rico, The Institute of Neurobiology, San Juan PR

Requisition Agent October 2021

University of Puerto Rico, The Institute of Neurobiology, San Juan PR

Lab Technician October 2021

Student Fellowship Award NeuroGrad-Neuroscience Graduate, Resilience, Affirmation and Diversity Program at the University of Puerto Rico, National Institutes of Health , P.I. Dra. Carmen S. Maldonado Vlaar. October 2023

Teaching experience

UNIVERSITY OF PUERTO RICO, Medical Sciences Campus, San Juan, PR

Basic Concepts of Electrophysiology Workshop physical demonstrations oocyte microinjection techniques March/April 2022

UNIVERSITY OF PUERTO RICO, Río Piedras Campus, San Juan, PR

Electrophysiology two voltage clamp and oocyte microinjection techniques summer training post-doctoral student. July 2022

University of Puerto Rico, Institute of Neurobiology, San Juan, PR

Molecular biology techniques, including bacteria culture, transformation, electrophoresis, PCR, DNA purification, cRNA preparation among other minor techniques on proper maintenance and laboratory rules. October 2021-

Contributions

Article review on drug abuse statistic in Puerto Rico Title: *Critical overview of current drug abuse from governmental data in Puerto Rico* Submitted December 2023

Poster presentation in Neuroscience Puerto Rico-Title: Nicotinic Acetylcholine Receptors as Potential Targets for Amphetamine-type Stimulant Addiction December 2023

Community Work

Educational article writing on Fentanyl to raise awareness of fentanyl related death and the dangers of the drugs. March 2024