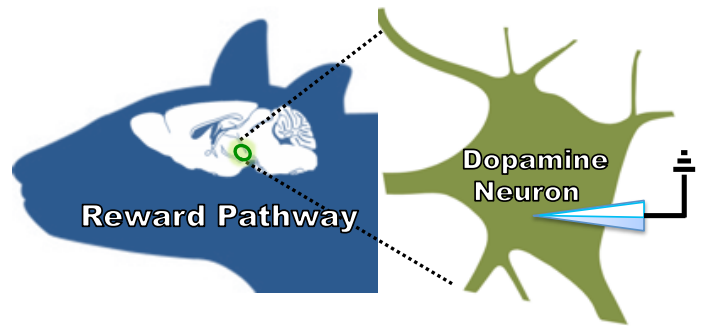


Biographical Sketch

Karl Y. Bosque-Cordero

Current Status:

PhD Student
Dept. of Biology, UPR-Rio Piedras
Dr. Carlos A. Jimenez-Rivera Neurophysiology Lab
UPR Medical Sciences Campus



Patch Clamp Electrophysiology

Email: karl.bosque@upr.edu, karl.bosque13@gmail.com

Education:

2010-2015	BS Biology	UPR Aguadilla
2016-Present	PhD Biology	UPR Rio Piedras

Current Research Interests:

Drug addiction is a neurobiological disorder that has the capability to change the brain's anatomy, functionality and circuit excitability. An important goal of addiction research is to understand the neurobiological mechanisms underlying this pathology. The hyperpolarization cation activated current (H-current) has been studied as a modulator of neural excitability since its discovery in neurons in 1980's. My research project consists of exploring the decreased H-current as a response mechanism to reduce cocaine-induced excitability on dopaminergic neurons of the Ventral Tegmental.

Research Experience:

2016-Present	PhD. Student (mentor: Carlos A. Jimenez-Rivera, PhD.)
2016-2019	NSF PIRE Graduate Fellow 2019 – Summer internship at The University of Bordeaux, France. 2018 – Summer internship at The University of Bordeaux, France. 2017 – Summer internship at The University of Cagliari, Sardinia.
2015-2016	UPR-MSC Volunteer Researcher (mentor: Carlos A. Jimenez-Rivera, PhD.)
Summer, 2015	UPR-RP Volunteer Researcher (mentor: Dr. Jose Agosto-Rivera)
2015	UPRAG Research Intern (AAA Agency)
2015	UPRAG Research Assistant (Carde Lab) (mentor: Dr. Jose Carde-Serrano)
2012	Research Assistant (mentor: Dr. Adrienne Tossas)

Biographical Sketch

Other Research Activities:

2017-Present BoriCiencia Member

Honors:

2019 Research Initiative for Scientific Enhancement Fellowship

2017 Yale Ciencia Academy Fellow

2016-2019 NSF PIRE Graduate Fellow

Presentations at Local Meetings:

2019 PIRE Annual Retreat

I_h Current Modulates Bicuculline-Induced Increase in Rebound Excitation of VTA DA Neurons. Karl Y. Bosque-Cordero, Rafael Vazquez-Torres, and Carlos A. Jimenez-Rivera.

2018 Graduate Student Association Chalk Talk Series

Decreased hyperpolarization-activated cation current (I_h): a response mechanism to reduce cocaine-induced excitability on dopaminergic neurons of the Ventral Tegmental Area.

2018 UPR MSC Brain Awareness Week (BAW)

What is drug addiction?

2018 1st Neuroboricua Congress

Boricencia: Communicating Puerto Rican Science.

2017 Graduate Student Association Chalk Talk Series

HCN channel possible role on cocaine sensitization.

2017 PIRE Annual Retreat

Decrease in (I_h) Current after DATi Administration: A Possible Epigenetic Effect?

Rafael Vazquez-Torres, Juan C. Vicenty-Padilla, Ana del C. Vaquer-Alicea, Karl Y. Bosque-Cordero, Francisco Arencibia-Albite, and Carlos A. Jimenez-Rivera.

2016 PIRE Annual Retreat

Changes in I_h Current Channel's Subunits 2 & 4 During The Expression Of Cocaine Sensitization. Karl Y. Bosque-Cordero, Cristina E. María-Ríos, Alan Montiel-Ramos, Rafael Vázquez-Torres, Ana del C. Vaquer-Alicea, Bermery Santos-Vera, and Carlos A. Jiménez-Rivera.

Biographical Sketch

2016 Puerto Rico Neuroscience

Hyperpolarization-Activated Cation Current (I_h) Channel Subunits HCN2: Role on the Development and Expression of Cocaine Behavioral Sensitization. Victoria Encarnación-López, Karl Y. Bosque Cordero, Rafael Vázquez-Torres, Ana del C. Vaquer-Alicea, Cristina E. María-Ríos, Alan Montiel-Ramos, Bermany Santos-Vera, and Carlos A. Jiménez-Rivera.

2015 AAA Research Proposal: "Ácido peracético como posible desinfectante para PAS-Isabela"

2014 UPRAg XIV Symposium of Undergraduate Research

2014 34th Puerto Rico Interdisciplinary Scientific Meeting & 49th Junior Technical Meeting

Presentations at National Meetings:

2018 NSF PIRE Reverse Site Visit

NSF PIRE Program Progress: A Graduate Student view.

Presenting at The National Science Foundation Headquarters at Alexandria, Virginia.

2018 PIRE Annual Retreat

Biophysical Properties of Dopaminergic Neurons: Exploring the role of the H-current on spontaneous activity on dopaminergic neurons of the Ventral Tegmental Area through in vivo anesthetized extracellular recordings.

Presenting an annual progress at Hotel El Convento, Old San Juan, PR.

2018 Society for Neuroscience

I_h Current Modulates Bicuculline-Induced Increase in Rebound Excitation of VTA DA Neurons. Karl Y. Bosque-Cordero, Rafael Vazquez-Torres & Carlos A. Jimenez-Rivera.

Decrease in (I_h) Current after DATi Administration: A Possible Epigenetic Effect?

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