

## GUEST SPEAKER



**Mark Harnett, PhD**

Dr. Harnett is an Associate Professor and Graduate Officer at the Massachusetts Institute of Technology (MIT) Department of Brain and Cognitive Sciences. He is also a distinguished neuroscientist and researcher at MIT's McGovern Institute for Brain Research. His research delves into neuronal features such as dendrites, synaptic connections, and the robust processing capabilities of neural circuits.

In the afternoon session of the PR Neuroscience Conference 2023, Dr. Harnett enlightened the audience on learning and memory processes, providing insights into how these processes operate at a circuit level that performs error coding at a neuronal level. Emphasizing the significance of both stability and flexibility in learning and memory, he connected these concepts to the behavioral time-scaled plasticity model. This model seeks to understand how synaptic plasticity underlies memory encoding, offering a comprehensive framework for understanding such mechanisms at play.

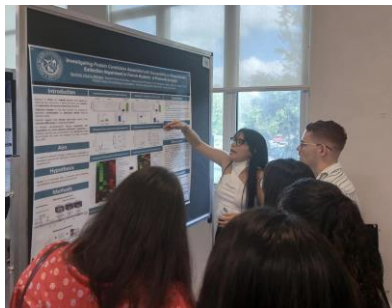
By: Yobet A. Pérez Pérez (4<sup>th</sup> year)

## 31st PUERTO RICO NEURO CONFERENCE 2023

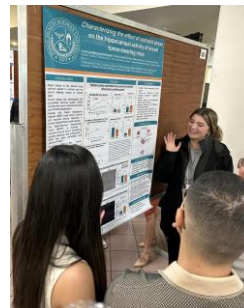
By: Yobet A. Pérez Pérez

The 31st Puerto Rico Neuroscience Conference was held on December 2, 2023, at the University of Puerto Rico in Bayamón. This is the most important annual neuroscience event in Puerto Rico. It is a one-day event that supports neuroscience research and training and consists of various talks by leading researchers in neuroscience. The conference also includes oral and poster presentations by high school students, graduates, post docs, and faculty members.

As part of the conference, The G-RISE trainees of Ponce Health Sciences University, along with members of the neuroscience research community, had the opportunity to participate in seminar sessions by researchers and experts in the neuroscience field such as Dr. Daniel A. Colón-Ramos (Yale University School of Medicine), Dr. Pedro A. Feliciano (Massachusetts Institute of Technology), Dr. Bianca Jones Marlin (Zuckerman Institute at Columbia University), and Dr. Mark Harnett (McGovern Institute at Massachusetts Institute of Technology), who was hosted by our G-RISE Program and who gave a conference titled "Biophysics for Neural Computation." In addition, the G-RISE trainees Luinet Melendez (2nd year), Nashaly Irizarry (4th year), and Yobet Perez (4th year) had the opportunity to present and discuss their exceptional research projects at the poster session with their peers. The G-RISE students and the neuroscience scientific community would like to thank the PRNeuro organizers for such an outstanding event and the valuable knowledge given.



Nashaly Irizarry



Luinet Meléndez



Yobet Pérez



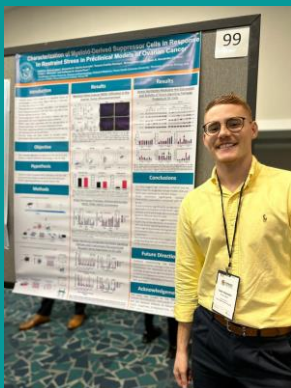
G-RISE Program trainees, Dr. James Porter (Associate Director) & Dr. Mark Harnett, invited guest speaker.



## The Puerto Rico Science Trust Forward Research and Innovation Summit 2023

Thrilled to highlight the remarkable accomplishments of our 3rd-year RISE trainee, Yadiel Rivera! He not only presented at the Puerto Rico Science Trust Forward Research and Innovation Summit 2023 that was held on November 30, 2023, at the Caribe Hilton Hotel in San Juan, but also received the Mitel Award for the Overall Best Poster.

Under Dr. Guillermo Armaiz' mentorship, Yadiel showcased his research on Characterization of Myeloid-Derived Suppressor Cells in Preclinical Models of Ovarian Cancer.

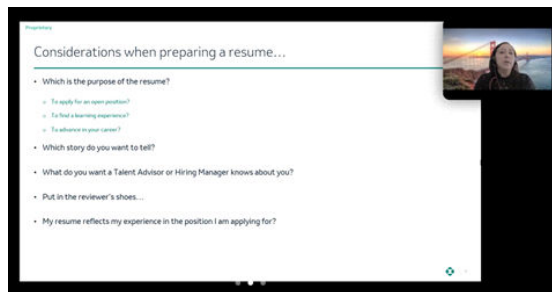


Huge congratulations, Yadiel, well deserved!

## TAILOR YOUR CV OR RESUME FOR INDUSTRY JOBS

By: Gretchen M. Albarrán Acosta (1st year G-RISE Trainee)

On November 3, 2023, Dr. Alia Toro, PhD, a clinical research manager at MERCK, and Shayra Díaz, BBA, a human resources business partner at MERCK, gave a professional development session to the G-RISE trainees and the PHSU community. The session offered recommendations and specific tips for students interested in applying to industry jobs. They shared insights about tailoring your CV and resume, which are powerful tools to acquire desired jobs, from a recruiter and a candidate's perspective at MERCK. The attendees received useful feedback and information on resume preparation and components, evaluation of resumes associated with the minimum requirements of the job position, interview practice, possible questions and stories to discuss during the interview, and when to prepare a cover letter and LinkedIn profile. Both speakers emphasized the importance of networking and finding a mentor that could guide us towards the path to getting accepted into the job position of interest.



## SOCIETY FOR NEUROSCIENCE ANNUAL MEETING 2023

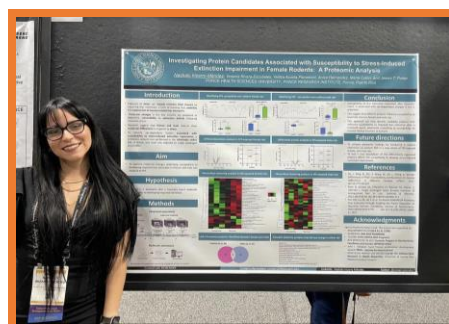
The Society for Neuroscience (SfN) is the world's largest organization of scientists and physicians devoted to understanding the brain and the nervous system. Its annual meeting took place November 11-15, 2023, in Washington DC. Our Neuroscience Labs were well represented by the following G-RISE trainees who presented their research projects:

**Nashaly Irizarry** (4th year): "Investigating Protein Candidates Associated with Susceptibility to Stress-Induced Extinction Impairment in Female Rodents: A Proteomic Analysis"

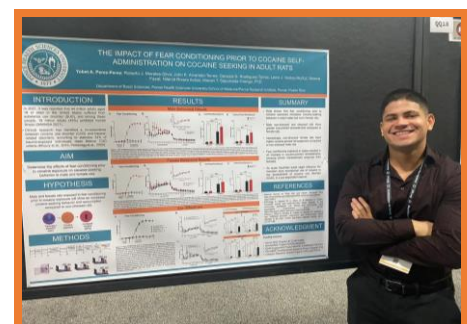
Nashaly had the opportunity to present at both the Travel Awardees Diversity Poster session as well as the regular poster session.

**Yobet Pérez** (4th year): "The impact of fear conditioning prior to cocaine self-administration on cocaine seeking in adult rats"

Congratulations, good job!



Nashaly Irizarry



Yobet Pérez



## INTELLECTUS AWARD RECIPIENTS

Join us in congratulating our G-RISE trainees, Joel Orengo (2nd year) and Yadiel Rivera (3rd year), as well as our former trainee, Yesenia Rivera (5th year), who were awarded with a scholarship from Fundación Intellectus. The objective of this scholarship is to support research on health prevention issues in Puerto Rico. It consists of financial aid to help support the applicant's graduate studies. Joel's research project aims to explore the potential of a combined therapy targeting Aurora Kinases A and B for early metastasis suppression in non-Hispanic black women with triple-negative breast cancer.

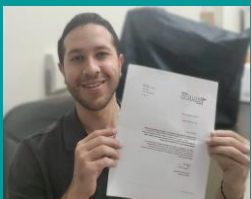
Yadiel's research project seeks to investigate the impact of chronic stress on the tumor microenvironment of ovarian cancer.

Yesenia's research explores the role of specific pathways on anxiety and fear.

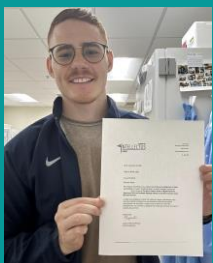
Information about this scholarship can be accessed through:

<https://fundacionintellectus.com/investigaciones-salud/>

Congrats, well deserved!



Joel Orengo



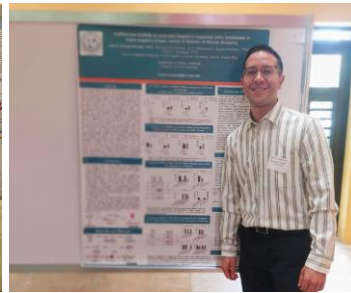
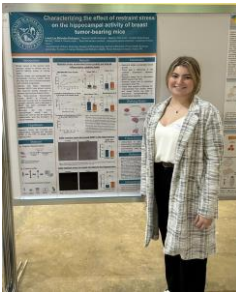
Yadiel Rivera

## THE ADVANCEMENT OF SCIENCE (AAAS), CARIBBEAN DIVISION, ANNUAL CONFERENCE

Proudly celebrating the outstanding contributions of our G-RISE trainees at the American Association for the Advancement of Science (AAAS), Caribbean Division, annual conference!

This was held on Saturday, November 11, 2023, at Casa Pueblo in Adjuntas, PR.

Luiet Meléndez (2nd year), Joel Orengo (2nd year) and Yadiel Rivera (3rd year), showcased their impactful research projects. Kudos to these talented minds shaping the future of science!



## DATA BLITZ FALL 2023

Our second and third data blitz were held on November 17 & December 15, 2023. The following trainees presented their research work in ten-minute presentations:

- ❖ **Joel Orengo:** "AURKA and AURKB as potential targets to curb early metastasis in triple-negative breast cancer among women of african ancestry"
- ❖ **Dorca Marcano:** "DENV Hybridomas: Unveiling the secrets of working with immortal antibody-producing cells"
- ❖ **Luiet Meléndez:** "Characterizing the effect of restraint stress on the hippocampal activity of breast tumor-bearing mice"
- ❖ **Stephanie Hernández:** "Sex-based differences in dendritic spine morphology and density under the influence of HIV-1 NEF and cocaine"
- ❖ **James Torres:** "Impact of endometriosis on Alpha-7 nicotinic receptor expression in distal colon of an endometriosis animal model"
- ❖ **Lourdes M. Caro:** "A NET-working Mystery: Exploring the role of neutrophils in hermansky pudlak syndrome pulmonary fibrosis"
- ❖ **Gretchen Albarrán:** "Silencing of mitotic kinases TTK and NEK2 as a potential therapeutic approach for breast cancer patients"
- ❖ **Paola Flores:** "Human Leukocyte Antigen (HLA) alleles from a dengue virus (DENV) endemic Puerto Rico cohort"

Congratulations on your excellent presentations! Keep up the good work!



(L-R) Luiet Meléndez, Dorca Marcano, & Joel Orengo



(L-R) Paola Flores, Gretchen Albarrán, James Torres, Lourdes Caro & Stephanie Hernández



## GUEST SPEAKER



Janelle Arthur, PhD

On Wednesday, December 13, 2023, Dr. Janelle C. Arthur, an immunologist, and microbiologist from the University of North Carolina School of Medicine gave a seminar titled "Gut Microbiota and Inflammation-Associated Intestinal Disease". Dr. Arthur's laboratory is interested in studying inflammatory bowel diseases such as colitis and Crohn's Disease. During her talk, Dr. Arthur shared some of the research her laboratory has performed to understand how inflammation influences the gut microbiota, with her work most recently focusing on the bacteria *Escherichia coli*. Dr. Arthur has demonstrated how these alterations in the gut microbiota promote the development of inflammation, pre-fibrotic state, and cancer. After the seminar, the G-RISE trainees had the opportunity to have lunch with the speaker where they chatted about career goals and received valuable advice. We thank Dr. Arthur for a great seminar and wish her all the success in her upcoming projects.


(By: Dorca Marciano, 1<sup>st</sup> year G-RISE trainee)

## THESIS DISSERTATION DEFENSES

A huge congratulations to our former RISE trainees Luis A. Rivera, Elliott Rodríguez and John Alvarado on the successful defense of their theses! We wish you continued success in your future endeavors as esteemed Doctors!


**Thesis Dissertation**

Luis Angel Rivera Arce  
PhD Candidate  
Biomedical Sciences  
Ponce Health Sciences University  
Ponce Research Institute  
lrivera18@psu.prm.edu



**Endometriosis-Induced Enteric Reactive Gliosis: Mechanistic Insights and the Role of PPAR Gamma Activation in Exercise-Mediated Benefits**


Academic Building - Room 101  
November 13, 2023  
12:00pm - 1:00pm



Luis A. Rivera


**Thesis Dissertation**

Elliott R. Rodríguez López  
PhD Candidate  
Biomedical Sciences Program  
elrodriguez18@psu.prm.edu



**Exploring the Phenotypic Variability of HIV-1 Integrase Polymorphisms: Implications for Antiretroviral Therapies**


Monday, November 6, 2023  
Building L - Room A  
11:30AM



Elliott Rodríguez


**Thesis Dissertation**

John K. Alvarado Torres  
PhD Candidate  
Biomedical Sciences Program  
Neuroscience Division  
Ponce Health Sciences University  
jalvarado11@psu.prm.edu



**The impact of aromatase inhibition on cocaine-induced molecular and behavioral alterations in male rats**

Academic Building - Room 101  
November 29, 2023  
12:30pm - 1:30pm



John Alvarado

## HAPPY HOLIDAYS!



OUR G-RISE TEAM WISHES YOU A MERRY CHRISTMAS AND A HAPPY & HEALTHY NEW YEAR 2024!



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PHSU RISE Graduate Training Program