



GUEST SPEAKER



Dr. Jill Weatherhead

On September 11th, 2024, the G-RISE program hosted a seminar by Dr. Jill E. Weatherhead, an infectious diseases specialist from Baylor College of Medicine in Houston, Texas. With her seminar titled: "Re-Defining the Ascaris Life- Cycle: First Steps in Ascaris Vaccine Development," Dr. Weatherhead immersed us in the world of Ascaris research, an infection that affects many individuals worldwide. Throughout the seminar, we learned about her research, which focuses on understanding new ways for Ascaris egg hatching, helping us comprehend the pathogenesis. Her groundbreaking results led to the discovery of a new site for egg hatching, the stomach. Her studies are providing key insights into infection mechanisms otherwise unknown that could be used to help develop new therapeutic strategies and even vaccines against this pathogen. After the seminar, the RISE trainees had the opportunity to have lunch with Dr. Weatherhead, where she shared her journey from MD to PhD and gave the students valuable career advice. We would like to thank Dr. Jill E. Weatherhead for such an amazing seminar and wish her all the success in her research.

(By: Dorca Marcano- 2nd year G-RISE trainee)

GSABS INDUCTION CEREMONY 2024

(By: Nashaly Irizarry Méndez, GSABS President)

On Wednesday, September 25th, the Graduate Student Association of Biomedical Sciences (GSABS) held its Annual Induction Ceremony at Ponce Health Sciences University. The event honored the achievements of James Torres Pirela and Yobet Pérez Pérez, recipients of the Dr. Iván Vidal González and Dr. Ismail Ibrahim Ali Awards. Six first-year Ph.D. students—Ana S. Vargas-Virella, Vivianka Y. Ramos-Plaza, Adrián Márquez-Hernández, Axel J. Ufarry-Alvarado, Gabriel Rosario-Ortiz, and Gabriela Ortiz-Márquez—were officially inducted and received their ceremonial white coats, symbolizing the start of their research careers. Congratulations to Dr. Marcos Ramos for being selected as the advisor of the association. We wish him much success in this new role. The ceremony was dedicated to Pablo López in recognition of his exceptional work in research at PHSU. The event concluded with an inspiring keynote speech from Dr. Alejandro Toro, Executive Director at Amgen, who shared how passion has shaped his successful career in science and industry.



THE THREE MINUTE THESIS WORKSHOP

By: Gretchen M. Albarrán-Acosta (2nd year G-RISE trainee)

On October 25th, 2024, Dr. James Porter, Ph.D., conducted the professional development session titled "Three-Minute Thesis Workshop" to the G-RISE trainees and the PHSU community. The aim of this activity was to share insights on developing a concise, creative, legible, and engaging narrative of a research project to discuss in this unique presentation format. A key rule highlighted was the limitation of visual aids, as competitors may use only one static presentation slide without animations, which encourages a focus on verbal delivery. Useful tools and video-examples, such as the 3MT (Three Minute Thesis) Competitor Guide from the University of Queensland, Australia, and previous competitions with former G-RISE trainees, were provided to guide students in their writing process for the following Spring 2025 competition. By encouraging clear and relatable language, as required in this presentation format, an environment where everyone can join in the journey of discovery, fostering connection and inspiring curiosity about the subject at hand is created. We extend our sincere appreciation to Dr. Porter for sharing his invaluable knowledge and support, which have been immensely beneficial to us as G-RISE trainees.





GUEST SPEAKER



Dr. Pablo Rosado

On September 25th, G-RISE trainees and the research community participated in the seminar “Data Sciences & Digital Innovation in Biomanufacturing.” The seminar was offered by Dr. Pablo Rosado, a principal data scientist at Amgen Manufacturing Limited in Juncos, Puerto Rico. Dr. Rosado presented how the biomanufacturing industries, in this case, Amgen, are implementing the data sciences through different models to improve and innovate their processes. In addition, Dr. Rosado showed the opportunities that graduate students, and future PhDs can achieve in the biomanufacturing industry both here in Puerto Rico and worldwide. After the presentation, RISE trainees had the opportunity to have lunch with the speaker, where they received advice on PhD careers and how to be successful, especially in the industry setting. Dr. Pablo Rosado encouraged the students to be focused, to follow their gut feelings when making decisions, and to explore different opportunities. We thank Dr. Rosado for his excellent seminar and for sharing his knowledge with the RISE trainees.

(By Yadiel A. Rivera-López, 4th year G-RISE Trainee)

DATA BLITZ

Our talented G-RISE trainees, Paola Flores and Yadiel Rivera (4th year), as well as Luinet Meléndez and Joel Orengo (3rd year) delivered exceptional presentations at our program's inaugural data blitz of the semester. These are fast-paced, 10-minute presentations where they showcase their research findings, highlighting key insights and progress in a concise, engaging format. It is a great way to communicate core aspects of their science quickly and effectively. The works presented were:

- Luinet Meléndez: “Exploring the Impact of Chronic Stress and Cancer on Hippocampal Activity in Murine Models of Ovarian Cancer”
- Yadiel Rivera: “Characterization of Myeloid-Derived Suppressor Cells in Response to Restraint Stress in Preclinical Models of Ovarian Cancer”
- Paola Flores: “Exploring T cell Phenotypes in a DENV Seropositive Puerto Rican Cohort”
- Joel Orengo: “Combined targeting of AURKA and AURKB as a potential therapeutic strategy to decrease the expression of epithelial-to-mesenchymal transition drivers in triple-negative breast cancer cell lines derived from non-Hispanic Black women”



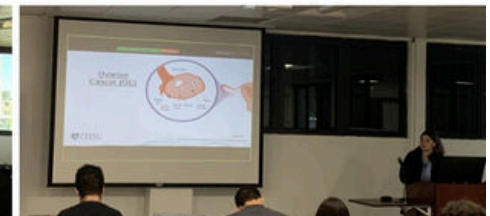
Yadiel Rivera



Paola Flores



Joel Orengo



Luinet Meléndez

ALUMNI NEWS

Congratulations to our former trainees on their recent achievements! Much success to everyone!

- Dr. Jessalyn Pla is now a Postdoctoral Fellow at Drexel University College of Medicine in Philadelphia, PA, under the mentorship of Dr. Jacqueline Barker.
- Dr. Roberto Morales began his post doc at the University of North Carolina at Chapel Hill, under the mentorship of Dr. Jessica Walsh. <https://www.walsh-lab.org>
- Dr. Luis A. Rivera has joined Universidad Ana G. Méndez in Gurabo, PR, as an Assistant Professor in the Biomedical Sciences Division, where he is teaching genetics and cell molecular biology.
- Dr. Emmanuel Cruz- recently joined our PHSU faculty as an Assistant Professor, Basic Sciences Dept.

THESIS PROPOSAL DEFENSES

We extend our warmest congratulations to our third year G-RISE trainees, Luinet Meléndez & Joel Orengo, for their successful defense and approval of their thesis proposals. This accomplishment marks a significant milestone in their academic careers. We encourage them to maintain their dedication and hard work. Good job!

GUEST SPEAKER



Dr. Jelani Zarif

Dr. Jelani C. Zarif, a researcher from Johns Hopkins Medicine and a member of the prestigious Bloomberg-Kimmel Institute for Cancer Immunotherapy, visited Ponce Health Sciences University on October 9th. Dr. Zarif is at the forefront of innovative research focused on addressing the challenges of prostate cancer. His work centers around the intricate relationship between immune cells and tumor growth, particularly the role of macrophages in promoting tumor progression.

Dr. Zarif's research has uncovered the significance of targeting specific markers on macrophages, such as the mannose receptor CD206. Furthermore, Dr. Zarif's team has delved into the metabolic pathways that fuel tumor growth, focusing on the critical role of glutamine. By developing targeted therapies that disrupt glutamine metabolism, they aim to starve cancer cells and reverse the immunosuppressive phenotype of macrophages. This innovative approach holds immense potential for treating metastatic castration-resistant prostate cancer, a particularly aggressive form of the disease.

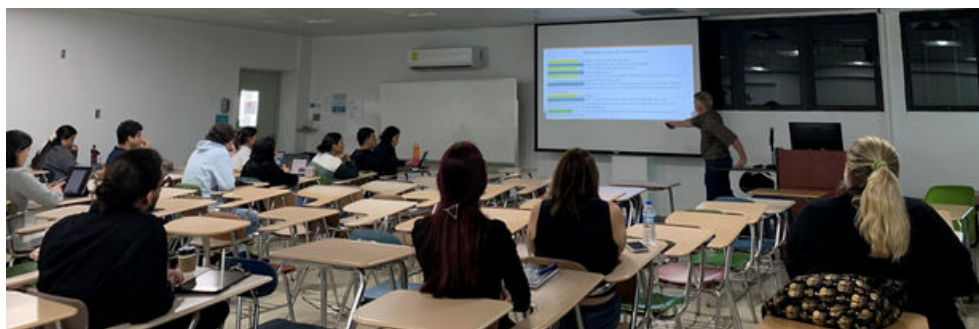
Beyond his groundbreaking research, Dr. Zarif is dedicated to mentoring the next generation of scientists. Following the seminar, Dr. Zarif joined the G-RISE trainees for a networking lunch filled with inspiring conversations.

By: Luinet L. Meléndez-Rodríguez- 3rd year G-RISE trainee

RIGOR AND REPRODUCIBILITY IN SCIENCE: MODULES I & II

(By: Lourdes M. Caro-2nd year G-RISE Trainee)

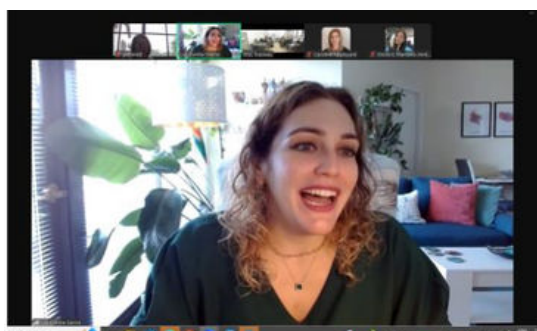
On October 4th, 2024, the G-RISE Program hosted a professional development session titled: "Rigor and Reproducibility in Science: NIH Modules 1 and 2," presented by Dr. James Porter. The NIH offers a training program that covers many aspects of rigor and reproducibility, including sex as a biological variable, research methods, reviewer guidance, and more. It is structured into four modules: lack of transparency, blinding and randomization, sample size/outliers/exclusion criteria, and biological and technical replicates. Dr. Porter explained the first two modules and presented real laboratory scenarios addressing lack of transparency, blinding, and randomization. The audience actively engaged by asking questions and proposing different solutions to the situations presented. We would like to thank Dr. Porter for providing us with valuable insights into research practices.



PROFESSIONAL DEVELOPMENT SESSION: SCIENCE POLICY

(By: Adrián Márquez- 1st year G-RISE trainee)

On October 11th, 2024, Dr. Luz Cumba conducted a virtual Science Policy session. The session focused on how to be a good science diplomat. Key takeaways included understanding skills to effectively engage in foreign policy and diplomacy, ways to prepare for a science policy career, tips for effective science communication, and how to frame science for policymakers. Dr. Cumba highlighted fellowships such as the American Association for the Advancement of Science (AAAS) or Science, Technology, Policy (STeP) as great opportunities to build a career in science policy. Finally, she encouraged us as scientists to build a path and help in the development of science policies in Puerto Rico.



NIH DIRECTOR'S AWARD 2024

We are excited to congratulate our former RISE student Dr. Neysha Martinez-Orengo and current G-RISE Advisory Committee Member Dr. Marcos Ramos for receiving the 2024 NIH Director's Award!

Neysha, as part of Dr. Dima Hammoud's team, was honored for the invention of innovative radioligands for the diagnosis of infectious diseases caused by fungus.

Dr. Ramos, as part of the NIH COVID-19 Autopsy Team, was recognized for the discovery of SARS-CoV-2 infection and persistence throughout the human body and brain at autopsy.

Our heartfelt congratulations to you both!



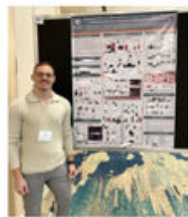
PUERTO RICO CANCER RESEARCH MEETING 2024

The Puerto Rico Cancer Research Meeting (PRCRM), hosted by Universidad Central del Caribe, was held on October 4th, 2024, at Embassy Suites by Hilton San Juan Hotel & Casino.

As cancer remains a leading cause of death in Puerto Rico, this annual conference connects underrepresented investigators, trainees, patient advocates, and survivors. Highlights included plenary lectures, advocacy talks, and poster sessions.

A huge shoutout to our G-RISE trainees, Gretchen Albarrán (2nd year), Joel Orengo (3rd year), Yadiel Rivera (4th year) and Luinet Meléndez (3rd year) for their outstanding presentations!

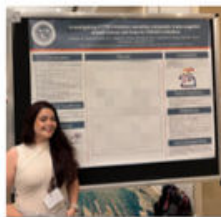
Special congrats to Yadiel Rivera on being awarded first place for Best Poster Presentation at this important meeting! His poster, "Characterization of Myeloid-Derived Suppressor Cells in Response to Restraint Stress in Preclinical Models of Ovarian Cancer", under the mentorship of Dr. Guillermo Armaiz, truly stood out. So proud of you! Your hard work really inspires everyone. Keep it up!



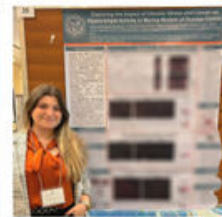
Yadiel Rivera & Dr. Armaiz



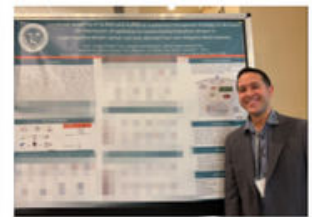
Gretchen Albarrán



Luinet Meléndez



Joel Orengo



OUTREACH ACTIVITIES

A big shoutout to our dedicated current and former trainees for their unwavering commitment to science outreach! Your efforts to inspire students and spark their interest in science during their recent activities, including the talk titled 'My PhD Journey,' which covered what it means to be a Ph.D. student, the requirements to apply to graduate school, the differences between undergraduate and graduate studies, research opportunities and career paths after obtaining a Ph.D., as well as organ demonstrations are truly commendable. Well done, everyone!

- September 10th, University of Puerto Rico, in Mayaguez. Gretchen Albarrán (2nd year) and Nashaly Irizarry (former G-RISE trainee)- Talk to 25 undergraduate students.
- October 15th, Colegio Ponceño, in Ponce. First year G-RISE trainees Dorca Marcano, Gretchen Albarrán, Lourdes Caro and James Torres- Talk and organ demonstration to 30 middle school students.
- October 16th, Luis Llorens Torres High School in Juana Díaz, PR. Gretchen Albarrán (2nd year) and Nashaly Irizarry (former G-RISE trainee)- Organ demonstration to 100 high school students.
- October 24th, University of Puerto Rico in Mayaguez. Paola Flores (5th year), Dorca Marcano (2nd year) & former trainee, Nashaly Irizarry-Organ demonstration to 50 undergraduate students.



Paola Flores & Dorca Marcano



Gretchen Albarrán, Dorca Marcano, James Torres & Lourdes Caro



Nashaly Irizarry & Gretchen Albarrán



Gretchen Albarrán & Dorca Marcano



PUBLICATIONS

Congratulations to Dr. Elliott Rodríguez-López!

We are thrilled to congratulate Dr. Rodríguez-López, a former G-RISE trainee, on the publication of his latest research! His paper, titled "HIV-1 Integrase T218I/S Polymorphisms Do Not Reduce HIV-1 Integrase Inhibitors' Phenotypic Susceptibility," co-authored with López P, Rodríguez Y, Sánchez R, Acevedo VS, Encarnación J, Tirado G, Ortiz-Sánchez C, Mesplède T, and Rivera-Amill V, is now available in *AIDS Research and Human Retroviruses*.

This work focused on studying HIV-1 genetic variants T218I and T218S and how these changed the effectiveness of an HIV-1 antiretroviral drug called cabotegravir (CAB). Their results show that these substitutions do not increase resistance to drugs like cabotegravir, even when combined with other known drug-resistant mutations. Overall, this study supports the continued use of CAB as an effective option for treating and preventing HIV, even in the presence of these genetic variants.

Congratulations to Dr. Rodríguez and the entire team!



39TH AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE (AAAS) MEETING

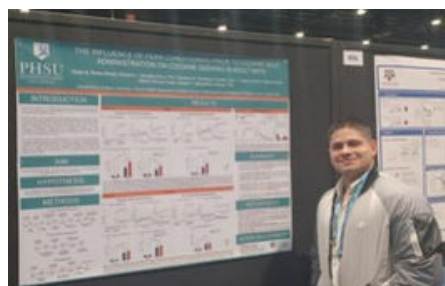


The 39th Annual Meeting of the AAAS Caribbean Division was held on October 26th at the Inter American University, Metro Campus, San Juan, PR, advancing science and innovation throughout the Caribbean. We are thrilled to have had several of our G-RISE trainees presenting their work at this prestigious event, representing our program, and showcasing their dedication to scientific progress. Our G-RISE students (Luinet Meléndez, Yadiel Rivera, James Torres, Dorca Marcano, Lourdes Caro, Gretchen Albarrán and Paola Flores) and former trainees (Yesenia Rivera and Nashaly Irizarry) gave poster presentations.

Huge congratulations to James Torres-Pirela, our 2nd-year G-RISE trainee in Dr. Appleyard's lab, who was awarded second place in the Robert I. Laris Award for his poster, "Impact of Exercise on Uncoupling Protein 1 and Macrophage Phenotype in Mesenteric Adipose Tissue in Endometriosis Animals."

We are so proud of James and our G-RISE trainees for representing us so well. Fantastic job!

SOCIETY FOR NEUROSCIENCE ANNUAL MEETING 2024



We would like to extend our heartfelt congratulations to Yobet Pérez, our former G-RISE trainee, and Advisory Committee member, for his outstanding presentation at the recent Society for Neuroscience (SfN) meeting. This is a premier global event that brings together neuroscientists from around the world to share their latest research, explore innovative ideas, and network with peers. Attendees can present their findings, participate in educational sessions, and browse a diverse exhibit hall showcasing cutting-edge products and technologies in the field of neuroscience.

We are very proud to see him contributing to the scientific community. Well done, Yobet!

APS FELLOWSHIP RENEWAL

Excellent news! Our former G-RISE trainee in Dr. Caroline Appleyard's lab, Jonathan López Carrasquillo, was awarded the renewal of his APS Porter Physiology Development Fellowship for another year, effective September 1st, 2024.

Congrats, Jonathan, well deserved!

