



## GUEST SPEAKER



Wilfredo García Beltrán, PhD

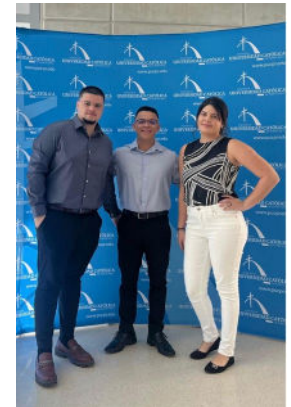
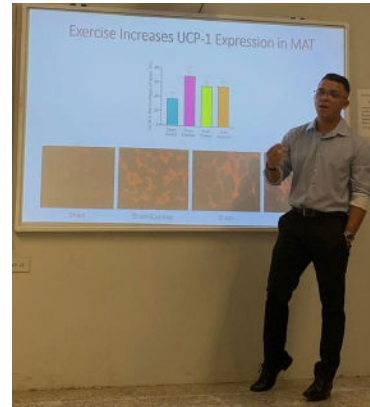
The G-RISE program was honored to sponsor the visit of Wilfredo García-Beltrán, MD, PhD, as one of the invited speakers for the 2024 Puerto Rico Physiological Society Annual Conference. Dr. García Beltrán, a Puerto Rican, earned his MD and PhD from Harvard University after completing an undergraduate degree in Chemistry from the University of Puerto Rico, Río Piedras Campus. His presentation was titled: "Immunotherapeutic Role for Natural Killer Cells in Viral Infections and Cancer." Currently, Dr. García Beltrán is a Clinician-Scientist Fellow at the Ragon Institute of MGH and Harvard in Cambridge, MA. His laboratory vision is to harness the power of natural killer cells to develop universal and effective therapies against cancers and infections. He strives to uncover the full extent of their biological roles using state-of-the-art experimental techniques, with a focus on translational immunology to develop novel immune and cellular therapies.

## PUERTO RICO PHYSIOLOGICAL SOCIETY (PRPS) ANNUAL MEETING 2024

By: James Torres-Pirela (1<sup>st</sup> year G-RISE trainee)

The 2024 Puerto Rico Physiological Society Annual Conference was held on February 23 at the Pontifical Catholic University of Puerto Rico in Ponce. The event presented distinguished speakers from various research areas in physiology, cancer, and neurosciences, providing a valuable platform for networking and sharing scientific projects. This year, notable speakers included Wilfredo García Beltrán, MD, PhD, from Harvard University, and Michael Long, PhD, from New York University. Additionally, volunteer students from Dr. Appleyard's Laboratory, including Vivianka Ramos-Plaza, an MS student, Bryant M. Rodríguez-Morales, a 2<sup>nd</sup>-year medical student, and Derick Rivera-Rodríguez, a 4<sup>th</sup>-year undergraduate student, presented their projects. Moreover, RISE trainees, including James Torres-Pirela, a 1<sup>st</sup>-year PhD student, and Yadiel A. Rivera-López, a 3<sup>rd</sup>-year PhD student, also delivered their projects in an oral presentation format. Following are the presentations by the students:

- ❖ **Vivianka Ramos-Plaza:** "The effect of Probiotic and Vitamin D supplementation on microglial activation in the hippocampus of TNBS-induced acute colitis in mice"
- ❖ **Bryan M. Rodríguez-Morales:** "Beyond Basics: Probiotics and Vitamin D for Alleviating TNBS-Induced Colitis"
- ❖ **Derick Rivera-Rodríguez:** "AMD3100 increases TNF in an endometriosis rat model"
- ❖ **James P. Torres-Pirela:** "Impact of Exercise on Uncoupling Protein 1 and Macrophage Phenotype in Mesenteric Adipose Tissue in an Animal Model of Endometriosis"
- ❖ **Yadiel A. Rivera-López:** "Psychological stress drives immunosuppressive MDSCs in ovarian tumors"



By: James Torres (1<sup>st</sup> year)



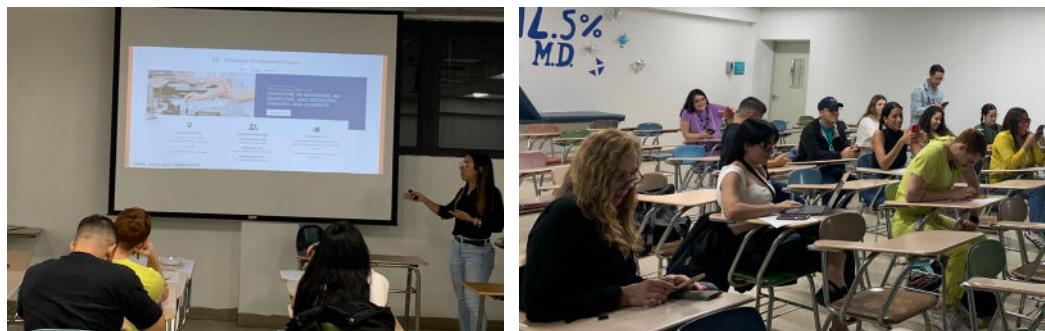
## G-RISE LAB SEMINAR

(By: Dr. Grissell Tirado, G-RISE Lab Supervisor)

On Wednesday February 7, the G-RISE Lab held the seminar workshop, “Extracción Y purificación de proteínas células y ácidos nucleicos en la Era de las OMICAS” with Alejandra Hernández, MSc, Product Specialist of Molecular Biology for ThermoFisher Scientific. During this seminar the Trainees had the opportunity to gain knowledge about the application of magnetic bead separation techniques for extraction of high-quality nucleic acids and proteins from small or difficult samples and for separation of intact cells for culture and downstream studies. The trainees were also presented with examples of applications in cancer research, surveillance of infectious diseases, pharmacogenomics and precision medicine, and microbiome studies. Additionally, the benefits of automation over manual processing were discussed. Attendees had the opportunity to ask questions about these methods and how these techniques could be applied to their projects.

## EXTERNAL TRAINING: UPDATES AND FEEDBACK ON FRONTIERS IN EMERGING, RE-EMERGING, AND ZOOONOTIC DISEASES AND DIVERSITY COURSE

By: Paola Flores (3<sup>rd</sup> year G-RISE trainee)



On November 12-17 of 2023, at Ponce Health Sciences University, I had the opportunity to attend the Frontiers in Emerging, Re-Emerging, and Zoonotic Diseases and Diversity Course. This course is a specialized training program sponsored by NIH/NIAID aimed at underrepresented minority graduate students, medical residents, postdoctoral fellows, and early-career faculty researchers focusing on pandemic and emerging disease management. The course integrated hands-on laboratory sessions, lectures, and discussions led by renowned experts in the field, emphasizing research strategies and cutting-edge methods in cellular, molecular, and genetic approaches. The program offered practical advice on initiating and sustaining NIAID-sponsored research careers. The initiative aims to cultivate a new generation of researchers capable of anticipating and effectively addressing emerging and neglected diseases beyond the scope of the current COVID-19 pandemic. The dynamics, resources, and organization of the program were excellent. As a graduate student, it is a good opportunity to expand my knowledge on topics of interest and to network with students and other professionals. I encourage my colleagues to apply for courses like this one related to their field of interest. Do not limit yourself and do not be conformist; whenever you have the opportunity to grow as a person and professional, take it; the knowledge and learning will always stay with us and the next generations.

## INTERNSHIP OPPORTUNITIES AT ELI LILLY AND COMPANY

By: Lourdes M. Caro (1<sup>st</sup> year G-RISE trainee)

On Friday, January 12, 2024, Dr. Priscilla Guzmán, PhD, an advisor scientist at Eli Lilly and Company, delivered an insightful professional development session for G-RISE trainees. By sharing her personal experiences, career path, and the internship opportunities offered at Eli Lilly, she shed light on the company's mission to develop innovative medicines and the valuable resources available to graduate students in research and development. Specifically, Dr. Guzmán highlighted Eli Lilly's focus on areas like small molecule therapeutics, biotherapeutics, genetic medicine, devices and product delivery, and immunology. She emphasized the company's core values: the pursuit of life-changing medicines, fostering collaboration, prioritizing personal and professional growth, teamwork, diversity, and inclusion. Dr. Guzmán encouraged trainees to consider internships at Eli Lilly as a springboard for their research careers and to help tailor their chosen paths. This was followed by an engaging Q&A session, allowing the trainees to directly interact with Dr. Guzmán and gather invaluable feedback. We would like to extend our sincere gratitude to Dr. Guzmán for taking the time to be part of the G-RISE professional development sessions. Her insights on internships opportunities at Eli Lilly and Company were invaluable.



### About Eli Lilly and Company

-  **Headquarters location:** Indianapolis, Indiana, U.S.A.
-  **More than 50,000 employees worldwide**  
  - Research: 5,100
-  **Manufacturing sites:** 7 countries  
  - Products in development: 150 candidates
  - Research & Development facilities: 7 countries
  - Clinical Development: 24 countries
-  **2022 Financials**  
  - Revenue: \$29.5B
  - Net Income: \$3.2B







## OUTREACH

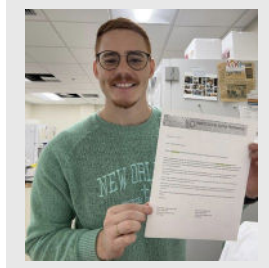
Big shoutout to Paola Flores, our 3<sup>rd</sup> year G-RISE trainee, for her fantastic participation as a panelist at the Forum for the International Day of Women and Girls in Science held at the Leonides Morales Rodríguez High School in Lajas, PR!

This day is celebrated annually on February 11, and it aims to promote full and equal participation of women and girls in science, and to recognize the critical role they play in science and technology communities worldwide. Paola's insights and dedication to promoting diversity in STEM is truly inspiring.

Keep up the amazing work, Paola!



## U-54 PHSU/MCC PARTNERSHIP GRADUATE CAREER DEVELOPMENT DIVERSITY SCHOLARSHIP



Huge congratulations to our 3<sup>rd</sup> year G-RISE trainee, Yadiel Rivera! Yadiel proudly received the U-54 PHSU/MCC Partnership Graduate Career Development Diversity Scholarship. This scholarship aims to support and mentor graduate students interested in the field of Cancer Research, guiding them to become competitive post-doctoral applicants. Participants benefit from tailored career enhancement activities and mentoring for their professional development. The program also focuses on developing cultural competency and professionalism, increasing knowledge of existing health disparities in the Hispano/Latino population, building strong research portfolios, and preparing for fellowships.

Cheers to Yadiel and all the success that lies ahead!

## MINORITY PATIENT-CENTERED EDUCATION INITIATIVE TO INCREASE KNOWLEDGE ABOUT CLINICAL TRIALS IN THORACIC ONCOLOGY

By: Joel Orengo (2<sup>nd</sup> year G-RISE trainee)

Dr. Bruna Pellini is an Assistant Member of the Department of Thoracic Oncology at Moffit Cancer Center and Research Institute. She also works as an Assistant Professor for the Morsani College of Medicine at the University of South Florida. On February 29<sup>th</sup>, 2024, she offered a seminar about incorporating a minority patient-centered education initiative to increase knowledge about clinical trials in thoracic oncology. During the seminar, she discussed health disparities in underrepresented populations in clinical trials, such as Hispanic and Black patients. For instance, Dr. Pellini explained how, historically, minority patients have suffered unethical medical practices, which has created a lack of trust in clinical trials. Therefore, this has affected their participation in oncology studies, especially in developing new treatments. Since no current videos have shown a significant improvement in increasing participation from patients of different races and ethnicities, Dr. Bruna Pellini is currently developing and testing a pilot project to create an informative and sensitive patient-centered video for racial/ethnic minority patients. This pilot project aims to reach different underrepresented communities to provide valuable information about the clinical process and the importance of their participation in proving that a specific cancer treatment is working. At the end of the seminar, G-RISE trainees had the opportunity to spend time with Dr. Pellini and ask her about her career and professional experiences as a Latina in science. We thank Dr. Bruna Pellini for coming to PHSU and giving an outstanding seminar to the students and faculty of our institution.



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