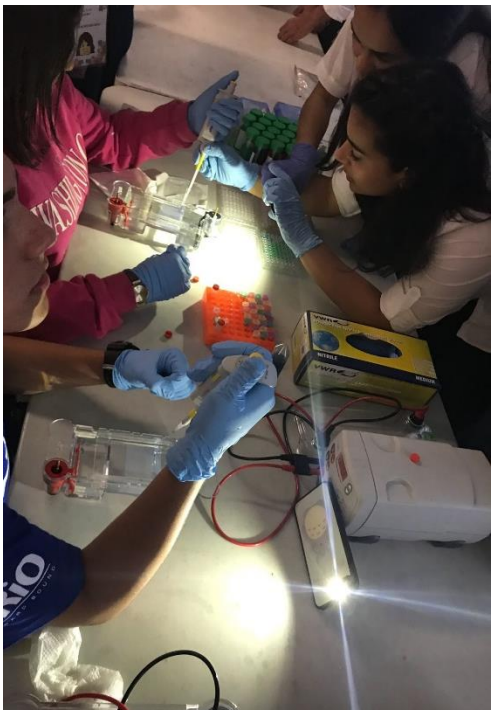


The PRISE Post

Competence and Excellence from Campus to Career

Skills, knowledge, and experience to successfully transition from the baccalaureate to the Ph.D.

Continuous professional and scientific development of our PRISE students is an essential component of our research education plan. To begin with, PRISE students are immediately immersed in hands-on, mentored research training and experiences during the academic year and summer in both on-campus and off-campus laboratories. Thus, UPR-PRISE has collaborations with research-intensive institutions and investigators who are actively engaged in biomedical/behavioral research and have peer-reviewed publications. These alliances favor productive experiences and facilitate the networking and transition of PRISE students to Ph.D. programs.

In addition to research, tutoring, and their academic coursework, PRISE students attend a variety of activities that contribute to the improvement and development of skills critical for success in a graduate program, a scientific lab and even the workplace. Workshops, seminars and conferences as well as volunteering and community service are documented and assessed to ensure their effectiveness and the accomplishment of program objectives. Topics have included (but are not limited to) responsible conduct of research, lab techniques, time management, technical writing, presentation skills, research careers, scientific seminars, and other relevant professional development topics. UPR-PRISE activities aim to develop inquiry-based learning and critical analysis as well as build upon transferable skills essential to advance in a science career. In UPR-PRISE we strive to stay updated with the latest scientific developments and techniques and are committed to giving our students the preparation and confidence they need to succeed.

Transferable skills are skills you acquire or learn in one setting that can be applied or translated to new and different settings, environments, and activities. Doctoral students are qualified for a wide variety of career paths and possess skills most sought after by employers.

Analysis & Problem-Solving
Interpersonal & Leadership Skills
Project Management & Organization
Research & Information Management
Self-Management & Work Habits
Written & Oral Communication

https://careercenter.umich.edu/

What's happening?

UPRP Career Night– On January 19, a group of PRISE students participated in the Office of Admission's Career Night. High school students and their parents learned about UPRP biology program offerings and careers in science, including the PRISE program and the role of a biomedical scientist.

Writing Your Personal Statement – It's that time of year to write the personal statement for summer internships and graduate school applications. To help ease this stressful task, PRISE offered a 'how to' session on January 30 to review the purpose and basic structure of personal statements, learn the essential components, avoid common mistakes and revise real-life examples.

Tips for Upgrading your CV/Resume – When was the last time you updated your CV or resume? What should it include? On February 8, PRISE offered a session to help students improve their own CVs. Participants learned how to fix common flaws, reviewed real samples and received tips on how to properly format and structure to make theirs stand out.

WELCOME NEW PRISE STUDENTS!

Openings in the PRISE program usually become available every semester as students graduate or move on to other programs. In 2017-2018, we officially welcomed 12 new UPR Ponce biology students into the PRISE Program. This summer, we look forward to recruiting a few more. We are happy they joined our research family and wish them well in this new adventure!

Angel Quiñones Segarra (joined March 2018)

Dianise Rodríguez García (joined March 2018)

Adriana Hernández Santini (joined August 2017)

Ismael Lugo Rodríguez (joined August 2017)

Jose Malaret Torres (joined August 2017)

Marinel Ocasio Rivera (joined August 2017)

Norman Guzmán Ponce de Leon (joined August 2017)

Rosenid Quiñones Mangual (joined August 2017)

Daniel Acevedo Román (joined January 2017)

Elaine Camacho Hernández (joined January 2017)

Eric Rodríguez López (joined January 2017)

Xavier Rodríguez López (joined January 2017)

Outreach Best Practices at PHSU – Community service and outreach is an important component of the PRISE program and to science in general. Increasing public awareness and understanding of the science and its applications, especially biomedical research, is critical to bridging the gap between scientists and the general audience. Outreach activities generate much-needed excitement and interest in science as well as an appreciation in the community for science careers and research institutions. Among students, it helps foster a sense of accomplishment, camaraderie, and community.

For years, the American Physiological Society has been active providing training, opportunities, and resources for outreach with K-12 students. To help in our outreach efforts, PRISE administrators and senior students were invited to an interactive workshop offered by Margaret Shain Stieben, Program Manager for K-12 Education Programs and hosted by the Ponce Health Sciences University RISE Program. Students and faculty in attendance learned best practices for successful interactions, including effective planning, securing resources, and designing demonstrations.

What's happening?

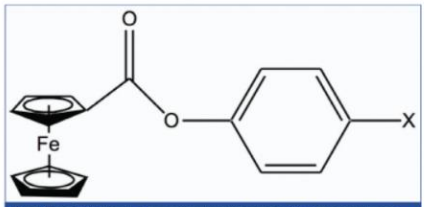
Reaching out to Upward Bound –To promote and foster interest in science at an early stage, our students continually participate in several community outreach activities throughout the year. Most recently, our students offered a workshop on various topics in science to more than 35 high school students in the Upward Bound program on Saturday March 10, 2018. Upward Bound is a federally-funded program that provides opportunities for participants to succeed in their pre-college performance and ultimately in their higher education pursuits. PRISE students spent half a day offering interactive lectures and hands-on demonstrations on the importance of DNA, chemical reactions, non-Newtonian fluids, basic electrophoresis techniques, and the nervous system through an electrophysiology simulator. Students were visibly excited and reported lots of positive feedback on the activity evaluations.

"It's all about communication and networking," said the brain – As part of the PRISE seminar series, on March 15, 2018, we invited Neysha Martinez-Orengo, Ph.D. candidate from Ponce Health Sciences University to speak about her research and her personal trajectory into the biomedical sciences. While an undergraduate student, Neysha was a Puerto Rico Louis Stokes Alliance for Minority Participation (PR-LSAMP) and Intramural NIAID Research Opportunities (INRO) fellow. She shared how these early research experiences defined her passion for scientific research and helped influence her decision to pursue a master's degree and then a Ph.D. She emphasized the importance of networking to make lasting connections and contacts and reminded all to take initiative and risks outside of the comfort zone in order to be successful. Neysha also explained her thesis work, which is supported by an NIH-NIGMS predoctoral F31 award. Neysha and the members of her lab seek to understand the molecular regulation of HIV-1 Nef neuropathogenesis. Using *in vitro* and *in vivo* models, she is studying the role of TGFβ pathway on Nef mediated inflammation and the impact in neuron morphology and viability. Our students enjoyed the seminar and found Neysha's talk insightful and motivating.

I got the Interview! Now, what? – Emory University School of Medicine, University of Pennsylvania, University of Michigan, University of Wisconsin-Madison, Ichan School of Medicine Mount Sinai, Boise State University, University of Texas Southwestern Medical Center, University of Missouri, University of Alabama. These are some of the universities that members of our panel were invited to for Ph.D. admission interviews this semester. On March 27, Maria Figueroa (PRISE Lab Coordinator and former PRISE adjunct), Alexandra Maldonado, Yoheilly Velazquez and Faviola Bernard shared their personal experiences and tips with participants: from how they prepared and what they faced to what they were offered and what they considered for accepting. They emphasized the importance of researching the institution in advance, especially the interviewers and labs of interest. They also suggested preparing questions beforehand, taking notes during the process, and reviewing past research experiences since they will ask about them in detail. Most importantly, they advised to be confident and be your genuine self. The panelists agreed that the most important criteria for applying to their schools of choice and subsequently accepting was the science (areas of research), the environment (student feedback and support) and geography (the location), as well as the fellowships or stipend package offered (some of which also included tuition, fees and health insurance). Participants found this session to be extremely valuable and appreciated hearing first-hand experiences from their peers.

Go confidently in the direction of your dreams! Live the life you've imagined. - Thoreau

PRISE News … *have you heard?!*



[Table/Fig-1]: Structure of ferrocenecarboxylate esters. "X" of the phenoxypendant group indicates substitution site X=F, Cl, Br, I, or Py.

Kevin Muñoz Forti, former PRISE member, authored the manuscript *Para-Substituted Functionalised Ferrocene Esters with Novel Antibacterial Properties* published in the February 2018 issue of the Journal of Clinical and Diagnostic Research. His research, conducted under the mentorship of Dr. Edu Suarez in the PRISE lab, focused on the antibacterial effect of ferrocenecarboxylates given the rise in antibiotic resistant genes due to overuse and accelerated microevolution of bacteria. Work from current RISE member **Faviola Bernard Vázquez** also contributed to this publication.

Francisco Gomez-Rivera, former PRISE member, successfully defended his thesis work *Tumor Necrosis Factor Receptor 2 Promotes Neuroprotection during Chronic Autoimmune Neuroinflammation* in fulfillment of the requirements for the Master of Science degree in Biology at the University of Texas at San Antonio on November 14, 2017. Francisco will present his work in The American Association of Immunologists Annual Meeting to be held in May 4-8, 2018 in Austin, TX. Francisco was accepted to the Immunology PhD Program at **University of Michigan**.

Angel Alvarado-Toro PRISE adjunct member (pictured top left), along with other students from Puerto Rico, was accepted to the OPPS Annual Conference at the University of Wisconsin-Madison held on October 25 to October 29, 2017. The Opportunities in Engineering Conference allows outstanding undergraduate juniors and seniors to visit the University of Wisconsin-Madison campus and explore graduate programs Biomedical and Chemical Engineering. Participants got to hear presentations on research, funding for graduate school, the graduate application process, and engineering career options. Students also met with faculty and graduate students and toured the campus facilities. Angel was also accepted to attend the University of Michigan Neuroscience Graduate Program Preview Visit on April 5-7, 2018 to explore future opportunities at that campus. This summer, he will participate in the Summer Undergraduate Research Experience at the University of Wisconsin-Madison, Biomedical Engineering department.

SAVE THE DATE!

April 10, 2018 IPERT conference: Tools for Graduate School Success

April 21-25, 2018 Experimental Biology, San Diego, CA

April 28, 2018 ACS Jr Technical & Puerto Rico LSAMP Interdisciplinary Meeting, Turabo University

May 11, 2018 UPR-P Student Research Symposium

May 12, 2018 Breaking Barriers Collaboration Symposium, Ponce Health Sciences University

May 19, 2018 Ponce Health Sciences University Scientific Conference

Quotable Quotes

Research is what I'm doing when I don't know what I'm doing. – Wernher Von Braun

A scientist is someone who learns more and more about less and less, and ultimately knows everything about nothing. – Anonymous

The best weapon in adverse times is excellence. – Sandra Cisneros

Anyone who has never made a mistake has never tried anything new. – Albert Einstein

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