



THE UPR-PRISE PROGRAM NEWSLETTER

Summertime Science

by Wendy I. Pacheco-Rodriguez



To some, summer vacation equals beaches, sand and sun. But for the PRISE program members, summer means another amazing research opportunity. This year was not the exception as 14 PRISE members spent 8 to 10 exciting weeks at some of the nation's renowned academic and research institutions. Among pipetting, extracting, cloning, running western blots and cell cultures - most of their days were spent in the lab working on the development of significant research projects. Students got to learn new scientific techniques, how to design experiments, analyze results, formulate hypotheses, and keep a lab notebook. Students also participated in lab meetings, journal clubs (analyzing scientific literature), seminars and workshops. Social engagement activities for networking, meeting new people and touring the city were also part of the agenda.

The best take away from a summer research opportunity is gaining exposure of how science really works along with the troubleshooting, collaborating and communicating that goes along with it; all the hands-on stuff you do not necessarily learn in the books and classrooms. Summer research internships are valuable experiences that enhance students' professional and scientific development. They also provide inspiration and direction for their future career goals.

On August 20, 2016 PRISE held its 4th Annual Research Symposium where PRISE members presented their summer research projects and shared their internship experiences with attendees. Project titles, host university and students are listed on the following page. Congratulations to all on a job well done!

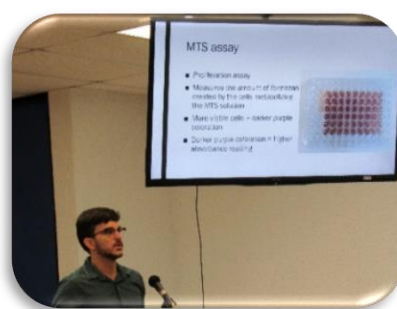


Pictured above: Gerardo Arroyo. Pictured below: Nicole de la Rosa, Dr. Edu Suarez and PRISE members



SUMMER RESEARCH INTERNSHIPS 2016

Yvette Arias	Examination of molecular mechanisms during withdrawal of drug-self administration	University of Buffalo, Buffalo, NY
Gerardo Arroyo	Molecular Genotyping of Transposable Element Insertions in a Population of Uniform Mu Events	University of Minnesota
Faviola Bernard	The role of DNA polymerase Nu and Zeta in the repair of DNA Interstrand Crosslinks	University of Michigan, Michigan, IL
Kevin Cintrón	A potential role for the novel human helicase, G4-Resolvase 1 in HIV-1 RNA packaging	University of Michigan, Michigan, IL
Pedro Cruz	Determination of CaS nanoparticles IC50 in PC3 & 22RV1 prostate cancer cell lines	Comprehensive Cancer Center, San Juan PR
Nicole De La Rosa	Effects of decreased mitochondrial calcium uptake in an in vitro model of Parkinson's disease	University of Iowa
Lysmarie Figueroa	In-vitro Characterization of the Rat Achilles Tendon Biomechanical Properties During Walking and Running Simulations	University of Wisconsin, Madison, WI
Mayra González	The Role of Tumor Necrosis Factor 2 (TNFR2) in a Mouse Model of Valvular Inflammation and Fibrosis	University of Minnesota, Minneapolis, MN
Abdon López	The Fungicidal Potential of Dimethyloxaglycine(DMOG) in Infected Bone Marrow Macrophages of C57 BL6-J mice	University of Cincinnati Academic Health Center, Cincinnati, OH
Alexandra Maldonado	The Role of PCDH19 on Neurite Growth	Cornell University, Ithaca, NY
Roberto Morales	Intracranial injection of interleukin 4 effects in the 3xTg mouse model of Alzheimer Disease	University of Rochester, Rochester, NY
Jose Santiago	Design and Development of a native-like cleavage-independent Clade-C HIV-1 immunogen from DU422 virus	SCRIPPS Research Institute, La Jolla, CA
Bryan Torres	Developing renal organoids using stem cells	University of Michigan Michigan, IL
Ralphdy Vergne	The effects of HIV X4 and R5 in Pulmonary Vascular Cells	University of Denver, Denver, CO
Yoheilly Velázquez	Immunohistochemical Analysis of C- and N-terminally Truncated Amyloid- β Species	New York University, New York City, NY



Pictured left to right: Lysmarie Figueroa, Roberto Morales, Pedro Cruz, Kevin Cintron, Bryan Torres and Ralphdy Vergne.

PRISE provides funds for its official members to complete summer internships in PR and the US.



Renewed program, new students & new staff

by Edu B. Suarez, Ph.D.

We are happy to announce the successful competitive renewal of the University of Puerto Rico, Ponce Research Initiative for Scientific Enhancement (PRISE) Program. With support from Professor Grisobelle Virella-Corujo, Sponsored Research Officer and Chancellor's Assistant for the Office of External Resources and Development, we were recently awarded a 2nd cycle of a 5-year grant (2016-2021) from the National Institute of General Medical Sciences at NIH to continue to support our program's efforts. By fostering competitive research with a particular focus on the biomedical sciences, UPR-PRISE will continue to advance the mission and goals of UPR-Ponce. Additionally, our proposed research plan will increase the intellectual and technical capabilities of our students creating a pipeline of well-trained students that complete B.S. degrees in Biology and Biomedical Sciences and go on to pursue graduate studies in Biomedical Sciences.

The beginning of a new academic year also brings new students to our campus as well as fresh faces to the PRISE Program. We want to extend a warm welcome to our new regular members and wish all incoming and returning students a very productive and positive semester.

NEW PRISE STUDENTS 2016-2017

Dormarie Rivera Rodríguez	Kevin O. Valdivia
Jennymar Meléndez Figueroa	Luis Padilla Santiago
Jeremy Rodríguez Vargas	Nicole de la Rosa González
Kevin O. Cruz Colon	Vianka Quiñones Acevedo

RETURNING PRISE STUDENTS 2016-2017

Abdon López Torres	Lysmarie Figueroa Ríos
Alexandra Maldonado López	Mayra González Torres
Bryan Torres Collazo	Pedro Cruz Rosa
Cesar Torres Gutiérrez	Ralphdy Vergne Montes
Faviola Bernard Vázquez	Roberto Morales Silva
Gerardo Arroyo Martínez	Yoheilly Velázquez González
Kevin Cintrón Arroyo	

To ensure the successful attainment of program objectives in our 2nd grant cycle, we have also appointed new program staff. Their contributions will help continue to strengthen PRISE and

further assist in the development of our students' skills and preparation.

Kevin Muñoz Fortis, a PRISE alumni, holds a B.Sc. in Biomedical Sciences from UPR Ponce and is currently finishing a MS in Biotechnology at Pontifical Catholic University of Puerto Rico in Ponce. His area of research is biochemistry and enzyme kinetics focusing on cancer cell growth and antioxidant enzyme activity. Kevin has published articles on lipid kinetics and oxidative stress profiles. Since this summer, Kevin is the PRISE Research Coordinator responsible for training new students in basic laboratory techniques and overseeing ongoing research projects at the J-2 research lab. When not in the lab, Kevin likes going to the movies and playing Pokémon Go, where he's currently at level 26.

Wendy I. Pacheco Rodriguez, PRISE Program Coordinator, has over 10 years of experience working with students and faculty in graduate and undergraduate institutions in Puerto Rico and abroad. Most recently she helped manage the NIH-NIGMS RISE program for the Biomedical Sciences Ph.D. program at Ponce Health Sciences University from 2008 to 2015. Wendy began studies at UPR Ponce and earned a B.Sc. degree in business management with a specialty in human resources from the University of Maryland University College. In addition to spending time with her 10-year old son, Wendy enjoys CrossFit, the beach, Netflix and coffee.

Edward Gracia Febles is the PRISE Webmaster. He has over 18 years of experience in information technology at UPR Ponce working with computer repair, servers, network, and voice and data infrastructure. Edward holds a Bachelor's degree in Administration with a major in Computer Sciences as well as industry recognized certifications from Microsoft (MTA and MCP) and CompTIA (A+, Network +).

We are excited about this new grant cycle and the new academic year and look forward to another successful year!



Congratulations! **ACCEPTED**

The PRISE program is exceptionally proud of the following students who received acceptances to graduate school, an important milestone enroute to achieving their future goals. We wish them much success in this new step of their journey! We will continue tracking the progress of all former PRISE members.



Luis M. Rivera, **University of Michigan**, Ann Arbor, MI (PREP Neurosciences)



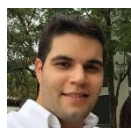
Shirley Jusino, **Ponce Health Sciences University**, Ponce, PR (PhD Biomedical Sciences)



Carla Rodriguez, **New York University**, New York, NY (PhD Neurosciences)



Robert Lopez (former), **University of Rochester**, New York (PREP)



Gustavo Santiago (adjunct), **Washington University**, Saint Louis, MO (PREP)

University of California, Berkeley, CA
Molecular & Cell Biology (PhD)



Valerie Vargas



Michael Manoharan



Rafael Rivera

Dates & Deadlines

September 24, 2016: Saturday Academy, UPR Medical Sciences campus

September 29, 2016: Seminar- Uncovering the link between Stress and Cancer by Dr. Guillermo Armaiz, PHSU

October 4, 2016: Conference- Dr. Aixa Alfonso, University of Illinois, Chicago

October 9, 2016: Application deadline for Awards to Society of Toxicology meeting in March 11-13, 2017

October 13, 2016: Conference- Summer Research Internships by Dr. Edu Suárez

October 20, 2016: PRISE Meeting

October 25, 2016: Conference- Dr. Patricia Casbas, PHSU

November 1, 2016: Conference- Summer Research Internships by Dr. Edu Suárez

November 3, 2016: PRISE Meeting

November 4, 2016: Conference - University of Minnesota

November 8 – 13, 2016: Annual Biomedical Research Conference for Minority Students, Tampa, FL

November 17, 2016

- PRISE Program Meeting
- Abstract submission deadline for Experimental Biology 2017 in April 2017

December 1, 2016: PRISE Meeting

University of Texas Southwestern Medical Center visits UPR Ponce

On August 29, 2016 PRISE hosted Nancy Street, PhD, Associate Dean of the Graduate School at University of Texas Southwestern Medical Center. Over 20 students heard about the multiple PhD programs and summer research opportunities available at UT Southwestern. Dr. Street offered valuable advice on how to apply, how to make applications stand out and what evaluators and mentors are looking for. She also highlighted the benefits of their summer internships which included generous stipends, professional development and extracurricular activities in addition to intense, hands-on experience in a research laboratory.



Laboratory Skills Workshops

To facilitate the transition of our PRISE freshmen into a research setting, we have organized weekly technical skills workshops led by our research coordinator, Kevin Muñoz. These hands-on training sessions will prepare students to better participate and contribute in their future summer lab rotations at PHSU and research-intensive institutions in the U.S.

Students will learn a variety of techniques but most importantly they will acquire direct experience in a research laboratory, a first for many. They will also be able to understand the inner workings of a laboratory and the importance of how their work can potentially contribute to science.

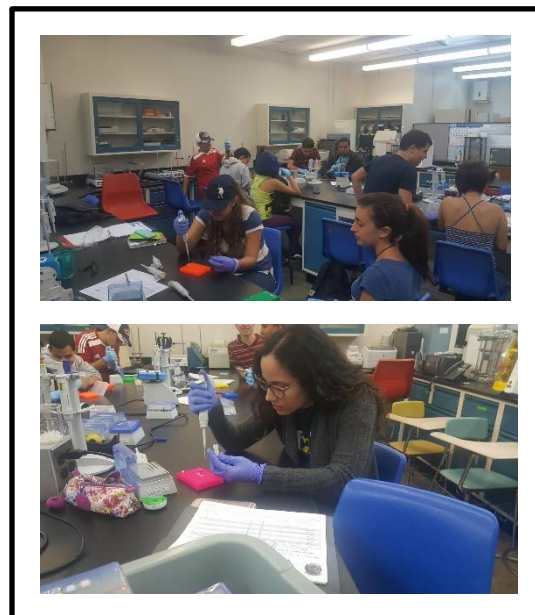
August 12 Micropipetting & microplating



August 19 Bacterial DNA isolation & PCR techniques



August 26 PCR and Gel Electrophoresis



September 9 & 16 Western Blot Series: Protein Isolation & Quantification



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Please send questions, suggestions or contributions for *The PRISE Post* to Wendy Pacheco at rise.ponce@upr.edu or call 787-8444-8181 ext 3086, 2652. For more information about the PRISE program, please visit our website at <http://prise.uprp.edu/>.