

## B4. What Opportunities for training and professional development has the project provided?

### B4.1 Activities for training and professional development

#### Goal 1, Activity 2. To provide a mentored research experience to 35 doctoral students and enhance their research competencies.

The students participated in one developmental training activity this year, an online course in teaching strategies. Most of RISE participants (77%) completed the Scientist Teaching Science online course offered by Prof Barbara Houtz. In this nine-week course the students learned how to prepare an Educational Philosophy Statement and a course syllabus for a semester-long undergraduate course. They also learned how to write learning objectives using the Bloom's Taxonomy and practice writing test questions based on the learning objectives. The course started in the middle of September and finished early in December 2019. The students were very satisfied with the course content and the instructional strategies used by Prof. Houtz. Findings from the evaluation are included in the evaluation report included as appendix.

Other benefits provided by the RISE Program is the financial support for travel to acquire presentations and networking skills at national conferences, participation in workshops or courses and abroad research experiences to learn new techniques or perform experiments using resources that are not available locally. This year 13 of the 35 RISE participants gave poster presentations at national conferences such as, the Annual Meetings of Society for Neuroscience, the American Society of Tropical Medicine and Hygiene, the International Symposium of Neurovirology and the American Association for Cancer Research (AACR, Sept 2019), among others. Due to the COVID-19 pandemic the poster presentations at Experimental Biology of two students, Xavier Chapas and Valeria De La Rosa, were canceled. Three other students participated virtually in national meetings, Rachell Martinez and Julia Medina in the Annual AACR meeting and Coriness Piñeyro at the American Urological Association Annual Meeting, (for a complete list see Table B4.1). Additionally, 10 of the 35 students attended local meetings and performed 13 oral and poster presentations. The number of local presentations were also affected due to the pandemic as the Medical Sciences Campus Research and Education Forum, where most of our students participate yearly, was canceled. Moreover, eight students traveled to learn techniques or participate in workshops/courses. Noe Crespo spent two-months at the Structural Biology Department at the University of Pittsburgh working in protein purification and crystallization. Two students visited collaborator's laboratories to perform experiments, Janice Lozada visited for one-month the laboratory of Dr. De Cabo at the NIH to perform protein ID experiments, and Laura Vicente worked for two-weeks in Dr. Mentink's lab at the Biomedical Research Institute of Maryland collecting samples of *Schistosoma*-infected animals. Students that competed for participation at national courses or workshops include: Jorge Martinez (2019 Data Intensive Biology Summer Workshop at UC-Davis and Nanopore Sequencing Workshops) at the Oxford Nanopore, NY Branch; Ricardo Noriega and Blanca Quiñones (ASCB and Keck Graduate Institute's Summer Biotech Course). Three students applied and were accepted to take courses at Cold Spring Harbor Laboratory: Noe Crespo (Advanced Sequencing Technologies & Applications), Ginette Santiago (The Genome Access Course (TGAC)) and Enrique Pérez (Neuroscience of Addiction) (see Table B4.2). All students reported that these experiences greatly contributed to the progress of their dissertation projects and improved their skills and competencies.

Student Name	Topic	Conference/Meeting
Borges Vélez, Gabriel	Puerto Rican Zika infected placenta quantitative proteomics	RCMI 2019 National Conference Collaborative Solutions to Improve Minority Health & Reduce Health Disparities Bethesda, MD Dec 15-17, 2019
Chapa Dubocq, Xavier	The role of ferroptosis in cardiac dysfunction after ischemia/reperfusion injury	Experimental Biology 2020 Meeting – Accepted Abstract
Chapa Dubocq, Xavier	The Role of ferroptosis in cardiac dysfunction induced by ischemia-reperfusion injury	American Physiological Society, Puerto Rico Chapter Annual meeting San Juan, PR Feb 21, 2020
Collazo-Rodríguez, Bryan J	Astrocyte-derived exosomes increase in the plasma of HIV patients	16th International Symposium on NeuroVirology Atlanta, GA Nov12-16, 2019
De La Rosa-Reyes Valeria	Retinoic acid application affects optic nerve microglia and macrophages after optic nerve injury in the frog <i>Rana pipiens</i>	Experimental Biology San Diego, CA April 4-7, 2020 – Accepted Abstract

Lloret Torres, Mario	Hippocampal and Amygdalar BDNF in the extinction of morphine place preference	Neuroscience 2019 Chicago IL Oct 19-23, 2019
Maldonado Diaz, Carolina	Patterned activation of the temperature-gated dTRPA1 channel promotes rapid morphological changes at the Drosophila neuromuscular junction.	Neuroscience 2019 Chicago IL Oct 19-23, 2019
Martinez Ramirez, Rachell	Hotspots of sequence variability in gut microbial meta-genomic datasets and their association with CRC	American Association for Cancer Research Virtual Annual Meeting , San Diego, CA, Apr 24-29, 2020 – Accepted Abstract
Medina Velazquez, Julia	Interaction site elucidation of the Rac1/Cdc42 inhibitor, MBQ-167	American Association for Cancer Research Virtual Meeting, Online Jun 22-24, 2020
Noriega Rivera, Ricardo	Identification of Novel Targets for Ovarian Cancer Treatment	American Association for Cancer Research Meeting, Atlanta, GA Sep 13-16, 2019
Perez Cardona, Enrique U	Isolation stress during adolescence on anxiety-like behavior and conditioned place preference to cocaine	Neuroscience 2019 Chicago IL Oct 19-23, 2019
Piñeyro Ruiz, Coriness	Can the metabolome provide biomarkers for hypospadias?	American Urological Association 115th AUA Annual Meeting 2020 Online May 17, 2020
Perez Martir, Sol	Regulation of APE1 endonuclease activity in Huntington’s disease by ROS-dependent and ROS-independent mechanisms	2019 NHLBI Mitochondrial Biology Symposium on Mitochondrial Networks and Energetics Bethesda, MD Sept 26-27, 2019
Quiñones Díaz, Blanca	MicroRNA-18a Targets MMP-3 In Platinum-Resistant Ovarian Cancer	An International Forum for Cell Biology-EMBO 2019 Meeting Washington, DC Dec 7-11, 2019
Rodriguez Morales, Roberto	Expression pattern of <i>atf5a</i> and <i>atf5b</i> in developing larval zebrafish	The Allied Genetics Virtual Conference April 22-26, 2020
Serrano Collazo, Crisanta	Primary Dengue Infection Modulates Zika Pathogenesis in a Time-Dependent Manner.	American Society of Tropical Medicine & Hygiene National Harbor, MD Nov 20-24, 2019
Vecchini Rodriguez, Clara	Cannabinoid Receptors as Modulators of Cell Migration in Retinoblastoma	Neuroscience 2019 Chicago IL Oct 19-23, 2019
Vicente Rodríguez, Laura	Distribution and expression of the FMRFa-gated sodium channel in the CNS of <i>Biomphalaria glabrata</i> , an intermediate host of <i>Schistosoma mansoni</i>	Neuroscience 2019 Chicago IL Oct 19-23, 2019

Table B4.2 Courses/Workshops and Trainings taken by RISE student participants

Name of Student	Course/Workshop/Training Information	Dates	Place visited
Noe Crespo Hernández	Advanced Sequencing Technologies & Applications	November 6-18, 2019	Cold Spring Harbor Laboratory, NY
Noe Crespo Hernández	Training in Protein Purification and Crystallization	August 28-Sept 27 and October 3 al 23, 2019.	University of Pittsburgh, Structural Biology Dept., Dr. Guillermo Calero’s Laboratory
Jorge Martinez Jiménez	2019 Data Intensive Biology Summer Workshop	July 1-13, 2019	University of California- Davis
Jorge Martinez Jiménez	“Introduction to Nanopore Sequencing” and “Nanopore sequence analysis”	Oct 24-25, 2019	Oxford Nanopore, New York City, NY
Ricardo Noriega	ASCB and Keck Graduate Institute’s Summer Biotech Course	July 7-13 2019	Keck Graduate Institute, Claremont, CA
Ginette Santiago	The Genome Access Course (TGAC)	November 11 - 13, 2019	Cold Spring Harbor Laboratory, NY
Blanca Quiñones	ASCB and Keck Graduate Institute’s Summer Biotech Course	July 7-13 2019	Keck Graduate Institute , Claremont, CA
Enrique Pérez	Neuroscience of Addiction	August 6-12, 2019.	Cold Spring Harbor Laboratory, NY
Janice Lozada Delgado	Protein identification by immunoblotting and other techniques	October 26- November 23, 2019	Translational Gerontology Branch, National Institute on Aging Dr. Rafael de Cabo’s laboratory