VIII Annual Congress of Puerto Rico Physiological Society

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On February 15, 2019, the Puerto Rico Physiological Society (PRPS) with support from the American Physiological Society organized its 8th Annual meeting which was held at the University of Puerto Rico (UPR) Río Piedras Campus in San Juan. The meeting focused on “Metabolism and Diseases.” Over 150 members attended the meeting. The audience comprised faculty members, graduate and undergraduate students from the major academic institutions of the island, as well as high school students and science teachers from the Perpetuo Socorro High School and the University High School.

Two workshops were concurrently conducted for students and teachers on Student-Centered Learning by Dr. Margaret Shain-Stieben from the APS and Physiology Active Learning by Dr. Gladys Chompre from the Pontifical Catholic University of Puerto Rico, Ponce PR. The meeting began with the opening remarks by Dr. A. Valance Washington, President of the PRPS and the welcome address by the Dean of Graduate Studies of UPR Rio Piedras Campus Dr. Carmen Maldonado-Vlaar.

The first speaker was Dr. Esther Peterson, an assistant professor of the UPR Rio Piedras Campus, who presented the talk “Inflammatory breast cancer: biology and treatment.” Then, the keynote speaker Dr. Daniel McVicar from the National Cancer Institute of NIH shared new findings on metabolism and cancer in the presentation ”Metabolic adaptations of leukocytes to the cancer niche.” Dr. McVicar’s participation was sponsored by the Chapter Activity Grant Program of the APS. In the afternoon section, Dr. Nataliya Chorna from the UPR Medical Science Campus presented the talk entitled “Metabolism and Neurogenesis.” The interplay between stress, the microbiome, and metabolome in
health and disease was discussed in the presentation of Dr. Michael Bailey from the Center for Microbial Pathogenesis at the Ohio State University.

Intertwined between presentations by faculty, four graduate students from different universities of the island were given the opportunity to present their research. Miss Marie Roman from the Department of Physiology, UPR Medical Sciences Campus (Title: Improvement in endothelial function and reduction in vascular reactivity with dantrolene is dose-dependent in type 1 diabetic rats), Miss Diana Silva Brenes from Department of Chemistry, UPR Río Piedras Campus (Title: How to get to artificial membranes organelles starting with small molecules?), Miss Yesenia Rivera-Escobales from the Department of Basic Sciences of Ponce Research Institute, Ponce Health Sciences University (Title: Single prolonged stress alters FKBP5 expression in the hippocampus and prefrontal cortex), and Mr. Xavier Chapa-Dubocq from the Department of Physiology, UPR Medical Sciences Campus (Title: Uncovering the physiological role of mitochondrial respiratory supercomplexes in the heart) gave oral presentation in the meeting.

In the afternoon high school students and teachers participated in the workshops conducted by Drs. Shain-Stieben and Chompre. Dr. Shain-Stieben focused on “Student-centered learning and engaging students to enhance learning” for K-12 teachers. The students’ group under the direction of Dr. Chompre, met with Dr. Yancy Ferrer from University Central del Caribe and Mr. Bismark Madera, Microscopy Specialist in Neuroimaging and Electrophysiology from the UPR Molecular Sciences Research Center. These investigators conducted an interactive discussion with the students and carried out a practical exercise to help them distinguish the morphology of cancer cells from that of normal cells. The students were able to see the difference between normal and cancer cells under the microscope. Following these presentations, Dr. G. Chompre explored the area of cell division in the presentation “Mitosis in the garlic root.” The workshop concluded with a presentation by Dr. Chompre, and Ms. Liz Hernandez, UPR-Biology, Rio Piedras Campus, on “What is physiology and successful physiology careers.” The workshop finished after the students completed a post-test on these activities and Dr. Shain-Stieben presented science goodies to the students.
In addition, 30 graduate students from different universities and a group of high school students presented their research work in a Poster Section held before the afternoon session. Following these presentations, the Executive Committee announced the winners of the poster and oral presentations. A total of six cash awards were granted to the participants. Based on the evaluation by guest speakers, the 2019 Pablo I. Altieri Recognition Award was granted to Miss Marie Roman for her oral presentation “Improvement in endothelial function and reduction in vascular reactivity with dantrolene is dose-dependent in type 1 diabetic rats”. Four students were awarded for the best poster presentations: Mr. Emmanuel Cruz currently at the Center for Neural Science, New York University received First Award for his work entitled “Differential role of neuronal glycolysis in juvenile long-term memory.” Ms. Keishla Rodríguez-Graciani from the Department of Physiology, UPR Medical Sciences was awarded the Second Award for her presentation “Proteolytic cleavage of OPA1 in response to ischemia-reperfusion in the heart: the role of mitochondrial permeability transition”. The Third Award was shared between Mr. Lubriel Sambolin-Escobales from Ponce Health Sciences University, Ponce Research Institute for her study “Role of hippocampal microglia in depressive-like behavior induced by a high-fat diet,” and Mrs. Nilmary Grafals-Ruiz, from the Department of Physiology UPR Medical Sciences Campus for her work “MicroRNA-92b as a target for glioblastoma treatment”. In addition, the Committee awarded Mr. Jorge Elian Rosa Vidal, a high school student at University High School, UPR Rio Piedras Campus with High School Student Award for his poster entitled “The effect of *Kalanchoe pinnata* on the cell migrations from astrocytomas.”
The conference concluded with the Business Meeting and the presentation of the new Executive Committee of the PRPS for 2019-2020: Sabzali Javadov, President (UPR Medical Sciences Campus); Nelson Escobales, President-Elect (UPR Medical Sciences Campus); Gladys Chompre, Secretary/Treasurer (Pontifical Catholic University of Puerto Rico); Miriam Castro, Councilor (UPR Medical Sciences Campus); Xavier Chapa-Dubocq, Councilor (UPR Medical Sciences Campus); Mikhail Inyushin, Councilor (Central University of the Caribbean); Carlos Rivero, Councilor (UPR Medical Sciences Campus); and Cariluz Santiago, Councilor (Pontifical Catholic University of Puerto Rico).

The President concluded the conference by thanking all institutions that participated in the organization of the meeting including the APS, UPR Rio Piedras Campus, RISE Programs from Ponce Health Sciences University and UPR Medical Sciences Campus, Universidad Central Del Caribe, and the Pontifical Catholic University of Puerto Rico. The meeting was closed with a musical presentation by the Tuna of the UPR at the gardens of the Science Building.