The Annual Meeting of the Puerto Rico Physiological Society (PRPS) was held on February 21, 2020 in San Juan. The meeting was hosted by the University of Puerto Rico (UPR) Medical Sciences Campus and brought together over 100 faculty and trainees from all universities and research institutions of the island. The meeting was opened by Sabzali Javadov, President of PRPS, who described the scientific program and the objectives of the activity. Dr. Agustín Rodríguez, Dean of UPR School of Medicine gave welcoming remarks. The meeting focused on the pathogenetic mechanisms of cell death and its implications for organ and tissue dysfunction in different cellular and animal models of human diseases, including cardiac ischemia-reperfusion, brain injury, cancer, skeletal muscle disorders, and aging.

The scientific program of the meeting was divided into plenary and poster sessions. Plenary session moderated by Dr. Javadov and Dr. Carlos Torres-Ramos included four keynote talks by guest speakers and four presentations by graduate students from academic institutions in Puerto Rico. Dr. Valerian Kagan from the Departments of Environmental and Occupational Health, University of Pittsburgh presented recent data on the role of oxidative lipidomics in mediating
programmed cell death signaling in response to oxidative stress. The role of oxidative lipid signaling in neuronal death programs in brain trauma was further discussed by Dr. Hülya Bayır from the Department of Critical Care Medicine, University of Pittsburgh. The next presentation by Dr. Paulo Rodriguez from the Moffitt Cancer Center in Tampa focused on the contribution of endoplasmic reticulum stress to immune dysfunction in cancer through tumor-associated leukocytes. Dr. Fabrisia Ambrosio from the Department of Physical Medicine & Rehabilitation, University of Pittsburgh, presented recent data on the implementation of extracellular vesicles in aging-related skeletal muscle dysfunction. In addition to guest speakers, four graduate students were invited to present their most recent research data in oral presentations. These were Jeitzel Torres Rodríguez (Ponce Research Institute, Ponce Health Sciences University) on the expression of peripheral inflammatory cytokines in rats exposed to single prolonged stress, Karl Bosque-Cordero (UPR Medical Sciences Campus) on the inhibition of cocaine-induced firing patterns in putative dopaminergic neurons by blocking the H-current, Julia Medina (UPR Medical Sciences Campus) on the elucidation of the interaction site for the Rac1/Cdc42 inhibitor MBQ-167, and Gabriel Valentín-Guillama (Universidad Central del Caribe) on the role of HIV-1 envelope protein gp120 in cell growth and SAP/JNK pathway activation in glioma cells. These presentations by graduate students were evaluated by guest speakers, and Jeitzel Torres Rodríguez was awarded the “Pablo I. Altieri Research Recognition Award” for the best oral presentation. The award includes a donation of $1,200 to cover the student’s trip to a scientific conference in the United States.

Graduate students (from left to right): Jeitzel Torres Rodríguez, Karl Bosque-Cordero, Julia Medina, and Gabriel Valentín-Guillama.
The main session was followed by a poster session where undergraduate and graduate students from academic institutions in Puerto Rico presented the most recent results of their research. The posters were evaluated by a committee that considered the overall quality of the presentations to select the recipient of three awards. Carlos J. Rivero, a Ph.D. student from the Department of Physiology, UPR Medical Sciences Campus received the First Place Award ($300) for his work “Nandrolone use during adolescence increases cocaine sensitization and impairs reproductive function in adult female rats,” Sol Pérez-Mártir, a Ph.D. student from the Department of Pharmacology and Toxicology, UPR Medical Sciences Campus received the Second Place Award ($200) for her presentation “Dysregulated endonuclease activity of human and mouse purinic/apyrimidinic endonuclease 1 is associated with mitochondrial DNA damage in Huntington’s disease”, and María del Mar Maldonado Ph.D. student from the Department of Biochemistry, UPR Medical Sciences Campus received the Third Place Award ($100) for her work “Effect of the metastatic cancer inhibitor MBQ-167 on human cytochrome P450 activity”.

Following the scientific sessions, Dr. Javadov provided a summary of PRPS activities during his tenure as President of the PRPS since February 2019. The main activity organized jointly by PRPS and the Department of Physiology was the “Physiology for Science Teachers Workshop” that was held on October 26, 2019 at UPR Medical Sciences Campus. The workshop was supported by the APS 2019 Chapter Grant and brought together 35 biology teachers from 23 high schools of 12 municipalities of Puerto Rico. Over 90% of participants represented public high schools. The main goal of the workshop was to provide basic principles of human physiology that can be used in the teaching of science at high schools. The workshop discussed: i) the importance of physiology as science in health and disease, and the relevance teaching physiology to high school students, and ii) conceptual models and main principles of human body systems that can be helpful for the teaching of physiology to high school students. In addition, teachers were given
information about the research conducted in laboratories of the Department of Physiology. Dr. Javadov also reported on outreach activities by the Chapter conducted by graduate students from Gastroenterology and Neuroscience laboratories in the Department of Basic Sciences, Ponce Health Sciences University as part of the PRPS mission. The activity “Neuroscience: brain and learning” was held in the Academia Santa Maria, Ponce, PR. High School students were given information about the anatomy of the human brain by the graduate students Orlando Torres and Luis Rivera via presentations, hands-on activities, and demonstrations.

Finally, Dr. Javadov acknowledged the sponsors of the meeting that included the American Physiological Society, UPR Medical Sciences Campus, Ponce Health Sciences University, and the Central University of the Caribbean. He also expressed his gratitude to the staff and trainees of the Department of Physiology, the Poster’s Judge Committee, and volunteers for their assistance in the organization and success of the meeting. The last topic presented was the Executive Committee for 2020-2021: Nelson Escobales (President), José García Colón (President-Elect), Aibenzlit Del Rio (Treasury Secretary), Miriam Castro (Councilor), Xavier Chapa-Dubocq (Councilor), Gladys Chompre (Councilor), Mikhail Inyushin (Councilor), Carlos Rivero (Councilor), and Cariluz Santiago (Councilor). The general audience approved the new Executive Committee for 2020-2021.