5th Annual Meeting of the Puerto Rico Physiological Society

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APS Puerto Rico Chapter-Puerto Rico Physiological Society

5th Annual Meeting of the Puerto Rico Physiological Society (PRPS) was held on Friday, February 6 in San Juan. The meeting was organized by the University of Puerto Rico (UPR) School of Medicine and brought together over 120 faculty, students, postdoctoral fellows, and research staff from universities and research institutions in Puerto Rico and the United States. The topic of the meeting was “Diabetes and Metabolic Syndrome: Pathophysiological Consequences” to discuss scientific achievements in elucidating diabetes mellitus and metabolic syndrome. This area of biomedical research is becoming a worldwide health issue that is of significant relevance for the health of Puerto Ricans living on the island and the United States.

The meeting was open by welcoming remarks from Dr. Noel J. Aymat, Chancellor of the UPR Medical Sciences Campus, Dr. Edgar Colon, Dean of the UPR School of Medicine and Dr. Guido Santacana, President of PRPS. The sessions, moderated by Drs. Guido Santacana, Sabzali Javadov (Vice-President, PRPS) and Sylvette Ayala-Peña (Secretary-Treasurer, PRPS), included eight speakers from Puerto Rico and the U.S., and the poster session.

Jane Reusch (Departments of Medicine, and Biochemistry, University of Colorado Denver) gave the presentation “Decreased Exercise Capacity in Diabetes: Why do we care? What can we do?” which contained new data suggesting that abnormalities in the skeletal muscle blood flow and oxidative capacity (mitochondrial function) play a key role in the exercise impairments in type 2 diabetic patients.

The role of statins as a novel therapeutic approach to reduce cardiovascular risk in diabetes was discussed in the talk given by Maria Crespo (Department of Physiology, UPR School of Medicine). Yamil Gerena (School of Pharmacy, UPR Medical Sciences Campus) presented results of his group on soluble insulin receptor dysfunction and cognitive impairment in HIV-infected patients. These presentations on diabetes were followed by an exciting talk on the role of mitochondrial calcium in regulating cardiac metabolism and cell death given by Elizabeth Murphy.
(Cardiac Physiology Section, Systems Biology Center, NIH Heart, Lung and Blood Institute) who presented new data obtained from her studies of the mitochondrial calcium uniport in knock-out mice hearts.

The second part of the meeting was dedicated to the metabolic syndrome. A comprehensive discussion of pathophysiological mechanisms and consequences of metabolic syndrome in Puerto Rican adults and children was provided in presentations by Katherine Tucker (Department of Clinical Laboratory and Nutritional Sciences, University of Massachusetts Lowell), Alan Preston (Department of Biochemistry, UPR School of Medicine) and Cristina Palacios (Graduate School of Public Health, UPR Medical Sciences Campus). Sherly Pardo-Reoyo (Department of Biochemistry, UPR School of Medicine) highlighted the role of genetics in translational research.

The main session was followed by poster session where over 30 posters were presented by undergraduate and graduate students, postdoctoral fellows and other research staff from several universities of Puerto Rico. The posters were evaluated to estimate the overall quality of the presentations by the Judge Committee composed of faculty members and experienced postdoctoral fellows. The following winners were awarded by the PRPS Executive Committee:

First place: Rebeca Nuñez, Department of Physiology, UPR School of Medicine. Title of presentation: “Angiotensin II (Ang II) receptor blockade in Ang II-preconditioned rat hearts following ischemia/reperfusion”.

Second place: Marieli González-Cotto, Department of Anatomy, Central University of the Caribbean. Title of presentation: “The paradoxical role of TREM-like 1 in atherosclerosis”.

Third place: Marangelie Criado-Marrero, Ponce Health Sciences University-Ponce Research Institute. Title of presentation: “Modulation of Fkbp5 affects fear conditioning and extinction”.

Poster session
Following the poster session, the President of the PRPS Guido Santacana informed attendees on the society’s activities during the past year. One of the main activities of the society was outreach efforts (PhunWeek activity) organized by graduate students and faculty members at high schools around the island. Members of the PRPS from both the University of Puerto Rico School of Medicine Department of Physiology and the Ponce School of Medicine Dept. of Physiology participated in the PhunWeek activities in November 7, 2014 at three public schools with a total of more than 200 high school students. During the meeting a faculty member presented a talk about physiology, its role in daily life and his/her own experience as a physiologist. Graduate students and postdoc fellows presented basic physiological concepts with demonstrations and active participation by the high school students. Afterwards everyone was available for questions from the students.

The PRPS organized a new outreach activity (workshop) with faculty members from the Department of Physiology, University of Puerto Rico School of Medicine entitled “Physiology for Science Teachers”. The main goal of the one-day workshop was to create a bridge between high school science teachers and medical school basic science departments. Eighteen high school science teachers from several Puerto Rico public schools attended the workshop. Faculty members of the department of Physiology shared with the teachers their experiences in teaching physiology followed by an interactive discussion of “Physiology Concepts: How to Teach Students”. The attendees also visited research laboratories and met with graduate students and research staff. The teachers were given cost free membership in the PRPS and invited to participate in the 2015 PRPS meeting.

In concluding remarks, the President acknowledged the sponsors: the American Physiological Society, UPR Medical Sciences Campus, and School of Medicine, Ponce Health Sciences University,
and Central University of the Caribbean for their support.

The meeting announced the following officers of the PRPS Executive Committee for 2015-2016: Sabzali Javadov (President, UPR Medical Sciences Campus), Priscila Sanabria (president-elect, Central University of the Caribbean), Guido Santacana (past-president, UPR Medical Sciences Campus), Sylvette Ayala-Peña (secretary/treasurer, UPR Medical Sciences Campus), Siomara Hernandez (councilor, Ponce Health Sciences University-Ponce Research Institute), Cariluz Santiago (councilor, Pontifical Catholic University of Ponce), and Iris Salgado (councilor, UPR Medical Sciences Campus).