The 7th Annual Meeting of the Puerto Rico Physiological Society:

Microbiome: Key to Human Health

The human microbiome refers to the genetic material of all the microorganisms that live on and in humans. Scientists in this research area have estimated that microorganisms cells outnumber human cells ten to one. Therefore, it is not surprising that the number of genes in all the microbes in one person has the potential to provide a variety of metabolic impact in his/her body. The 2016-17 PRPS Executive Committee selected the human microbiome as the theme of 2017 Annual meeting taking into consideration the growing interest in understanding the role that those millions of microorganisms have in human health and disease. The enthusiasm on this topic increased dramatically with the launching in 2007 of the first phase of the NIH Human Microbiome Project (HMP), a government initiative that is aiming to demonstrate that tracking and manipulation of our microbiota can improve our health.

The 7th Annual Meeting of the PRPS was held on Friday 10, 2017 in at the Salon Gallardo Gonzalez 4th floor of the Hospital Universitario Ramon Ruiz Arnau in Bayamon, Puerto Rico. The meeting room is part of the Universidad Central del Caribe (UCC), a private institution that in 1976 established the first private medical school of the island. This is the first time that UCC hosts the PRPS Annual meeting. This year over 70 faculty and students from universities and research institutions around the island attended the activity. The meeting began at 8:50 AM with welcoming remarks from the 2016-17 PRPS President, Dr. Priscila Sanabria and from the President of the Universidad Central del Caribe, Dr. Jose Ginel Rodriguez. As in the previous annual meetings, the 7th PRPS Annual meeting featured morning and afternoon lectures by external and local scientists and an early afternoon poster session.

The 2016-17 PRPS Executive Committee was fortunate to invite expert scientists, who are currently applying innovative technologies to advance studies on the human microbiome. One of these researchers was our keynote speaker, Dr. George Weinstock. Dr. Weinstock, Professor and Associate Director of Microbial Genomics at The Jackson Laboratory for Genomic Medicine, Farmington, CT is a recognized leader in genomic studies of infectious diseases and the human microbiome. Dr. Weinstock has been instrumental in developing programs with clinicians and diagnostic laboratories to bring genomics expertise to address clinical challenges arising from infectious diseases. His lecture presented an elegant overview of the status of microbiome research and how this initiative is generating new diagnostic procedures and therapies to address a wide range of medical problems.

The lecture of Dr. Weinstock was followed by the talk prepared by Dr. Abel Baerga, Associate Professor and local investigator at the Department of Biochemistry from the University of Puerto Rico Medical Sciences Campus. Dr. Baerga presented his latest findings on his lab studies of a bacterial gene cluster which has been linked to colorectal cancer. After a short break that allowed some networking we had the last
morning session talk by Dr. Yvonne Huang. Dr. Huang, an assistant Professor at the Department of Internal Medicine in the University of Michigan Health System, talked about the role of microbiome in asthma. In her lecture Dr. Huang discussed how the assessment of the microbiome during the phenotyping of asthma could be used to provide personalized medicine to patients.

At noon the meeting recessed to have a healthy lunch organized by the 2016-17 PRPS Executive Committee. The meeting continue in the early afternoon with the poster section that took place in the surrounding hall of the Salon Gallardo Gonzalez. Here the students authoring the presented work had the opportunity to interact and network with local and invited faculty. The poster section included eighteen presentations mainly from Ph.D. students from the medical schools of UPR, Ponce Health System University and Universidad Central del Caribe.

This year the best student poster presenters were recognized with four awards. Three of them were cash awards provided by the chapter support received from the American Physiological Society. The students had also the opportunity to compete for a grand prize award aimed to support the travel of the awarded student for presenting his/her work in a national meeting. This award, which is presented every other year, is the Peter K. Lauf and Norma Adragna Travel Award. The award was established in 2011 thanks to donations from Drs. Lauf and Adgrana to sponsor student participation in national meetings, an opportunity that stimulates in many ways their career development.

The posters were evaluated by a group of 18 judges from all of the institutions that participated in the meeting (UPR-MSC, PHSU, UCC and Pontificial Catholic University of Puerto Rico). Each poster was evaluated by at least three faculty members. The posters were evaluated on several criteria including the presenter knowledge, communication skills, originality, experimental design and poster layout.

The students awarded at the 7th PRPS Annual Meeting were:

Peter K. Lauf and Norma Adragna Travel Award – David Rivera-Aponte, Ph.D. candidate at Universidad Central del Caribe with the poster entitled: Reduction of Kir 4.1 Potassium Channel Expression in Diabetic Mice: Relevance to Stroke.
American Physiological Society (APS) Awards-

1st place APS Award – **Mariano Colon-Caraballo**, Ph.D. candidate at Ponce Health Sciences University with the poster entitled: **EZH2 as a Transcriptomic Regulator of Proliferation and Migration in Endometriosis**.

2nd place APS Award- **Jennifer M. Colon-Mercado**, Ph.D. candidate at UPR, Medical Sciences Campus with the poster entitled: **Evaluating Sex Differences and Mechanical Allodynia after Tamoxifen Treatment in Spinal Cord Injured Rats**.

3rd place APS Award- **Ana Vaquer-Alicea**, Ph.D. candidate at UPR, Medical Sciences Campus with the poster entitled: **PKCι/λ and PKMζ Protein Expression in Mesocortoclimbic Areas During Cocaine Behavioral Sensitization**.

The PRPS Annual meeting continued with an afternoon lecture session were attendees had the opportunity to interact with **Dr. Cristopher Lowry**, Associate Professor at the Department of Integrative Physiology at the University of Colorado in Boulder, Co. During his talk Dr. Lowry presented data obtained by his behavioral neuroendocrinology laboratory team. The final talk was given by **Dr. Gladys Chompre**, Assistant Professor at the Pontifical Catholic University at Ponce Puerto Rico. Dr. Chompre presented an overview of her research work on the impact of high fat diet on gut microbiome and depression. In her talk Dr. Chompre discussed how consuming a high fat diet is associated with a changes in gut microbiome and brain behavior in a rat model. Also, she discuss her last results which she found that fecal transplantation from the obese animals to the recipient animals consuming low fat diet is associated to depressive like syndrome.

A brief business meeting followed the afternoon lecture session where Dr. Priscila Sanabria acknowledged the support provided by the APS and the RISE or RCMI programs of the participating institutions. Dr. Sanabria finally announced the officers for the PRPS Executive Committee for 2017-2018:

**President:** Cariluz Santiago (Pontifical Catholic University of Ponce)  
**President-elect:** A. Valance Washington (UPR-Rio Piedras);  
**Past President:** Priscila Sanabria (UCC);  
**Secretary/Treasurer:** Gladys Chompre (Pontifical Catholic University of Ponce);  
**Councillors:** Rebecca Parodi, Ph.D. student (UPR-MSC), Jaileen Santiago (Ph.D. student, UCC),

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*Ms. Jaileene Quinones, Counselor of the PRPS Executive Committting presenting the APS awards to the recipients; from Left to right: Mariano Colon-Caraballo, Ms. Jeniffer M. Colon-Mercado and Ana Vaquer-Alicea*

*Dr. Christopher Lowry, University of Colorado*
The meeting concluded at 5:00 pm after closing remarks from Dr. Priscila Sanabria which enthusiastically encouraged participants to mark their agenda to attend to 2018 PRPS Annual Meeting which is planned to take place in Ponce, Puerto Rico.

A final reception was held at Salon Horizonte at the Condado Plaza Hilton Hotel in which the Executive Committee members had opportunity to continue their network with the invited guests.

Priscila Sanabria, Ph.D.
2016-2017- President Puerto Rico Physiological Society