PRCTRC's leadership, staff and collaborators celebrated their 2016 Annual Retreat on December 16th. A summary of the most outstanding program outcomes was presented by Dr. Marcia Cruz-Correa, Principal Investigator.

In this occasion, Dr. Jaime Santiago was in charge of the professional development activities and presented a conference titled: Strategic Planning, Leadership, and Management: its importance to innovation.

Doctor Santiago has over 40 years of information systems technology experience; he is skilled in the methodologies of Strategic Planning, Business Analysis, Data Analysis, Business Administration, Management Systems, and Project Management. He is a professor at the Sistema Universitario Ana G. Méndez; and an independent contractor.
2016 Professional Development Core Training Activities

With the overall goal of integrating clinical and translational research training and professional development activities across the participating institutions, the PRCTRC Professional Development Core (PDC) sponsored and cosponsored multiple training and professional development activities between July and December 2016. These activities responded to the needs identified by investigators in the set of core competencies needed to become an effective clinical and translational researcher. The activities were held in collaboration with the Scientific Writing Unit (SWU), Research Design and Biostatistics Core, Collaborations and Partnerships Core, and Hispanic Clinical and Translational Research Education and Career Development Program. A total of 150 participants from the PRCTRC institutions attended these training activities.

The SWU, in collaboration with the PDC, hosted the seminar series entitled Roadmap to Submitting a Research Proposal to the NIH. These seminars, offered by doctors Deana Hallman, María González-Pons, and Sheila Ward, were designed to aid young investigators to prepare a competitive grant application, placing particular attention on those researchers competing for the 2017 PRCTRC Call for Pilot Projects. During the first seminar, researchers learned how to organize research ideas, develop specific aims, and draft letters of intent. In the second part of the seminar series, participants had the opportunity to learn how to align an application with NIH review criteria by discussing how to construct the Specific Aims, Significance, and Innovation sections of the Research Plan. Finally, the seminar series focused on the Approach, Research Design, Research Timetable, and Budget Preparation. The PDC complemented these seminar series with additional offerings focused on the NIH biographical sketch and career development plan. The seminar titled What is your Science Storyline? Introducing the New NIH Biographical Sketch Format was offered by Dr. Karen Martínez and Dr. Juan Carlos Jorge, while the seminar How to develop a Career Development Plan: Why an IDP was offered by Dr. Adriana Báez.
Other PDC trainings activities included the workshops titled **Conduct a Comprehensive and Systematic Literature Search Using Informatics Techniques** and **Mendeley: How to Organize and Cite References Automatically.** The Art of Grantsmanship: A Hands-On, Intensive Workshop was offered by Dr. Mary Helen Mays, with a total of six participants enrolled. Finally, the PDC also joined efforts with Collaborations and Partnership Core to co-host three educational workshops on **How to Get that Big Grant: Workshop on Grant Writing, Tips and Tricks: Workshop on Mentoring, and Bio repository Development and Management,** all delivered by Yale University faculty at the Puerto Rico Consortium for Clinical Investigation.
Collaborations and Partnerships

HIMA•San Pablo Hospitals, a partner of the Puerto Rico Clinical and Translational Research Consortium (PRCTRC) since September 2012, announces its initiative to centralize and restructure its Office of Clinical Research. Since Summer 2016, it has been moved from the HIMA•San Pablo Oncologic Hospital to serve the entire HIMA•San Pablo Hospitals system. That way, it serves all biomedical and therapeutic areas, while still heavily supporting cancer research. The new Office is daily run by Irma Y. Estrada, PharmD (Clinical Research Director), Wilfredo E. De Jesus-Monge, MD, MSc (Chief of Clinical Research), and Ms. Migdalia Arce (Clinical Research Coordinator) (see photo), along with a committed staff of Principal Investigators, clinical research coordinators, and clinical staff with research certifications. In addition, Dr. Estrada and Dr. De Jesus-Monge are Alumni of a PRCTRC institution (University of Puerto Rico), already knowing the academic biomedical and clinical research environment. HIMA•San Pablo Hospitals are affiliated with the PRCTRC, Puerto Rico Consortium for Clinical Investigation, and the Children’s Oncology Group. To explore clinical research collaborative opportunities with the HIMA•San Pablo Hospitals, please call (787) 653-3434, ext. 1788 or e-mail wdejesus@himapr.com.
The University of Puerto Rico Medical Sciences Campus (RCM-U PR) and the Universidad Central del Caribe (UCC) received a $3.25 million budget during a five-year period to provide new opportunities in translational clinical research to undergraduate students during their training as health professionals and for their faculty. The initiative comes after the approval of a Title V Cooperative Proposal of the Developing Hispanic-Serving Institutions Program -Title V of the US- Department of Education. Translational research aspires to bring the relevant findings to impact on how to treat, diagnose and manage health conditions. It takes into account the needs of communities affected by specific health problems.

“With this innovative cooperative Project –Expanding Undergraduate Students Education, Opportunities and Options in Clinical and Translational Research–and the proposed intervention strategies we respond to the need to equip these professionals, during their training, with clinical and translational research knowledge, to ultimate benefit of the citizens of Puerto Rico” said doctor Rubén García-García, Director of the Title V Cooperative Project UPR-MSC and UCC. This project will impact both institutions’ libraries through the development of a Center for Research Education and Science Communication Opportunities (CRESCO). This center, which will have a virtual component, will provide the undergraduate students with the necessary support to strengthen basic skills and ease access to graduate studies. In addition, it will collaborate with the professional development of the faculty members by increasing their skills and capacities in clinical and translational research to enrich their courses and provide mentoring to their students.

“The Medical Imaging Technology Program at UCC proposes the creation of an Imaging Center that will allow for the offering of services to the university community and surrounding communities by bringing together the perfect equation of education, service and research”, said doctor José R. Moscoso-Álvarez, UCC Project Co-Director.

The agreement also proposes a training component for undergraduate students and faculty. This includes the Research Education Towards Opportunities (RETO), a series of workshops focused in providing the students the knowledge, the tools and capacities in clinical and translational research. In addition graduate students and faculty members will participate in Mentorship Offering Training Opportunities for Research MOTOR).

Undergraduate and graduate students and faculty will join efforts in Intensive Development and Experiences in Advancement of Research and Increased Opportunities (IDEARIO, for hands on experiences and opportunities to interact in real-world scenarios and with real clinical and translational researchers, such as Dr. Margarita Irizarry-Ramírez, whom is also part of this project’s team.
Although with a broad perspective, most of the initiatives will impact the students and faculty of the undergraduate programs in the School of Nursing and the School of Health Professions at RCM as well as the Medical Imaging Technology program at UCC. Prospective participants as well as representatives from the PRCTRC will convene on February 1, 2017, to initiate the project’s activities.

Title V Cooperative MSC-UPR & UCC Team

Title V Team Members

Actividad Inicial: Investigación Clínica
1 de febrero de 2017, 11:00 am
Proyecto Título V Cooperativo
RCM-UCC

Enfocado para estudiantes y facultad de los programas sub-graduados

Para registro acceda a goo.gl/50iS5Z
Background: Inflammatory Breast Cancer (IBC) is the most lethal form of breast cancer with a 35% of 5-year survival rate. The accurate and early diagnosis of IBC and the development of targeted therapy against this deadly disease remain a great medical challenge. Plasma membrane proteins (PMPs) such as E-cadherin and EGFR, play an important role in the progression of IBC. Because the critical role of PMPs in the oncogenic processes they are the perfect candidates as molecular markers and targets for cancer therapies. In this study Stable Isotope Labeling with Amino Acids in Cell Culture followed by mass spectrometry analysis was used to compare the relative expression levels of membrane proteins (MP) between non-cancerous mammary epithelial and IBC cells, MCF-10A and SUM-149, respectively. Validation was done in IBC, and non IBC-BC cells, as well as in non-cancerous, invasive ductal carcinoma and in IBC patient tissues.

Advance: This study might be considered the first to identify and quantify the membrane proteome of IBC. This novel research allowed characterization and comparison of the PMP profile of the well-studied model of IBC, SUM-149, and non-cancerous mammary epithelial MCF-10A cells. Study data validates the central role of EGFR, AKT and ERK pathways in the oncogenic process of IBC and reveals the importance of continuing studies to assess the function of identified proteins in the localized cell compartments. This study identified for the first time the overexpression of the novel plasminogen receptor, PLGRKT in IBC and of the carrier protein, SCAMP3. Furthermore, the positive relationship between L1CAM expression and metastasis in IBC patients and the role of SCAMP3 as a tumor-related protein was described. Overall, the membrane proteomic signature of IBC reflects a global change in cellular organization and suggests additional strategies for cancer progression. Together, this study provides insight into the specialized IBC plasma membrane proteome with the potential to identify a number of novel therapeutic targets for IBC.

Public Health Impact Statement: The identification of membrane proteins from the cell surface and from organelles can shed light on the formation, progression and metastasis processes of IBC. Thus, defining the membrane proteomic profile of IBC has potential for identifying novel molecular markers that will help in the advancement of early diagnosis and subsequent development of therapeutic targets. This study presented potential biomarkers of IBC that will not only benefit accurate and early diagnosis of this intractable disease but also could be targets for further development of therapies. Additionally, study data described the complex image of PMPs present on IBC cells and tissues, reflecting the multiple strategies IBC uses to promote highly mhpovascular invasion, and rapid metastatic activity.

Dr. Valentín is a molecular immunologist interested in understanding signaling pathways in immune cells and how these pathways are involved in the development of disease. Lymphocytes and other cells of the immune system are constantly surveilling our bodies and responding to different signals from pathogens, the environment and even other cells. How immune cells integrate these signals will determine how they will respond and eventually defend us or cause a disease.

Dr. Valentín’s lab is specifically focused in studying how lymphocytes respond to viral infections and how their function is affected during the development of autoimmunity and lymphomas. Dr. Valentín’s main goal is to identify and characterize specific signaling pathways in lymphocytes as a way to identify novel biomarkers and drug targets to conditions such as Systemic Lupus Erythematosus, Multiple Sclerosis, AIDS, ZIKA-infection and lymphomas.

Currently Dr. Valentín’s lab is interested in studying the effect of HIV infection on B cells. Although HIV traditionally doesn’t infect B cells, it can severely affect their function and B cell lymphomas remain one of the most common neoplastic causes of death among HIV infected patients. Understanding how B cells respond to HIV and how their function is affected is of upmost importance for the development of more effective treatment strategies for patients with AIDS.
Congratulations to Dr. Karen J. Ortiz-Ortiz on receiving the first PRCTRC/HiREC small grant award to leverage analysis of pre-existing large databases in Health Disparities among Hispanics. Her project titled A Feasibility Study to Evaluate the Use of Adjuvant Chemotherapy in Patients with Stage III Colon Cancer will help to identify disparities in the quality of cancer care by examining the factors that affect the use of adjuvant chemotherapy in patients with stage III colon cancer in Puerto Rico and the effect that delayed adjuvant chemotherapy may have on overall survival in these patients.

Dr. Karen J. Ortiz

Big Data: A Bridge to Eliminate Health Disparities Symposium

One of the main goals of the Research Design and Biostatistics Core (RDB) of the Puerto Rico Clinical and Translational Research Consortium (PRCTRC) is to promote surveillance databases and epidemiological markers to identify health disparities in Hispanic populations and provide relevant data/statistical consultation for secondary data. In order to achieve this goal, the RDB, in collaboration with other research programs supported by the National Institute of Health, offered the Big Data: A Bridge to Eliminate Health Disparities Symposium. This full day event was held on April 1, 2016 at the Courtyard by Marriott Isla Verde Beach Resort and broadcasted live where participants accessed through their computers or electronic devices. The Big Data Symposium 2016 objectives were to: (1) gain knowledge about methodological issues and funding opportunities for analysis of large databases; (2) learn about existing database resources for the Puerto Rican population and other Hispanic groups; and (3) establish collaborations between database owners/PIs and other researchers, faculty, and stakeholders interested in addressing health disparities. The program of this professional development opportunity included 14 presentations by a multi-institutional and multi-disciplinary group of scientists including two panel discussions of the main health disparity areas focused on by the PRCTRC.