



TITLE V COOPERATIVE MSC-UPR & UCC

TWO PRCTRC PARTNERS, UCC AND MSC JOIN EFFORTS TO CREATE
A PIPELINE FOR FUTURE CLINICAL AND TRANSLATIONAL RESEARCHERS.

ACTIVITIES - OCTOBER 2019 TO DECEMBER 2020.



Supported by the US Department of Education: Title V Grant Award # P031S160068

On October 1st, 2019, the Title V Cooperative Project between the Medical Sciences Campus of the University of Puerto Rico (UPR-MS) and the Universidad Central del Caribe (UCC) started its fourth year – out of five. During the first trimester, the Project continued developing more activities and obtaining outstanding achievements in each of its main components: Research Education Towards Opportunities (RETO) and Mentorship Offering Training Opportunities for Research (MOTOR); Center for Research Education and Science Communication Opportunities (CRESCO); Intensive Development and Experiences in Advancement of Research and Increased Opportunities (IDEARIO) and the formation of additional Clinical and Translational and Mentoring Teams (CTMTs), as well as the development of proposals of the CTMTs previously formed. The Project also presented (oral and/or poster) the results of the CTMT-IDEARIOS and/or the outcomes of the Project in Clinical and Translational Research (CTR) annual conferences, in addition to submitting abstracts for other poster presentations. Moreover, the Project prepared all the resources to offer for the first time, in January 2020, the course INCL 5998 - Clinical and Translational Research I: Introduction and Principles.

In this issue, which covers the Project's fourth year (October 1, 2019-September 30, 2020) and the first trimester of the fifth year (October 1 – December 31, 2020) we will share the activities, achievements and new developments/initiatives and our challenges, as well as our strategies and tools, to overcome those challenges during 2020 – a historic and unprecedented year, based on our previous experiences, almost three years ago, with the aftermath of hurricanes Irma and María, and with the incorporation of technology for a completely virtual scenario.

It is very important to emphasize that each of the activities are planned and organized to provide new and/or more opportunities in clinical and translational research to undergraduate and graduate students, as well as faculty from undergraduate programs in health professions and others, from UPR-MS, UCC and other higher education institutions in Puerto Rico. The

contributions of the Project, through its participants, will bring new knowledge for the diagnosis, treatment and management of health disorders for the people of Puerto Rico.

RETO MOTOR II seventh (7th) cycle was offered from October to December 2020

Since all the academic offerings in our institutions were online, we re-engineered the Cycle structure so that it was completely offered using a combination of the digital platforms Blackboard and Teams. Training contents and assignments were presented through the former, while interactions between trainees and mentors and lecturers were done using Teams.

This cycle, which was not originally planned, resulted from the enthusiasm of participants in the 8th RETO MOTOR I cycle that was offered starting in August 2020. Nineteen (19) participants enrolled and finished this cycle, for a 100% retention rate. By using these virtual technologies we were able to reach across Puerto Rico, enrolling participants from the University of Puerto Rico's Medical Sciences, Bayamón, Humacao and Mayagüez campuses. We also had participants from the Ponce Health Sciences University and Ana G. Méndez University.



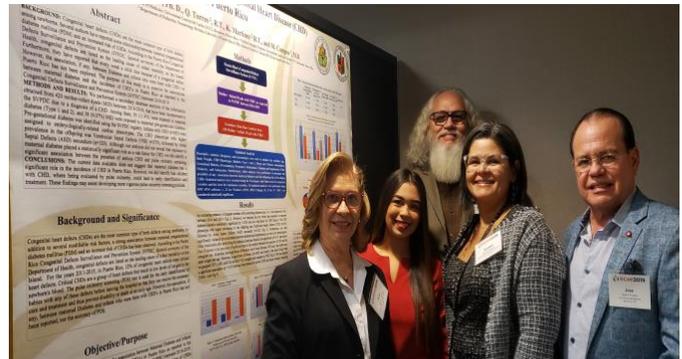
Participants of 8th RETO-MOTOR I training cycle, which was delivered fully online.

The participants, who finished the cycle on December 3, 2020, received their certifications and were organized in six (6) different CTMTs. Each CTMT will be submitting their proposals in January 2021 and if approved by the program, they will conduct their research projects during 2021-22. As the participants presented the concept papers for each CTMTs we were surprised by the variety of approaches and topics as well as the thoroughness of their presentations.

Mentor	Participants	Topic	Mentor's Institution
Dr. Jorge Duconge Soler Dr. Abiel Roche Consultor	Carola González, Dr. Luis Rosario, Krystal Román	Study of Major Adverse Cardiovascular Events in Caribbean Hispanic Patients on Clopidogrel using Machine Learning Tools	UPRMSC
Dr. Carlos Acevedo Suárez	Adriana Arroyo, Elan Reynoso, Jennifer Abreu, Dr. Brenda Soto	Creation of a mobile application aimed at patients diagnosed with breast cancer with the purpose of promoting self-care and providing tolls for the benefit of the current treatment.	UPRM
Dr. Carlos Ríos Velázquez	Aryelys Casiano, Hailey Morales, Kristal Delgado Melissa Cabrera	Aislamiento e identificación de bioprospectos capaces de metabolizar 17beta estradiol y 17 alpha etinilestradiol utilizando metagenómica y técnicas dependientes de cultivo	UPRM
Dr. Edna Acosta Pérez	Dr. Soami Santiago, Marcos Roche, Dr. Wanda Lugo Cristina Rivera, Karen Pabón	Determinantes sociales que influyen en la adherencia y acceso al tratamiento de la pérdida auditiva en adultos y adultas en Puerto Rico	UPRMSC
Dr. Michelle Martínez Montemayor	Camiled Quirindongo, Charl Golderos	Caracterización de la población de mujeres con cáncer de seno inflamatorio en Puerto Rico	UCC
Dra. Mariela Tores Cintrón	Natalie Santiago		UPRMSC

Achievements of CTMT IDEARIO:

The Clinical and Translational Mentored Team community of the MSC-UCC Collaborative was represented by Teams Cardio and Cancer during the RCMI National Conference: “Collaborative Solutions to Improve Minority Health & Reduce Health Disparities” held in Bethesda, MD December 15 to 17, 2019. Team Cardio presented the project entitled ***Diabetes and offspring risk of congenital heart disease (CHD) in Puerto Rico***, while Team Cancer shared outcomes from their work entitled ***Characterizing the EQUOL microbiome in Puerto Rican women***. Both abstracts were subsequently published in the Marco 2020 issue of the Puerto Rico Health Sciences Journal (PRHJ, Vol 39, No 1 (2020)).



CTMT Cardio - José L. Torres PhD and Quiriat Torres along with their Mentor Dr. Maribel Campos and Dr. Delia M. Camacho Feliciano, UCC Dean of Research and Dr. Rubén García García, Title V Program Director, presented during RCMI 2019 Poster Session.

Meanwhile, CTMT Obesity was invited to present the findings of their study entitled ***Sleeping quality in our modern school age children and obesity: a three year follow up*** as part of the international scientific meeting “Obesity Week – Pathways to Precision Obesity Care”, that was carried out as a Virtual Meeting from November 2 to 6, 2020. Beyond their poster presentation, our graduates of the clinical and translational research training program managed to convene several interactions during their virtual town halls, in turn expanding their network of researchers dedicated to the topic of pediatric obesity.



CTMT Obesity members hold a preparation meeting with their mentors (left), and deliver their presentation during the Obesity Week Virtual Meeting (right).

Other dissemination efforts included the acceptance of CTMT Liver's manuscript by the Journal of Diagnostic Medical Sonography entitled ***Sonographic features of the liver among females with type 2 diabetes.*** (J Diagn Med Sonogr. 2019 May; 35(3):189-197. doi: 10.1177/8756479319834927. Epub 2019 Mar 8. This is the second of a series of 3 manuscripts this productive Team had aimed to publish from their interdisciplinary methodological and translational work. Their third manuscript was published in the Global Journal of Medical Research: D Radiology, diagnostic and instrumentation. (2020. Dr. Bárbara L. Riestra-Candelaria, Juan Carlos Jorge, Miriam Rodríguez, Gory Ballester-Ortiz & Loida A. González- Rodríguez). This is a research/review paper, distributed under the terms of the Creative Commons Attribution-Noncommercial 3.0 Unported License (<http://creativecommons.org/licenses/by-nc/3.0/>).

Title V project will present a one hour panel session during the upcoming annual meeting of the Association for Clinical and Translational Science (ACTS) 2021.

Our proposal for a panel session for the meeting to be held during the week of March 29 to April 1, 2021 was accepted. Four members of the Title V project: Dr. Margarita Irizarry Ramírez, Dr. Rubén García García, Dr. Nancy Dávila Ortiz and Dr. Luis Rosario Arroyo will present during the session, titled: **“Faculty members/clinicians in the Health Professions acquiring Clinical and Translational Research know how during natural disasters and the COVID19 pandemic.”**

This session will be held on March 31, 2021 from 1:15 – 2:15 PM. We hope you can participate with us.

CRESCO expands its services amid the Covid-19 pandemic

“In the middle of every difficulty lies opportunity.”
Albert Einstein

As the heart and hub of the Title V Cooperative Project, the Center for Research Education and Science Communication Opportunities (CRESCO) is a dynamic online and physical location at the library of each partner institution. Since its inauguration in 2016, CRESCO provides workshops, mentoring, and tutoring, as well as access to software, installations, and equipment, to support the undergraduate students and faculty participating in CTR training and research experiences provided to them by the Title V Project.

The restrictions imposed on the population due to the Covid-19 pandemic were an opportunity to test the adaptability of CRESCO's hybrid service model; a test that was passed more than successfully. Using information technologies creatively, CRESCO's multidisciplinary team designed and launched a series of online tutorials to support the information needs not only of the Title V

Project participants, but of the researchers and the general population trying to grapple with the new virus. Three tutorials —*Statistics and epidemics; What is PubMed?*, and *Saving Searches and Creating Alerts in PubMed*—were shared during the 9th Title V Annual Symposium and 9th PRCTRC-Scientific Day, celebrated as a virtual activity in June 2020. These were added to a collection of online tutorials previously developed by CRESCO to support the development of research and communication skills in CTR of Title V Project participants: *Using Google Meet: A Communication Tool for Researchers; Turnitin: Creating an Account; Turnitin: Basic Menu*, and *Turnitin: Creating an Assignment*.

In addition to the creation of online tutorials, CRESCO adapted itself to the Covid-19 emergency context by offering a variety of virtual workshops on topics relevant to the needs of Title V Project participants and the extended community of researchers. From September to December of 2020, our Statistics Mentor, Mr. Elvis Santiago Rodríguez, offered four sessions of *Introduction to Intellectus Statistics* and three sessions of *How to choose the appropriate statistical analysis for your research project*. Meanwhile, in the same period, our CRESCO's Resources Mentor, Mr. José R. Ubieta Santiago, offered four sessions of *Mendeley: Citations and References*, four sessions of *PubMed: Searching scientific literature*, and one session of *Turnitin: Online tool to prevent plagiarism*. In these virtual workshops, a total of 227 participants --including students, faculty, and researchers from MSC, UCC and other academic institutions--strengthened their knowledge and skills in vital topics for their academic and personal endeavors.

Similarly, the mentoring and tutoring services provided by CRESCO have continued and even expanded during the coronavirus emergency. Using videoconference and telecommunications platforms such as Google Meet and Teams, our mentors have continued helping Title V Project participants with the use of web-based tools –Intellectus Statistics, Mendeley, Turnitin, PubMed and other library databases– and answering questions on topics such as statistical use for research, critically evaluating the scientific literature, and avoiding plagiarism when writing.

Nuevos Talleres CRESCO
4:30-6:00 pm

Recurso
Elvis Santiago, MS
Mentor de Estadísticas
CRESCO

Introducción a Intellectus Statistics
Jueves, 5 noviembre
Para inscripciones pulse [AQUI](#)

Cómo seleccionar el análisis estadístico adecuado para su investigación
Jueves, 12 noviembre
Para inscripciones pulse [AQUI](#)

Introducción a Intellectus Statistics
Jueves, 3 diciembre
Para inscripciones pulse [AQUI](#)

Ofrecido por el Center for Research Education and Science Communication Opportunities (CRESCO) del Proyecto Título V RCM-UCC (Title V Grant Award # P0315160068)

Talleres CRESCO
4:30-5:30 pm

Recurso
José R. Ubieta, MIS
Mentor de Recursos
CRESCO

Mendeley – preparación de citas y referencias
jueves, 17 de septiembre
<https://meet.google.com/whe-duyf-ncp>

Turnitin – prevención del plagio
martes, 22 de septiembre
<https://meet.google.com/nfu-rxxb-bev>

PubMed – búsqueda de literatura científica
martes, 6 de octubre
<https://meet.google.com/atk-memr-bkb>

Mendeley – preparación de citas y referencias
martes, 10 de octubre
<https://meet.google.com/qzo-trki-tkr>

Ofrecido por el Center for Research Education and Science Communication Opportunities (CRESCO) del Proyecto Título V RCM-UCC (Title V Grant Award # P0315160068)

Promotions of workshops successfully delivered by CRESCO’s mentors (Sept.-Dec., 2020).

With the prospect of a gradual return to normalcy thanks to the Covid 19 vaccines, the CRESCO's multidisciplinary team is very enthusiastic about their plans for 2021. Strengthening its virtual component, CRESCO plans to launch online tutorials and workshops on topics such as: the importance of *significance* for statistical analysis, advanced search techniques for literature reviews, and the use of Urkund, a web-based tool offered by CRESCO UCC to detect and prevent plagiarism. And finally, as part of their dissemination activities, CRESCO's team will be presenting its innovative service model during the Hispanic Educational Technology Services 2021 Virtual Best Practices Showcase on February 12, 2021. This certainly will be an excellent venue to share the experiences and lessons learned in the use of best technologies to contribute to the development of future cadres of clinical and translational researchers in Puerto Rico.

Eighth Training Cycle of RETO MOTOR 1

On Thursday September 24, 2020, 24 participants –15 undergraduate students (UgS), 5 graduate students (GS) and 4 members of the faculty (F) - successfully completed the 8th Training Cycle of RETO MOTOR 1 and received their certificates of participation. They represent 83% of the 29 participants (20 undergraduate students, 5 graduate students and 4 faculty) who began this cycle on August 6, 2020 with outstanding retention rates (75% UgS, 100% GS and F). This cycle was the first offered completely in a virtual mode with synchronous and asynchronous activities, which facilitated the participation of students and faculty of the higher education institutions geographically distant from the Medical Sciences Campus of the University of Puerto Rico. With this cycle, there are now 197 certified participants since June 2017. The participants of this 8th cycle stood out for the quality of their work and the interest shown in translational clinical research.

Successful the First Delivery of Virtual Course in Clinical and Translational Research: January-May 2020

In the second semester of the academic year 2019-2020 (January to May 2020) the course INTD 5998: Clinical and Translational Research I: Introduction and Principles was offered for the first time, as an elective course of the Health Sciences Program of the School of Health Professions of the Medical Sciences Campus of the University of Puerto Rico. This course began in the hybrid modality as approved in 2019. However, due to the COVID-19 pandemic, the course was completed in the distance learning modality. The total number of students enrolled was nine (9), with all completing the course (100%). This course exposed students to the main concepts underlying Clinical Translational Research, through lectures, workshops and presentations. In the course they discussed topics such as the history and definition of clinical and translational research, the identification of the attributes of a clinical researcher, and the intersection of the

health professions and research questions. Other topics that were covered: individual development plan, protection of the human subject, conducting responsible research, mentor-apprentice relationship, and clinical and translational environment. The students concluded the course with an electronic portfolio as the basis for their development as a researcher. The second offering of the course will be from January to May 2021. In this instance, we expect to have graduate students and students of other UPR campuses enrolled. This course was the cornerstone for the new Title V Project RCM proposal (2020-2025).



Students and part of the faculty members of course INTD 5998, offered in the 2nd semester of the academic year 2019-2020

Poster Presentation for ACTS 2020

On January 23, 2020, the abstract entitled, *The Impact of First Level Training Cycles (FLTC) in Clinical and Translational Research (CTR) on the Knowledge and Interest in CTR of Students (S) and Faculty (F) of Health Professions and Basic Science Programs throughout the island in Puerto Rico (PR)*, was approved by the Association for Clinical and Translational Science (ACTS). The abstract was accepted for poster presentation at ACTS 2020. Its objective was to assess the impact of the FLTC on CTR in S and F of health professions and basic science academic programs throughout the island of Puerto Rico. Training cycles were offered by the Title V Cooperative Project of the University of Puerto Rico-Medical Sciences Campus (UPRMSC) and the Universidad Central del Caribe (UCC). In conclusion, the FLTCs were successful in increasing S / F's knowledge on CTR with further participation in the second level of trainings. The impact of the Title V Project extended island wide, increasing the diversity of the health professions and scientific fields represented among the participants. The interventions were deemed to be of high quality. Due to the situation of the COVID-19 Pandemic, on March 11, 2020, the activities of ACTS 2020 were unfortunately, canceled.