

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 – JULY 1 TO SEPTEMBER 30, 2019.



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

On September 30th, 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) ended its third year –out of five. During the last very productive trimester of this exceptional year, the Project has developed more activities and obtained 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 the proposals of the CTMTs previously formed.

In this issue, we will be sharing the activities and achievements that occurred during the past trimester, as well as a brief summary of the outcomes, aligned with the goals and objectives of this innovative initiative, up to the end of the third year. These activities provided new opportunities in clinical and translational research to undergraduate and graduate students from the health professions and to their faculty at the UPR-MS and UCC, and as previously informed, to students and faculty from other institutions island-wide. The focus of these activities is in translational research, which aspires to bring its relevant findings to impact on how to treat, diagnose and manage health conditions and takes into account the needs of communities affected by specific health problems. The main attainments of the past trimester, as well as of a whole Project until today, are presented below.

Improvement of Virtual Learning in Clinical and Translational Research



On June 2019, the course entitled INCL 5998: Clinical and Translational Research I: Introduction and Principles was approved and codified in the UPR-master registry. This two-credit multidisciplinary and blended modality course will be available, as a requisite, for undergraduate students of the Health Sciences Program, School of Health Professions, UPR-MS and, as an elective course, for undergraduate and graduate students (master programs) at UPR-MS. The course, will expose students to the main concepts underlying the performance of clinical and translational research through lectures, workshops and presentations. The course will be offered, for the first time, during the next academic semester.

Online Tutorials: Aligned with its goals and objectives, the Project created three online tutorials in clinical and translational research topics of RETO-MOTOR 1, such as: 1. Effective oral presentation; 2. The development of a research question; 3. Prevention of plagiarism in research, and is creating three additional online tutorials in the following clinical and translational research topics of RETO-MOTOR 2: 1. Human Subjects Protection; 2. Research Proposal: Theory on the Design of a Clinical and Translational Research Project and 3. Mentor-

Mentee Relationship. The online tutorials are and will be available soon in the Project website: <https://proyectotitulo5rcmucc.education>.

Videos: Moreover, videos, recorded by the members of the CTMTs are available at the YouTube channel of the Project: <https://tinyurl.com/y4a3y7p3> In these videos, the CTMTs describe their respective research project and the environment for the development of it.

Development of CRESCO and its services – July 1 to September 30, 2019

Since the last issue of this bulletin, several important events have taken place as part of the development of the Center for Research Education and Science Opportunities Communication (CRESCO), located at the libraries of both UPR-Medical Sciences Campus (UPR-MSC) and Universidad Central de Caribe (UCC).

One important step in the development of the UPR-MSC CRESCO was the integration to our staff of Mr. Elvis Santiago Rodríguez, as Statistics Mentor, and Mr. José R. Ubieta Santiago, as CRESCO's Resources Mentor. They joined us on August 2019 to provide Title V participants a variety of services to support their training on research and science communication skills. The Statistics Mentor offers assistance to Title V project participants on the selection and use of the more adequate statistical analysis methods for their research projects; whereas the CRESCO's Resources Mentor facilitates the participant's development of competencies on areas such: scientific literature review, poster presentations, and using software for bibliographic management, holding video meetings, and plagiarism prevention. Both mentors provide individual or group consultations, workshops and design tutorials on their respective areas of expertise.



CRESCO's Statistics Mentor, Mr. Elvis Santiago Rodríguez (second from left), with several Title V participants..



Meeting of the CTMT-IDEARIO- Team Neuro at CRESCO-UCC.

Following the suggestions of the CTMT's mentors/principal investigators who attended the two aforesaid brainstorming sessions, the CRESCO's mentors began --on September 19, 2019-- to offer the following workshops on a regular basis:

- 1) Google Meet: A video conferencing app to facilitate remote communication among members of research teams;
- 2) Intellectus Statistics: A web-based statistics platform to easily conduct statistical analyses and obtain in-depth, easy-to-understand, interpreted output in seconds;
- 3) Turnitin: An internet-based plagiarism detection service;
- and 4) Effective use of scientific databases for literature review.

Similarly to the UPR-MSC, the CRESCO at UCC has experimented important developments, which are gradually positioning this unit as UCC's hub for the promotion of research and communication skills for future clinical translational researchers.

The new inaugurated UCC CRESCO facilities are now being used by members of the research teams of the CTMT-IDEARIO, who have found in this renovated space an ideal place for their working and/or study meetings.



Dr. Lourdes García Frago, PI/Mentor of CTMT Zika, and Mr. José R. Ubieta Santiago. CRESCO's Resources Mentor..

To support the development of scientific writing skills of Title V participants, the UCC CRESCO subscribed to URKUND, a web-based automatic text-recognition system made for detecting, preventing and handling plagiarism, no matter language. The reports generated by URKUND are used by the CTMT/IDEARIO principal investigators to offer mentoring to their teams on how to correctly paraphrase and cite to avoid accidental plagiarism in their writing. This software joins to the suit of tools provided by the UCC CRESCO to strengthen the research and scientific communication skills of Title V participants: biomedical databases, bibliographic managers, electronic journals and books, discovery software, tutorials, etc.

We are firmly convinced that CRESCO’s innovative model should be part of any effort done in Puerto Rico to promote new and sustainable generations of clinical translational researchers.

Participation of the Title V Cooperative Project MSC-UCC (Project) in the Convention of the Association of Educators of Imaging and Radiological Sciences (AEIRS) on the Island Kona Hawaii – July 10 – 12, 2019

On July 10-12, 2019, several collaborators of the Project attended the Convention of the Association of Image and Radiological Sciences Educators (AEIRS) on Kailua Kona Hawaii Island. Representing the Medical Imaging Technology Program the Project collaborators: Dr. José Rafael Moscoso Álvarez, Co Director of the Project, Prof. Elaine Ruiz Izcoa, Project Liaison (UCC) and Acting Director of the Program, Prof María E. González Méndez, Co Coordinator Component 2 of the Project (UCC) and Prof. Juan Pérez Ocasio, participant of the Project and Faculty of the Medical Imaging Program (UCC). Meanwhile, by the School of Health Professions (RCM), Prof. Edgardo Luis Rosado Santiago, School Liaison and Clinical Coordinator of the Radiology Technology Program and the students of the Radiological Technology Program (RCM): Gustavo Meltz Meléndez and Winston J. Serrano Matos participants of the Project. In addition to attending conferences and participating in the poster session, everyone collaborated in the presentation of the poster entitled: “Integration of Undergraduate Students (US), Graduate Students (GS) and Faculty (F) in Clinical and Translational Research (CTR) in Puerto Rico-Medical Sciences Campus (UPR-MSC) and Universidad Central del Caribe (UCC) experience”. This experience, aligned with the goals and objectives, serves as a vehicle for the development of participants of the Project –students and faculty members–, and to the collaborators, as mentors in a clinical research/education senario.



Collaborators and participants (two students and one faculty member) of the Project presenting the poster at the AEIRS convention 2019.



Gustavo A. Meltz Meléndez, student of the Radiological Technology Program-MSC, and Project’s participant, presenting the poster.

Collaborators and participants (two students and one faculty member) of the Project participating in the AEIRS convention 2019.

Winston J. Serrano Matos, student of the Radiological Technology Program-MSC and Project’s participant, presenting the poster.

Integrated activity of inauguration of the Simulators in the School of Nursing and in the Radiology Technology Program of the School of Health Professions, Medical Sciences Campus, University of Puerto Rico – September 11, 2019

On Wednesday, September 11, 2019, leadership of the Title V collaborative Program in collaboration with the School of Health Professions (SoHP) and the School of Nursing (SoN) held the integrated inauguration activity of the Victoria Simulator located in the SoN and the Simulator (X-ray Machine) in the Laboratory of the Radiology Technology Program of the SoHP. The inauguration of these simulators is one of the recent accomplishments of the Project's in accordance to its goals and objectives. This new equipment, strengthens the educational scenario by allowing students to acquire the knowledge with technological integration, develop the clinical skills and professional skills that prepare them for intervention with real patients in



Attendees (collaborators, faculty members, researchers, undergraduate and graduate students) to the Inauguration Activity.

clinical practice centers, including their clinical and translational research projects. It is distinguished by the participation of about 123 attendees, most of them students, and the excellent performances of: the students and faculty of the SoN in the dramatization to demonstrate the operation of the Simulator-Victoria. The dramatization of the birth process allowed attendees to observe the operation of the simulator,



Moderators: Dr. Juan Carlos Soto Santiago and Prof. Edgardo Luis Rosado Santiago.

experiencing a very real recreation of this process that impressed those present. The students of the Radiological Technology Program, SoHP in the dramatization to demonstrate the operation of the Simulator (X-ray Machine). This dramatization allowed students to demonstrate their knowledge and skills in the use of the new radiology equipment by simulating the performance of a clavicle x-ray to the newborn.

The Inauguration was Presided by the following university authorities: Dr. Segundo Rodríguez Qulichini, Chancellor of the Medical Sciences Campus, Dr. Suane E. Sánchez Colón, Dean, SoN and Dr. Bárbara Segarra Vázquez, Dean, SoHP. Meanwhile, Project, Dr. Rubén García García, Director, Dr. Juan Carlos Soto Santiago, SoN Liaison and Prof. Edgardo Luis Rosado Santiago, SoHP Liaison. The latter, together with Dr. Juan A. Meléndez Sostre and Prof. Sol S. Fuentes Vélez, Director and Faculty, respectively, of the Radiological Technology Program, to which he belongs.



Demonstration of the clavicle x-ray to the newborn.



Newborn at the Birth Demonstration.

The faculty and students of both Schools are very enthusiastic about the acquisition of these Simulators and the opportunities they will provide.



Inauguration Ceremony of: Victoria Simulator at the School of Nursing and Simulator (X-Ray Machine) at the School of Health Professions (in the usual order).

Successful Training Cycles RETO-MOTOR 1 and 2 – August 8 to September 26, 2019

Seventh Training Cycle RETO-MOTOR 1 On Thursday, September 26, 2019, 54 participants –34 undergraduate students (UgS), 11 graduate students (GS) and 9 faculty members (F)– of the Project successfully completed the Seventh Training Cycle RETO-MOTOR 1 and received their certificate of participation. These, representing 81% of the 67 participants (41 undergraduate students, 17 graduates and 9 faculty members) that started this cycle on August 15, 2019) and with outstanding retention rates (83% UgS, 65% GS and 100%). This excellent group has been the one with the highest number of participants (entered in and completed a cycle of RETO-MOTOR 1) and accounting for a total of 173 participants certified, since June 2017.

Participants attended the face-to-face activities, participated actively at their own in other educational activities of the cycle and carried out the scheduled tasks, which highlights the 19 interviews conducted to clinical researchers, presented individually and in groups.

We congratulate all participants for their extraordinary performance.



Workshop: CRESCO by Mr. José R. Ubieta Santiago.

RETO MOTOR II: A very successful fifth cycle

RETO MOTOR II fifth (5th) cycle was offered from August to September 2019. Twelve (12) participants enrolled and finished this cycle, for a 100% retention rate and accounting for a total of 55 participants certified, since April 2018. The twelve participants, distributed as, eight (8) undergraduate students, one (1) graduate student and three (3) faculty members), have become part of new CTMTs (5) with the collaborations of five (5) new or returning mentors. Among the activities offered during the cycle were: Planning of a Research Career, Design of



Mentors and Mentees in Session Mentor Mentees Relationships Resources: Dr. Rubén García García and Prof. Lizbelle De Jesús Ojeda.



Working in the development of a career plan with Dr. Bexaida Díaz Pérez.

Planning of a Research Career, Design of

a Clinical and Translational Research Project, and a session on the interaction of Mentors and Mentees. In addition, participants were encouraged to prepare their e portfolios, integrating all the activities done as well as their certifications in the protection of Human Subjects (CITI). On this 5th cycle we were able to organize the CTMTs previous to the Mentor-Mentee session. This approach led to an integration between participants and mentors before the end of the cycle, which has speeded up the process of organizing, designing and writing the proposal question. During the last session held on September 26 2019, the CTMTs' members, with the mentors' participation, presented a summary delineating the intended research question to be developed by the team and a tentative research approach, which will be further developed as they continue to meet as part of their IDEARIO experience. The participants also received their certificates acknowledging their successful completion of the cycle's activity. These five CTMTs are presented in the following table:

Team members, rol and institution	Topic
Dr. Inés García García, Dr. Lourdes García Frago, Dr. Lourdes García Tormos and Dr. Juanita Negrón Pagán, Principal Investigators (Mentors), UPR-MS. Dr. Edna Aquino Piñero, UPR-MS, Heidy Díaz Aragón and Julneily Hidalgo Rodríguez, UPRRP, participants.	Indomethacin in the NICU
Dr. José L. Torres Cruz, Principal Investigator (Mentor), UCC. Carlos Mercado García and Danisa Oyola Soto, UPRB, participants.	Cardiovascular Disease in Newborns
Dr. Karen G. Martínez González, Principal Investigator (Mentor), UPR-MS. Dr. Carlos J. Cañuelas Pereira, UPR-MS, participant.	Anxiety
Dr. Maribel Campos Rivera, Principal Investigator (Mentor), UPR-MS. Giancarlo Martínez Tellado, UPR-MS, Keyshla Lasalle Denis, UPRB and Dr. Nancy Dávila Ortiz, UPR-MS, participants.	Health profile in children and adolescents in Vieques.
Dr. Nadezhda Sabeva, Principal Investigator (Mentor), UCC. Paola K. Rodríguez Flores, Sofía D. Colón Méndez and Sorangely Vázquez Alicea, UPRB, participants.	Does alpha7 nicotine Acetyl Choline Receptor ($\alpha 7$ nAChR) modulation could reverse tau-mediated neurodegenerations?

Results stemming from the research done by these research teams will be forthcoming by the end of 2020.



Certified participants of RETO-MOTOR 1 & 2 and Title V Cooperative UPR-MS & UCC collaborators.