

University of Puerto Rico, Medical Sciences Campus

Advancing Knowledge, Transforming Health



45th Annual Research and Education Forum



April 9 - 11, 2025





WELCOME MESSAGE

Chancellor of the Medical Sciences Campus



It is with great pleasure and pride that I welcome you to the 45th. Annual Research and Education Forum of the University of Puerto Rico's Medical Sciences Campus (UPR-MS). This event is a testament to our unwavering commitment to scientific discovery, innovation, and academic excellence in the health sciences. Year after year, this Forum serves as a platform for researchers, faculty, students, and professionals to exchange knowledge, share groundbreaking discoveries, and foster interdisciplinary collaboration, all with the shared goal of advancing healthcare and improving the well-being of our communities.

This year's Forum holds special significance as we dedicate it to the School of Medicine on its 75th anniversary. Since its founding, the School of Medicine has played a pivotal role in shaping the medical landscape of Puerto Rico and beyond, training thousands of healthcare professionals, pioneering research in critical areas, and expanding access to high-quality medical education and services. Its contributions to public health, biomedical sciences, and clinical practice have positioned it as a leader in medical education and research in the Caribbean and Latin America. We take this opportunity to celebrate its rich history, achievements, and lasting impact on the advancement of healthcare.

We also take great pride in honoring Dr. Norman Maldonado, a distinguished physician, researcher, educator, and leader, whose career has left an indelible mark on Puerto Rico's medical and academic communities. His contributions to hematology, medical education, and institutional leadership have shaped generations of healthcare professionals and researchers. His tenure as Chancellor of the Medical Sciences Campus and President of the University of Puerto Rico was characterized by a steadfast dedication to academic excellence, institutional growth, and the promotion of scientific inquiry. Through this well-deserved recognition, we express our profound gratitude for his invaluable contributions and enduring legacy.

I would like to extend my deepest appreciation to the Organizing Committee, particularly Dr. Yasmín Pedrogo Rodríguez, Chair of the Committee, and Dr. Efraín Flores Rivera, Coordinator, for their outstanding leadership and dedication in making this event a reality. Their tireless efforts have ensured that this year's Forum provides an enriching and engaging experience for all participants.

As we embark on these days of academic exchange and discovery, I encourage each of you to take full advantage of the sessions, discussions, and networking opportunities. May this Forum inspire new ideas, collaborations, and innovations that will continue to advance scientific knowledge and improve healthcare in Puerto Rico and beyond.

Welcome to the 45th. Annual Research and Education Forum!

Myrna L. Quiñones Feliciano, MD, JD
Chancellor
University of Puerto Rico, Medical Sciences Campus

45th Annual Research and Education Forum

WELCOME MESSAGE

Dean for Academic Affairs and Chair of the Organizing Committee

It is with great enthusiasm that I welcome you to the 45th Annual Research and Education Forum of the Medical Sciences Campus, University of Puerto Rico. This year, under the theme "Advancing Knowledge, Transforming Health," we reaffirm our commitment to fostering scientific discovery, academic excellence, and collaboration in the health sciences.



This Forum brings together a diverse and talented group of researchers, faculty, students, and professionals from various institutions and disciplines, reflecting the strength and breadth of our academic community. We are honored to present 288 presentations, including oral sessions and scientific posters, showcasing innovative research spanning biomedical sciences, clinical practice, public health, pharmacy, dental medicine, nursing, and allied health professions. These contributions reflect the dedication and creativity of our participants, who strive to address pressing healthcare challenges and advance scientific knowledge.

Additionally, we are privileged to welcome distinguished keynote speakers who will deliver plenary sessions on cutting-edge topics. This year's Forum features renowned experts whose research and contributions have significantly impacted their respective fields. Their presence enriches the Forum, creating a unique space for the exchange of ideas, fostering new collaborations, and inspiring future research endeavors.

As we engage in discussions, presentations, and networking opportunities, I invite you to embrace the spirit of innovation, collaboration, and scientific excellence that defines this Forum. May this event inspire new discoveries and partnerships that contribute to transforming health and improving the quality of life.

Welcome to the 45th Annual Research and Education Forum!

A handwritten signature in blue ink, reading "Yasín Pedrogo".

Yasmín Pedrogo Rodríguez, MD, FAAP, MSc MEdL

Dean for Academic Affairs

Chair, Organizing Committee

Medical Sciences Campus, University of Puerto Rico



ORGANIZING COMMITTEE

Yasmín Pedrogo Rodríguez, MD, FAAP, MSc MEDL
Dean for Academic Affairs & Chair of the Forum
Deanship for Academic Affairs

Efraín Flores Rivera, MLS, EdD
Librarian IV
Interim Library Director
Forum Coordinator

Amariliz Burgos Santiago, MBA
Library Administrator

Carlos A. Ortiz Reyes, PhDc
Director
RCM Online Division

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Department of Anatomy & Neurobiology

Antonio H. Martins, PhD, MSc
Associate Professor
Department of Pharmacology and Toxicology

School of Dental Medicine

Milagros J. Toro Arrivillaga, DDS, MSD, PhD
Associate Professor
Surgical Sciences Department
Diagnostic Sciences Section

Augusto Elías Boneta, DMD, MSD
Professor
Assistant Dean for Research

School of Pharmacy

José O. Colón Sáez, PhD
Associate Professor
Department of Pharmaceutical Sciences

Deanship of Student Affairs

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Counselor II & Director
Student Center for Counseling and Psychology
(CECSI)

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Associate Professor
Clinical Laboratory Sciences Program

Rosa Román Oyola, PhD, MEd, OTR/L
Professor
Occupational Therapy Program

School of Nursing

Carmen Mabel Arroyo Novoa, PhD, MSN,
MSc, RN, FCCM
Professor
PhD in Nursing Program

María Celeste Larriuz Serrano, MS, MPH
Director
Center for Evidence-Based Research and
Practice (CIPBE)

Graduate School of Public Health

Ana M. Parrilla Rodríguez, MD, MPH, FABM,
IBCLC, FACCE, LCCE
Professor
Human Development Department



FORUM SCIENTIFIC PROGRAM

First Day - Wednesday, April 9, 2025

REGISTRATION

7:00 to 8:00 am

*Location: Hallway & Foyer
adjacent to the School of Medicine Amphitheaters
3rd. floor, Dr. Guillermo Arbona Building
Continental breakfast at the registration site*

INAUGURAL SESSION AND DEDICATIONS

8:00 to 9:00 am

*Location: School of Medicine Amphitheater I
3rd. floor, Dr. Guillermo Arbona Building*

Moderator:

Enid J. García Rivera, MD, MPH
Assistant Professor
Director of Endowed Health Services Research Center
Director of Office of Clinical and Community Health Research
School of Medicine, UPR – Medical Sciences Campus

Welcoming Remarks by University Academic Leaders

Miguel A. Muñoz Muñoz, PhD
University of Puerto Rico Interim President

Myrna L. Quiñones Feliciano, MD, JD
Medical Sciences Campus Chancellor

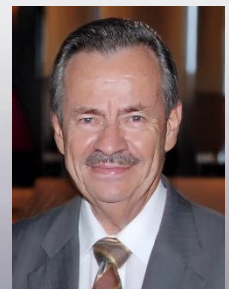
Yasmín Pedrego Rodríguez, MD, FAAP, MSc MEDL
Dean for Academic Affairs
Chair of the Forum Organizing Committee
45th. Annual Research and Education Forum

DEDICATION OF THE 45TH. ANNUAL RESEARCH AND EDUCATION FORUM



To the **School of Medicine**
of the Medical Sciences Campus on
its **75th. Anniversary.**

To **Dr. Norman I. Maldonado Simons**,
for his legacy in education and research
at the Medical Sciences Campus.





45th Annual Research and Education Forum

PLENARY SESSION – DEANSHIP FOR ACADEMIC AFFAIRS

9:00 to 10:00 am

*Location: School of Medicine Amphitheater I
3rd. floor, Dr. Guillermo Arbona Building*

From Touch to Action: Neural Circuit Mechanisms of Tactile Processing and Behavior

Keynote Speaker:

Andrew Michael Seeds, PhD

Associate Professor
Director of the Institute of Neurobiology
UPR - Medical Sciences Campus

Moderator:

Bianca A. Torres Hernández, PhD, MSc
Assistant Professor
Pharmaceutical Sciences Department
School of Pharmacy, UPR - Medical Sciences Campus

RECESS AND COFFEE BREAK

10:00 to 10:30 am

PLENARY SESSION – GRADUATE SCHOOL OF PUBLIC HEALTH

10:30 to 11:30 am

*Location: School of Medicine Amphitheater I
3rd. floor, Dr. Guillermo Arbona Building*

Essential Competencies for Public Health Teaching: A Regional Framework for the Americas

Keynote Speaker:

Lic. Gabriel Listovsky

Head of the Special Program on Virtual Campus for Public Health
Department of Health Systems and Services
Pan American Health Organization

Moderator:

Edgardo Ruiz Cora, PhD, MPH
Dean of the Graduate School of Public Health
UPR - Medical Sciences Campus

1st. POSTER SESSION

11:30 am to 1:00 pm

*Location: Dr. Ramón Emeterio Betances Student Center
See the list of posters at the end of this program.*



Second Day – Thursday, April 10, 2025

REGISTRATION

8:00 to 9:00 am

*Location: Hallway & Foyer
adjacent to the School of Medicine Amphitheaters
3rd. floor, Dr. Guillermo Arbona Building*

PLENARY SESSION – SCHOOL OF DENTAL MEDICINE

9:00 to 10:00 am

*Location: School of Medicine Amphitheater I
3rd. floor, Dr. Guillermo Arbona Building*

Community Outreach for Health Across the Lifetime: Our Path to Action Oriented Transdisciplinary Research

Keynote Speaker:

Maribel Campos Rivera, MD, MSc, MBA-HCM, FAAP, Dipl ABOM, ABLM

Professor

School of Dental Medicine, UPR – Medical Sciences Campus

Moderator:

Augusto R. Elías Boneta, DMD, MSD

Assistant Dean of Research

School of Dental Medicine, UPR - Medical Sciences Campus

RECESS AND COFFEE BREAK

10:00 to 10:30 am

PLENARY SESSION – SCHOOL OF PHARMACY

10:30 to 11:30 am

*Location: School of Medicine Amphitheater I
3rd. floor, Dr. Guillermo Arbona Building*

Bridging the Evidence Gap to Support Healthcare Decision Making: The Case for Observational Studies

Keynote Speaker:

Homero A. Monsanto, RPh, PhD

Professor (*Ad Honorem*), Department of Pharmacy Practice,

School of Pharmacy, University of Puerto Rico

Professor, International Health Specialty,

Master in Public Health Program, Ponce Health Sciences University

Moderator:

Manuel Delgado Vélez, PhD

Assistant Professor

Pharmaceutical Sciences Department

School of Pharmacy, UPR - Medical Sciences Campus



Third Day – Friday, April 11, 2025

REGISTRATION

9:30 to 10:30 am

*Location: Hallway & Foyer
adjacent to the School of Medicine Amphitheaters
3rd. floor, Dr. Guillermo Arbona Building
Continental breakfast at the registration site*

PLENARY SESSION – SCHOOL OF HEALTH PROFESSIONS

10:30 to 11:30 am

*Location: School of Medicine Amphitheater I
3rd. floor, Dr. Guillermo Arbona Building*

The Role of Research in Improving Health. Type 2 Diabetes in 2025: A Global Disease

Keynote Speaker:

Dominic Reeds, MD

Professor of Medicine

Geriatrics and Nutritional Science

Director, Barnes Jewish Nutrition Support Service

Associate Dean of Research Goldfarb School of Nursing

Washington University School of Medicine

Moderator:

Lourdes E. Soto de Laurido, EdD, MPHE

Dean

School of Health Professions

UPR - Medical Sciences Campus

3rd. POSTER SESSION

11:30 am to 1:00 pm

*Location: Dr. Ramón Emeterio Betances Student Center
See the list of posters at the end of this program.*



45th Annual Research and Education Forum

9th. ORAL CONCURRENT SESSION

1:20 to 3:00 pm

Location: A 469 (Room 3)

Graduate School of Public Health

4th. floor, Dr. Guillermo Arbona Building

Moderator:

José R. Ubieta Santiago, MIS

Librarian I

Conrado F. Asenjo Library, UPR - Medical Sciences Campus

- 049 Empowering the Next Generation of Cancer Researchers: The Cancer Prevention and Control (CAPAC) Research Training Program in Puerto Rico.** Ana P. Ortiz, PhD, MPH^{1,2}; Nadia Centeno-Alvarado, MPHE, MPH¹; Mirza Rivera-Lugo, MS³; Lizbeth Medina, MS³; Marievelisse Soto-Salgado, DrPH, MS¹. ¹University of Puerto Rico Comprehensive Cancer Center, San Juan, Puerto Rico; ²Department of Biostatistics and Epidemiology, Graduate School of Public Health, University of Puerto Rico, Medical Sciences Campus, San Juan, Puerto Rico; ³Center for Evaluation and Sociomedical Research, Graduate School of Public Health, University of Puerto Rico, Medical Sciences Campus, San Juan, Puerto Rico.
- 050 Advancing Health Research Through Library-Led Training: The *All of Us* Researcher Workbench Initiative at the University of Puerto Rico Medical Sciences Campus.** Efraín Flores Rivera¹, Charles W. Seguí Caballero¹, Abiel Roche Lima², Joshua S. Meléndez Berríos², José R. Ubieta Santiago¹, Danilly Ramos Llera¹, Pedro A. Del Valle López¹, Rossana Barrios Llorens¹, Teresa Meléndez Ayala¹, Arlene Cruz Zayas¹, María Santiago Hernández¹. ¹Conrado F. Asenjo Library, Medical Sciences Campus, University of Puerto Rico; ²RCMI Program, Medical Sciences Campus, University of Puerto Rico.
- 051 The Research Education Program on Microbes, Infections, and Cancer (REPMIC): Mentoring the Next Generation of Cancer Researchers.** Ana P. Ortiz^{1,2}, Tanialy Rivera-Santiago¹, Lizbeth Medina³, Marievelisse Soto-Salgado¹. ¹University of Puerto Rico, Comprehensive Cancer Center, Division of Cancer Control and Population Sciences, San Juan, Puerto Rico; ²University of Puerto Rico Medical Sciences Campus, Graduate School of Public Health, Department of Biostatistics and Epidemiology; ³University of Puerto Rico Medical Sciences Campus, Graduate School of Public Health, Center for Evaluation and Sociomedical Research.
- 052 Innovación y Educación a Distancia: Experiencia en el Fortalecimiento de Programas Académicos a Distancia.** Luis E. Estremera De Jesús¹, Ivelisse García Meléndez², Ana Parrilla Rodríguez². ¹Universidad de Puerto Rico, Recinto de Ciencias Médicas, Decanato de Asuntos Académicos; ²Universidad de Puerto Rico, Recinto de Ciencias Médicas, Escuela Graduada de Salud Pública.
- 053 Video Games and Blood Pressure: Exploring Variations Before and After Play.** Pablo J. Agrait-Marrota¹; Lorenzo A. Torres-Figueroa¹; Angélica S. Sueiro-Colón¹; Emmanuel J. Rivera-Cuevas¹; Nuria I. Díaz-Fischbach¹; Julián A. Aponte¹; Valeria Rodríguez, BA¹; Alanis Maldonado, BS¹; Andrea P. Torres, BA^{1,2}; Alondra G. García, BA¹; Alejandro Villegas¹; Ismael Castillo-Reyes, PhD¹; Yamil O. Ortiz, PhD^{1,2}. ¹University of Puerto Rico, Río Piedras Campus; ²Centro de Investigaciones Sociales.



ACKNOWLEDGMENT AND GRATITUDE TO OUR ESTEEMED EVALUATORS

We sincerely thank the esteemed professors and researchers from the University of Puerto Rico (UPR) Medical Sciences Campus, other UPR campuses, private universities in Puerto Rico and abroad, and research centers for their invaluable collaboration in evaluating the 300 abstracts submitted for the 45th Annual Research and Education Forum.

Your expertise, dedication, and comprehensive insights have been instrumental in maintaining this forum's highest academic and scientific excellence standards. The diversity of your academic backgrounds and the depth of your knowledge have contributed significantly to a rich, multidisciplinary discourse essential for fostering innovation and advancing research in our communities and beyond.

This collaboration underscores the unity and strength of our academic and scientific communities and highlights your crucial role in shaping the future of research and education. Your contributions have made a significant impact, ensuring the success of this prestigious event.

We are profoundly thankful for your commitment and look forward to the continued advancements your efforts will inspire.

School of Medicine

Dr. Abel Baerga Ortiz
Dr. Adelfa E. Serrano Brizuela
Dr. Aida L. Quintero Noriega
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Dr. Anabel Puig Ramos
Dr. Annabell C. Segarra Marrero
Dr. Antonio H. Martins Baccin
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Dr. Bruno Marie
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Dr. Nelson Escobales Alicea
Dr. Nilka De Jesús González
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Dr. Pablo E. Vivas Mejía
Dr. Pedro D. Gil De Rubio Cruz
Dr. Rafael Rodríguez Mercado
Dr. Ricardo R. González Méndez
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Dr. Stephanie Dorta Estremera
Dr. Suranganie Dharmawardhane
Dr. Susan C. Corey Best
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Dr. Valerie Wojna
Dr. Walter R. Frontera Roura
Dr. Walter I. Silva Ortiz
Dr. Yailis Medina González
Dr. Yancy Ferrer Acosta
Dr. Yasmín Pedrego Rodríguez
Dr. Yisel M. Cantres Rosario



45th Annual Research and Education Forum

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Dr. Ivelisse Rivera Rodríguez

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Dr. José L. Bonilla García
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Prof. María C. Larriuz Serrano

Dr. Marta N. Almenas Hernández
Dr. Milagros I. Figueroa Ramos
Dr. Noemy Díaz Ramos

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Dr. Cornelis P. Vlaar Stoop
Dr. Eliud Hernández O'Farrill

Dr. Frances M. Rodríguez Cintrón
Dr. Jonathan Hernández Agosto
Dr. José O. Colón Sáez

Dr. Joseph Bloom Oquendo
Dr. Magaly Martínez Ferrer
Prof. Rafael García Berdecía



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Dr. Andrew Michael Seeds
Prof. Carlos A. Ortiz Reyes
Dr. Efraín Flores Rivera

Dr. Ligia M. Chávez Rodríguez
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University of Puerto Rico at Ponce

Dr. Cynthia Rivera de Hartzog

University of Puerto Rico, Medical Sciences Campus



**Advancing Knowledge,
Transforming Health**