OMB No. 0925-0001 and 0925-0002 (Rev. 09/17 Approved Through 03/31/2020)

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.  
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Emma Fernández-Repollet

eRA COMMONS USER NAME (credential, e.g., agency login): efernandez

POSITION TITLE: Professor Pharmacology, Director Center for Collaborative Research in Health Disparities

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

| INSTITUTION AND LOCATION | DEGREE  (if applicable) | Completion Date  MM/YYYY | FIELD OF STUDY |
| --- | --- | --- | --- |
| University of Puerto Rico, San Juan, Puerto Rico | B.S. | June 1972 | Biology |
| UPR, San Juan, Puerto Rico | M.S. | June 1977 | Physiology |
| UPR, San Juan, Puerto Rico | Ph.D. | June 1979 | Physiology |
| Duke University, North Carolina, USA | Post-Doc | Aug1979- Jul 1980 | Renal Morphology |
| University of North Carolina, Chapel Hill, NC, USA | Post-Doc | Aug 1980-Jul 1982 | Renal Micropuncture |

# A. Personal Statement

The goal of the “*Yale U.-U. of Puerto Rico Center for AIDS Research”* is toenhance collaborative HIV research at all levels between Yale University and University of Puerto Rico. I believe that my research administration experience of nearly 30 years, focused on developing research programs and infrastructure at the institutional level, qualifies me for the responsibilities associated will contribute to achieving this goal. I was involved in the development of the first Research Centers in Minority Institutions (RCMI) program at the University of Puerto Rico Medical Sciences Campus (UPR-MSC) and have acted as program director and then principal investigator since its inception in 1986. In 1989, a strong HIV-related research component was added to the program. Support to HIV-related projects has continued until the present time. I also served as Vice President for Research and Technology at the University of Puerto Rico System for seven years. In this role, I was responsible for oversight and development of research for the UPR, including pre-award management of grants and contracts; research policies and procedures (including federal compliance areas); the UPR Centennial Fund Initiative, a government-funded program designed to support the development of research infrastructure, the recruitment of competitive investigators; the conceptualization of a technology transfer unit; and oversight of research centers and institutes across the eleven campuses. As RCMI-CCRHD PI, I oversee the Investigator Development Core and the Career Enhancement Activities, key elements of our mentoring program for early-stage investigators. I currently mentor faculty as well as graduate and undergraduate students and participate in the development of policies and practices on campus that facilitate research and development efforts. Student mentoring activities are conducted through the Biomedical Education Research Program that I founded in 2003 and the BioMedical Innovation Laboratory established in 2016. For these efforts, I was recognized as 2017 Distinguished Puerto Rican Women in STEM. I am also a member of the Consortium Work Group of the Eastern Caribbean Health Outcomes Research Network (ECHORN) and the Yale Transdisciplinary Collaborative Center for Health Disparities (Yale-TCC), addressing non-communicable diseases in the Caribbean and among Caribbean-descent individuals. I have participated on a number of review groups and advisory committees of the National Institutes of Health, in which evaluation criteria focused on career development, mentoring and institutional research environment for new investigators. During 2009-2011, I served as a member of the National Advisory Council for Research Resources, NIH and as a member of the Board of Directors of the Puerto Rico Science, Technology and Research Trust. Currently, I am a member of the RCMI Advisory Committees at Meharry Medical College (chair), Florida International University and the University of Hawaii in Manoa; President of the RCMI PI/PD Association; Secretary of the Board of Directors of the Center for Quantitative Cytometry, a non-for-profit organization based in North Carolina; member of the AUTM Eastern Region Meeting Committee, and member of the Puerto Rico EPSCoR Steering Committee.I am firmly committed to assist with the *Development for a Center for AIDS Research (DCFAR)* and have confidence that my experience in program administration, research development, and faculty mentorship will help me in identifying and recruiting investigators and collaborators who can actively participate in the HIV research activities to be developed by Yale University and University of Puerto Rico Medical Sciences Campus.

Relevant Publications:

1. **Fernández-Repollet,** E, C Locatis, De Jesus-Monge W, Maisiak R and Wei-Li Liu, Effects of Summer Internship and Follow-up Distance Mentoring Programs on Middle and High School Student Perceptions and Interest in Health Careers. BMC Medical Education (2018) 18:84, PMID29716582
2. **Fernández-Repollet** E, Yanagihara R, et.al. The Research Centers in Minority Institutions (RCMI) Translational Research Network: Building and Sustaining Capacity for Multi-Site Basic Biomedical, Clinical and Behavioral Research.Ofili EO, Tchounwou PB, Ethn Dis. 2019 Feb 21;29(Suppl 1):135-144, 2019. PMID: 30906162.
3. **Ofili EO, Fernández-Repollet E, et.al.** The Association of Black Cardiologists (ABC) Cardiovascular Implementation Study (CVIS): A Research Registry Integrating Social Determinants to Support Care for Underserved Patients. Int. J. Environ. Res. Public Health 2019, 16, 1631; doi:10.3390/ijerph16091631

**B. Positions and Honors**

**Positions and Employment**

1982‑1986 Assistant Professor, Dept. of Pharmacology, UPR, School of Medicine, MSC, San Juan, PR

1982‑1988 Chief, Micropuncture Laboratory, Renal Metabolic Laboratory, VA Center, San Juan, PR

1986‑1993 Associate Professor, Dept. of Pharmacology, UPR, School of Medicine, MSC, San Juan, PR

1986‑1993 Associate Director, RCMI Program, UPR, School of Medicine, MSC, San Juan, PR

1993‑Present Professor of Pharmacology, UPR, School of Medicine, MSC, San Juan, Puerto Rico

1993‑2011 Director, RCMI Program, UPR, School of Medicine, MSC, San Juan, Puerto Rico

2003-2009 Vice President for Research and Technology, University of Puerto Rico System

2011‑Present Director and Principal Investigator, Center for Collaborative Research in Health Disparities (RCMI Program), University of Puerto Rico, School of Medicine, MSC, San Juan, Puerto Rico

**Other Experience and Service**

* 1. Editorial Board, PR Health Sciences Journal

1989-present Editorial Board, Renal Failure

2000-present Board of Directors, Center for Quantitative Cytometry

* 1. Board of Directors, Diabetes Center for Research, Education and Medical Services

2003-present Board of Directors, INDUNIV (Vice President 2003-2009)

2003-present Puerto Rico EPSCoR State Steering Committee

2003 Participant, NCRR Strategic Forum, NCRR-NIH

2003-2006 Special Emphasis Panel Science Education Partnership Award (SEPA), Chair, 2006

2004-2009 Board of Directors, Puerto Rico Trust for Science, Technology and Research

2006 Reviewer, Special Emphasis Panel T32 Training Program, NIDCD-NIH

2007 Participant, NCRR Strategic Forum, NCRR-NIH

2008 Reviewer, Special Emphasis Panel T32 Training Program, NIDCD-NIH

2010-2011 Member, National Advisory Council for Research Resources

2010-2012 President, Puerto Rico Health Care Council

2014 Chair, RCMI Translational Research Network (RTRN) Steering Committee

2014 Co-chair, RCMI External Advisory Committee Hunter College

2015 Member, Committee Eastern Region, AUTM

2015 Member, RCMI External Advisory Committee Meharry Medical School

2015 Reviewer, CTSA Collaborative Innovation Award Application (U01) Special Emphasis Panel

2016 Member, Innovative Programs to Enhance Research Training (IPERT) Advisory Committee, University of Puerto Rico Cayey

2016 Member, *Biomedical/Biobehavioral Research Administration Development* BRAD Steering Committee (BRAD), University of Puerto Rico Cayey

2016 Member, Advisory NRMN Committee Research Resources and Outreach Division

2016 UPR-MSC Representative to The Leadership Alliance

2017 Member, Advisory Committee BUILD/NRMN Coordinating and Evaluation Center

2017 Member, ECHORN Consortium Group, Yale University TTC

2018 Institutional Site Lead,

**Honors**

1992 Young Science Investigator Award, PR Academy of Sciences

2007 Distinguished Ex-Alumni, Graduate School of Biomedical Sciences, UPR-MSC

2008 RCMI Greenwood Award for Research Service

**2014 RCMI Program Directors Appreciation Award**

**2017 Distinguished Puerto Rican Women in STEM Award**

**C. Contributions to Science**

1. **My early publications, as a doctoral student, provided relevant information in the areas of renal hemodynamics and water balance. These studies, conducted in rats with diabetes insipidus (Brattleboro rat model), focused on the hypokalemia associated with this condition and its effects on the renin-angiotensin system. Our findings demonstrated that the hypokalemia reported in rats with diabetes insipidus was a reversible condition resulting from an inappropriately high urinary excretion which did not involve changes in plasma renin concentration. The articles contributed to the characterization of the diabetes insipidus rat model.** 
   1. Fernández-Repollet E, Opava-Stitzer S, Rodríguez-Sargent C, Cangiano JL, Martínez-Maldonado M. Exaggerated Natriuretic Response of DI Rats to Acute and Chronic Extracellular Volume Expansion. Ann. N.Y. Acad. Sci. 394:219-230, 1982.
2. Fernández-Repollet E, Opava-Stitzer, S. Effects of Potassium and ADH on Plasma Renin Concentration in Diabetes Insipidus (DI) Rats. Ann. N.Y. Acad. Sci. 394:254-259, 1982.
3. **An important aspect of my scientific work, during my postdoctoral studies, focused on renal structure and function during physiological and pathological conditions using** electron microscopy and micropuncture techniques. The results of the first two studies provided new information on a defect, not previously reported, caused by LiCl on transepithelial water movement beyond the apical membrane, as well as the temporary nature of the response to unilateral renal ischemia in the absence of a contralateral kidney. The third study, demonstrated that under conditions of marked sodium restriction with obvious depletion of extracellular fluid volume in unrestrained rats, the renal nerves are not essential to maintain water and salt balance. Taken together, these results contributed to a better understanding of the structures and functions that are perturbed in renal disease processes.
   1. Fernández-Repollet E, LeFurgey A, Hardy MA, and Tisher C. Structural and Functional Response of Toad Urinary Bladder to LiCl. Kid. Int. 24:719-730, 1983.
   2. Fernández-Repollet, E, Silva-Netto CR, Colindres RE, Gottschalk CW. Role of Renal Nerves in Maintaining Sodium Balance in Unrestrained Conscious Rats. Am. J. Physiol. 249:F819-826, 1985.
4. **As principal investigator and in collaboration with colleagues at the UPR Medical Sciences Campus, I extensively studied the effects of protein deprivation on renal function utilizing micropuncture techniques. These data provided the first evidence that intrarenal angiotensin II mediates the changes in intrarenal hemodynamics induced by protein deprivation, as well as initial observations on the role of angiotensin, antidiuretic hormone and** catecholamines on the renal **hemodynamic changes resulting from short-term protein deprivation. Our studies contributed to understand better the clinical manifestations of malnutrition, an underlying cause of childhood deaths.**
5. Fernández-Repollet E, Tapia E, Martínez-Maldonado M. Effects of Angiotensin Converting Enzyme Inhibition on the Altered Renal Hemodynamics Induced by Low Protein Diet in the Rat. J. Clin. Invest. 80:1045-1049, 1987.
6. Fernández-Repollet E, Opava-Stitzer S, Martínez-Maldonado M. Renal Hemodynamics and Urinary Concentrating capacity in Protein Deprivation: Role of Antidiuretic Hormone. Am. J. Med. Sci. 303: 301-307, 1992.
7. Benabe J, Fernández-Repollet E, Tapia E, Luo C, Martínez-Maldonado M. Angiotensin II and Catecholamines Interaction in Short-term Low Protein Feeding. Kid Int 44: 285-293, 1993.
8. **As senior investigator, I published extensively on the applications of flow cytometry in basic and clinical research, as well as the importance of quantifying and standardizing the data generated using this methodology. I was also a co-inventor on two patents related to novel** commercial products (i.e. Broad Spectrum Alignment Standard © and Certified Blank Bead©) that help obtain uniform and comparable flow cytometry results, independently of the instrument. **These products improved flow-cytometry applications and quantification of flow-cytometry measurements in clinical research settings both national and internationally.**
9. Schwartz A, Fernández-Repollet E. Development of Clinical Standards for Flow Cytometry. In: Clinical Flow Cytometry, Annals of the New York Academy of Sciences, 677: 28-39, 1993.
10. Schwartz, A. and E. Fernández-Repollet, Fluorescent alignment microbeads with broad excitation and emission spectra and its use. US Patent 5,073,498, 1991.
11. Schwartz, A. and E. Fernández-Repollet, Method of Use of Non-fluorescent Particles to determine Fluorescece Threshold of a Flow Cytometer Relative to the Autofluorescence of Cells. US Patent 5,089,416, 1992.
12. Schwartz A, Gaigalas AK, Wang L, Marti GE, Vogt RF, Fernández-Repollet E. Formalization of the MESF unit of fluorescence intensity.  Cytometry 57B: 1-6, 2004
13. **As a senior researcher and consultant, I collaborated with** the National Centers of Excellence in Women's Health in studies addressing women’s health in minority and underrepresented populations. These publications contributed to the development of research agendas and initiatives for Women’s Health at the UPR Medical Sciences Campus which still are in place. Specifically, the establishment of the Center of Women’s Health and the Maternal Infant Study Center which serve our Hispanic-Puerto Rican women population.

a. Killien M, Bigby JA, Champion V, Fernández-Repollet E, Jackson RD, Kagawa-Singer M, Kidd K, Naughton MJ, Prout M. Involving Minority and Underrepresented Women in Clinical Trials. J Women’s Health and Gender-based Med 9: 1061-1070, 2000.

b. Mosca L, Allen C, Fernández-Repollet, E, Kim C, Lee M, McAuley JW, McLaughlin M. Setting a Local Research Agenda for Women's Health: The National Centers of Excellence in Women's Health. J Women’s Health Gend Based Med 10: 927-935, 2001.

List of Published Work in MyBibliography:

<https://www.ncbi.nlm.nih.gov/sites/myncbi/emma.fernandez-repollet.1/collections/45046539/public/>

**D. Research Support**

Ongoing Research Support

U54 MD007600 Fernández-Repollet , E.(PI) 9/20/2017- 06/30/2022 7.2 calendar

NIH NIMHD RCMI Grant

Center for Collaborative Research in Minority Health and Health Disparities

The goal of the Center for Collaborative Resarch in Minority Health and Health Disparities at the University of Puerto Rico Medical Sciences Campus is to contribute to the national infrastructure and the capacity for research in the health sciences by supporting basic, behavioral and clinical studies in health disparities that affect the Puerto Rican population.

Role: Principal Investigator

U54 MD008149 Ofili, E. (PI) 07/01/2016 – 12/31/2019 1.2 Calendar

NIH NIMHD

RCMI Translational Research Network (RTRN)

The RCMI Translational Research Network (RTRN) is a consortium comprising of 1) basic, clinical and translational investigators from the RCMI institutions, and 2) investigators from non-RCMI academic health centers, community organizations, and other relevant organizations which are linked via a robust information technology infrastructure. RTRN enables these institutions to pool their resources and expertise to conduct high-quality, collaborative, multi-center clinical and translational research resulting in an increase in the productivity and impact of each of the individual centers, with the ultimate goal of fostering improved health outcomes and eliminating racial and ethnic disparities in health.

Role: Steering Committee, Chair

R21 MD-013666Joshipura, K. (PI) 09/01/2018 – 08/31/2019 0.36 Calendar

NIMHD-Health and Resilience after Hurricanes

Changes in Risk for Non-communicable Disease, and Resilience, after Hurricanes Irma and Maria

The proposed study will provide critical information that could strengthen expertise, resiliency and preparedness prior to, during and after the occurrence of major natural disasters. The detrimental impact of Irma and Maria hurricanes on non-communicable diseases in the Puerto Rican population and the associated risks and outcomes, are the focus of this proposal.

Role: Co-Investigator

UT2 GM130174 Willmot, J. (PI) 09/01/2018 – 03/31/2020 0.12 Calendar

NIH NIGMS Regional Technology Transfer Accelerator Hubs for IDeA States

Southeast XLerator Network

This project addresses significant disparities and lack of access to resources, talent and capital in respective local commercialization ecosystems for biomedical technologies that are pervasive across the Southeast IDeA state region, making the rates of technology transfer and commercialization of academic research discoveries in this region suboptimal.

Role: Site Lead, UPR Medical Sciences Campus