

BIOGRAPHICAL SKETCH

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

<p style="text-align: center;">NAME</p> Velez, Lopez, Omar	<p style="text-align: center;">POSITION TITLE</p> Graduate Student , PhD		
<p>eRA COMMONS USER NAME (credential, e.g., agency login)</p> ovelezlopez			
<i>EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	MM/YY	FIELD OF STUDY
University of Puerto Rico, Ponce Campus, Ponce, Puerto Rico	BS	8/2011	Biology-Biotechnology (3.92-Magna Cum Laude)
University of Puerto Rico ,Medical Sciences, San Juan, Puerto Rico	PhD	8/2013-present	Microbiology

A. Personal Statement

I have been in the field of the NeuroAIDS research for almost a year now. Since then, my laboratory has contributed to the understanding of the perivascular macrophages secreted protein cathepsin B to the relation of neuronal apoptosis. My undergraduate research experience as well as my job as technician and quality controller within the academia related industry had given me the insight to continue my doctoral and further post-doctoral studies. My preliminary works had reflected the importance of the understanding of the HIV-infected macrophages and its importance with drug abuse in the exacerbation of neurocognitive disorders especially with macrophages cathepsin B. My preliminary data is promising due to the study of a sigma-1 antagonist that had been seen to potentially reduce HIV replication, cocaine conditioned place preference in mice and if our experiments are successful, cathepsin B secretion when administered prior to cocaine in vitro and in HIVE mice model. This could serve not only as good HAND (HIV related neurocognitive) markers but as well as a defining mechanism for cocaine mediated secretion of cathepsin B. This abstract is our first demonstration of those markers in human post-mortem brains which could lead us to understanding of those markers in patients under cocaine use and mild cognitive impairments. This study will be extended to our cohorts in the university. For this study, we are requesting an R01 submission in May 2015, as well as this project will be presented in upcoming forums nationally (Puerto Rico) and within the United States. This work is made in collaboration with Dr. Shilpa Buch and Dr. Santhi Gorantla of the University of Nebraska. I am a deeply committed person and future scientist in my area.

B. Positions and Honors

Positions and Employment

2015-Travel Award Awarded-University of Nebraska Medical Center, Dr. Santhi Gorantla Lab
2014-Teaching Assistant, Dental Medicine Student, Class of 2017
2013-present-Graduate PhD student, Microbiology and NeuroAIDS
2011-2013-Laboratory Technician and Quality Assurer- CEIBA Biotechnology Center, Ponce , Puerto Rico
2010-2011- Laboratory Technician Qiyi Tang, Ponce School of Medicine, Ponce, Puerto Rico
2010-2011- Laboratory Technician Agricultural Station, Mayaguez Campus, Mayaguez, Puerto Rico
2009- REU student Awarded and Excellence in Poster Session, George Washington University, Washington D.C.
2008-2009- University of Puerto Rico Ponce Campus, Excellence in Poster Presentation

Other Experience, Professional Memberships, and Federal Government Advisory Committees

2014-present-Society of Neuro Immune Pharmacology Student Member

2014-present- "Recinto Pa'La Calle" "Rondero"

2013-present-American Microbiology Society Active Member (ASM)

2013-present-Puerto Rican Microbiology Society Active Member

2013-present-Microbiology Student Chapter and Biomedical Sciences Member-Medical Sciences Campus

2009- NSF Student REU Awardee Program Member

Presentations (Poster and Oral)

2015-Graduate Seminar "*Antibody Gene Transfer for HIV Immunoprophylaxis*", Medical Sciences Campus, San Juan, Puerto Rico

2015- Poster Presentation- Annual Research Forum Medical Sciences Campus, San Juan, Puerto Rico

2014-Poster Presentation-Latin American Drug Addiction Meeting (LARNEDA), San Juan, Puerto Rico, Capitol Building "*HIV and Cocaine Interplay in Sigma-1 and NOX4 Expression in Post-Mortem Human Brains*"

2010- Oral Presentation "Annual Forum in Creation and Biomedical Research", UPR-Ponce, Ponce, Puerto Rico

2009- Oral Presentation in National Cancer Research Institutes, Frederick, Maryland, USA, "Do Can-SINES are biological markers of members of *Pholidota spp.*"

2009- Poster Presentation Research Experience for Undergraduates (REU) University of George Washington, USA

Honors

2015– Medical Biosciences Travel Award for research in Nebraska Medical Center

2009-NSF REU Fellowship, George Washington University and Georgetown University

2009-NSF Travel Award, National Science Foundation

2009-Excellence in Poster Presentation, Poster Sessions, George Washington University

2009-Excellence in Poster Presentation University of Puerto Rico, Ponce Campus

2006-Finalist "*Premios El Nuevo Día Educador*", Arts Category

Selected peer-reviewed publications most relevant for the current application

1. Special thanks in regard to research assistance on published paper Walters-Conte, K. B., Johnson, D. L., Johnson, W. E., Stephen, J. O., & Pecon-Slattery, J. (2014). The dynamic proliferation of CanSINEs mirrors the complex evolution of Feliforms. *BMC evolutionary biology*, 14(1), 137.

OUTREACH EXPERIENCE and/or COMMUNITY SERVICE

October 6, 2015- Staff of Biomedical Open House Medical Sciences Campus

December 5, 2014– Open House collaborator to the Health Effort for High school Students

2014-Open House Biomedical Sciences collaborator

February 19, 2014-CIMATEC outreach experience

2014- Recinto Pa' La Calle member

February 8, 2014- Fundraiser artist ASM

December 17, 2013-Christmas presents giving to Pediatric Hospital children

EXTRACURRICULAR ACTIVITIES

Community Service

Universitarios Pro-ambiente y Biodiversidad (UPABI), UPR-Ponce

Agriculture Seminars to kids (PuertoReal)

Poetry Writer : "*El Sur visita al Sur*" and illustrator of books.

Feverish artist painter of watercolor and acrylic

Feverish piano, flute and violin player
