

Maria E. Velez-Hernandez, Ph.D.

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EDUCATION

PhD in Physiology	Summa Cum Laude, May 2012 University of Puerto Rico, MSC
Bachelor of Science in Biology	Magna Cum Laude, May 2001 University of Puerto Rico, Mayaguez

EMPLOYMENT HISTORY

Assistant Professor in Biology, 2015-present	Texas A&M University- Kingsville, TX
Assistant Professor in Biology, 2014-present	U. of Houston-Victoria, TX
Adjunct Faculty in Biology, 2013-2014	City University of New York- BMCC
Medical School Pharmacology Lecturer, Fall 2013	State University of New York DMC
Post-doctoral Associate, 2012-2014	State University of New York DMC
Dental and Medical School Tutor, 2009-2011	University of Puerto Rico, MSC
Medical School Teacher Assistant, 2007-2011	University of Puerto Rico, MSC

LIST OF COURSES TAUGHT

General Biology I (Honors Lecture)	Texas A & M University-Kingsville
Systems Neurobiology (Masters)	Texas A & M University- Kingsville
Functional Neuroanatomy (Lecture and Lab)	Texas A & M University- Kingsville
Understanding Human Physiology (Service Learning)	Texas A & M University- Kingsville
General Biology I	University of Houston-Victoria
Human Physiology (Lecture and Lab)	University of Houston-Victoria
Human Physiology (Lecture and Lab)	City University of New York- BMCC
General Biology I (Lecture and Lab)	City University of New York- BMCC
Dental and medical Physiology (tutor)	University of Puerto Rico, MSC
Medical Physiology (teaching assistant)	University of Puerto Rico, MSC

PUBLICATIONS

Refereed journal articles

- Vaquer-Alicea, Ana; Vázquez-Torres, Rafael; Devarie-Hornedo, Marcos; Santos-Vera, Bermery; María-Ríos, Cristina; Montiel-Ramos, Alan; **Vélez-Hernández, Maria E.** Sacktor, Todd and Jiménez-Rivera, Carlos A. *LTP in the VTA participates in the neuroadaptive signal necessary to induce NAc synaptic plasticity after cocaine administration*. Submitted to Brain Structure and Function. December 2016
- **M. E. Vélez-Hernández**, E. Padilla, F. Gonzalez-Lima, C.A. Jiménez-Rivera, *Cocaine reduces cytochrome oxidase activity in the prefrontal cortex and modifies its functional connectivity with brainstem nuclei*. Brain Research. January 2014
- **M. E. Vélez-Hernández**, Rafael Vázquez-Torres, Maria C. Velasquez-Martinez, Lincoln Jiménez, Frankie Báez, Todd C. Sacktor and Carlos A. Jiménez-Rivera: *Inhibition of Protein kinase Mzeta (PKM ζ) in the mesolimbic system alters cocaine sensitization in rats*. Journal of Drug and Alcohol Research. July 2013.
- Bermery Santos-Vera, Rafael Vázquez-Torres, Hermes G. García-Marrero, Juan M. Ramos-Acevedo, Francisco Arencibia-Albite, **María E. Vélez-Hernandez**, Jorge D. Miranda and Carlos A. Jiménez-Rivera. *Cocaine sensitization increases Ih current channel subunit 2 (HCN2) protein expression in structures of the Mesocorticolimbic System*. Journal of Molecular Neuroscience. May 2013.
- Carlos A. Jiménez-Rivera, Johnny Figueroa, Rafael Vázquez, María E. Vélez-Hernandez, David Schwarz, Francisco Arencibia and María C. Velázquez. *Presynaptic Inhibition of Glutamate Transmission by Alpha-2 Receptors in the VTA*. European Journal of Neurosciences, January 2012.
- Mikhail Inyushin, Francisco Arencibia-Albite, Rafael Vazquez- Torres, **María E. Vélez-Hernández**, Carlos A. Jimenez-Rivera. *Alpha-2 noradrenergic receptor activation inhibits the hyperpolarization-activated cation current (Ih) in neurons of the ventral tegmental area*. Neuroscience. January 2010.

Refereed abstracts

- Feyisayo Edalere, Eric Palacios, Rudolf Bohm, **Maria E. Velez-Hernandez**. *Study of behavioral defects in Drosophila melanogaster through courtship*. 2016 Javelina Research Symposium and Texas A & M Pathways Research Symposium 2016. *Second place winner*.
- Srikanth Reddy Guntaka*, Eric Cardona, Feyisayo Edalere, Eric Palacios, Shruthi Chempati, Rudolf Bohm, **Maria E. Velez-Hernandez**. *Memory analysis of Drosophila melanogaster through courtship suppression assay*. Texas A & M Pathways Research Symposium 2016.
- A. Vaquer- Alicea, R. Vazquez-Torres, B. Santos- Vera, C. Maria-Rios, A. Montiel- Reamos, M. Devarie, **M.E. Velez-Hernandez**, T.C. Sacktor, C.A. Jimenez-Rivera. *Effects of PKM ζ inhibitor (ZIP) on the initiation and expression of cocaine sensitization* Society for Neurosciences Meeting, 2015.

- M. C. Velasquez-Martinez, **M.E. Vélez-Hernández**, B. Santos-Vera, A. Vaquer-Alicea, R. Vazquez-Torres, C.A. Jimenez-Rivera, *Alpha-1 adrenergic receptor modulation of ventral tegmental area dopamine neurons: role in cocaine sensitization*. Society for Neuroscience Meeting, 2014
- **M. E. Vélez-Hernández**, R. Vázquez-Torres, M.C. Velázquez-Martínez, J.R. Nieves-Meléndez, N.G. Sánchez- Díaz, GJ. Quirk, TC. Sacktor, C.A. Jiménez –Rivera *Protein kinase Mzeta inhibitor (ZIP) alters cocaine sensitization initiation and expression and decreases AMPA/NMDA ratio in VTA DA*. Society for Neurosciences Meeting, 2011.
- **M. E. Vélez-Hernández**, R. Vázquez-Torres, M.C. Velázquez-Martínez, J.R. Nieves-Meléndez, N.G. Sánchez- Díaz, TC. Sacktor, C.A. Jiménez-Rivera *Protein kinase Mzeta inhibitor (ZIP) erases addiction memories*. 2011 IBRO World Conference, 2011
- **M. E. Vélez-Hernández**, R. Vázquez-Torres, M.C. Velázquez-Martínez, TC. Sacktor, C.A. Jiménez- Rivera. *Protein kinase Mzeta inhibitor (ZIP) alters cocaine sensitization initiation and expression and decreases VTA AMPA/NMDA ratio*. University of Texas Austin Conference on Learning and Memory, 2011
- **M. E. Vélez-Hernández**, R. Vázquez-Torres, M.C. Velázquez-Martínez, J.R. Nieves-Meléndez, N.G. Sánchez- Díaz, GJ. Quirk, TC. Sacktor, C.A. Jiménez –Rivera. *Protein kinase Mzeta inhibitor (ZIP) alters cocaine sensitization and decreases VTA AMPA mediated currents*. Society for Neurosciences Meeting, 2010

Non refereed abstract

- Vaquer-Alicea, A., Vazquez-Torres, R.; Santos-Vera, B., María-Ríos, C, Montiel-Ramos, A., Quiñones, H, **Velez-Hernández, M**, Sacktor, T and Jiménez-Rivera, C. *PKC δ expression in the Ventral Tegmental Area, Nucleus Accumbens, Prefrontal Cortex, and Hippocampus of cocaine sensitized rats*. Molecular and Cellular Cognition Society Meeting, 2014.

PRESENTATIONS

State

- *Protein kinase Mzeta (PKM ζ) role in cocaine sensitization*, University of Houston-Victoria TX, USA. March 2014
- *Inhibition of protein kinase Mzeta (PKM ζ) in the mesolimbic system alters cocaine sensitization*, Behavior, Biology and Chemistry, Translational Research in Addiction Conference, San Antonio TX. March 2012

National

- *LTP and Drug Addiction*. Molecular Cellular Cognition Society Annual Meeting, University of Puerto Rico Rio Piedras Campus. May 2009
- *LTP and Drug Addiction*. Universidad Central de Bayamon Annual Retreat. June 2009

RESEARCH AND CREATIVE ACTIVITIES

Funded Grants

- Role of PKM on *Drosophila melanogaster* courtship behavior
 Source of Support: Texas Council Undergraduate Research Grant
 Principal Investigator: Dr. Maria E. Velez
 Budget: \$5,000
 Time Period: 7 months (Jan 2016- August 2016)

- Understanding Human Physiology
 Source of Support: Service Learning Grant- Texas A & M University-Kingsville
 Principal Investigator: Dr. Maria E. Velez
 Budget: \$7,000
 Time period: 1 year (Sep 2016-July 2017)

Students trained

Undergraduate	Graduate
Cecilia Garza	Shruthi Chempati
Eric Cardona	Srikanth Reddy Guntaka
Lahra Cannon	
Feyisayo Edalere	
Amanda Gonzalez	

PROFESSIONAL GROWTH ACTIVITIES

Memberships

- Society for Neurosciences (2006-present)
- International Drug Abuse Research Society (2010-present)
- American Physiological Society (2008-present)
- TAMUK Graduate Faculty (2016-present)

Meetings

- Society for Neuroscience Meeting poster presenter. October 2015. Chicago II
 Description: Presentation of the work titled “PKCi/λ expression in the Ventral Tegmental Area, Nucleus Accumbens, Prefrontal Cortex, and Hippocampus of cocaine sensitized rats”. This work is in collaboration with Dr. Carlos A Jimenez from University of Puerto Rico Medical Science

- ABRCMS 2015 Judge, Seattle WA
 Description: During the Annual Biomedical Research Conference for Minority Students (ABRCMS), I served as a judge evaluating 15 research projects performed by undergraduate students in universities across the US.

SERVICE ACTIVITIES

- Physiology Understanding (PhUn) Week 2016.
- Member of the Biomedical Research committee at TAMUK , 2015-present
- Judge at the Annual Biomedical Research Conference for Minority Students ABRCMS Meeting in November 2015
- Judge at the 7th Annual Javelina Research Symposium 2016

HONORS AND AWARDS

- “Student organization advisor of the year 2014-2015”-University of Houston-Victoria
- “Top 5” Posters Winner University of Texas Learning and Memory Conference, 2011, University of Texas at Austin. *Inhibition of Protein kinase Mzeta (PKM ζ) in the mesolimbic system alters cocaine sensitization in rats.*
- Award for Investigation Excellence, Physiology Department, 2009. University of Puerto Rico, School of Medicine.
- Leadership Award, Physiology Department, 2009. University of Puerto Rico, School of Medicine
- Dean’s Award for Outstanding Student in Physiology, 2007 and 2008. University of Puerto Rico, School of Medicine
- MBRS-RISE Pre-doctoral Fellow, 2006-2011 University of Puerto Rico, School of Medicine

Travel Awards

- ABRCMS Judge Travel Award, ABRCMS Meeting 2015
Location: Seattle, WA
Sponsor: ABRCMS
- SPINES Travel Award to attend SPINES and Society for Neurosciences 2015 Meetings
Location: Chicago II
Sponsor: SPINES
- Behavior, Biology and Chemistry: Translational Research in Addiction, 2012-13
Location: San Antonio, TX
Sponsor: University of Texas Health Science Center
- IBRO Society for Neuroscience, 2011
Location: Florence, Italy
Sponsor: International Brain Research Organization (IBRO)