

**JANICE MARIE DIAZ-OTERO**

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**Education**

Michigan State University East Lansing, MI	Ph.D. Department of Pharmacology and Toxicology August 2013- December 2018
University of Puerto Rico Cayey, PR	B.Sc. Biological Sciences, graduated magna cum laude August 2008-May 2012
Michigan State University East Lansing, MI	Lifelong student, Bridge to Ph.D. in Neuroscience Program August 2011- December 2011

**Employment**

April 2019-present	Medical Science Liaison-Cardiovascular and Metabolism, Janssen Pharmaceuticals, Guaynabo, PR
January- April 2019	Post-doctoral Researcher, Michigan State University, East Lansing, MI
July 2012-April 2013	Intraoperative Neurophysiologic Technician, Bromedicon INC, Yardley PA/ San Juan, PR

**Professional Training**

Spring 2017	Collaborator Pre-Clinical Trial sponsored by Takeda Pharmaceuticals, Michigan State University, East Lansing, MI
Fall 2016	Intern, Office of Regulatory Affairs in Research, Michigan State University, East Lansing, MI
2014-2018	NIH Broadening Experiences in Scientific Training Program, Michigan State University, East Lansing, MI
March 2012	Amgen Biotalents Program, Training in Biotechnology Manufacturing, University of Puerto Rico/ Amgen, Juncos, PR

**Research Experience**

**Post-Graduate Research**

January- April 2019	Department of Pharmacology and Toxicology, Michigan State University: Parenchymal Arteriole Reactivity in a Hypertensive-Alzheimer's Disease Rat Model. Dr. Anne M. Dorrance
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**Graduate Research**

**Ph.D. Projects, Department of Pharmacology and Toxicology, Michigan State University**

April 2014-December 2018	Thesis project: Endothelial Mineralocorticoid Receptors in Cerebrovascular and Cognitive Function in Angiotensin II-hypertension. Non-thesis projects:
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1. Ischemia/Reperfusion Injury Causes Outward Remodeling of the Middle Cerebral Artery in Normotensive Rats.
2. The Effects of Mineralocorticoid Receptor Blockade on Cerebral Arteries Post-stroke.
3. Aging is Associated with Changes in the Biomechanical Properties of the Posterior Cerebral Artery and Parenchymal Arterioles.
4. The Role of TRPV4 channels in Parenchymal Arteriole Vasodilation and Cognitive Function.
5. Mineralocorticoid Receptors in TRPV4-mediated Dilation of Parenchymal Arterioles in a Genetic Model of Essential Hypertension.

### **Rotation Projects**

Jan 2014-April 2014

Department of Pharmacology and Toxicology, Michigan State University: Control of Resistance Artery Tone by Sympathetic Nerves. Dr. William F. Jackson

Nov 2013-Jan 2014

Department of Pharmacology and Toxicology, Michigan State University: Cerebral Reactivity in Stroke-Prone Spontaneously Hypertensive Rats. Mentor: Dr. Anne M. Dorrance

Aug 2013-Nov 2013

Department of Pharmacology and Toxicology, Michigan State University: Expression of eIF2 $\alpha$ , Eukaryotic Translation Initiation Factor ATF4 in MTPT Treated Mice. Mentor: Dr. Keith Lookingland

### **Undergraduate Research**

May 2011-Dec 2011

Bridge to Ph.D. in Neuroscience Program, Michigan State University: Acute Effects of MeHg on Intracellular Calcium Regulation in Dopaminergic Cells. Dr. William D. Atchison, Department of Pharmacology and Toxicology

May 2010-Aug 2011

Bridge to Ph.D. in Neuroscience Program, Michigan State University: Effects of Synthetic Pyrethroids on Muscarinic Acetylcholine Receptor Expression in Neuronal Models of differentiation. Mentor: Dr. William D. Atchison, Department of Pharmacology and Toxicology

Aug 2009-May 2011

Interdisciplinary Research Institute, University of Puerto Rico: Chemical Profile of Medicinal Plant Extracts Used as Diabetes Adjuvants. Mentor: Dr. Jannette Gavillan-Suarez, Department of Chemistry.

### **Teaching Experience**

2016-2018 Guest Lecturer, Introduction to Chemical Toxicology, Michigan State University

2016-2017 Guest Lecturer, Biomolecular Science 800, Michigan State University

2015-2018 Guest Lecturer, Neurobiology of Disease, Michigan State University

2015-2017 Student Assistant, Pharmacology 819: Principles of Drug Interaction, Michigan State University

### **Awards and Academic Honors**

- 2019 Cardiovascular Section Research Recognition Award, American Physiological Society, Orlando, FL
- 2018 Cardiovascular Section Outstanding Trainee Award, American Physiological Society, San Diego, CA
- 2017-2018 NIH Ruth L. Kirschstein National Research Service Award, Individual Predoctoral Fellowship
- 2017-2018 American Physiological Society Minority Travel Fellowship
- 2017 Caroline tum Suden/Frances Hellebrandt Professional Opportunity Award
- 2016-2017 American Heart Association Predoctoral Fellowship
- 2016 Council of Graduate Students Conference Award, Michigan State University
- 2016 Best Student Paper Award, Department of Pharmacology and Toxicology, Michigan State University
- 2016 Oral Presentation Award at the Michigan Physiological Society Annual Meeting
- 2015 Oral Presentation Award at the SACNAS-MSU Chapter Research Symposium
- 2014-2018 Broadening Experiences in Scientific Training Program Fellow, Michigan State University
- 2014-2016 Integrative Pharmacological Science Training Program Fellow, Michigan State University
- 2012 Amgen Foundation Training Program Award
- 2011 Society of Toxicology Undergraduate Education Program Award
- 2010 Puerto Rico NASA Space Grant
- 2009-2012 Honor Roll, University of Puerto Rico

### **Service and Community Involvement**

- 2018 Co-chair session, World Congress for Microcirculation, Vancouver, Canada
- 2018 Organizing Committee Fundraiser Event, Department of Pharmacology and Toxicology, Michigan State University, East Lansing, MI
- 2017 President, Pharmacology and Toxicology Graduate Student Organization, Michigan State University, East Lansing, MI
- 2017 Reviewer, Experimental Biology and Medicine Journal
- 2016-2017 Presenter, Whitehills Elementary School Science Night, East Lansing, MI
- 2016-2017 Member, Pharmacology and Toxicology Graduate Student Program Committee, Michigan State University, East Lansing, MI
- 2016-2017 Presenter, Lansing Charter Academy Science Night, Lansing, MI
- 2016-2017 Judge, MacDonald Middle School Science Night, East Lansing, MI
- 2016 Treasurer, Pharmacology and Toxicology Graduate Student Organization, Michigan State University, East Lansing, MI
- 2016 Member, Fundraising Committee, Graduate Student Organization, Michigan State University, East Lansing, MI
- 2016 Events coordinator, SACNAS Michigan State University Chapter, East Lansing, MI
- 2016 Member, Fundraising Committee, SACNAS Michigan State University Chapter, East Lansing, MI
- 2016 Member, T32 Integrative Pharmacological Sciences Training Fellowship Student Steering Committee, Michigan State University, East Lansing, MI

- 2015-2018 Member, Student Invited Seminar Committee, Michigan State University, East Lansing MI
- 2015-2016 Presenter, Middle School Girls in Math and Science Day, Michigan State University, East Lansing, MI
- 2015-2016 Chair, Outreach Committee, Pharmacology and Toxicology Graduate Student Organization, Michigan State University, East Lansing, MI
- 2015-2016 Member, Curriculum Committee, Department of Pharmacology and Toxicology, Michigan State University, East Lansing MI
- 2015 Neuroscience Fair, Michigan State University, East Lansing, MI
- 2015 Co-chair oral presentation session, Michigan Physiological Society Meeting, Boyne Mountain, MI
- 2014-2017 Presenter, Marble Elementary School Science Night, East Lansing, MI
- 2014-2017 Presenter, Glencairn Elementary School Science Night, Lansing, MI
- 2014-2017 Assistant, Bridge to Ph.D. in Neuroscience Summer Program, Michigan State University, East Lansing, MI
- 2014 Acetaminophen Toxicity Awareness Seminar, East Lansing, MI
- 2011 Michigan State University Bridge to Ph.D. in Neuroscience Program, workshop at the University of Puerto Rico, Cayey, PR

### **Invited Seminars and Presentations**

- December 2018 Endothelial Mineralocorticoid Receptors in Cerebrovascular and Cognitive Function in Angiotensin II-hypertension. Department of Pharmacology and Toxicology, Michigan State University, East Lansing, MI.
- September 2018 Transient Receptor Potential Vanilloid 4 Channels Regulate Cognitive Function and Parenchymal Arteriole Dilation. World Congress for Microcirculation, Vancouver, Canada.
- April 2018 Mineralocorticoid Receptor Signaling Regulates Parenchymal Arteriole Dilation and Cognitive Function. Experimental Biology, San Diego, Ca.
- February 2018 Transient Receptor Potential Channels and Cognition. East Lansing, MI.
- June 2017 Transient Receptor Potential Vanilloid 4 Channel mediates Endothelium-dependent Dilation in Parenchymal Arterioles. Alma College, MI.
- August 2016 Hypertension, the Mineralocorticoid Receptors, and Cerebral Arteries. University of Puerto Rico, Cayey, PR
- August 2016 Succeeding on Your Path. RISE Program Research Symposium. University of Puerto Rico, Cayey, PR
- May 2016 Angiotensin II-induced Cerebral Artery Remodeling and Reduced Cerebral Perfusion. Wayne State University, MI.
- December 2015 The Effects of Endothelial Mineralocorticoid Receptor in Cerebral Artery Remodeling and Endothelial Injury. Department of Pharmacology and Toxicology, Michigan State University, East Lansing, MI.
- May 2015 High Blood Pressure and the Cerebral Arteries- SACNAS-MSU Chapter Research Symposium, Michigan State University, East Lansing, MI.
- August 2014 Canrenoic Acid Attenuated Middle Cerebral Artery Remodeling after Ischemic Stroke. Department of Pharmacology and Toxicology, Michigan State University, East Lansing, MI.

- December 2011 Acute Effects of MeHg on Intracellular Calcium Regulation in Dopaminergic Cells. Department of Pharmacology and Toxicology, Michigan State University, East Lansing, MI.
- May 2011 Chemical Profile and TLC Analysis of Medicinal Plants Extracts Used as Diabetes Adjuvants – Interdisciplinary Research Institute, University of Puerto Rico
- December 2010 Effects of Synthetic Pyrethroids on Muscarinic Acetylcholine Receptor Expression in Neuronal Models of Differentiation – Department of Pharmacology and Toxicology, Michigan State University

### **Publications**

1. **J.M. Diaz-Otero**, T. Yen, A. Ahmad, E. Laimon-Thomson, B. Abolibdeh, K. Kelly, M.T. Lewis, R.W. Wiseman, W.F. Jackson, A.M. Dorrance. Transient Receptor Potential Vanilloid 4 Channels are Important Regulators of Parenchymal Arteriole Dilation and Cognitive Function. *Microcirculation*, 2019 Feb 5:e12535. Doi:10.1111/micc.12535.
2. **J.M. Diaz-Otero**, J.M. Osmond, A.M. Dorrance. Ischemia/Reperfusion Injury Causes an Outward Remodeling of the Middle Cerebral Artery in Normotensive Rats. *Microvascular Research*, in review.
3. **J.M. Diaz-Otero**, C. Fisher, W.F. Jackson, A.M. Dorrance. Mineralocorticoid Receptor Blockade Prevents Impaired TRPV4-dependent dilation of Cerebral Parenchymal Arterioles in a Genetic Model of Hypertension. *Microcirculation*, in preparation.
4. **J.M. Diaz-Otero**, T. Yen, L. Mark, I.Z. Jaffe, W.F. Jackson, A.M. Dorrance. Endothelial Mineralocorticoid Receptor Cerebrovascular Dysfunction during Angiotensin II-Hypertension. *Hypertension*, in preparation.
5. **J.M. Diaz-Otero**, K. Downs, C. Dams-Ramos, S.F. Hayoz, A.M. Dorrance. Mineralocorticoid Receptor Blockade Prevents Middle Cerebral Artery Remodeling Post-stroke. *Cerebrovascular Diseases*, in preparation.
6. **J.M. Diaz-Otero**, T. Yen, C. Fisher, D. Bota, W.F. Jackson, A.M. Dorrance. Mineralocorticoid Receptor Signaling Regulates TRPV4-mediated Vasodilation of Cerebral Parenchymal Arterioles and Cognitive Function. *Am J Physiol Heart Circ*, 2018 Aug 17. Doi: 10.1152/ajpheart.00207/2018.
7. **J.M. Diaz-Otero**, C. Fisher, K. Downs, M.E. Moss, I.Z. Jaffe, W.F. Jackson, A.M. Dorrance, The Endothelial Mineralocorticoid Receptor Mediates Parenchymal Arteriole and Posterior Cerebral Artery Remodeling during Angiotensin II-hypertension. *Hypertension*, 2017; 70:00-00. Doi: 10.1161/HYPERTENSIONAHA.117.09598.
8. N. Matin, C. Fisher, W.F. Jackson, **J.M. Diaz-Otero**, A.M. Dorrance. Carotid Artery Stenosis in Hypertensive Rats Impairs Dilatory Pathways in Parenchymal Arterioles. *Am. J Physiol Heart Circ*, 2017. Doi:10.1152/ajpheart.00638.2016
9. **J.M. Diaz-Otero**, H. Garver, G.D. Fink, W.F. Jackson, A.M. Dorrance, Aging is Associated with Changes to the Biomechanical Properties of the Posterior Cerebral Artery and Parenchymal Arterioles. *Am J Physiol Heart Circ*, 2016. 310 (3):H365-75.

## Book Chapters

1. A.M. Dorrance, B. Abolibdeh, **J.M. Diaz-Otero**. Cerebral Small Vessel Disease and Vascular Cognitive Impairment: Preclinical Aspects, Textbook of Vascular Biomedicine, Rhian M. Tuoyz and Christian Delles (Eds)- Springer (2018).

## Abstracts

1. L.C. Chambers, **J.M. Diaz-Otero**, T. Yen, W.F. Jackson, A.M. Dorrance. Female Mice are Resistant to Inward Remodeling of Parenchymal Arterioles Observed in Male Mice During Angiotensin II-Induced Hypertension. Accepted for oral presentation at Experimental Biology 2020.
2. **J.M. Diaz-Otero**, T. Yen, I.Z. Jaffe, W.F. Jackson, A.M. Dorrance. Endothelial Mineralocorticoid Receptor Mediates Cerebrovascular Dysfunction in Parenchymal Arterioles during Angiotensin II-Hypertension. Presented at Experimental Biology 2019.
3. L. Mark, **J.M. Diaz-Otero**, T. Yen, A.M. Dorrance. Sex Differences in the Response to Angiotensin II-Induced Hypertension. Presented at Experimental Biology 2019.
4. **J.M. Diaz-Otero**, A. Ahmad, T. Yen, E. Laimon-Thomson, K. Kelly, M. Lewis, R. Wiseman, W.F. Jackson, A.M. Dorrance. Transient Receptor Potential Vanilloid 4 Channels are Important Regulators of Cognitive Function and Parenchymal Arteriole Dilation. Accepted for presentation at the World Congress for Microcirculation, 2018.
5. **J.M. Diaz-Otero**, T. Yen, C. Fisher, W.F. Jackson, A.M. Dorrance. Mineralocorticoid Receptor Signaling Regulates Parenchymal Arteriole Vasodilation and Cognitive Function. Presented at Experimental Biology, 2018
6. **J.M. Diaz-Otero**, T. Yen, D. Bota, A.M. Dorrance. Mineralocorticoid Receptor Signaling is Associated with Neuroinflammation and Changes in Cognitive Function in Angiotensin II-induced Hypertension. Presented at International Stroke Conference, 2018.
7. **J.M. Diaz-Otero**, T. Yen, W.F. Jackson, A.M. Dorrance. Mineralocorticoid Receptor Signaling Regulates TRPV4-mediated Vasodilation of Parenchymal Arterioles. Presented at Council on Hypertension Research Conference, 2017.
8. A.M. Dorrance, **J.M. Diaz-Otero**, P.W. Pires, W.F. Jackson. High Fat Feeding Reduces Cerebral Artery Transient Receptor Potential Channel Vanilloid 4 (TRPV4) Expression in a Mineralocorticoid Receptor-dependent Manner. Presented at Experimental Biology, 2017.
9. **J.M. Diaz-Otero**, W.F. Jackson, A.M. Dorrance. Transient Receptor Potential Vanilloid 4 Channel mediates Endothelium-Dependent Vasodilation in Parenchymal Arterioles. Presented at Experimental Biology, 2017
10. **J.M. Diaz-Otero**, W.F. Jackson, I.Z. Jaffe, A.M. Dorrance. Endothelial Mineralocorticoid Receptor Signaling mediates Parenchymal Arteriole Hypertensive Remodeling and Cerebral Perfusion. Presented at the Council on Hypertension Research Conference, 2016.
11. **J.M. Diaz-Otero**, W.F. Jackson, A.M. Dorrance. Age-associated Changes in the Structure and Biomechanical Properties of Parenchymal Arterioles. Presented at the International Stroke Conference, 2016.
12. **J.M. Diaz-Otero**, K. Downs, E. Sarno, W.F. Jackson, A.M. Dorrance. Angiotensin II-induced Hypertension is Associated with Parenchymal Arteriole and Posterior Cerebral

- Artery Remodeling and Reduced Cerebral Perfusion. Presented at the International Stroke Conference, 2016.
13. **J.M. Diaz-Otero**, W.F. Jackson, A.M. Dorrance. Aging Alters Vascular Stiffness in the Posterior Cerebral Artery in C57bl/6 Mice. Presented at the International Stroke Conference, 2015.
  14. **J.M. Diaz-Otero**, A.M. Dorrance. The Effects of Mineralocorticoid Receptor Blockade on Cerebral Arteries Post-stroke. Presented at the International Stroke Conference, 2015.
  15. **J.M. Diaz-Otero**, A. Neal, W.D. Atchison. Effects of Synthetic Pyrethroids on Muscarinic Acetylcholine Receptor Expression in Neuronal Models of Differentiation. Presented at the Society of Toxicology Meeting, 2011.

### **Society Memberships**

Michigan Physiological Society  
 American Heart Association  
 Graduate Women in Science  
 Society for Advancing Hispanics in Science (SACNAS)  
 American Physiological Society  
 North American Vascular Biology Organization

### **Conferences**

2019 Experimental Biology, Orlando, FL  
 2018 International Stroke Conference, Los Angeles, CA  
 2018 Experimental Biology, San Diego, CA  
 2018 World Congress for Microcirculation, Vancouver, Canada  
 2017 Experimental Biology, Chicago, IL  
 2017 Council on Hypertension Research Meeting, San Francisco, CA  
 2016 International Stroke Conference, Los Angeles, CA  
 2016 Michigan Physiological Society Meeting, Detroit, MI  
 2016 Annual Pharmacology Colloquium, Ann Arbor, MI  
 2016 SACNAS-MSU Chapter Research Symposium, East Lansing, MI  
 2016 Council on Hypertension Research Meeting, Orlando, FL  
 2015 International Stroke Conference, Nashville, TN  
 2015 Michigan Physiological Society Meeting, Boyne Mountain, MI  
 2015 SACNAS-MSU Chapter Research Symposium, East Lansing, MI  
 2014 Annual Pharmacology Colloquium, East Lansing, MI  
 2011 Society of Toxicology Annual Meeting, Washington, D.C.  
 2011 Society for Neuroscience Annual Meeting, Washington, D.C.

### **Students Mentored**

#### **Summer Undergraduate at Michigan State University**

Kelsey Ordway	Michigan State University	2018
Daniel Bota	Michigan State University	2017
Jesica Vicente-Reyes	University of Puerto Rico	2016
Kinnon Ward	Tuskegee University, AL	2016
Darren Peel	Kalamazoo College, MI	2016
Wesley Monteiro	University of San Paulo, Brazil	2015

