

Ninotchka M. Delvalle-Dorta, PhD

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EDUCATION

- Ph.D. in Neuroscience, Michigan State University, East Lansing, MI 2013-2018
- B.S. in Medical Microbiology, University of Puerto Rico – Arecibo, Arecibo, PR 2009-2013

RESEARCH EXPERIENCE

Immunobiology, Cincinnati Children's Hospital, Cincinnati, OH 2018-
Research Fellow

Project: "An investigation of microbiome, epithelial cell and enteric nervous system signaling"

Principal Investigator: Theresa Alenghat, PhD

- Using transgenic mouse models to study the role of LRG1 on epithelial cell signaling
- Skills: Mouse colony management, genotyping, QPCR, Western Blot, Colitis models, intestinal epithelial cell culture

Neuroscience Program, Michigan State University, East Lansing, MI 2014-2018
Graduate Researcher

Project: "Role of Enteric Glia Activation in Gastrointestinal Physiology and Inflammation"

Principal Investigator: Brian Gulbransen, PhD

- Demonstrated that the tachykinin Neurokinin A contributes to neuroinflammation in the enteric nervous system through a multicellular signaling cascade involving enteric neurons, nociceptors and enteric glia
- Provided the first evidence that enteric glia express two subtypes of functional muscarinic receptors
- Demonstrated that cholinergic activation of enteric glia is a physiological mechanism that contributes to regulation of GI motility
- Skills: Calcium Imaging, *In vitro* Cell Death Assay, RNA Sequencing, Immunohistochemistry, QPCR, colon bead assay, inflammation models in rodent, pellet production assay, intraperitoneal injections, GraphPad Prism

Neuroscience Program, Michigan State University, East Lansing, MI Summer 2012
Undergraduate Researcher

Project: "Role of Extracellular Calcium in Methyl-mercury Induced Dopamine Release in PC12 Cells"

Principal Investigator: Keith Lookingland, PhD

- Conducted research on the role of extracellular calcium in MeHg- induced dopamine release in PC12 cells
- Performed cell culture, protein assays as well as High-performance liquid chromatography (HPLC)
- Participated in lab meetings, which focused on research methods and writing protocols in Neuroscience

Department of Biology, University of Puerto Rico – Arecibo, Arecibo, PR

2011

Undergraduate Researcher

Project: “Biotic and Abiotic Factors of the Bioluminescent Bay Affecting the Microbial Community”

Principal Investigator: Raquel Vargas, PhD

- Researched the biotic and abiotic factors of the bioluminescent bay at Cabo Rojo, PR and their role on the demise of the microbial community

PUBLICATIONS

- Delvalle NM, Fried DE, Rivera-Lopez G, Gaudette L, Gulbransen BD. The cholinergic activation of enteric glia is a physiological mechanism that contributes to the regulation of gastrointestinal motility. *Am J Physiol Gastrointest Liver Physiol* (2018). Doi:10.1152/ajpgi.00155.2018
- Delvalle NM, Dharshika C, Morales-Soto W, Fried DE, Gaudette L, Gulbransen BD. Communication Between Enteric Neurons, Glia, and Nociceptors Underlies the Effects of Tachykinins on Neuroinflammation. *CMGH* (2018). Doi:10.1016/j.jcmgh.2018.05.009
- Pelletier J, Agonsanou H, Delvalle N, Fausther M, Salem M, Gulbransen B, Sevigny J. Generation and characterization of polyclonal and monoclonal antibodies to human NTPDase2 including a blocking peptide. *Purinergic Signalling* (2017). Doi:10.1007/s11302-017-9561-8
- Delvalle N. The Brain in Your Gut. I Spy Physiology Blog Post for the American Physiological Society: <https://ispyphysiology.com/>

TEACHING AND MENTORING EXPERIENCE

SROP, Michigan State University

Summer 2017

Graduate Student Facilitator

Supervisor: Steven Thomas, PhD

- Led weekly meetings with summer undergraduate researchers and provided feedback on research presentations and written reports

Neuroscience Program, Michigan State University

2017

Graduate Student Mentor

Supervisor: Brian Gulbransen, PhD

- Served as lab mentor for Luke Gaudette a neuroscience undergraduate student in my dissertation laboratory
- Developed an independent research project with student and guided student in lab protocols
- Provided feedback on research presentations and poster presentations.

Department of Pharmacology and Toxicology, Michigan State University

11/16/2016

Lecturer PHM 480: Neurobiology of Disease

Supervisor: Bill Atchison, PhD

- Prepared and presented an interactive lecture on gastrointestinal neurobiology
- Discussed a case study with undergraduate students to teach about gastrointestinal disorders

Neuroscience Program, Michigan State University

07/11-15/2016

Mathematics, Science and Technology Camp Instructor

Supervisors: Jenny Taylor, PhD & Casey Henley, PhD

- Designed and presented hands-on activities for middle school-aged students related to neuroscience
- Independently developed a lecture on the gastrointestinal system and the enteric nervous system

Department of Pharmacology and Toxicology, Michigan State University

11/15/2015

Lecturer PHM 480: Neurobiology of Disease

Supervisor: Bill Atchison, PhD

- Designed and presented a lecture on gastrointestinal neurobiology

Neuroscience Program, Michigan State University

Summer 2015

Graduate Student Mentor

Supervisor: Brian Gulbransen, PhD

- Served as lab mentor for Gretchen M. Rivera-Lopez, a summer undergraduate researcher in my dissertation lab
- Developed a research project with student and provided feedback for oral presentations, abstract submission and poster presentation.

Bridge to PhD in Neuroscience Program, Michigan State University

Summer 2015

Graduate Student Facilitator

Supervisor: Bill Atchison, PhD

- Mentored minority undergraduate student researchers
- Guided students in graduate school applications and provided feedback on abstract submissions and oral presentation

AWARDS

- Travel Award from the National Institute of Health, 5th International Symposium on Development of the Enteric Nervous System: Cells, Signals, Genes and Therapy, 2018
- Caroline tum Suden Professional Opportunity Award, APS Women in Physiology Committee, 2017
- APS Minority Travel Fellowship to Attend Experimental Biology, APS, 2017
- Travel Fellowship, Neuroscience Program, Michigan State University, East Lansing, MI, 2016
- 2016 AGEP Scholar Award, The Graduate School, Michigan State University, East Lansing, MI, 2016-2017
- APS Minority Travel Fellowship to Attend Experimental Biology, APS, 2016
- Academic Achievement Graduate Assistantship, The Graduate School, Michigan State University, East Lansing, MI, Spring and Summer 2016
- Minority Affairs Committee Travel Award at the Biophysical Society 57th Annual Meeting, Philadelphia, PA February, 2013

PRESENTATIONS

- *Poster Presentation: "The Neurokinin-2 Receptor Antagonist GR159897 Protects Against Neuroinflammation and Reactive Gliosis in the Mouse ENS During Colitis"* 5th International Symposium on Development of the Enteric Nervous System: Cells, Signals, Genes and Therapy, Boston, MA, April 2018

- *Oral Presentation:* “The Neurokinin-2 Receptor Antagonist GR 159897 Protects Against Neuroinflammation in the Mouse Enteric Nervous System During Colitis” Experimental Biology, Chicago, IL, April 2017
- *Poster Presentation:* “ Tachykinin Activation on Enteric Glia: A Novel Mechanism of Enteric Nervous System Dysfunction in Irritable Bowel Syndrome” Federation of Neurogastroenterology and Motility Meeting, San Francisco, CA, August 2016
- *Oral Presentation:* “Tachykinin Activation on Enteric Glia: A Novel Mechanism of Enteric Nervous System Dysfunction in Irritable Bowel Syndrome” Cold Spring Harbor: Glia in health and Disease, Cold Spring Harbor, NY, July 2016
- *Poster Presentation:* “ Tachykinin Activation on Enteric Glia: A Novel Mechanism of Enteric Nervous System Dysfunction in Irritable Bowel Syndrome” Michigan Physiological Society Meeting, Detroit MI, 2016
- *Poster Presentation:* “ Tachykinin Activation on Enteric Glia: A Novel Mechanism of Enteric Nervous System Dysfunction in Irritable Bowel Syndrome” Experimental Biology, San Diego, CA, 2016
- *Poster Presentation:* “Chronic Stimulation of GFAP::hM3Dq Receptors on Glia Induces Functional but not Morphological Changes in the Enteric Nervous System” Great Lakes Glia Conference, Traverse City MI, 2015
- *Poster Presentation:* “Chronic Stimulation of GFAP::hM3Dq Receptors on Glia Induces Functional but not Morphological Changes in the Enteric Nervous System” First Annual Neural Conference, Birmingham AL, 2015
- *Poster Presentation:* “Role of Extracellular calcium in MeHg-induced DA release in PC12 cells” Annual Biomedical Conference for Minority Students (ABRCMS), 2012

SERVICE AND LEADERSHIP

Alliance For Graduate Education And The Professoriate, Michigan State University 2016-2018

Steering Committee Member

- As part of the committee for the alliance for graduate education and the professoriate (AGEP) organized monthly meetings focused on the recruitment, retention, and graduation of minority students in doctoral programs in STEM and social sciences

College of Natural Science- Council of Diversity and Community, Michigan State University 2016-2018

Liaison for College-Sponsored Seminar Speaker

- Advised the college on issues relevant to women and minorities
- Organized diversity seminars and luncheons with graduate students to promote diversity and inclusion within the College of Natural Science

Graduate Women in Science, Michigan State University

2016-2017

Girls’ Math & Science Day Co-Chair

- Organized the annual Girls' Math and Science Day for middle school-aged girls on MSU campus
- Recruited and led volunteers, involved in advertising, fundraising and planning event logistics

Graduate Women in Science, Michigan State University

2016-2017

Secretary

- Assisted with scheduling and leading general meetings and kept digital records of all documents generated by the organization.

Neuroscience Program, Michigan State University

2014-2016

Neuroscience Research Forum Chair

- Developed and organized professional development seminar sessions for the neuroscience graduate students

Neuroscience Program, Michigan State University

2014-2015

Student Representative, Internal Review Committee

- Evaluated the current needs of the program and contributed to improvements needed to further enhance the neuroscience program

MEMBERSHIPS

- American Physiological Society (APS)
- American Association For the Advancement Of Science (AAAS)
- Michigan Physiological Society (MPS)
- Alliances for Graduate Education and the Professoriate (AGEP)
- Sigma Delta Epsilon, Graduate Women in Science

OUTREACH

- ✓ Booth Leader, Neuroscience Fair, Michigan State University, 2017
- ✓ Activity Leader, Glencairn School Science Night, Michigan State University, 2016
- ✓ Poster Evaluator, AGEP Fall Conference, Michigan State University, 2016
- ✓ AGEP Representative, McNair Site Visit, Michigan State University, 2016
- ✓ Graduate Student Representative, Graduate Student Forum, Michigan State University, 2016
- ✓ Poster Evaluator, Undergraduate Research and Arts Forum, Michigan State University, 2016
- ✓ Poster Judge, Undergraduate Bruce Award, Experimental Biology, 2016
- ✓ Booth Leader, Neuroscience Fair, Michigan State University, 2016
- ✓ Presenter, Brain Awareness Week at Pinecrest Elementary, Michigan State University, 2016
- ✓ Presenter, Scientist Day, Detroit Zoo, 2016
- ✓ Presenter and Volunteer Organization Committee, Girl's Math and Science Day, Graduate Women in Science, Michigan State University, 2015-2016
- ✓ Poster Judge, Undergraduate Neuroscience Forum, Michigan State University, 2015
- ✓ Poster Judge, Undergraduate Research Arts Forum, Michigan State University, 2015
- ✓ Invited Presenter, Laingsburg Middle School Science Fair, Michigan State University, 2015
- ✓ Booth Leader, Neuroscience Fair, Michigan State University, 2015
- ✓ Presenter, Brain Awareness Week at Mt. Hope Elementary, Michigan State University, 2015
- ✓ Presenter, Brain Awareness Week at Marble Elementary, Michigan State University, 2015
- ✓ Booth Assistant, Neuroscience Fair, Michigan State University, 2014

- ✓ Keynote Speaker Committee, Girl's Math and Science Day, Graduate Women in Science, Michigan State University, 2014-2015

WORKSHOPS AND CLASSES ATTENDED

- ✓ ISE 870: Teaching College Science, Spring 2016
 - Course on theory and practice of student-centered college teaching.
- ✓ Portal to the Public Fellowship, Detroit Zoo, 2015-2016
 - Workshops on educating the general public about science topics and how to facilitate learning through outreach activities.
- ✓ Mastering the Interview and Securing Positions at 2- and 4- Year Institutions, The Graduate School, Michigan State University, 2015
 - Workshop on expectations for applicants at research institutions