

CURRICULUM VITAE

Name: Monica M. Santisteban
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 Position: Instructor in Neuroscience
 Lab: C. Iadecola lab / Neurovascular pathologies and neurodegeneration
 Institution: Brain and Mind Research Institute, Weill Cornell Medicine, New York, NY 10065
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EDUCATION/TRAINING

01/2016 – 03/2020 **Postdoctoral Associate in Neuroscience**
 New York, NY Brain and Mind Research Institute, Weill Cornell Medicine
Mentor: Costantino Iadecola, M.D.

08/2015 – 12/2015 **Postdoctoral Associate in Physiology**
 Gainesville, FL Dept. of Physiology & Functional Genomics, College of Medicine, Univ. of Florida
Mentor: Mohan K. Raizada Ph.D.

08/2011 – 08/2015 **Ph.D. in Medical Sciences**
 Gainesville, FL Dept. of Physiology & Functional Genomics, College of Medicine, Univ. of Florida
Mentor: Mohan K. Raizada Ph.D.

08/2012 – 08/2015 **Certificate in Clinical Translational Science**
 Gainesville, FL Clinical Translational Science Institute, College of Medicine, University of Florida

08/2008 – 08/2011 **B.S. in Biology**
 Gainesville, FL Minor in Chemistry, College of Liberal Arts and Sciences, University of Florida

POSITIONS

03/2020 – Present **Instructor in Neuroscience**
 New York, NY Brain and Mind Research Institute, Weill Cornell Medicine

2019 – 2020 **Adjunct Professor**
 New York, NY School of Health & Natural Sciences, Mercy College

MEMBERSHIP IN PROFESSIONAL SOCIETIES

2012 – Present Member, American Heart Association (AHA) – Hypertension Council
 2016 – Present Member, Society for Neuroscience
 2021 – Present Member, American Physiological Society (APS) – CNS section
 2012 – 2016 Member, American Physiological Society (APS) – NCAR Section
 2016 – 2020 Member, New York Academy of Sciences

AWARDS AND HONORS

2021 Hypertension Top Paper Award (*Hypertension Journal, AHA*)
 2021 Associate, Intersections Science Fellows Symposium
 (*1st Annual Symposium, Yale University*)
 2020 Leon Levy Neuroscience Fellow (*Leon Levy Foundation*)
 2019 HHMI Inclusive Excellence Fellowship (*Mercy College*)
 2017 Stanley Stahl Research Fellowship (*American Heart Association*)
 2016 Steven M. Horvath Professional Opportunity Award (*Postdoctoral research; APS*)
 2015 James Willerson Young Investigator Award in Cardiovascular Medicine
 (*International Academy of Cardiovascular Sciences*)
 2015 Steven M. Horvath Professional Opportunity Award (*Graduate research; APS*)
 2014 Alec Courtelis Award (*University of Florida International Center*)
 2014 Investigator Grant (*International Society for Hypertension*)

RESEARCH SUPPORT

Ongoing Research Support

Source: National Institutes of Health, NINDS/NIA Career Transition Award (K22 NS123507)

Title: Neuroimmune mechanisms of cognitive impairment in salt-sensitive hypertension

Phase I Annual Direct Cost: \$122,875 Phase I Period: 07/2021 – 06/2023 Role: PI

Source: Leon Levy Foundation, Leon Levy Fellowship in Neuroscience Research

Title: Neurovascular mechanisms of cognitive impairment in salt-sensitive hypertension

Annual Direct Cost: \$100,000 Period: 03/2020 – 02/2022 Role: PI

Completed Research Support

Source: American Heart Association, Greater Southeast Affiliate, Predoctoral Fellowship (14PRE18590018)

Title: The involvement of microglial cell activation in the development and establishment of hypertension

Total Direct Cost: \$54,813 Period: 01/2014 – 08/2015

Source: American Heart Association, National, Postdoctoral Fellowship (17POST33370064)

Title: Role of brain perivascular macrophages in the cognitive dysfunction of chronic hypertension

Total Direct Cost: \$98,950 Period: 01/2017 – 12/2018

PEER REVIEW AND COMMITTEES

2021 – Present Future Leaders in Neuroscience Seminar, Selection Committee (Chair)
Weill Cornell Medicine, Brain and Mind Research Institute

2021 Intersections Science Fellows Symposium
2nd Annual Symposium, Organizing Committees
Fellows Selection Committee (Member), Program Committee (Member)

2020 – Present Diversity and Inclusion Committee (Member)
Weill Cornell Medicine, Brain and Mind Research Institute

2019 – Present AHA Hypertension Council Trainee Advocacy Committee (Member)

2015 – 2016 APS – Neural Control and Autonomic Regulation Section
Chair of Data NCARNation organization subcommittee
Member of NCAR awards subcommittee

Editorial Board: Journal of Hypertension (2021)

Social Media Team: Journal of Neuroscience Research

Manuscript review: Hypertension, Cardiovascular Research, American Journal of Physiology Endocrinology and Metabolism, American Journal of Physiology Heart and Circulatory Physiology, Cellular and Molecular Neurobiology, Journal of Hypertension, Journal of Neuroscience Research, Frontiers in Physiology, Frontiers in Cellular and Infection Microbiology, Frontiers in Neurology, Journal of Chemical Neuroanatomy, Brain Research Bulletin

TEACHING

Undergraduate:

Spring 2020 **BIOL 117 – Nutrition**
Mercy College, Adjunct Professor

Fall 2019 **PHYS 120 – Physics of the Human Body**
Mercy College, Adjunct Professor

Graduate:

Spring 2018 **PSYCH 2051 – Health Psychology**
New York University; Guest lecture: Cardiovascular function and the brain

Spring 2014 **GMS 6472 – Fundamentals of Physiology and Functional Genomics II**
University of Florida; Discussion leader

MENTORING AND LAB SUPERVISION

Weill Cornell Medicine:

Samantha Schaefer, Graduate Student Iadecola/Anrather labs, 2018 – Present
Doctoral Candidate in Neuroscience, Weill Cornell Medicine

Olivia Yoo, High School Student, Summer 2018
Darien High School, Connecticut

Virginia Cipollini, MD, Neurology Resident, Spring 2018
Sapienza Universita di Roma, Italy

Gabriele De Luca, Medical Student, Spring 2017
Sapienza Universita di Roma, Italy

Nahid Anna Baghdadi Savan (*ACCESS Internship*), Undergraduate Student, Summer 2017
B.S. in Chemistry, Michigan State University

Cientifico Latino – Graduate Student Mentorship Initiative (GSMI):

Ayomide Ashinjo, Graduate school applicant, 2021-2022
B.S. Human Physiology, Bowen University, Nigeria

University of Florida:

Gilberto O. Lobaton, Undergraduate Student, 2014 – 2015
B.S. in Physiology and Applied Kinesiology, University of Florida

Monika A. McCarter, Undergraduate Student, Summer 2013 & Summer 2014
B.S. Bioengineering, Lehigh University

Jessica Joseph, Undergraduate Student, 2012 – 2014
B.S. in Biology and Psychology, University of Florida

Jessica Marulanda Carvajal, Undergraduate Student 2012 – 2013
B.S. in Animal Science and Wildlife Ecology Conservation, University of Florida

CONFERENCES AND INVITED PRESENTATIONS

Nov. 2021	Department of Neuroscience Seminar, Georgetown University
Nov. 2021	Department of Physiology and Pharmacology Seminar, University of Toledo
Nov. 2021	Intersections Science Fellows Symposium, Session Moderator – Navigating your first year as PI; Session Moderator – Neuroscience Fellow Talks
Oct. 2021	Neuroscience Futures Seminar, Department of Neurology, Oregon Health & Science University (Virtual)
Oct. 2021	Department of Pharmacology Seminar, University of Nevada – Reno
Sept. 2021	AHA Hypertension Scientific Sessions, Session Moderator – Junior Faculty Showcase (Virtual)
Aug. 2021	Americas School of Neuroimmunology Monthly Seminar (Virtual) “Neuroimmunology of stroke and dementia” with Dr. Costantino Iadecola
Dec. 2020	Cognition and Behavior in Health and Disease (Virtual) Leon Levy Fellows in Neuroscience Seminar
July 2019	NIH/NIA Concepts in Geroscience Series: Postdoctoral Fellows Symposia on Tissue Resident Immune Cells
Sept. 2017	AHA Research Leaders Academy
April 2016	Experimental Biology, Chair – Session “Data NCARnation”
April 2016	Experimental Biology, Speaker – Symposium “The Brain-Gut Axis: Microbiome in Neural and Metabolic Diseases”

PUBLICATIONS**Complete List of Published Work in MyBibliography:**

<https://www.ncbi.nlm.nih.gov/myncbi/browse/collection/42865039/>

Peer-Reviewed Research Articles

1. **Santisteban MM[#]**, Ahn S, Lane D, Faraco G, Garcia-Bonilla L, Racchumi G, Poon C, Schaeffer S, Segarra SG, Korbelin J, Anrather J, Iadecola C[#]. Endothelium-macrophage crosstalk mediates blood-brain barrier dysfunction in hypertension. *Hypertension*. 2020; 76:795-807. PMID: 32654560
 - a. [#] co-corresponding authors
 - b. Hypertension Journal Top Paper Award 2020
2. Faraco G, Hochrainer K, Segarra SG, Schaeffer S, **Santisteban MM**, Menon A, Jiang H, Holtzman DM, Anrather J, Iadecola C. Dietary salt promotes cognitive impairment through tau phosphorylation. *Nature*. 2019; 574:686-690. PMID: 31645758
 - a. Publisher Correction: *Nature*. 2020; 578:E9. PMID: 31932732
 - b. Editorial: *Nat Rev Neurol*. 2020;16:2-3.
3. Ahmari N, **Santisteban MM**, Miller DR, Geis NM, Larkin RM, Redler TL, Denson H, Khoshbouei H, Baekey DM, Raizada MK, Zubcevic J. Elevated bone marrow sympathetic drive precedes systemic inflammation in angiotensin II hypertension. *Am J Physiol Heart Circ Physiol*. 2019; 317:HH279-H289. PMID:31150271
4. Faraco G, Brea D, Garcia-Bonilla L, Wang G, Racchumi G, Chang H, Buendia I, Koizumi K, **Santisteban MM**, Sugiyama Y, Murphy M, Voss H, Anrather J, Iadecola C. Dietary salt promotes neurovascular and cognitive dysfunction through a gut-initiated TH17 response. *Nature Neurosci*. 2018; 21:240-249. PMID: 29335605
 - a. Cover illustration
 - b. Editorials: *Nat Neurosci*. 2018;21:154-155. *Nat Rev Neurosci*. 2018;19:122.
5. Zubcevic J, **Santisteban MM**, Perez PD, Arocha R, Hiller H, Malphurs WL, Colon-Perez LM, Sharma RK, de Kloet A, Karuse EG, Febo M, Raizada MK. A single angiotensin II hypertensive stimulus is associated with prolonged neuronal and immune system activation in Wistar-Kyoto rats. *Front Physiol*. 2017;8:592. PMID: 28912720
6. **Santisteban MM***, Qi Y*, Zubcevic J, Kim S, Yang T, Shenoy V, Cole-Jeffrey CT, Lobaton GO, Stewart DC, Rubiano A, Simmons CS, Garcia-Pereira F, Johnson RD, Pepine CJ, Raizada MK. Hypertension-linked pathophysiological alterations in the gut. *Circ Res*. 2017;120:312-323. PMID: 27799253 *equal contribution
 - a. Editorials: *Circ Res*. 2017;120:249-251. *Nat Rev Nephrol*. 2017;13:3.
7. Faraco G, Sugiyama Y, Lane D, Garcia Bonilla L, Chang H, **Santisteban MM**, Racchumi G, Murphy M, Van Rooijen N, Anrather J, Iadecola C. Perivascular macrophages mediate the neurovascular and cognitive dysfunction of hypertension. *J Clin Invest*. 2016;126:4674-4689. PMID: 27841763
 - a. Editorial: *J Clin Invest*. 2016;126:4393-4395.
8. Stewart D*, Rubiano A*, **Santisteban MM**, Shenoy V, Qi Y, Pepine CJ, Raizada MK, Simmons CS. Hypertension-linked mechanical changes of rat gut. *Acta Biomaterialia*. 2016;45:296-302. PMID: 27567964
9. **Santisteban MM**, Ahmari N, Marulanda Carvajal J, Zingler MB, Qi Y, Kim S, Joseph J, Garcia-Pereira F, Johnson RD, Shenoy V, Raizada MK, Zubcevic J. Involvement of bone marrow cells and neuroinflammation in hypertension. *Circ Res*. 2015;117:178-91. PMID: 25963715
 - a. Cover illustration
 - b. Editorial: *Circ Res*. 2015;117:119-20.
10. Yang T*, **Santisteban MM***, Rodriguez V*, Li E, Ahmari N, Marulanda J, Zadeh M, Gong M, Qi Y, Zubcevic J, Sahay B, Pepine CJ, Raizada MK, Mohamadzadeh M. Gut dysbiosis is linked to hypertension. *Hypertension*. 2015; 65: 1331-1340. PMID: 25870193 *equal contribution

11. Zubcevic J, Jun JY, Kim S, Perez PD, Afzal A, Shan Z, Li W, **Santisteban MM**, Yuan W, Febo M, Mocco J, Feng Y, Scott E, Baekey DM, and Raizada MK. Altered inflammatory response is associated with an impaired autonomic input to the bone marrow in the spontaneously hypertensive rat. *Hypertension*. 2014; 63(3):542-50. PMID: 24366083

Reviews

1. **Santisteban MM**, Iadecola C. Hypertension, dietary salt, and cognitive impairment. *J Cereb Blood Flow Metab*. 2018;38:2112-28. PMID: 30295560
2. **Santisteban MM**, Kim S, Pepine CJ, Raizada MK. Brain-gut-bone marrow axis: implications for hypertension and related therapeutics. *Circ Res*. 2016; 118:1327-36. PMID: 27081113
3. Zubcevic J, **Santisteban MM**, Pitts T, Baekey DM, Perez PD, Bolser DC, Febo M, Raizada MK. Functional neural-bone marrow pathways: Implications in hypertension and cardiovascular disease. *Hypertension*. 2014; 63: e129-39. PMID: 24688127
4. **Santisteban MM**, Zubcevic J, Baekey DM, Raizada MK. Dysfunctional brain-bone marrow communication: A paradigm shift in the pathophysiology of hypertension. *Curr Hypertens Rep*. 2013; 15(4):377-89. PMID: 23715920

Editorial Commentaries

1. Glodzik L, **Santisteban MM**. Blood-brain barrier crossing renin-angiotensin system drugs: considerations for dementia and cognitive decline. *Hypertension*. 2021; 78:644-646. PMID: 34379433

ABSTRACTS – National and International Meetings (Oral Presentations, Selected)

1. **Santisteban MM**, Ahn SJ, Lane D, Faraco G, Garcia-Bonilla L, Racchumi G, Segarra SG, Schaeffer S, Poon C, Shahanoor Z, Cipollini V, Anrather J, Iadecola C. Essential role of cerebral endothelial AT1 receptors in the blood-brain barrier disruption induced by angiotensin II-hypertension. *Hypertension* 2019;74:A050. *American Heart Association, Council on Hypertension Meeting*, New Orleans, September 2019. Session: Cerebrovascular disease and stroke.
2. **Santisteban MM**, Faraco G, Lane D, Racchumi G, Segarra S, Schaeffer S, Cipollini V, Anrather J, Iadecola C. Cellular mechanisms of blood-brain barrier disruption in Ang II-induced hypertension. *Hypertension* 2018;72:A025. *American Heart Association, Council on Hypertension Meeting*, Chicago, September 2018. Session: Cerebrovascular disease, stroke, and aging.
3. **Santisteban MM**, Faraco G, Racchumi G, Anrather J, Iadecola C. Cerebrovascular and cognitive dysfunction in DOCA-Salt hypertension is mediated by perivascular macrophages. *Hypertension* 2017;70:A104. *American Heart Association, Council on Hypertension Meeting*, San Francisco, September 2017. Session: Salt and hypertension.
4. **Santisteban MM**, Zubcevic J, Febo M, Raizada MK. Microglia modulate Ang II induced neuronal activity and neuroinflammation. *Experimental Biology Meeting*, San Diego, March 2016. Session: Neural control of inflammation-mediated hypertension
5. **Santisteban MM**, Rubiano A, Stewart D, Yang T, Cole-Jeffrey CT, Zingler MB, Lobaton G, Zubcevic J, Simmons C, Raizada MK. Intestinal permeability and dysbiosis are linked to hypertension. *American Heart Association, Council on Hypertension Meeting*, Washington DC, September 2015. Session: Microbiota and hypertension.
6. **Santisteban MM**, Ahmari N, Marulanda Carvajal J, Zingler MB, Qi Y, Kim S, Joseph J, Garcia-Pereira F, Johnson RD, Shenoy V, Raizada MK, Zubcevic J. Role of bone marrow and neuroinflammation in hypertension. *Annual Meeting of the International Academy of Cardiovascular Sciences – North American Section*, Omaha, September 2015. James Willerson young investigator competition in cardiovascular research.
7. **Santisteban MM**, Zubcevic J, Marulanda Carvajal J, Zingler MB, Raizada MK. Oral minocycline reduces blood pressure and restores autonomic balance in chronic Ang II-infusion model of hypertension. *Hypertension* 2014; 63:A82. *American Heart Association, High Blood Pressure Research Council Meeting*, San Francisco, September 2014. Session: Brain and renin-angiotensin (Top-scoring abstract – selected for Best of AHA Specialty Conferences at Scientific Sessions)

8. **Santisteban MM**, Zubcevic J, Qi Y, Marulanda Carvajal J, Zingler MB, Raizada MK. Attenuation of hypertension in the spontaneously hypertensive rat by bone marrow reconstitution with normotensive WKY cells. *HYPERTENSION: Joint meeting European Society of Hypertension – International Society of Hypertension*, Athens, Greece, June 2014. Session: Inflammation
9. **Santisteban MM**, Zubcevic J, Kim S, Marulanda Carvajal J, Zingler MB, Joseph J, Raizada MK. Iba1+ microglia/macrophages in the rat hypothalamic paraventricular nucleus are both resident and bone marrow-derived in Ang II induced hypertension. *Experimental Biology Meeting Abstract#2601*, San Diego, April 2014. Session: Data NCARnation.
10. **Santisteban MM**, Jun JY, Marulanda Carvajal J, Zingler MB, Zubcevic J, Qi Y, and Raizada MK. Activation of microglia in the PVN precedes increase in blood pressure in chronic angiotensin II infusion rat model of hypertension. *Hypertension* 2012;60:A81. *American Heart Association, High Blood Pressure Research Council Meeting*, Washington DC, Sept. 2012. Session: Brain mechanisms.

ABSTRACTS – National and International Meetings (Poster Presentations, Selected)

1. Anfray A, Hattori Y, Seo J, **Santisteban M**, Ahn SJ, Wang G, Anrather J, Park L, Iadecola C. Apolipoprotein E4 impairs neurovascular regulation via brain-resident macrophages. *Society for Neuroscience*, Chicago, November 2021.
2. Faraco G, Wang G, **Santisteban MM**, Segarra S, Chang H, Anrather J, Iadecola C. Dietary salt impairs cognitive function through suppression of endothelial nitric oxide synthesis and hippocampal BDNF signaling. *Stroke* 2018;49:ATMP94. *International Stroke Conference*, Los Angeles, January 2018.
3. **Santisteban M**, Faraco G, Racchumi G, Anrather J, Iadecola C. Perivascular macrophages mediate the cerebrovascular and cognitive dysfunction in DOCA-salt hypertension. *Society for Neuroscience*, Washington DC, November 2017.
4. Zubcevic J, **Santisteban MM**, Ahmari N, Schmidt JT, Martyniuk CJ, Marulanda Carvajal J, Kim S, Raizada MK. Is hypertension a disease of the bone marrow? *American Heart Association, Council on Hypertension Meeting*, Washington DC, September 2015.
5. **Santisteban MM**, Garcia-Pereira F, Ahmari N, Marulanda Carvajal J, Johnson RD, Raizada MK, Zubcevic J. Reconstitution of WKY and SHR bone marrow alters vascular hemodynamics and sympathetic drive. *Experimental Biology Meeting*, Boston, March 2015.
6. **Santisteban MM**, Zubcevic J, Marulanda Carvajal J, Zingler MB, Raizada MK. Oral minocycline reduces blood pressure and restores autonomic balance in chronic Ang II-infusion model of hypertension. *American Heart Association, Scientific Sessions*, Chicago, November 2014. (Best of AHA Specialty Conferences)
7. **Santisteban MM**, Zubcevic J, Qi Y, Marulanda Carvajal J, Zingler MB, Raizada MK. Bone marrow reconstitution with WKY cells attenuated inflammation in the SHR. *1st PanAmerican Congress of Physiological Sciences*, Iguassu Falls, Brazil, August 2014.
8. **Santisteban MM**, Zubcevic J, Kim S, Marulanda Carvajal J, Zingler MB, Joseph J, McCarter MA, Raizada MK. Reconstitution of bone marrow with WKY cells lower central/peripheral inflammation and blood pressure in the SHR. *Hypertension* 2013;62:A606. *American Heart Association, High Blood Pressure Research Council Meeting*, New Orleans, September 2013.
9. Zubcevic J*, **Santisteban MM***, Baekey DM, Raizada MK. Brain angiotensin II elevates bone marrow sympathetic drive. *Hypertension* 2013;62:A181. *American Heart Association, High Blood Pressure Research Council Meeting*, New Orleans, September 2013. (Poster Competition Winner)
10. **Santisteban MM**, Zubcevic J, Kim S, Jun JY, Shi P, Scott EW, Sumners C, Raizada MK. Role of Microglia Activation in Neurogenic Hypertension. *Glia* 61:S168;T10-22B. *XI European Meeting on Glial Cells in Health and Disease*, Berlin, Germany, July 2013.