



EVELYN F. McKNIGHT BRAIN INSTITUTE

**PROGRESS REPORT
JANUARY 1, 2014 TO DECEMBER 31, 2014
JANUARY 15, 2015**

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THE UNIVERSITY OF MIAMI LEONARD M. MILLER SCHOOL OF MEDICINE

EVELYN F. McKNIGHT BRAIN INSTITUTE

January 15, 2015

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Dear Trustees,

Enclosed please find a copy of the Evelyn F. McKnight Brain Institute Progress Report for 2014. We are excited to present an update on our progress addressing the mission of the McKnight Brain Research Foundation.

There are many other exciting milestones explained in our report and we look forward to seeing you here in February to review our progress in greater detail.

Wishing you a happy and healthy 2015. Should you have any questions please feel free to contact Dr. Sacco at 305-243-7519 or Dr. Wright at 305-243-1664.

Yours Sincerely,



Ralph L. Sacco, M.D., M.S.
Executive Director
Evelyn F. McKnight Brain Institute



Clinton B. Wright, M.D.
Scientific Director
Evelyn F. McKnight Brain Institute

RLS/CW/KU/bd

cc: Marsha Kegley
Hank Raatama
Marjorie Neil

1. Summary of Scientific Achievements since Last Report

The UM McKnight Brain Institute (MBI) is grateful to the McKnight Brain Research Foundation for the large gift to all four institutes created to standardize magnetic resonance imaging of the brain and establish a registry of the oldest across sites. This will provide truly unique data that could not be gathered using conventional funding mechanisms, and has the potential to lead to extramural funding that will answer important questions regarding age-related memory loss. Some of the questions that the registry will allow us collectively to address are: Do all cognitive functions eventually decline, and why are some functions seemingly spared? What occurs as people reach very advanced age (i.e. if we live long enough are we destined to decline)? What factors (e.g. genetic, vascular) determine the trajectories of cognitive changes in the very old, and what are the brain changes that predict stability?

Intra-mural Collaborations

Our institute continues to reach across departments in the medical school as well as across schools in the university by engaging in research and involving students and trainees at all levels. The following departments are currently represented: Electrical Engineering, Human Genetics, Neurology, Psychiatry and Behavioral Sciences (Center On Aging), Psychology, Public Health Sciences, Radiology.

Neurology and Psychology have begun a new project to understand the effects of white matter damage on functional connectivity using cognitive and imaging data from the UM-MBI Clinical and Biorepository Registry. We expect to analyze these data in 2015.

The CREATE Center, headed by Dr. Czaja, completed the cross-site randomized PRISM trial that examined the benefits of a specially designed computer software application for a sample of 300 older adults age 65-98 years “at risk” for social isolation. The preliminary results are encouraging with respect to social support, social isolation, and attitudinal outcomes.

Basic and Translational Research

Based partly on preliminary basic science data funded by the UM MBI, we were awarded an American Heart Association/Bugher Foundation Center of Excellence grant. This grant involves both a clinical trial examining the effects of physical exercise and cognitive training on vascular cognitive impairment, and a basic science project focusing on the biological mechanisms responsible for the beneficial effects of an enriched environment, but also includes a pharmacologic intervention with therapeutic potential in humans that we hope will translate into clinical studies.

We have continued to work with Dr. Moraes who in the past year has developed novel mouse models with mitochondrial-targeted nucleases, and used these to study the role of mitochondrial DNA damage in age-related disorders affecting cognition. With blood samples collected as part of the UM-MBI Clinical and Biorepository Registry we hope to translate these basic science studies into the clinic.

Dr. Barrientos is studying the life span of yeast as a model of aging. His group is focused on post-mitotic cells such as neurons and trying to understand their chronological life span, with the overall goal of clarifying the genetic underpinnings of aging.

Dr. Kevin Lin has made progress defining the mechanisms involved in palmitic acid methylation to form the vasodilatory/neuroprotective agent palmitic acid methyl ester (PAME) in order to gain further insights into brain blood flow metabolism and functional behavior outcomes. We are excited to have Dr. Lin investigating animal models in the McKnight animal behavior core. Dr. Lin has plans to submit a federal grant proposal in the coming months.

Population-based Research

UM-MBI researchers are involved in many large epidemiologic studies. The Northern Manhattan Study carried out a number of studies relating subclinical cerebrovascular damage to age-related cognitive variability. Dr. Ramos continued to enroll patients into the HCHS/SOL SUENO study of sleep habits and cognition. Dr. Rundek continued to enroll patients in the MOBILISE study, examining intracranial blood flow velocities in relation to cognition in the Einstein Aging Study. Dr. Wright and new recruit Adina Zeki Al Hazzouri were involved in the Cognitive Working Group of part of the Multi Ethnic Study of Atherosclerosis (MESA). Studies of the Cohorts for Heart and Aging Research in Genomic Epidemiology (CHARGE) Consortium have continued as well.

Education

An important event in 2014 was the recruitment of Xiaoyan Sun, MD/PhD as acting Education Director for the UM-MBI. Dr. Sun is an asset to both our clinical and research program, and is fellowship-trained in behavioral neurology. She is also an experienced bench scientist and is now developing her expertise in neuroimaging research. She has taken up the reins of the UM-MBI education program with zeal, and has new ideas for programs that will address our mission of educating professionals, patients and caregivers, and members of the community at large.

The UM-MBI continues to serve the community through memory screenings in tandem with the Department of Elder Affairs Alzheimer Disease Initiative grant. In addition, two four-hour lecture programs on age-related memory loss and its complications were carried out in the south Florida region in 2014.

We have continued our McKnight Research Seminar series. Educational programs for medical students, psychology graduate students, and neurology and psychiatry residents have continued. Also, the UM-MBI continues to train students at different levels to do clinical and basic science research. A number of regular forums, such as a dementia consensus conference, provide formal opportunities. Psychology students are trained to evaluate the early changes in patients with age-related memory loss. Our new Bugher grant (described below) provides for two fellows to be trained in both the clinical and basic sciences and the focus of these grants is vascular contributions to cognitive performance, with both animal and human models.

2. Selected Publications by Institute Members, Collaborators & Trainees (Peer Reviewed)

Alperin N, Loftus JR, Oliu CJ, Bagci AM, Lee SH, Ertl-Wagner B, Green B, Sekula R. MRI measures of Posterior Cranial Fossa Morphology and CSF Physiology in Chiari Malformation Type 2014; *J Neurosurg* 75:515–522.

Alperin N, Oliu CJ, Bagci AM, Lee SH, Kovanlikaya I, Adams D, Katzen H, Relkin N. Low-Dose Acetazolamide Reverses Periventricular White Matter Hyperintensities in iNPH. *Neurology* 2014; 82:1347–1351.

Bourens M, Boulet A, Leary SC, **Barrientos A**. Human COX2 cooperates with SCO1 and SCO2 to mature COX2 and promote the assembly of cytochrome c oxidase. *Hum. Mol. Genet.* 2014; 23(11): 2901-13. PMID: PMC4014192

Camarena V, Cao L, Abad C, Alexander A, Toledo Y, Araki K, Araki M, Walz K, **Young JI**. Disruption of Mbd5 in mice causes neuronal functional deficits and neurobehavioral abnormalities consistent with 2q23.1 Microdeletion Syndrome. *EMBO Mol Med.* 2014 Jul 7;6(8):1003-15. PMID: 25001218

Canales CP, Krall P, Kairath P, Perez IC, Fragoso MA, Carmona-Mora P, Ruiz P, Reiser J, **Young JI**, Walz K. Characterization of a Trpc6 transgenic mouse associated with early onset FSGS. *BJMMR*, 2014.

Cao L, Molina J, Abad C, Carmona-Mora P, Cárdenas Oyarzo A, **Young JL**, Walz K. Correct developmental expression levels of Rai1 in forebrain neurons is required for control of body weight, activity levels and learning and memory. *Hum Mol Genet.* 2014 Apr 1;23(7):1771-82.

Crocco E, Curiel RE, Acevedo A., **Czaja SJ**, Loewenstein DA. An Evaluation of Deficits in Semantic Cuing, Proactive and Retroactive Interferences as Early Features of Alzheimer's Disease. *The American Journal of Geriatric Psychiatry*, 2014, Vol. 22, Issue 9, pg. 889-897.

Cue L, Diaz F, Briegel K, Patel HH and **Raval AP**. Periodic estrogen receptor-beta activation: a novel approach to prevent ischemic brain damage. *Neurochemical Research* 2014; (in press)

Czaja SJ, Lee CC, Arana N, Nair SN, Sharit J. Use of a Telehealth System by Older Adults with Hypertension. *SAGE, Journal of Telemedicine and Telecare*, 2014; Vol. 210(4) 184-191.

Czaja S J, Boot WR, Charness N, Rogers WA, Sharit J, Fisk AD, Lee CC, Nair SN. The Personalized Reminder Information and Social Management System (PRISM) Trials: Rationale, Methods, and Baseline Characteristics. *Contemporary Clinical Trials* 40 2014; 201435-46.

Del Brutto OH, Gardener H, Del Brutto VJ, Maestre GE, Zambrano M, Montenegro JE, **Wright CB**. Edentulism associates with worse cognitive performance in community-dwelling elders in rural Ecuador: results of the Atahualpa project. *J Community Health.* 2014; 39(6):1097-100.

Del Brutto OH, Mera RM, Del Brutto VJ, Maestre GE, Gardener H, Zambrano M, **Wright CB**. Influence of depression, anxiety and stress on cognitive performance in community-dwelling older adults living in rural Ecuador: Results of the Atahualpa Project. *Geriatr Gerontol Int.* 2014 Aug 26. doi: 10.1111/ggi.12305. [Epub ahead of print] PMID: 25155360.

Della-Morte D, **Dong C**, Beecham A, Wang L, Cabral D, Markert MS, **Blanton SH**, **Sacco RL**, **Rundek T**. Relationship between sirtuin and mitochondrial uncoupling protein genes and carotid artery stiffness. *Transl Res.* 2014 Sep 6. pii: S1931-5244(14)00306-5. doi: 10.1016/j.trsl.2014.08.007.

Della-Morte D, Palmirotta R, Rehni AK, Pastore D, Capuani B, Pacifici F, De Marchis ML, **Dave KR**, Bellia A, Fogliame G, Ferroni P, Donadel G, Cacciatore F, Abete P, Dong C, Pileggi A, Roselli M, Ricordi C, Sbraccia P, Guadagni F, **Rundek T**, Lauro D. Pharmacogenomics and pharmacogenetics of thiazolidinediones: role in diabetes and cardiovascular risk factors. *Pharmacogenomics.* 2014; 15(16):2063-82.

Della-Morte D, Wang L, Beecham A, **Blanton SH**, Zhao H, **Sacco RL**, **Rundek T**, **Dong C**. Novel genetic variants modify the effect of smoking on carotid plaque burden in Hispanics. *J Neurol Sci.* 2014; 344(1-2):27-31. PMID: 25258298

Dhamoon MS, Moon YP, Paik MC, **Sacco RL**, Elkind MS. Diabetes predicts long-term disability in an elderly urban cohort: the Northern Manhattan Study. *Ann Epidemiol.* 2014; 24(5):362-368.e1. doi: 10.1016/j.annepidem.2013.12.013. Epub 2014 Jan 3. PubMed PMID: 24485410; PubMed Central PMCID: PMC4011963.

Everson-Rose SA, Roetker NS, Lutsey PL, Kershaw KN, Longstreth WT Jr, **Sacco RL**, Diez Roux AV, Alonso A. Chronic stress, depressive symptoms, anger, hostility, and risk of stroke and transient ischemic attack in the multi-ethnic study of atherosclerosis. *Stroke.* 2014; 45(8):2318-23. PubMed PMID: 25013018; PubMed Central PMCID: PMC4131200.

- Gardener H**, Wright CB, Cabral D, Scarmeas N, Gu Y, Cheung K, Elkind MS, Sacco RL, Rundek T. Mediterranean diet and carotid atherosclerosis in the Northern Manhattan Study. *Atherosclerosis*. 2014; 234(2):303-10. doi: 10.1016/j.atherosclerosis.2014.03.011. Epub 2014 Mar 22. PMID: 24721190
- Goldberg S, **Gardener H**, Tiozzo E, Ying Kuen C, Elkind MS, **Sacco RL, Rundek T**. Egg consumption and carotid atherosclerosis in the Northern Manhattan study. *Atherosclerosis*. 2014; 235(2):273-80.
- Hall DL, Lattie, EG, Antoni MH, Fletcher MA, **Czaja SJ**, Perdomo D, Klimas N. Stress Management Skills, Cortisol Awakening Response and Post-Exertional Malaise in Chronic Fatigue Syndrome. *Psychoneuroendocrinology*, 2014; Vol.49, 26-31.
- Hess KC, Liu J, Manfredi G, Mühlischlegel FA, Buck J, Levin LR, **Barrientos A**. A mitochondrial CO₂-adenylyl cyclase-cAMP signalosome controls yeast normoxic cytochrome c oxidase activity. *FASEB J*. 2014; 28: 4369-80. PMID: PMC4202101
- Hudson BI, **Dong C, Gardener H**, Elkind MS, **Wright CB**, Goldberg R, **Sacco RL, Rundek T**. Serum levels of soluble receptor for advanced glycation end-products and metabolic syndrome: the Northern Manhattan Study. *Metabolism*. 2014;63(9):1125-30. doi: 10.1016/j.metabol.2014.05.011. Epub 2014 Jun 4. PMID: 25012910
- Itzhak Y, Ergui I, **Young JI**. Long-term parental methamphetamine exposure of mice influences behavior and hippocampal DNA methylation of the offspring. *Mol Psychiatry*. 2014 Feb 18. 1-11 PMID: 24535458.
- Jaubert MP, Jin Z, Russo C, Schwartz JE, Homma S, Elkind MS, Rundek T, **Sacco RL, Di Tullio MR**. Alcohol consumption and ambulatory blood pressure: a community-based study in an elderly cohort. *Am J Hypertens*. 2014; 27(5):688-94. Epub 2013 Dec 21. PubMed PMID: 4363276; PubMed Central PMCID: PMC3978947.
- Jiang H**, Zhong J, Debuc DC, Tao A, Xu Z, Lam BL, Liu C, Wang JH. Functional slit-lamp biomicroscopy for imaging bulbar conjunctival microvasculature in contact lens wearers. *Microvascular Research*, 2014; 92: 62-71.
- Koch S, Della-Morte D, Dave KR, Sacco RL, **Perez-Pinzon MA**. Biomarkers for ischemic preconditioning: finding the responders. *J Cereb Blood Flow Metab*. 2014 Jun; 34(6):933-41.
- Lawley J, **Alperin N**, Bagci A, Lee S, Mullins O, Oliver S, Macdonald J. Acute mountain sickness: Elevated brain volume and intracranial hypertension. *Ann Neurol*. 2014;75(6):890-8.
- Levin BE**, Llabre MM, **Dong C**, Elkind MS, Stern Y, **Rundek T, Sacco RL, Wright CB**. Modeling metabolic syndrome and its association with cognition: the northern Manhattan study. *J Int Neuropsychol Soc*. 2014 Nov; 20(10):951-60.
- Levin BE**, Katzen HL, Maudsley A, Post J, Myerson C, Govind V, Nahab F, Scanlon B, Mittel A. Whole-brain proton MR spectroscopic imaging in Parkinson's disease. *J Neuroimaging*. 2014 Jan-Feb; 24(1):39-44.
- Lin HW**, Gresia VL, Stradecki HM, Alekseyenko A, Dezfulian C, Neumann JT, Dave KR, **Perez-Pinzon MA**. Protein kinase C delta modulates endothelial nitric oxide synthase after cardiac arrest. *J Cereb Blood Flow Metab*. 2014 Apr; 34(4):613-20.
- Lin HW**, Saul I, Gresia VL, Neumann JT, Dave KR, **Perez-Pinzon MA**. Fatty acid methyl esters and Solutol HS 15 confer neuroprotection after focal and global cerebral ischemia. *Transl Stroke Res*. 2014 Feb; 5(1):109-17.

- López L, Peralta Carmen, Lee A, **Zeki Al Hazzouri A**, Haan MN. Impact of Acculturation on Cardiovascular Risk Factors Among Elderly Mexican Americans. *Annals of Epidemiology* 2014; 24(10):714-9.
- Maniyar FH, Sprenger T, **Monteith T**, Schankin C, Goadsby PJ. Brain activations in the premonitory phase of nitroglycerin-triggered migraine attacks. *Brain*. 2014;137(Pt 1):232-41
- Marmura MJ, **Monteith TS**, Anjum W, Doty RL, Hegarty SE, Seith SW. Olfactory acuity in episodic migraine at baseline and during attacks. *Cephalalgia*. 2014 Oct;34(12):977-85. doi: 10.1177/0333102414527014. Epub 2014 Mar 19.
- Monin JK, Schulz R, Martire LM, Connelly D, **Czaja SJ**. The Personal Importance of Being Independent: Associations with changes in disability and depressive symptoms. *Rehabilitation Psychology*. 2014 Feb; Vol 59(1),35-41.
- Monteith TS**, Borsook D. Insights and Advances in Post-traumatic Headache: Research Considerations. *Current Neurology and Neuroscience Reports* 2014;14 (2):428.
- Monteith T, Gardener H, Rundek T, Dong C**, Yoshita M, Elkind MS, DeCarli C, **Sacco RL, Wright CB**. Migraine, white matter hyperintensities, and subclinical brain infarction in a diverse community: the northern Manhattan study. *Stroke*. 2014; 45(6):1830-2. doi: 10.1161/STROKEAHA.114.005447. Epub 2014 May 15. PMID: 24876263
- Morris-Blanco KC, Cohan CH, Neumann JT, Sick TJ, **Perez-Pinzon MA**. Protein kinase C epsilon regulates mitochondrial pools of Nampt and NAD following resveratrol and ischemic preconditioning in the rat cortex. *J Cereb Blood Flow Metab*. 2014 Jun; 34(6):1024-32.
- Maudsley A, Govind V, **Levin B**, Saigal G, Harris LT, Sheriff S. Distributions of MR Diffusion and Spectroscopy Measures with Traumatic Brain Injury. *J Neurotrauma*. 2014 Oct 21. [Epub ahead of print] PMID: 25333480
- Neumann JT, Thompson JW, **Raval AP**, Cohan CH, Koronowski KB, **Perez-Pinzon MA**. Increased BDNF protein expression after ischemic or PKC epsilon preconditioning promotes electrophysiologic changes that lead to neuroprotection. *J Cereb Blood Flow Metab*. 2014; (In press)
- Noble JM, Scarmeas N, Celenti RS, Elkind MS, **Wright CB**, Schupf N, Papapanou PN. Serum IgG antibody levels to periodontal microbiota are associated with incident Alzheimer disease. *PLoS One*. 2014 Dec 18;9(12):e114959. doi: 10.1371/journal.pone.0114959. eCollection 2014. PMID: 25522313 [PubMed - in process] Free PMC Article.
- Peralta S, Torraco A, Wenz T, Garcia S, Diaz F, **Moraes CT**. Partial Complex I deficiency due to the CNS conditional ablation of Ndufa5 results in a mild encephalopathy and no increase in oxidative damage. *Hum. Mol. Genet*. 2014;23:1399-412.
- Ramos AR**, Dib S, Koch S. Risk for Sleep Apnea among Caribbean Hispanics, non-Hispanic blacks and non-Hispanic whites with ischemic strokes. *Sleep Breath*. 2014 Mar; 18(1):165-8. PMID:23771345
- Ramos AR, Dong C, Rundek T**, Elkind ESV, Boden-Albala B, **Sacco RL, Wright CB**. Sleep Duration is associated with White Matter Hyperintensity Volume in Older Adults: The Northern Manhattan Study. *J Sleep Res*. 2014; 23(5):524-30. PMID: 25040435

Ramos AR, Tarraf W, **Rundek T**, Redline S, Wohlgemuth WK, Loredó JS, **Sacco RL**, Lee DJ, Arens R, Lazalde P, Choca JP, Mosely T, Gonzalez, HM. Obstructive Sleep Apnea and Neurocognitive Function among Hispanics/Latinos. *NEUROLOGY*. 2014; MS#592089. Accepted. 9/29/2014

Ramos AR, Wallace DM, Williams NJ, Spence DW, Pandi-Perumal SR, Zizi F, Jean-Louis G. Association between visual impairment and sleep duration: analysis of the 2009 National Health Interview Survey (NHIS). *BMC Ophthalmol*. 2014 1; 14(1):115. PMID:25274449

Redline S, Sotres-Alvarez D, Loredó J, Hall M, Patel SR, **Ramos AR**, Shah N, Ries A, Arens R, Barnhart J, Youngblood M, Zee P, Daviglius ML. Sleep Disordered Breathing in Hispanic/Latino Individuals of Diverse Backgrounds: The Hispanic Community Health Study/Study of Latinos. *Am J Respir Crit Care Med*. 2014; 189(3):335-44. PMID:24392863

Rehni AK, Nautiyal N, Perez-Pinzon MA, **Dave KR**. Hyperglycemia / hypoglycemia-induced mitochondrial dysfunction and cerebral ischemic damage in diabetics. *Metab Brain Dis*. 2014; (In press)

Rincon F, **Wright CB**. Current pathophysiological concepts in cerebral small vessel disease. *Front Aging Neurosci*. 2014 Mar 24;6:24. doi: 10.3389/fnagi.2014.00024. eCollection 2014. Review. PMID: 24715862

Rundek T, Brown SC, Wang K, **Dong C**, Farrell MB, Heller GV, Gornik HL, Hutchisson M, Needleman L, Benenati JF, Jaff MR, Meier GH, Perese S, Bendick P, Hamburg NM, Lohr JM, LaPerna L, Leers SA, Lilly MP, Tegeler C, Alexandrov AV, Katanick SL. Accreditation status and geographic location of outpatient vascular testing facilities among Medicare beneficiaries: the VALUE (Vascular Accreditation, Location & Utilization Evaluation) study. *Vasc Med*. 2014; 19(5):376-8.

Rundek T, Brown DL. Socioeconomic status and subclinical atherosclerosis: are we closing disparity gaps? *Stroke*. 2014;45(4):948-9.

Russo C, Jin Z, Homma S, Elkind MS, **Rundek T**, Yoshita M, Decarli C, **Wright CB**, **Sacco RL**, Di Tullio MR. Response to letter regarding article, "subclinical left ventricular dysfunction and silent cerebrovascular disease: the cardiovascular abnormalities and brain lesions (CABL) study". *Circulation*. 2014 May 6;129(18):e486-7. doi: 10.1161/CIRCULATIONAHA.114.009354. No abstract available. PMID: 24799510
Sacco RL, **Dong C**. Declining stroke incidence and improving survival in US communities: evidence for success and future challenges. *JAMA*. 2014; 312(3):237-8. PMID: 25027138.

Sun X, Salat D, Upchurch K, Deason R, Kowall N, Budson A. Alzheimer's Disease Neuroimaging Initiative. Destruction of white matter integrity in patients with mild cognitive impairment and Alzheimer disease. *J Investig Med*. 2014 Oct; 62(7):927-33.

Tiozzo E, **Gardener H**, Hudson BI, **Dong C**, Della-Morte D, Crisby M, Goldberg RB, Elkind MS, Cheung YK, **Wright CB**, **Sacco RL**, **Rundek T**. High-density lipoprotein subfractions and carotid plaque: The Northern Manhattan Study. *Atherosclerosis*. 2014 Nov;237(1):163-8. doi: 10.1016/j.atherosclerosis.2014.09.002. Epub 2014 Sep 9. PMID: 25240111

Thompson JW, Narayanan SV, Koronowski KB, Morris-Blanco K, **Dave KR**, **Perez-Pinzon MA**. Signaling pathways leading to ischemic mitochondrial neuroprotection. *J Bioenerg Biomembr*. 2014; (In press)

Walz K, Cohen D, Neilsen PM, Foster J 2nd, Brancati F, Demir K, Fisher R, Moffat M, Verbeek NE, Bjørgo K, Lo Castro A, Curatolo P, Novelli G, Abad C, Lei C, Zhang L, Diaz-Horta O, **Young JI**, Callen DF, Tekin M. Characterization of ANKRD11 mutations in humans and mice related to KBG syndrome. *Hum Genet*. 2014 Nov 21. [Epub ahead of print]. PMID: 25413698

Walz K, **Young JI**. The methyl binding domain containing protein MBD5 is a transcriptional regulator responsible for 2q23.1 deletion syndrome. *Rare Diseases*, 2014.

Wiley JZ, **Gardener H**, Moon YP, Yoshita M, DeCarli C, Cheung YK, **Sacco RL**, Elkind MS, **Wright CB**. Lipid profile components and subclinical cerebrovascular disease in the northern Manhattan study. *Cerebrovasc Dis*. 2014; 37(6):423-30. doi: 10.1159/000362920. Epub 2014 Jul 12. PMID: 25034465

Wiley JZ, Park Moon Y, Ruder R, **Cheung YK**, **Sacco RL**, Elkind MS, **Wright CB**. Physical Activity and Cognition in the Northern Manhattan Study. *Neuroepidemiology*. 2014; 42(2):100-6. Epub 2013 Dec 3. PubMed PMID: 24335048; PubMed Central PMCID: PMC3942085.

Wong ML, **Dong C**, Flores DL, Ehrhart-Bornstein M, Bornstein S, Arcos-Burgos M, Licinio J. Clinical Outcomes and Genome-Wide Association for a Brain Methylation Site in an Antidepressant Pharmacogenetics Study in Mexican Americans. *Am J Psychiatry*. 2014 [Epub ahead of print] PMID: 25220861.

Wright CB, **Dong C**, Stark M, Silverberg S, **Rundek T**, Elkind MS, **Sacco RL**, Mendez A, Wolf, M. Plasma FGF23 and the risk of stroke: the Northern Manhattan Study (NOMAS). *Neurology*. 2014; 82(19):1700-6. PMID: 24706015

Xu WH, Dong C, **Rundek T**, Elkind MS, Sacco RL. Serum albumin levels are associated with cardioembolic and cryptogenic ischemic strokes: Northern Manhattan Study. *Stroke*. 2014; 45(4):973-8.

Yavagal DR, Lin B, **Raval AP**, Garza PS, **Dong C**, Zhao W, Rangel EB, McNiece I, **Rundek T**, **Sacco RL**, **Perez-Pinzon M**, Hare JM. Efficacy and dose-dependent safety of intra-arterial delivery of mesenchymal stem cells in a rodent stroke model. *PLoS One*. 2014 May 7; 9(5):e93735.

Zeki Al Hazzouri A, Haan MN, Deng Y, Yaffe K. Reduced heart rate variability is associated with worse cognitive performance in elderly Mexican Americans. *Hypertension* 2014; 63(1):181-7. PMC4045649.

Zeki Al Hazzouri A, Vittinghoff E, Byers AL, Covinsky K, Blazer D, Diem S, Ensrud K, Yaffe K. Long term depressive symptom burden and risk of cognitive decline and dementia among very old women. *J Gerontol A Biol Sci Med Sc* 2014; 69(5):595-601. PMC3991142.

Zeki Al Hazzouri A, Yaffe K. Arterial Stiffness and Cognitive Function in the Elderly. *J Alzheimers Dis* 2014; 42(0): S503-14. [PMCID in Process]

3. Publication (Other)

Boot W R, Charness N, **Czaja SJ**, Sharit J, Rogers WA, Fisk AD, Mitzner T, Lee CC, Nair S The Computer Proficiency Questionnaire (CPQ): Assessing low and high computer proficient seniors. *The Gerontologist*. 2014; (in press).

Crocco EA, Eisdorfer C. Research in Mental Health and Caregiving, In: *The Challenges of Mental Health and Caregiving*, RC Talley, GL Fricchion, BG Druss ed., Springer, NY, 205-221, 2014 ISBN: 978-1-4614-8791-3

Czaja SJ, Beach S, Charness N, Schulz R. Older adults and the Adoption of Healthcare Technology: Opportunities and Challenges. In A. Sixsmith & G. Gutman (eds.), *Technology for Active Aging*, International Perspectives on Aging, New York: Springer Science & Business Media Press.2014: (in press).

Czaja S J, Sharit J, Charness N. The implications of changes in job demands for

the continued and future employment of older workers. In K. Kanfer, L. Finkelstein, D. Truxillo, & F. Fraccaroli (eds.), *Age in the Workplace*, SIOP Frontier Series, Psychology Press, Taylor & Francis Group: London. 2014 (in press).

Czaja SJ, Zarcadoolas C, Vaughn W, Lee CC, Rockoff M, Levy J. The Usability of Electronic personal health records among an underserved patient population. *Human Factors*. 2014: (in press).

Duara R, Loewenstein DA, **Wright C**, **Crocco E**, Varon D. Mild Cognitive Impairment, In: *Neurology in Practice: Dementia*, J Quinn ed., Wiley-Blackwell Pub, UK, Chapter 6, 2014 ISBN: 978-0-470-67424-6.

Galor A, **Gardener H**, Pouyeh B, Feuer W, Florez H. Effect of a Mediterranean dietary pattern and vitamin D levels on Dry Eye syndrome. *Cornea*. 2014;33(5):437-41.

Gardener H, **Rundek T**, **Wright CB**, Gu Y, Scarmeas N, Homma S, Russo C, Elkind MS, **Sacco RL**, Di Tullio MR. A Mediterranean-Style Diet and Left Ventricular Mass (from the Northern Manhattan Study). *Am J Cardiol*. 2014 Nov 29. pii: S0002-9149(14)02179-1. doi: 10.1016/j.amjcard.2014.11.038. [Epub ahead of print] PMID: 25542392.

Gomes-Osman J, Field-Fote EC. Improvements in Hand Function in Adults With Chronic Tetraplegia Following a Multiday 10-Hz Repetitive Transcranial Magnetic Stimulation Intervention Combined With Repetitive Task Practice. *J Neurol Phys Ther*. 2014; 39(1), 23-30.

Gomes-Osman J, Field-Fote EC. Cortical vs. afferent stimulation as an adjunct to functional task practice training: A randomized, comparative pilot study in people with cervical spinal cord injury. *Clin Rehabil*. 2014; 0269215514556087.

Gutierrez J, Bagci A, **Gardener H**, Rundek T, Elkind MS, Alperin N, Sacco RL, Wright CB. Dolichoectasia Diagnostic Methods in a Multi-Ethnic, Stroke-Free Cohort: Results from the Northern Manhattan Study. *J Neuroimaging*. 2014;24(3):226-31.

Zhong J, Tao A, Xu Z, **Jiang H**, Shao Y, Zhang HC, Liu C, Wang JH. Whole eye axial biometry during accommodation using ultra-long scan depth optical coherence tomography. *American Journal of Ophthalmology*. 2014;157:1064-1069.

Khatri M, Moon YP, Scarmeas N, Gu Y, **Gardener H**, Cheung K, **Wright CB**, **Sacco RL**, Nickolas TL, Elkind MS. The association between a Mediterranean-style diet and kidney function in the Northern Manhattan Study cohort. *Clin J Am Soc Nephrol*. 2014;9(11):1868-75.

Lee RHC, Wilkins CS, Couto e Silva, A, Valido SE, Wu, CY, **Lin HW**. Fatty Acids in Vascular Health. In: Lucas F. Porto (Ed.), *Palmitic Acid: Occurrence, Biochemistry and Health Effects* (1st ed.). Hauppauge, NY: Nova Science Publishers. 2014

Monteith T, Minen MT, Joshi S; Seng E. New Investigator and Trainee Telementoring Seminars in Headache Medicine: A Novel Model for Mentorship. *Headache* 2014; (54) (Suppl1);46. Accumulative Blindness and Persistent Visual Auras in the Setting of Migraine: Role of

Morrow D, **Czaja SJ**. "The Implications of Aging for Human Systems Integration". *APA Handbook of Human Systems Integration*. 2014; (in press).

Schulz R., Wahl HW, Matthews J, Devito DA, Beach S, **Czaja SJ**. Advancing the Aging and Technology Agenda in Gerontology. *The Gerontologist*. 2014; (in press)

Weiss DL, Schatz N, Shebert RT, **Monteith TS**. Calcium Channel N-type and P/Q-type Antibodies? Headache 2014; (54) (Suppl 1);70.

4. Presentation at Scientific Meetings

Blanton SH, Beecham AH, **Gardener H**, Wang L, **Dong C**, Cabral D, **Sacco RL**, **Rundek T**, **Wright C**. An extreme phenotype approach to identify genes in Caribbean Hispanics for carotid plaque, a preclinical marker of atherosclerosis. American Society of Human Genetics meeting, San Diego, CA, October, 2014.

Blanton SH, **Gardener H**, Elkind MSV, **Sacco RL**, **Rundek T**, **Wright C**. Carotid IMT and cognitive domains in a tri-ethnic population. Poster Presentation at the 2nd International Conference on Heart & Brain, Paris, France, February, 2014.

Czaja SJ. The Age to Come: Nobel Prize Week Dialogue. **Panel Member**. Discussion: Implications of an Older World and Technological Innovations. Stockholm, Sweden, December 8-10, 2014.

Czaja SJ. “Public Workshop on Engineering Optimal Health Care Scheduling”. **Invited Presentation**. Institute of Medicine of the National Academy of Sciences. Washington, DC, November, 2014.

Czaja SJ. Title: Increasing Resources for Older Adults through Technology Focused Research and Intervention. **Symposium**. Gerontological Society of America Annual Meeting. Washington D.C., November, 2014.

Czaja SJ. Title: Discovery Exchange: Families and Dementia Care: Community Implementation of an Intervention Program for Caregivers of Alzheimer’s Patients. **Paper presentation**. Gerontological Society of America Annual Meeting. Washington D.C., November, 2014.

Czaja SJ. Title: Primary and Secondary Outcomes of the PRISM Field Trial: A Technology-Based Intervention to Reduce Isolation, Improve Well-Being and Promote Independence. **Symposium**. Gerontological Society of America Annual Meeting. Washington D.C., November, 2014.

Czaja SJ. Title: Internet Programs for Dementia Caregivers: Global Developments, Benefits and Next Steps. **Symposium**. Gerontological Society of America Annual Meeting. Washington D.C., November, 2014.

Czaja SJ. “Title: Ambient Independence Measures for Guiding Care Transitions Session Type: **Symposium**. Gerontological Society of America Annual Meeting. Washington D.C., November, 2014.

Czaja SJ. “Family Caregiving for Older Adults”. **Invited Presentation**. Institute of Medicine of the National Academy of Sciences. Washington, DC. November 2-4, 2014.

Czaja SJ. “Usability of an Electronic Personal Health Record Among Diverse Group of Adults”. **Paper presentation**. Human Factors and Ergonomics Annual Meeting. Chicago, IL, October, 2014.

Czaja SJ. “Psychosocial and Environmental: Caregivers Assessment & Care Planning. **Oral Presentation**. Alzheimer’s Association International Conference. Copenhagen, Denmark. July, 2014.

Czaja SJ. “The Implementation and Evaluation of an Evidence-Based Intervention Program for Family Caregivers of Patients with AD. **Poster presentation**. Alzheimer’s Association International Conference. Copenhagen, Denmark. July, 2014.

Czaja SJ. “The Feasibility and Efficacy of Technology-Based Support Groups among Family Caregivers of Persons with Dementia”. **Invited Presentation**. 14th International Conference on Computers Helping

People with Special Needs (ICCHP). Paris, France July, 2014.

Czaja SJ. Development and Evaluation of a Novel Technology-Based Functional Assessment Package. Society of Biological Psychiatry 69th Annual Scientific Meeting. **Poster presentation.** New York, NY, May, 2014.

Czaja SJ. 4th Schizophrenia International Research Society Conference. **Invited Presentation.** “A Novel Technology-Based Functional Outcomes Assessment”. Florence, Italy, April, 2014.

Dave KR. Diabetes mediated molecular changes after stroke and therapeutic implications. International symposium on translational neuroscience & XXXII annual conference of the Indian academy of neurosciences, held at Bengaluru, India, November 2014.

Dave KR, Koch S, Saul I, Bidot Jr. C, Liu A, **Perez-Pinzon MA,** Jy W, Ahn YS. Amelioration of bleeding in intracerebral hemorrhage by infusion of red cell-derived microparticles (RMP). Miami 2014 Winter Symposium, held at Miami, FL, January 2014, Abstract was not refereed. Abstract # p1.69.

Dave KR, Koch S, Shukla V, Saul I, Bidot Jr. C, Liu A, **Perez-Pinzon MA,** Jy W, Ahn YS. Infusion of Red Blood Cell-Derived Microparticles (RMPs) Reduced Intracerebral Bleeding Following Hemorrhagic Stroke in a Rat Model. 56th American Society of Hematology Annual Meeting & Exposition, held at San Francisco, CA, December, 2014. Abstract was refereed. Abstract # 1556.

Denny K, Rossetti M A, Myerson C, Katzen H, Maudsley A, Govind V, **Levin BE.** Characterization of depressive symptomatology in ALS and Parkinson’s. Presented at the 41st Annual Meeting of the International Neuropsychological Society, Seattle, Washington, February, 2014.

Dong C, Beecham A, Wang L, Cabra D, **Blanton SH, Sacco RL, Rundek T,** Genetic variants in LEKR1 and GALNT10 modulate sex-difference in carotid intima-media thickness: A genome-wide interaction study. Abstract (#2084M). The 64th American Society of Human Genetics Annual Meeting, San Diego, CA, Oct. 18-22, 2014.

Forte M, Rossetti MA, Riesgo VJ, Katzen H, Brent A, **Levin BE,** Rodriguez GB, Rammohan K, Ortega MR. Caprylic triglyceride as a potential treatment for cognitive dysfunction in multiple sclerosis: a case series. Presented at the 41st annual meeting of the International Neuropsychological Society, Seattle, Washington, February, 2014.

Lin HW. “Benefits of sympathetic nervous system attenuation in brain ischemia .” Pharmacology and Physiology, Invited Speaker: International Scientific Congress, Kuala Lumpur, Malaysia, 2014.

Markert MS, **Dong C,** Della-Morte D, Roberts E, Bartels S, Elkind MSV, **Sacco RL, Wright CB, Rundek T.** Carotid Intima-Media Thickness is Associated with White Matter Hyperintensity Volume: The Northern Manhattan Study. Oral presentation at International Stroke Conference, San Diego, CA, Feb 12-14, 2014.

Markert MS, **Dong C,** Della-Morte D, Roberts E, Bartels S, Elkind MSV, **Sacco RL, Wright CB, Rundek T.** The Relationship Between Carotid Stiffness, Diastolic Diameter, and White Matter Hyperintensity Volume: The Northern Manhattan Study. Abstract (MP58), International Stroke Conference, San Diego, CA, Feb 12-14, 2014.

Monteith TS. Diagnosis & Treatment of Headache Disorders, Florida Society of Neurology Meeting, Orlando, Florida, September 13, 2014.

Monteith TS. Introduction, New Investigator Research Tournament, Los Angeles, California 2014

Medication overuse headache. Neurology Update and Stroke Intensive, Faculty, Miami, FL, February 2014.

Moraes CT. Genetic Therapy for mtDNA Disorders. Mitochondria, Energetics and Metabolism meeting. Mahabaleshwar, India. 27th-30th January 2014.

Moraes CT. Manipulating Mitochondrial DNA Heteroplasmy in vivo to Treat Mitochondrial Diseases. Center for Molecular Medicine and Genetics Seminar Series. Wayne State University, Detroit. March 20th, 2014.

Moraes CT. Rethinking the Cellular Targets of Mitochondrial Dysfunction Associated with Aging. American Aging Association 43rd Annual Meeting. San Antonio, TX May 30th, 2014.

Moraes CT. Engineered Mitochondrial Nucleases for the Treatment of Mitochondrial DNA Disorders. United Mitochondrial Disease Foundation Annual Meeting, Pittsburgh, PA. June 5th, 2014.

Moraes CT. Mitochondrial TAL effector nucleases as therapy for mitochondrial diseases. EuroMit. Tampere, Finland. June 2014

Moraes CT. Genetic Treatment for Mitochondrial Diseases Caused by Heteroplasmic mtDNA Mutations. Symposium “Links in Metabolism and Mitochondria in Aging Diseases and Their Therapeutic Potentials”. Gainesville, FL. December 2014.

Oboudiyat C, **Gardener H**, Marquez C, Elkind M, **Sacco R**, DeCarli C, **Wright C**. Comparing Semi-quantitative and Volumetric Measurements of MRI White Matter Hyperintensities: The Northern Manhattan Study. American Academy of Neurology 66th Annual Meeting, Philadelphia, PA, April, 2014.

Ramos A, Gardener H, Elkind M, Cheung K, Santiago M, **Sacco R, Rundek T**. Sleep duration is associated with subclinical carotid plaque burden and echodensity. The American Institute of Ultrasound in Medicine 2014 Annual Convention, Platform Presentation: Las Vegas, NV, April, 2014.

Ramos A. Obstructive Sleep Apnea and Neurocognitive Function among Hispanic/Latino men and women: Results from the Hispanic Community Health Study, Session: O07: “Neurocognitive and Mood Effects of Sleep in Women” June 2, 2014; 1:45- 2:45 PM. SLEEP Meeting Platform Presentation: Minneapolis, Minnesota, 2014.

Raval AP, Patel HH, Brand III F, Bramlett H and Rivero Vaccari JP. Estrogen receptor beta regulates inflammasome activation in the hippocampus of female rats. Program#/Oralr#: 672.09, 2014 Neuroscience Meeting Planner. Washington DC, Society for Neuroscience, 2014

Raval AP, Patel HH, Brand III F, Bramlett H and Rivero Vaccari JP. Estrogen receptor beta regulates inflammasome activation in the hippocampus of female rats. McKnight Brain Research Foundation, Washington DC, Society for Neuroscience, 2014.

Rey G. Cognitive and memory outcomes following laser ablation surgery in epilepsy. Neuroscience conference in Quito, Ecuador, Nov 18-23, 2014.

Romano JG, Smith EE, Liang L, **Gardener H**, Camp S, Shuey L, Campo-Bustillo I, Khatri P, Bhatt DL, Fonarow GC, **Sacco RL**, Schwamm LH. Thrombolytic Therapy in Patients With Mild Stroke: An Observational Study. American Heart Association International Stroke Conference, San Diego, CA, February, 2014.

Rossetti MA, Denny KG, Govind V, **Levin BE**, Maudsley AA. Orbitofrontal white matter microstructural

abnormalities in TBI and executive dysfunction, a DTI pilot study. Presented at the 41st annual meeting of the International Neuropsychological Society, Seattle, Washington. February, 2014.

Rossetti MA, Forte M, Gavett R, Piryatinsky I, Ahmed FS, Klinge PM, Salloway S, Malloy PF, Relkin NR, Ravdin LD, **Levin BE**, Broggi M, Maniscalco JS, Katzen H. Novel upper extremity motor tasks are reliable and sensitive to deficits in idiopathic normal pressure hydrocephalus. Presented at the 41st annual meeting of the International Neuropsychological Society, Seattle, Washington, February, 2014.

Sacco RL. "Closing the Gap: The Florida-Puerto Rico Collaboration to Reduce Stroke Disparities", Neurology Update, Miami, Florida, February 8, 2014.

Sacco RL. "Current, future and global approaches for stroke prevention," University of Washington Stroke Visiting Professor, Neurology Lecture Series - Seattle, WA, April 2, 2014.

Sacco RL. "Stroke epidemiology and management", "Hypertension and the brain", "Update in the management of non-coronary atherosclerotic disease" and "Projections on global regional "CVD 2025 premature mortality by achieving high priority targets": World Congress of Cardiology - Melbourne, Australia, May 5-8, 2014.

Sacco RL. "Addressing Stroke Quality and Health Disparities: the Florida Puerto Rico Collaboration to Reduce Disparities":- Florida Brain Project Symposium, Tallahassee, Florida, July 28 & 29, 2014.

Sarno M., Buré-Reyes A., Rosado M., **Crocco EA**, Curiel RE. A Case Study of Frontotemporal Dementia: Cognitive Reserve and its Implications in Early Detection. Poster presented at the National Academy of Neuropsychology 34th Annual Conference in San Juan, Puerto Rico, 2014.

Shah N, **Dong C**, Céspedes S, Elkind MSV, **Sacco RL**, Wolf M, **Rundek T**, **Wright CB**, Fibroblast Growth Factor 23 and Carotid Plaque: the Northern Manhattan Study (NOMAS). Abstract (P151), International Stroke Conference, San Diego, CA, Feb 12-14, 2014.

Shukla V, Fuchs P, Liu A, Serdahely K, Reddy P, **Dave K**. Effect of cerebral ischemia on behavioral outcomes in insulin-treated diabetic rats exposed to recurrent hypoglycemia. Society for Neuroscience Conference, held at Washington DC, November 2014. Abstract was not refereed. Abstract # 802.13.

Wang L, **Rundek T**, Beecham A, Hudson B, **Blanton SH**, Zhao H, **Sacco RL**, **Dong C**. Genome-Wide Interaction Study Identifies RCBTB1 as a Modifier for Smoking Effect on Carotid Intima-Media Thickness. 2014 *Arterioscler Thromb Vasc Biol.* 34(1):219-25. PMID: 24202307

Wright CB, **Gardener H**, **Dong C**, Marquez C, DeRosa JT, Cheung K, **Sacco RL**, Stern Y, Elkind MS. Infectious Burden and Cognitive Performance: the Northern Manhattan Study. American Heart Association International Stroke Conference, San Diego, CA, February, 2014.

Wright C, **Gardener H**, Zambrano M, Del Brutto V, Del Brutto O. Comparing Cognitive Screening Tools in a Rural Ecuadorian Population: The Atahualpa Project. American Academy of Neurology 66th Annual Meeting, Philadelphia, PA, April, 2014.

Wright C. "Cognitive Training Enhances Real World Cognitive Outcome" Evelyn F. McKnight Inter-Institutional Meeting, University of Florida, Gainesville, FL, 2014

Yavagal DR, Bhattacharya P, Lopez R, Khan A, **Perez-Pinzon MA**, Hare JM, and **Raval AP**. Program#/Oral#: 802.03/V7, 2014 Neuroscience Meeting Planner. Washington DC, Society for Neuroscience, 2014

Young JI, Camarena V, Cao L, Abad C, Toledo Y, Araki M, Araki K, Walz K. A mouse model of 2q23.1 deletion syndrome implicates MBD5 in neuronal development. American Society of Human Genetics. San Diego, CA. October, 2014.

Zeki Al Hazzouri A. Social & cardiovascular risk factors: A life course perspective towards healthy minority aging. University of Miami, Miller School of Medicine; Oral presentation: Miami, FL, April 8, 2014.

Zeki Al Hazzouri A. Intergenerational changes in education, obesity, metabolic syndrome and diabetes in US Latinos. Session on “Lifestyle, central adiposity, and diabetes risk” at the 47th annual SER meeting, June 24-27, 2014- Oral Presentation: Seattle, Washington.

Zeki Al Hazzouri A. Carotid Intima Media Thickness and cognitive function in midlife. Featured Research Symposium on “Vascular Comorbidities in Early Adulthood and Accelerated Brain Aging: Critical Windows for Risk Reduction” at the Alzheimer’s Association International Conference Oral Presentation: Copenhagen, Denmark, July 12-17, 2014.

Zeki Al Hazzouri A. Vittinghoff E, Sidney S, Reis J, Jacobs D, Yaffe K. Carotid intima media thickness and cognitive function in middle-age adults. Poster session at the 47th annual SER meeting, June 24-27, 2014- Poster Presentation: Seattle, Washington.

5. Presentation at Public (Non-Scientific) Meetings or Events

Crocco EA. Prescription Drug Abuse in the Elderly, Primary Care Symposium. Miami, FL, March, 2014.

Crocco EA. The Diagnosis and Management of Mild Cognitive Impairment. South Florida Psychiatric Society Meeting, Aventura, FL, April, 2014.

Czaja SJ. “Aging, Cognition and Functional Performance: Patterns and Assessment Protocols. Neurology Grand Rounds Presentation. UM Medical Campus, Lois Pope Life Center, December, 2014.

Czaja SJ. “Glen Campbell: I’ll Be Me” Documentary Screening. Panel discussion. The film chronicles Campbell’s battle with Alzheimer’s disease while on the road for his farewell tour. Discussion was centered around Alzheimer’s research and caregiver support services. Hosted by University of Miami Departments of Psychiatry and Behavioral Sciences and Neurology and Volunteers of America Florida. The Regal Cinemas on Miami Beach, December 2, 2014.

Czaja SJ. “Public Workshop on Engineering Optimal Health Care Scheduling”. Workshop. Institute of Medicine of the National Academy of Sciences. Washington, DC, November, 2014.

Czaja SJ. A Brief History of Measuring Function in Alzheimer’s Disease Dementia. “A Computer-Based, Ecologically Valid Functional Assessment Battery”. Symposium. Janssen Research & Development, LLC. Philadelphia, PA, November, 2014.

Czaja SJ. “Insights and Realities of Designing for Older Adults and their Caregivers”. Invited Participant. Aging in Place Workshop (AiP)/Trans-NIH Interagency Workshop on The Use and Development of Assistive Technology for the Aging Population and People with Chronic Disabilities. Washington, DC, September, 2014.

Czaja SJ. “Functional Assessment”. Committee on the Public Health Dimensions of Cognitive Aging. Institute of Medicine (IOM). Webex. Wednesday, August 6, 2014.

Czaja SJ. AHRQ National Web Conference on the Use of Health Information Technology to Enhance Patient Understanding of Health Concerns. Webex. Thursday, June 5, 2014.

Czaja SJ. 12th Mild Cognitive Impairment Symposium: Predicting and Measuring Progression in Early AD. "Computer-Based Assessment of ADLs and IADLs in MCI". Invited Presentation. Mt. Sinai Medical Center, Miami Beach, January, 2014.

Czaja SJ. From Stories to Strategies: Innovative Service Models for Memory Care. "Challenges & Opportunities in Technology Use". Invited presentation. Sponsored by Erickson School, UMBC. Ft. Myers, FL, January, 2014.

Monteith TS. Current Advances in Migraine, North Shore Hospital Grand Rounds, Miami, Florida September 26, 2014.

Moraes CT. Course in Mitochondrial Medicine, Bertinoro di Romagna, Italy. December 3, 2014.

Moraes CT. Mitochondrial DNA damage in aging. Workshop on "Mitochondria and Metabolic Signaling in Ataxia-Telangiectasia". Tarrytown, NY. December 2014.

Ramos A. Clinical Research in Sleep Disorders and Advances in Neurology Roundtable. Florida Society of Neurology Annual Meeting in Orlando, FL. September 13th, Rosen Shingle Creek Resort, Orlando, FL (CME 2.0). 2014.

Ramos A. Sleep and Circadian Research Roundtable Discussion with Dr. Gary Gibbons, MD, Director of National Heart and Lung Blood Institute/NIH. Moderator- David Rappaport, MD. New York University, NY. July 18th 2014.

Ramos A. PRIDE. Mentoring to Empower Junior Minority Faculty Meeting. Future of sleep research, July 17th 2014. New York University, NY. 2014

Ramos A. Cerebral Hemodynamics in Obstructive Sleep Apnea: The Hispanic Community Health Study. February 12, 2014, San Diego, CA. Mid-year meeting for the Center for Stroke Disparities Solutions (CSDS), New York University School of Medicine. 2014.

Ramos A. Update: Sleep Apnea. January 24, 2014. North Shore Medical Center, Miami, FL. (CME 1.0). 2014.

Sacco RL. Roundtable Discussant Representing the American Heart Association/American Stroke Association, Senate Special Committee on Aging, "Harnessing the Power of Telehealth: Promises and Challenges." Washington, DC, September 16, 2014.

Wright C. Bedside Cognitive Exam and Vascular Dementia" Neurology Academic Schedule for Residents, Jackson Memorial Hospital Miami, FL, November 2014.

6. Awards (Other)

Dr. Blanton was named Field Reviewer, CDC study section, Center for Research and Training to Promote the Health of People with Developmental and Other Disabilities

Dr. Crocco was elected as a member of The American College of Psychiatrists, and was granted the award of Distinguished Fellow, American Psychiatric Association (APA).

Dr. Czaja was named Panel Member, Nobel Prize Week Dialogue, Stockholm Sweden, December 2014

Dr. Czaja received an RO1 award for NIH/NINR to test the efficacy of a technology based intervention for family caregivers of AD patients.

Dr. Dong has been appointed Research Associate Professor in the Department of Neurology at the University of Miami

Dr. Monteith has received travel awards for NIH Grant writing workshop for Diverse Applicants, and for the IASP/HIS Pain Symposium. She has also been named Board Member for the Florida Society of Neurology.

Dr. Moraes was appointed Esther Lichtenstein Professor of Neurology Chair, January 2014, and NINDS Neurological Sciences and Disorders B (NSD-B) Review Group (Regular Member) 2014-2018

Dr. Perez-Pinzon was awarded a project as a part of American Stroke Association Bugher Foundation centers of excellence in stroke collaborative research for regeneration, resilience and secondary prevention (start date April 1, 2014).

Dr. Raval received funding from the University of Florida Southeast Center for Integrated Metabolomics Pilot and Feasibility Projects to study how Nicotine alters brain oxidative metabolism

Dr. Ramos was named one of America's Top Physicians by the Consumers Research Council of America. He was also named "Who's who in America".

Dr. Sacco has been appointed the American Academy of Neurology President-elect (2015-2017). He was also presented the American Heart Association Cor Vitae Award for Stroke, 2014, Miami Dade County, FL.

Dr. Sun has been appointed Assistant Professor in the Department of Neurology at the University of Miami

Dr. Wright has been invited to participate in the American Society of Hypertension 29th Annual Scientific Meeting. He has also been invited to Co-Chair "Aging and Dementia: Imaging and Neuropathology" at the American Academy of Neurology Annual Meeting Philadelphia Convention Center, Philadelphia, CA

Dr. Zeki has been appointed Assistant Professor of Epidemiology, Division of Epidemiology and Population Health, Department of Public Health Sciences, University of Miami. In 2014, Dr. Zeki was awarded a five year National Institute of Aging K01 titled, "Lifecourse cardiovascular risk, depression and cognition in black & white adults". The project will address the life course nature of the associations of cardiovascular risk factors with cognitive function and depressive symptoms, and the role of structural brain changes.

7. Faculty

Faculty is divided between those receiving direct support from the Institute (Members) and those with whom the Institute is collaborating within the University of Miami (Collaborators)

Name	Center Role	Area of Expertise
Noam Alperin, Ph.D.	Radiology	Physics (MRI)
Sara Czaja, Ph.D.	Member	Aging, psychology, engineering
Kunjan R. Dave, Ph.D.	Member	Neurobiology, basic science

Hong Jiang, M.D., Ph.D.	Member	Neurology, neuroscience
Bonnie E. Levin, Ph.D.	Schoninger Professor	Neuropsychology
Gustavo Rey, Ph.D.	Member	Clinical Neuropsychology
Ralph L. Sacco, M.D., M.S.	Executive Director	Neurology, epidemiology, genetics
Xiaoyan Sun, M.D., Ph.D.	Educational Director	Neuroscience, biochemistry
Clinton B. Wright, M.D.,M.S.	Scientific Director	Neurology, epidemiology, cognition

Name	Center Role	Area of Expertise
Antonio Barrientos, Ph.D.	Collaborator	Neuroscience, genetics
Susan Blanton, Ph.D.	Collaborator	Genetics
Elizabeth Crocco, M.D.	Collaborator	Psychiatry
Chuanhui Dong, Ph.D.	Collaborator	Epidemiology, biostatistics
Hannah Gardener, Sc.D.	Collaborator	Epidemiology
Joyce Gomes-Osman, Ph.D.	Collaborator	Neuroscience
Hung-Wen Lin, Ph.D.	Collaborator	Neuroscience, pharmacology
Teshame Monteith, M.D.	Collaborator	Headache
Carlos Moraes, Ph.D.	Collaborator	Neuroscience
Miguel Perez-Pinzon, Ph.D.	Collaborator	Neuroscience
Alberto Ramos, M.D.	Collaborator	Sleep Medicine, Neurology
Ami P. Raval, Ph.D.	Collaborator	Neuroscience, epidemiology
Tatjana Rundek, M.D., Ph.D.	Collaborator	Epidemiology, neurology
Juan Young, Ph.D.	Collaborator	Genetics
Adina Zeki Al Hazzouri, Ph.D.*	Collaborator	Epidemiology

8. Trainees

Name	Center Role	Area of Expertise
Ahmet Murat Bagci, Ph.D.	Postdoctoral trainee	Bio-engineering
Charles Cohan, B.S.	Graduate Student	Neuroscience
Nooshin Nabizadeh, M.S.	Graduate student	Electrical Engineering
Jacob Neumann, Ph.D.	Postdoctoral Fellow	Neuroscience
Jessica Warsch, M.D. Ph.D.	Resident	Epidemiology
Adina Zeki Al Hazzouri, Ph.D.*	K Awardee	Epidemiology

*Both faculty and trainee

9. Clinical / Translational Programs

New Programs

A group of UM-MBI investigators led by Dr. Sacco was awarded an American Heart Association-Bugher Center of Excellence to evaluate translational approaches to improving cognition after stroke. Studies include

a basic science research project, led by Dr. Perez Pinzon, which is aimed at enhancing synaptic and metabolic plasticity through an enriched environment and physical exercise with the ultimate goal of improving spatial and non-spatial learning (improve cognitive outcomes) and functional recovery after stroke in middle aged and aged rats. The second project, led by Dr. Wright, is a randomized clinical trial aimed at evaluating the effects of combined aerobic and resistance exercise training as well as cognitive training in stroke patients. The trial is a phase 2b study that has the potential to lead to a multi-site clinical trial. Further, if resveratrol, or another agent being studied in the basic science project, are found to enhance the behavioral outcomes in animals, a translational interventional project in humans will be planned.

Cerebrovascular Disease Research laboratory faculty Dr. Perez-Pinzon and Dave have continued to push their novel work forward examining impairment in spatial memory formation following cardiac arrest in middle-aged rats. This ischemic damage also correlated with synaptic transmission dysfunction, and a reduction in the number of normal neurons in the hippocampal Cornu Ammonis 1 and subiculum. The manuscript came back with comments suggesting for a different statistical analysis for the Barnes maze and electrophysiological results. We revised our manuscript and submitted it to the journal *Hippocampus*.

The group is also investigating the activity-regulated cytoskeleton-associated protein *arc*, an important regulator of synaptic activity that is necessary for learning and memory tasks. Inhibition of *arc* impairs spatial memory and maintenance of long term potentiation (LTP), a process necessary for memory formation. Previous research has indicated that transcription of *arc* in response to behavioral stimuli is impaired in some areas of the hippocampus in aged rats. Based on these findings, the group attempted to increase *arc* expression pharmacologically and tested the efficacy of a specific activator of protein kinase C epsilon (PKC-epsilon) in increasing *arc* expression. They observed an age-dependent effect of PKC-epsilon activation, wherein young rats (4 months old) showed an increase in *arc* expression, whereas there was no change in rats 9 month old or older rats at the same drug concentration. Understanding the mechanisms through which PKC-epsilon-mediated *arc* protein expression is modified by aging may provide insights into how learning and memory systems can be improved. This project was done in collaboration with Dr. Carol Barnes.

Dr. Barrientos is studying the chronological life span of yeast as a model of aging of post mitotic cells such as neurons. His group is interested in the regulation of chronological life span by mitochondrial ATP production and reactive oxygen species (ROS). The data are showing that ROS can act as signaling molecules and have a positive impact on developing stress resistance and promoting longevity. In excess, ROS produce a deleterious effect and the group has observed that the modulation of chronological life span by nutritional cues (caloric restriction, interference of the TOR pathway, etc) requires mitochondrial respiration above a certain threshold, and that ROS act as signaling molecules.

Three new junior faculty members have joined the UM MBI.

Dr. Joyce Gomes was recruited from Harvard Medical School where she completed her post-doctoral fellowship, and is now an Assistant Professor at UM. She brings expertise in clinical studies and has appointments in the Departments of Physical Therapy and Neurology. She has started working closely with Dr. Wright to conduct assessments of cortical excitability and plasticity using non-invasive brain stimulation in the form of transcranial magnetic stimulation (TMS) in people with stroke who participate in the Bugher Project and McKnight Memory Clinic Registry participants with age-related memory loss. Studies are being conducted to investigate the effects of aerobic exercise on neuroplasticity and cognitive function in individuals with stroke and memory complaints.

Dr. Adina Zeki Al-Hazzouri was recruited from UCSF where she did her post-doctoral work, and she is now an Assistant Professor in the department of Public Health Sciences at UM. She is an accomplished epidemiologist with a specific interest in vascular cognitive impairment and will be working with Dr. Wright who is her K award mentor. She is a member of several working groups involving large epidemiologic datasets that will allow us to examine the determinants of age-related cognitive changes.

Dr. Hong Jiang, M.D., Ph.D. is a neurologist with fellowship training in neuro-ophthalmology. Along with colleagues at the Bascom Palmer Eye Institute, she has developed a highly novel technology that allows non-invasive quantification of the microvascular supply to the eye, a marker of cerebral small vessel status.

Update on Existing Clinical Studies

Work continued on the hormone fibroblast growth factor 23 in relation to vascular disease. Dr. Wright submitted an important paper showing an association between the hormone and carotid plaque. In addition, an abstract showing that the hormone associates with white matter lesion load will be presented at the International Stroke Conference in February 2015. In the upcoming year we expect baseline and follow up vitamin D samples to be completed that will allow critical analyses related to age-related memory loss.

We now have 347 participants in the multi-disciplinary UM-MBI Clinical and Biorepository Registry. Our source is the comprehensive memory clinic for people with cognitive complaints. In 2014 we continued to collect cerebrospinal fluid in collaboration with Dr. Mash. Beginning in 2015, we will enroll the cohort of those 85 and older as part of the new Registry funded through the gift from the Board.

Drs. Noam Alperin and Murat Bagci continued quantitative measurements of cerebral blood flow using MRI in the McKnight Registry sample, allowing us to advance our study of aging of the circulation and how it affects cognition. We have a manuscript in preparation that shows arterial pulsatility relates to hippocampal volumes.

Dr. Rundek's Core Neurosonology laboratory has been performing transcranial Doppler (TCD) readings for the Einstein Aging Study (MOBILIZE project), including interpretations of baseline TCD as well as TCD vasomotor reactivity testing using CO₂ challenges. These TCD scans have been centrally read and interpreted for 607 subjects in 2014. The database has been created and is being maintained, and the results sent to Albert Einstein in the Bronx. Currently Dr. Rundek is working together with Dr. Derby at Einstein on several analyses and manuscripts. The plan is to continue reading scans until the full cohort is completed.

Dr. Ramos continued his work as Miami site-PI for the SUENO ancillary study to HCHS/SOL (sleep habits as a risk factor; R01 HL098297). The study plans to recruit 2,200 participants with the goal of defining the predictors of abnormal sleep with actigraphy (a wristwatch-like device that records movement and can be used to infer sleep from awake states). In 2014 about 650 participants were recruited and this will continue in 2015.

Dr. Levin has continued her collaboration with Drs. Maudsley and Govind from Radiology, using magnetic resonance spectroscopy (MRS) to examine alterations in brain metabolites associated with select cognitive and behavioral changes commonly found in the aging process. This work demonstrates the utility of using MRS to examine brain metabolites that cannot be detected by conventional MRI.

Trainee student Agustina Rosetti graduated and earned her Ph.D. in psychology. Her study of inflammation, brain morphology, and cognition reported last year was the basis of her dissertation and she is currently working on the first manuscript. The study includes a sample of elderly people enrolled in the UM-MBI Clinical and Biorepository Registry who presented to clinic with memory complaints.

In 2014 we completed follow up cognitive assessments in the Northern Manhattan Study (NOMAS). Trainees Nooshin Nabizadeh (graduate student) and Murat Bagci (post-doctoral fellow), under the supervision of Dr. Noam Alperin and Dr. Wright are creating regional maps of cortical thickness in 800 NOMAS participants and also segmenting white matter lesions in a way that allows us to determine their topography using three different metrics. The focus of this work is age-related cognitive problems and several manuscripts are in preparation using these data.

The NOMAS group continued work as part of the Cohorts for Heart and Aging Research in Genomic Epidemiology (CHARGE) Consortium, completing a genome-wide association study on several phenotypes, including MRI-defined brain infarcts, White Matter Hyperintensity Volume, Hippocampal Volume, and Intra-Cranial Volume. The results of these analyses in the Caucasian individuals from the Northern Manhattan Study (NOMAS) were shared with the CHARGE Consortium, and a meta-analysis of the NOMAS results with results from other cohorts within the CHARGE Consortium is currently underway.

We continued conducting our joint genome-wide association study with the Hispanic individuals from both NOMAS and the Washington Heights Inwood and Columbia Aging Project (WHICAP). Our study on cognitive outcomes is being submitted shortly. Our study of the genetics of white matter lesions has a manuscript in preparation.

During the past year, we have continued our collaboration with Dr. Sara Czaja and the UM Center On Aging (COA). The next step is to develop interventions, and Dr. Czaja has been working on several computer-based real world programs to improve functional capacity in older adults. These will be tested in the near future using McKnight Registry participants and other samples.

The lab of Dr. Moraes has continued work with novel genetically modified mice that can be induced to damage mitochondrial DNA in specific tissues and organs, allowing studies of effects of aging. They have also studied how increases in mitochondrial biogenesis can have anti-aging effects, particularly in post-mitotic tissues such as muscle and brain. This translational work may lead to novel biomarkers and treatments to counter the effects of aging and age-related cognitive loss.

10. Technology Transfer

11. Budget Update

- Status of matching funds (see attached).
- Existing budget (see attached).
- Projected budget for coming year (see attached).
- Extramural funding
 - ❖ FGF-23 and the Risk of Stroke and Cognitive Decline
Source: NHLBI (R01 HL108623)
Principal Investigator: Clinton Wright
2014 budget: 466,149
 - ❖ The Systolic Blood Pressure Intervention Trial (SPRINT)
Source: Wake Forest University (subcontract)
Principal Investigator: Clinton Wright
2014 budget: 33,527
 - ❖ University of Miami ASA/Bugher Foundation Center for Excellence in Stroke Collaborative Research
Source: American Heart Association Bugher Foundation
Principal Investigator: Ralph Sacco MD MS
2014 budget: \$ 604,000
 - ❖ Stroke Incidence and Risk Factors in a Tri-ethnic Region
Source: NIH, NINDS (R01 NS029993)
Principal Investigator: Ralph Sacco MD MS

2014 budget: \$ 1,795,509

- ❖ Family Study of Stroke Risk and Carotid Atherosclerosis
Source: NIH, NINDS (R01 NS040807)
Principal Investigator: Ralph Sacco MD MS
2014 budget: \$581,836
- ❖ Hispanic Stroke Prevention Research Program
Source: NIH, NINDS (U54 NS081763)
Principal Investigator: Ralph Sacco MD MS
2014 budget: \$1,327,060
- ❖ Novel Factors for Unexplained Phenotypes of Subclinical Carotid Artherosclerosis
Source: NIH, NINDS (R01 NS065114)
Principal Investigator: Tatjana Rundek
2014 budget: \$324,713
- ❖ Novel Factors for Unexplained Phenotypes of Subclinical Carotid Artherosclerosis
Administrative Supplement: Gender Studies
Source: NIH, NINDS (R01 NS065114-S1)
Principal Investigator: Tatjana Rundek
2014 budget: \$ 98,760
- ❖ Analyses of MR Imaging of the Cerebral Fluid Dynamics Pre and Post Flights
Source: NASA
Principal Investigator: Noam Alperin
2014 budget: \$ 200,000
- ❖ Role of Fatty Acid Methyl Esters on Cerebral Blood Flow
Source: American Heart Association
Principal Investigator: Hungwen “Kevin” Lin
2014 budget: \$ 77,000
- ❖ Mechanisms of Neuroprotection Against Cardiac Arrest
Source: NIH, NINDS (R01 NS045676)
Principal Investigator: Miguel Perez-Pinzon
2014 budget: \$324,713
- ❖ Increased Cerebral Ischemic Injury by Repeated Hypoglycemic Episodes in Diabetes
Source: NIH, NINDS (R01 NS073779)
Principal Investigator: Kunjan Dave
2014 budget: \$ 301,219

12. Educational Programs Focusing on Age-Related Memory Loss

Dr. Crocco: Through the Miami Area Geriatric Education Center (MAGEC), Dr Crocco has contributed to the planning, development, and implementation of educational programs to diverse health care professionals who provide services to older adults in a variety of settings in the South Florida area. Select lectures provided include intensive psychiatric courses in agitation in dementia, geriatric depression, and other geriatric issues. Dr Crocco continues to be an active contributor in the Alzheimer’s disease Initiative (ADI) Caregiver

Training Seminars in Dementia for Miami-Dade and other south Florida counties, developing 4 hours of state mandated training to caregivers, ADI respite and Day Care professionals and para professionals for CEU accreditation in both English and Spanish. Dr. Crocco has developed and coordinated 4 hours of state-mandated dementia training provided annually to caregivers in Respite and Day Care Centers in Monroe County at ADI Respite Care and Day Care Centers in Key West, FL.

Dr. Czaja: The purpose of the University of Miami Center on Aging's Certificate Program is to provide education and training about the aging process and to increase availability of qualified providers to serve our community's aging population.

Dr. Levin: Psychology 615- a 3 credit upper level graduate class for advanced Ph.D. students examining foundations of clinical neuroscience and neuropsychology. This 12 week course focuses on age related memory loss and other changes across the lifespan and neural circuitry underlying cognition and behavior.

Dr. Levin: Bi-weekly neuropsychology rounds for practicum students, interns and post doctoral fellows that include clinical case conferences, assessment, scoring and interpretation of data and group supervision.

Dr. Sun: The Educational Sector of the University of Miami Evelyn F. McKnight Brain Institute (UM-MBI) is focused on developing educational programs of age related memory loss. Multiple programs for various levels of academic training have been developed to accomplish this goal:

1. General education program

UM-MBI organizes a monthly seminar aiming at promotion of understanding the normal and pathological aging process for the basic and clinical neuroscientists. Guest speakers were invited to give a series of lectures on a monthly basis. The topics are broad including brain plasticity in aging brain.

2. Education of medical students, residents, psychology Ph.D. students:

UM-MBI is actively participating in the educational programs of medical students, residents, and psychology Ph.D students. The faculty members of UM-MBI gave a series of lectures to medical students, resident and psychology Ph.D. student in 2014. Drs. Sun and Wright gave a series of lectures about understanding the diagnosis and treatment of neurodegenerative diseases. Dr. Bonnie Levin taught Psychology 615, a 3 credit upper level graduate class for advanced Ph.D. students that examined the foundations of clinical neuroscience and neuropsychology. This 12 week course focused on age related memory loss and other changes across the lifespan and neural circuitry underlying cognition and behavior. Dr. Levin organized Bi-weekly neuropsychology rounds for practicum students, interns and post-doctoral fellows that include clinical case conferences, assessment, scoring and interpretation of data and group supervision. Dr. Elizabeth Crocco gave a series of lectures to medical students on topics of aging and psychiatric diseases.

3. Research fellow and research assistant training:

The UM-MBI has an infrastructure to train a research fellow and research assistants to learn basic skills of conducting clinical research. Educational activities of the research fellow and research assistants include participation in the regular research meetings, consensus meetings of the diagnosis of research subjects, and academic conferences. Dr. Wright, Dr. Crocco, and Dr. Sun are involved in supervising the research fellow and research assistant to generate a database for aging related studies. The research fellow is trained to perform cognitive assessment batteries, subject recruitment, and follow-up of research subjects. Research assistants are trained to collect and organize the research data.

4. Public affairs:

UM-MBI has been closely involved in the activity of raising the public awareness of Alzheimer's disease. Drs. Sacco, Wright, and Sun attended the movie premiere "I'll be me" in Miami, which explores the devastating effects of Alzheimer's disease. After the movie, Drs. Sacco, Wright, and Czaja joined a panel discussion with the audience about age-related memory loss.

Dr. Sacco and Wright also attended the first Florida Brain Initiative in Tallahassee in July, 2014, to share information about research studies that are being conducted in Florida with other Florida neuroscience stakeholders.

Dr. Wright has taught at the Leonard M. Miller School of Medicine the following courses: Neuroscience and Behavioral Science Module 2014 - MD/MPH; Topic: Problem Base Learning Wrap up discussion for Alzheimer’s; Neuroscience and Behavioral Science Module 2014 – MD; Topic: Aphasias; Neuroscience and Behavioral Science Module 2014 – MD; Topic: Dementia

2014 UM-MBI Seminar Series continued to bring scientists together:

Speaker	Area of Expertise	Title
Dr. Peter M. Anderson, MD	Neurology	<i>“The Role of SOD1 in ALS - Two decades of discoveries, defects and disputes”</i>
Ramon Casanova, PhD.	Biostatistics	<i>“Early detection of neurodegenerative diseases using high-dimensional machine learning methods”</i>
Lucina Q. Uddin, Ph.D.	Psychology	<i>“Mapping Functional Brain Networks in Typical and Atypical Development”</i>
Gladys E. Maestre, MD, PhD	Psychiatry	<i>“Brain research in Latin America: Lessons from the Maracaibo Aging Study”</i>
Hung Wen (Kevin) Lin, PhD.	Neuroscience	<i>“Sympathetic Modulation During Ischemia: A Potential Approach”</i>

13. Collaborative programs with other McKnight Institutes, institutions and research programs

Dr. Wright has initiated the collaboration with the other three MBIs to develop a registry of the oldest old and standardize and optimize MRI scanning for this population.

Dr. Perez-Pinzon will continue the project studying the interaction of aging and cerebral ischemia in relation to cognitive decline performed in collaboration with Dr. Carol Barnes.

14. Collaborative program with non McKnight Institutes, institutions and research programs

The Bugher Center of excellence involves a cross-institutional collaboration with UCLA and U. Colorado at Denver.

A number of collaborative programs with large epidemiologic studies are outlined in the preceding pages, including NOMAS, MESA, HCHS/SOL, and EAS. The multi-site clinical trial SPRINT also continues. We will also continue working with a number of consortia such as CHARGE, StrokeNET, and others. This involves many of the investigators listed above.

Dr. Raval: is co-investigator of an \$80,000 United Mitochondrial Disease Foundation Research Grant titled, “Modulation of GSK3 activity and enhancement of glycolysis to maintain neuronal survival in Complex IV deficient mice.” In collaboration with Dr. Francisca Diaz (PI) the project will utilize the mouse model in

which a mitochondrial respiratory enzyme has been deactivated in nerve cells to study the effectiveness of modulating glucose metabolism as a treatment, with the potential to extend the therapy to human mitochondrial disease patients.

15. Briefly describe plans for future research and/or clinical initiatives

During 2015, we will continue work on the aging and cerebral ischemia project. We expect to push our animal work into older age groups to study the effects of ischemia on hippocampal memory systems in aging.

We will continue working on the AHA funded Bugher project aimed to improve spatial and non-spatial learning (improve cognitive outcome) and functional recovery after stroke in middle aged and aged rats. The clinical project examining the effects of exercise and cognitive training also will continue to accrue participants over the next three years.

Also, an ancillary collaborative study across Bugher sites is being submitted. One of these will capitalize on the McKnight animal behavior core and involves the basic science of white matter injury. The other will involve measuring activity levels, using accelerometers, in stroke patients across the life span, from children to older adults.

The ongoing epidemiologic projects involving multiple large population-based samples will continue.

An ancillary study to the Systolic Pressure Intervention Trial is being planned that will provide a unique opportunity to study the effects of different degrees of blood pressure control among hypertensives on cognitive outcomes. The study will involve both amyloid imaging and structural MRI that will allow us to parse out age-related memory loss from other pathologies. Dr. Wright plans a vascular neurology reading center for this multi-site clinical trial.

We also plan to resubmit the ancillary study to HCHS/SOL that would allow a second wave of cognitive testing to be done among the 16,000 member cohort from all four sites (Chicago, San Diego, Bronx, and Miami). An imaging grant is also planned for this study.

16. If applicable, please provide endowment investment results for the report period.

See attached

17. Where any funds used for a Prohibited Purpose during the report period?

No funds were used for a Prohibitive Purpose.

18. Do you recommend any modification to the Purpose or mandates in the Gift Agreement?

No, we do not recommend any modifications.

19. Did all activities during the report period further the Purpose?

Yes, all activities furthered the Purpose of the UM-MBI.

20. Please describe any negative events (loss of personnel, space, budget, etc.) that occurred during the report period and the possible impact on carrying out the Gift Agreement.

N/A

21. Please provide any general comments or thoughts not covered elsewhere – a response is not required.
Please respond only if you would like to add something not otherwise covered elsewhere.

N/A

22. Signature, date, and title of person submitting the report.



Clinton B. Wright, M.D. M.S.
Scientific Director

January 15, 2015

Evelyn F. McKnight Brain Institute's Endowments
at the Miller School of Medicine
Market Value Analysis
11/30/2014

2002 Gift & Match

McKnight Contribution	\$5,000,000
UM Match	5,050,913
Transfers from Other University Funds	1,362,153
Investment Return	4,100,858
Distributions for Spending	(3,675,255)
11/30/14 Endowment Balance	\$11,838,669
Unmatched Balance	\$0

2014 Gift & Match

McKnight Contribution	\$1,000,000
UM Match	2,000,000
Transfers from Other University Funds	0
Investment Return	26,124
Distributions for Spending	0
11/30/14 Endowment Balance	\$3,026,124
McKnight Foundation Pledge Balance	\$1,000,000

University of Miami
Evelyn F. McKnight Brain Institute's Endowment:
Summary Analysis at Market Value
June 1, 2014 - November 30, 2014

2002 Gift & Match

	Evelyn F. McKnight <u>262080</u>	F. Peterson/ McKnight <u>262293</u>	Schoninger Professorship in Neurology <u>262453</u>	Schoninger Neuropsychology Clinic <u>262454</u>	Other sources	<u>Total</u>
Beginning Balance at Market, 6/1/14	\$7,349,087	\$1,136,974	\$1,032,367	\$2,580,916	\$0	\$12,099,343
Investment Return	197	30	28	68		323
Distributions for Spending	(158,529)	(24,526)	(22,269)	(55,674)	\$0	(260,998)
Transfers from other University funds						0
Matching gifts						0
Ending Balance at Market, 11/30/14	<u>\$7,190,755</u>	<u>\$1,112,478</u>	<u>\$1,010,125</u>	<u>\$2,525,311</u>	<u>\$0</u>	<u>\$11,838,669</u>

2014 Gift & Match

	Schoninger Professor in Memory Disorders <u>262471</u>	Evelyn F. McKnight Endowed Chair <u>262490</u>	Total
Beginning Balance at Market, 6/1/14	\$1,876,366	\$0	\$1,876,366
Investment Return	(1,867)	3,179	1,313
Distributions for Spending			
Transfers from other University funds			
Matching gifts	148,446		148,446
McKnight Foundation gifts		1,000,000	1,000,000
Ending Balance at Market, 11/30/14	<u>\$2,022,945</u>	<u>\$1,003,179</u>	<u>\$3,026,124</u>

Mcknight
Budget For FY15 June 1, 2014 - May 31,2015

<u>Revenue</u>			<u>Budget</u>	<u>Actual as of</u> <u>Dec. 31, 2014</u>	<u>Projected at</u> <u>Year End</u>	<u>Variance to</u> <u>Budget</u>
			574,617.52	521,996.08	574,617.52	-
McKnight Project Clinical and Clinical Research Program						
Personnel			216,311.33	68,472.48	178,677.00	(37,634.33)
<u>Faculty</u>	<u>Role In Project</u>	<u>Effort</u>				
Clinton Wright, MD	Scientific Director	16%				
Ralph Sacco, MD	Executive Director	5%				
Dr. Sun	Educational Director	24%				
Noam Alperin	Radiology	5%				
Bonnie Levin, PHD (Schoninger)	Neuropsychology	30%				
Gustavo Rey (replace Katzen)	Neuropsychology	5%				
Dave Kunjan	Basic Science	5%				
Subtotal Staff Salary and CFB			291,576.63	136,963.97	245,231.22	(46,345.41)
<u>Staff</u>	<u>Role in Project+A1</u>					
Ahmet Bagci	Radiology	20%				
Sharlett Anderson	Neuropsychology	30%				
Digna Cabral	Administrative Support	10%				
Charles Cohan	Med Grad Student-Basic Science	100%				
Maria Mendoza-Puccini	Clinical Research Coordinator	89%				
UnWalla, Khush	Clinical Research Coordinator	34%				
Nooshin Nabizadeh (7 months)	Teaching Assistant	100%				
Isabel Saul	Research Support Specialist-Basic Science	30%				
Maria Rosetti	Grad Student	50%				
Ida Babakhanyan	Neuropsychology	100%				
Hui Chao Lee (working w/ Kevin)	Research Asst/Technician-Basic Science	50%				
	Research Asst/MS support					
	20% McKight (\$8030.88); 80% MS grant					
Yessica Campos	(\$32,123.52)	20%				
Laura Segala	Neuropsychology Post Doc/ Ida replacement					
Thalia Robinson	Neuropsychology Research Assistant					
Total Personnel			507,887.96	226,246.33	479,062.20	(28,825.76)
<u>Non Personnel Expenses</u>						
Communications			3,469.56	1,604.11	3,469.56	-
Internal UM Services Provided	<u>Animal Care Service</u>		29,000.00	36.24	29,000.00	-
Supplies			5,050.00	3,371.44	5,050.00	-
Chemicals			5,840.00		5,840.00	-
Travel			5,000.00	435.00	5,000.00	-
Equipment & Furniture			7,000.00		7,000.00	-
Conference & Registration			1,000.00		1,000.00	-
Other			10,370.00	41,548.04	39,195.76	28,825.76
Total Non Personnel Expenses			66,729.56	46,994.83	95,555.32	28,825.76
Grand Total Expenses			574,617.52	273,241.16	574,617.52	(0.00)
Net Operating Income			(0.00)	248,754.92	(0.00)	(0.00)

Mcknight
 Budget For FY16 June 1, 2015 - May 31,2016

<u>Revenue</u>				Budget
				549,707.93
<u>Faculty</u>	<u>Role In Project</u>	<u>CFB Rate</u>	<u>Effort</u>	225,951.11
Clinton Wright, MD	Scientific Director	19.80%	16%	
Ralph Sacco, MD	Executive Director	19.80%	5%	
Xiaoyan Sun, MD	Educational Director	19.80%	20%	
Noam Alperin	Radiology	26.80%	5%	
Bonnie Levin, PHD (Schoninger)	Neuropsychology	26.80%	30%	
Gustavo Rey (replace Katzen)	Neuropsychology	26.80%	0%	
Dave Kunjan	Basic Science	26.80%	5%	
Jiang Hong		19.80%	5%	
Sara Czaja		26.80%	5%	
<u>Subtotal Staff Salary and CFB</u>				
<u>Staff</u>				253,286.82
	<u>Role in Project+A1</u>			
Ahmet Bagci	Radiology	43.00%	20%	
Sharlett Anderson	Neuropsychology	43.00%	20%	
Digna Cabral	Administrative Support	43.00%	0%	
Charles Cohan	Med Grad Student-Basic Science	0.00%	25%	
Maria Mendoza-Puccini	Clinical Research Coordinator	43.00%	90%	
UnWalla, Khushuma	Clinical Research Coordinator	43.00%	0%	
Nooshin Nabizadeh (replacement)	Teaching Assistant	0.00%	50%	
Isabel Saul	Research Support Specialist-Basic Science	43.00%	30%	
Maria Rosetti	Grad Student	0.00%	0%	
Yessica Campos	Neuropsychology	43.00%	0%	
Hui Chao Lee (working w/ Kevin)	Research Asst/Technician-Basic Science	43.00%	50%	
Laura Segala	Post Doctoral Associate	43.00%	50%	
Talia Robinson	Research Asst	43.00%	50%	
Carolina Gutierrez	Administrative Support	43.00%	10%	
Total Personnel				479,237.93
<u>Non Personnel Expenses</u>				
Communcations				3,470.00
Internal UM Services Provided	<u>Animal Care Service</u>			21,000.00
Supplies	Reagent/chemicals/histology supplies			7,000.00
Travel				1,200.00
Equipment & Furniture				500.00
Conference & Registration				1,000.00
Other				36,300.00
<u>Total Non Personnel Expenses</u>				70,470.00
<u>CFB Credit</u>				
Grand Total Expenses				549,707.93
Net Operating Income				0.00

Faculty

Noam Alperin, Ph.D.

Sara Czaja, Ph.D.

Kunjan R. Dave, Ph.D.

Hong Jiang, M.D., Ph.D.

Bonnie E. Levin, Ph.D.

Gustavo Rey, Ph.D.

Ralph L. Sacco, M.D., M.S.

Xiaoyan Sun, M.D., Ph.D.

Clinton B. Wright, M.D., M.S.

Biographical Sketch: Noam Alperin

NAME Noam Alperin, PhD		POSITION TITLE	
eRA COMMONS USER NAME (credential, e.g., agency login) nalperin		Professor of Radiology and Biomedical Engineering	
EDUCATION/TRAINING (<i>Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.</i>)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Tel-Aviv University, Israel	B.Sc.	10/80	Physics
Hebrew University, Jerusalem		8/83	Medicine
University of Chicago, Chicago, IL	Ph.D.	8/92	Medical Physics
University of Chicago, Chicago, IL	Postdoctoral	10/94	MRI

B. Positions and Honors

POSITIONS AND EMPLOYMENT

1985-1987	Physicist, Elscint Medical Imaging, Inc.
1987-1988	Product Manager, Mennen Medical, Inc.
1989-1994	Research Associate, MRI Center, University of Chicago
1994-1995	MRI Application Scientist, SMIS Inc.
1995-2001	Assistant Professor, Departments of Radiology and Bioengineering, Uni. of Illinois, Chicago
2001-2009	Associate Professor, Departments of Radiology and Bioengineering, Uni. of Illinois, Chicago
2009-	Professor, Department of Radiology and Bioengineering, Uni. of Miami

Other Experience and Professional Memberships

1990-2008	Member, American Association of Medical Physicists
1994-	Member, American Society of Magnetic Resonance in Medicine
2004-	Ad hoc member, reviewer for several NIH study sections
2011-	Member of the American Society of Neuroradiology

C. Selected Peer-reviewed Publications (Selected from 65 peer-reviewed publications)

1. **Alperin N**, Vikingstad EM, Gomez-Anson B, Levin DN. Hemodynamically independent analysis of cerebrospinal fluid and brain motion observed with dynamic phase contrast MRI. *Magnetic resonance in medicine: official journal of the Society of Magnetic Resonance in Medicine / Society of Magnetic Resonance in Medicine*. 1996;35(5):741-54
2. **Alperin N**, Lee SH, Loth F, Raksin P, Lichtor T. (2000). MR-Intracranial Pressure (ICP): A method for noninvasive measurement of intracranial pressure and elastance. Baboon and Human Study. *Radiology*, 217 (3); 877-885.
3. **Alperin N**, Lee SH. (2003). PUBS: Pulsatility based segmentation of lumens conducting nonsteady flow. *Magnetic Resonance in Medicine*, 49:934-944.
4. **Alperin N**, **Lee SH**, Sivaramakrishnan A, Hushek SG. Quantifying the effect of posture on intracranial physiology in humans by MRI flow studies. *Journal of magnetic resonance imaging : JMRI*. 2005;22(5)
5. **Alperin N**, Mazda M, Lichtor T, **Lee SH**. From Cerebrospinal Fluid Pulsation to Noninvasive Intracranial Compliance and Pressure Measured by MRI Flow Studies. *Current Medical Imaging Reviews*. 2006;2:117-29
6. **Tain RW**, **Alperin N**. Noninvasive intracranial compliance from MRI-based measurements of transcranial blood and CSF flows: indirect versus direct approach. *IEEE transactions on bio-medical engineering*. 2009;56(3):544-51
7. Alperin N, Bagci A, Lee S.H, Eftimov L, Ertl-Wagner B. Comparison between Total CBF Values Measured by ASL and Phase Contrast Over Increased Range of CBF Values. *Proc of ISMRM 2010*; 4080
8. Tain RW, Bagci AM, Lam BL, Sklar EM, Ertl-Wagner B, **Alperin N**. Determination of cranio-spinal canal compliance distribution by MRI: Methodology and early application in idiopathic intracranial hypertension. *J Magn Reson Imaging*. 2011 Dec;34(6):1397-404. doi: 10.1002/jmri.22799.

Biographical Sketch: Noam Alperin

9. **Alperin N**, Ranganathan S, **Bagci AM**, Adams DJ, Ertl-Wagner B, Saraf-Lavi E, et al. MRI Evidence of Impaired CSF Homeostasis in Obesity-Associated Idiopathic Intracranial Hypertension. *AJNR American journal of neuroradiology*. 2012. Epub 2012/07/07.
10. Pomschar A, Koerte I, Lee S, Laubender RP, Straube A, Heinen F, **Alperin N**. MRI evidence for altered venous drainage and intracranial compliance in mild traumatic brain injury. *PLoS one*. 2013;8(2):e55447. Epub 2013/02/14.
11. **Alperin N**, Bagci AM, Lam BL, Sklar E. Automated quantitation of the posterior scleral flattening and optic nerve protrusion by MRI in idiopathic intracranial hypertension. *AJNR Am J Neuroradiol*. 2013 Dec;34(12):2354-9.
12. Tain RW, **Alperin N**. Intracranial pressure dynamics are not linked to aqueductal cerebrospinal fluid stroke volume. *J Appl Physiol* (1985). 2013 Jun;114(11):1645. doi: 10.1152/jappphysiol.00357.2013
13. Lawley J, **Alperin N**, **Bagci A**, **Lee S**, Mullins O, Oliver S, Macdonald J. Acute mountain sickness: Elevated brain volume and intracranial hypertension. *Ann Neurol*. 2014;75(6):890-8.
14. **Alperin N**, Loftus JR, Oliu CJ, Bagci AM, Lee SH, Ertl-Wagner B, Green B, Sekula R. MRI measures of Posterior Cranial Fossa Morphology and CSF Physiology in Chiari Malformation Type I. *Neurosurgery* 75:515–522, 2014.
15. Alperin N., Oliu CJ, Bagci AM, Lee SH, Kovanlikaya I Adams D, Katzen H, Relkin N. Low-Dose Acetazolamide Reverses Periventricular White Matter Hyperintensities in iNPH. *Neurology* 2014;82:1347–1351.

Additional recent publications of importance to the field (in chronological order)

1. **Alperin N**, Sivaramakrishnan A, Lichtor T. (2005). Magnetic resonance imaging–based measurements of cerebrospinal fluid and blood flow as indicators of intracranial compliance in patients with Chiari malformation. *Journal of Neurosurgery*, 103(1):46-52.
2. Tain RW, Ertl-Wagner B, **Alperin N**. (2009). Influence of the compliance of the neck arteries and veins on the measurement of intracranial volume change by phase-contrast MRI. *Journal of Magnetic Resonance Imaging*, 30(4):878-83.
3. Wåhlin A, Ambarki K, Birgander R, **Alperin N**, Malm J, Eklund Assessment of craniospinal pressure-volume indices. *AJNR Am J Neuroradiol*. 2010 Oct;31(9):1645-50. Epub 2010 Jul 1

D. Research Support

NASA

NNX14AB51G Alperin (PI) 09/01/2014-08/31/2015

Analyses of MR Imaging of the Cerebrospinal fluid dynamics Pre and post spaceflights

The projects aims to understand the role of the cerebrospinal fluid in the microgravity induced visual impairments intracranial hypertension syndrome in astronauts.

NIH

R01 NS052122 Alperin (PI) 08/01/08-01/31/14

Development and Early Clinical Evaluation of Noninvasive MRI Measurement of ICP

The goal of the study is to implement an MRI-based measurement of intracranial compliance and pressure (MR-ICP) in the clinical setup of Arnold Chiari Malformations.

R41 NS46185 Alperin (PI) 05/28/05-04/30/08

Noninvasive ICP: Reduction to practice

This proposal aims to make the MR-ICP method more widely available for use in Radiology by developing a user friendly software tool for MRI technologists. Role: PI

BIOGRAPHICAL SKETCH

NAME Sara J. Czaja, Ph.D.		POSITION TITLE Professor	
eRA COMMONS USER NAME (credential, e.g., agency login)			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
State University of NY College at Buffalo, NY	B.S.	1975	Psychology
State University of NY at Buffalo, NY	M.S.	1976	Industrial Engineering
State University of NY at Buffalo, NY	Ph.D.	1980	Human Factors/Industrial Engineering

A. Personal Statement

B. Positions and Honors

- 1980-1982 Senior Research Associate, Buffalo Organization for Social and Technological Innovation, Inc
- 1984-1988 Assistant Professor, Department of Industrial Engineering, SUNY at Buffalo
- 1988-1991 Associate Professor, Tenured, Department of Industrial Engineering, SUNY at Buffalo
- 1989-1990 Research Associate, Professor, Department of Industrial Engineering, University of Miami
- 1988-1993 Research Director, Stein Gerontological Institute, Miami, FL
- 1991-1994 Associate Professor, Department of Industrial Engineering, University of Miami
- 1993-1999 Director, Center on Human Factors & Aging Research, University of Miami School of Medicine
- 1994-present Professor, Dept. of Psychiatry and Behavioral Sciences, University of Miami School of Medicine
- 1994-present Professor, Department of Industrial Engineering, University of Miami, Coral Gables, FL
- 1999-present Director, Center on Aging and Technology Research, University of Miami School of Medicine
- 2002-present Co-Director, Center on Aging, University of Miami, Miami, FL
- 2010-present Scientific Director, Center on Aging, University of Miami Miller School of Medicine

Other Experience and Professional Memberships

- Member, IOM Committee on Family Caregiving for Older Adults, Oct 2014-April 2016
- Member, Advisory Board for Rehabilitation Engineering Research Center TechSAge, Georgia Tech 2014 –
- Member, IOM Committee on Public Health Dimensions of Cognitive Aging, 2014 –present
- Ad Hoc Reviewer, NIH Risk Prevention & Health Behavior Study Section, 2014-present
- Ad Hoc Reviewer, NIH Health Disparities Study Section, 2014-present
- Member, External Advisory Committee for the Center for Accessibility and Safety for an Aging Population. FSU, FAMU, UNF, December 2013
- Reviewer, NIA Division of Behavioral and Social Research Quadrennial Review, September 2013
- Reviewer, Veteran’s Administration Panel for the Under Secretary’s Award for Outstanding Achievement in Health Services Research, September 2014-present
- Chair, Fellows Selection Committee, Human Factors and Ergonomics Society (HFES) October 2013 -present
- President, Division 20 (Division of Adult Development and Aging), American Psychological Association, 2013-2016
- Member, Fellows Selection Committee, Human Factors and Ergonomics Society, 2013-present
- Member, Board on Human-Systems Integration, National Research Council/National Academy of Sciences, November 2010 – present.

Honors

Panel Member, Nobel Prize Week Dialogue, Stockholm Sweden, December 2014
Jack A. Kraft Award for Innovation, Human Factors and Ergonomics Society, 2013
Social Impact Award for the Association of Computing Machinery (ACM), Special Interest Group for Human Computer Interaction (SIGCHI), 2013
The Scottish Informatics & Computer Science Alliance Distinguished Visiting Professor, School of Computing, University of Dundee, March, 2010.
IBM, University Cooperative Research Award, 2007-2009.
IBM Faculty Award, 2006
Provost's Scholarly Activity Award, 1998.
Researcher of the Year, College of Engineering, University of Miami, 1995.

C. Selected peer-reviewed publications (in chronological order).

1. **Czaja, S.J.**, Schulz R, Belle SH, Burgio L, Armstrong N, Gitlin LN, Coon DW, Martindale-Adams J, Stahl S. Data safety monitoring in social behavioral trials: The REACH II experience. *Clin Trials* 2006; 3: 107-118.
2. **Czaja, S.J.**, Charness N, Fisk AD, Hertzog C, Nair S, Rogers W, Sharit J. Factors predicting the use of technology: findings from the Center on Research and Aging and Technology Enhancement (CREATE). *Psychol Aging* 2006; 21(2): 333-352.
3. **Czaja, S.J.** (contributing author). Enhancing the quality of life of Hispanic/Latino, Black/African American, and White/Caucasian dementia caregivers: The REACH II randomized controlled trial REACH II investigators. *Ann Intern Med.* 2006; 145: 727-738.
4. **Czaja, S.J.**, Sharit J, Nair SN. Usability of the medicare health website. *JAMA* 2008; 300 (7): 790-792.
5. **Czaja, S.J.** Gitlin LN, Schulz R, Zhang S, Burgio D, Stevens AB., Nichols LO, Gallagher-Thompson D. Development of the risk appraisal measure (RAM): A brief screen to identify risk areas and guide interventions for dementia caregivers. *J Am Geriatr Soc.* 2009; 57:1064-1072.
6. Sharit, J., **Czaja, S.J.**, Hernandez AM, Nair SN. The employability of older workers as teleworkers: An appraisal of issues and an empirical study. *Human Factors and Ergonomics in Manufacturing Engineering* 2009; 19(5): 457-477.
7. Schulz, R., Zdaniuk, B., Belle, S., **Czaja, S.J.**, Arrighi, M., Zbrozek, S. (2010) Baseline Differences and Trajectories of change for Deceased, Placed, and Community residing Alzheimer's Disease Patients". *Alzheimer Disease & Associated Disorders, Vol 24., No. 2, pg. 143-150.*
8. Sharit, J., Hernandez, Mario A., Nair, Sankaran N., Kuhn, Thomas, **Czaja, S.J.** (2011) Health Problem Solving by Older Persons Using a Complex Government Website: Analysis and Implications for Web Design. *Transactions on Accessible Computing. Vol. 3 Issue 3, pg. 11-35.* April 2011
9. Harvey, Philip D., **Czaja, S.J.**, Loewenstein, David A. (2012) Schizophrenia in Later Life. *Am J Geriatr Psychiatry* 20:1, pp. 1-4, January 2012.
10. Loewenstein, D.A., **Czaja, S.J.**, Bowie, C. & Harvey, P.D. (2012) Age Associated Differences In Cognitive performance in Older patients with Schizophrenia: A comparison with healthy older adults. *American Journal of Geriatric Psychiatry, 20:1, pp. 29-40, January 2012.*
11. **Czaja, S.J.**, Sharit, J., Lee, C.C., Nair, S.N., Hernandez, M., Arana, N., Fu, S.H. (2012) Factors Influencing Use of an E-health Website in a Community Sample of Older Adults. *J Am Med Inform Assoc.* doi:10.1136/amiajnl-2012-000876
12. **Czaja, S. J.**, Lee, C. C., Branham, J., & Remis, P. (2012). OASIS Connections: Results from an Evaluation Study. *The Gerontologist, Vol. 52, No. 1, January 2012.*
13. Ownby, Raymond L., Hertzog, Christopher, **Czaja, S.J.** (2012) " Tailored Information and Automated Reminding to Improve Medication Adherence in Spanish and English Speaking Elders Treated for Memory Impairment". *Clinical Gerontologist, 35:3 221-238.*
14. Ownby, Raymond L., Hertzog, Christopher, **Czaja, S.J.** (2012) "Relations Between Cognitive Status and Medication Adherence in Patients Treated for Memory Disorders." *Ageing Research, 2012; Vol. 4:e2.*
15. Harvey, Philip D., **Czaja, S.J.**, Loewenstein, David A. (2012) Schizophrenia in Later Life. *Am J Geriatr Psychiatry* 20:1, pp. 1-4, January 2012.
16. Harvey, Phillip D., Loewenstein, D., **Czaja, S.J.** (2013) Hospitalization and Psychosis: Influences on the Course of Cognition and Everyday Functioning in People with Schizophrenia. *Neurobiology of Disease* 53 (2013) 18-25.

17. Harvey, P.D., Stone, L., Loewenstein, D., **Czaja, S.J.**, Heaton, R.K., Twamley, E.W., Patterson, T.L. (2013) The convergence between self-reports and observer ratings of financial skills and direct assessments of financial capabilities in patients with schizophrenia: More detail is not always better. *Schizophrenia Research* 147 (2013) 86-90.
18. Taha, J., Sharit, J., **Czaja, S.J.** (2013) The Impact of Numeracy Ability and Technology Skills on Older Adults' Performance of Health Management Tasks using a Patient Portal. *Journal of Applied Gerontology*. DOI:10.1177/0733464812447283.
19. Schulz, R., Cook, T.B., Beach, S.R., Lingler, J.H., Martire, L.M., Monin, J.K., & **Czaja, S.J.** (2013) Magnitude and Causes of Bias among Family Caregivers rating Alzheimer's Disease Patients. *American Journal of Geriatric Psychiatry*. 2013 Jan; 21(1):14-25.
20. Ownby, R.L., Acevedo, A., Waldrop-Valverde, D., Jacobs, R.J., Caballero, J., Davenport, R., Homs, A., **Czaja, S.J.**, Loewenstein, D. (2013) Development and initial validation of a computer-administered health literacy assessment in Spanish and English: FLIGHT/VIDAS. *Patient Related Outcome Measures* 2013;4, 21-35.
21. Zarcadoolas C, Vaughn WL, **Czaja S.J.**, Levy J, Rockoff ML (2013) Consumers' Perceptions of Patient-Accessible Electronic Medical Records. *J Med Internet Res* 2013; 15(8):e168 doi: 0.2196/jmir.2507 PMID: 23978618.
22. Lattie E., Antoni, M.H., Fletcher, M.A., **Czaja, S.J.**, Perdomo, D., Sala, A., Nair, S., Fu, S., Penedo, F., Lopez, C., & N. Klimas (2013). Beyond Myalgic Encephalomyelitis/chronic fatigue syndrome (ME/CFS) Symptom Severity: Stress management skills are related to lower illness burden. *Fatigue: Biomedicine, Health & Behavior*. Vol 1, No. 4, 210-222, October.
23. Taha, J., **Czaja, S.J.**, Sharit, J., Morrow, D.G. (2013) Factors Affecting Usage of a Personal Health Record (PHR) to Manage Health. *Psychology and Aging*, Vol. 28, No.4, 1124-1139.
24. **Czaja, S.J.**, Loewenstein, D., Schulz, R., Nair, S.N., Perdomo, D. (2013) A Videophone Psychosocial Intervention for Dementia Caregivers. Nov; 21(11):1071-81. doi: 10.1016/j.jagp.2013.02.019. E pub 2013 Jul 3. *Am J of Geriatr Psychiatry*.
25. Monin, J.K., Schulz, R., Martire, L.M., Connelly, D., **Czaja, S.J.** (2014) The Personal Importance of Being Independent: Associations with changes in disability and depressive symptoms. *Rehabilitation Psychology* Vol 59(1), Feb 2014, 35-41.
26. Hall, D.L., Lattie, E.G., Antoni, M.H., Fletcher, M.A., **Czaja, S.J.**, Perdomo, D., & Klimas, N. (2014). Stress Management Skills, Cortisol Awakening Response and Post-Exertional Malaise in Chronic Fatigue Syndrome. *Psychoneuroendocrinology*, Vol.49, 26-31.
27. Crocco, E., Curiel, R.E., Acevedo, A., **Czaja, S.J.**, Loewenstein, D.A. (2014). An Evaluation of Deficits in Semantic Cuing, Proactive and Retroactive Interferences as Early Features of Alzheimer's Disease. *The American Journal of Geriatric Psychiatry*, Vol. 22, Issue 9, pg. 889-897, September.
28. Czaja, S.J., Lee, C.C., Arana, N., Nair, S.N., Sharit, J. (2014) Use of a Telehealth System by Older Adults with Hypertension. *SAGE, Journal of Telemedicine and Telecare*, Vol. 210(4) 184-191.
29. Czaja, S. J., Boot, W. R., Charness, N., Rogers, W. A., Sharit, J., Fisk, A. D., Lee, C. C., & Nair, S. N. (2014). The Personalized Reminder Information and Social Management System (PRISM) Trials: Rationale, Methods, and Baseline Characteristics. *Contemporary Clinical Trials* 40 (2015) 35-46. November.

D. Research Support.

Ongoing research

Czaja, S. J., PI
NIA/NIH

3/1/15-2/29/20

Center for Research and Education for Aging and Technology Enhancement (CREATE IV)

This application is a request for continued support for the Center for Research and Education on Aging and Technology Enhancement (CREATE), an established multidisciplinary, cohesive Center that focuses on aging and technology. CREATE's goal is to ensure that older adults are able to use and realize the benefits of technology. Our objectives are to: develop a database on user preferences, needs, and problems with emerging and existing systems; assess the efficacy of design solutions; gather information on the value of

technology; promote new research; support new investigators; and disseminate outcomes to a broad community.

(*Received a perfect score; waiting for award notice)

Community Against Alliance on Aging (Czaja, SJ)
Pilot Project for LGBT Research

10/14-10/15

UM DBA 2015-13 (Czaja, S.J.)

9/1/14-8/31/15

Dean NIH Bridge Funding

Center on Research and Education for Aging and Technology Enhancement (CREATE IV) Project I

This application is a request for continued support for the Center for Research and Education on Aging and Technology Enhancement (CREATE), an established multidisciplinary, cohesive Center that focuses on aging and technology. CREATE's goal is to ensure that older adults are able to use and realize the benefits of technology. Our objectives are to: develop a database on user preferences, needs, and problems with emerging and existing systems; assess the efficacy of design solutions; gather information on the value of technology; promote new research; support new investigators; and disseminate outcomes to a broad community.

1R01NR014434-01 (Czaja, S.J.)

4/1/13-3/31/18

NINR/NIH

Title: A Tailored Technology Intervention for Diverse Family Caregivers of AD Patients"

The aims of this project are to evaluate the acceptability and efficacy of a culturally tailored technology-based psychosocial intervention for reducing the stress and burden and enhancing quality of life of diverse family caregivers of AD patients. The intervention is designed to address known areas of caregiver risk and to foster the ability of caregivers to leverage the type of supports they need for themselves and the AD patient. The target population is Black/African American, Hispanic, and White non-Hispanic family caregivers of AD patients.

1UL1TR000460-01A1 (Szapocznik, J)

7/27/12 – 5/31/17

NCATS

Title: " Miami Clinical and Translational Science Institute"

To propel scientific discovery and its translation into evidence-based practice and community health, the Miami Clinical and Translational Science Institute advances cultural zed health sciences that embrace our majority racial/ethnic community. Fundamental to accomplishing our mission is the orchestration of new and existing research, services and resources that foster excellence in translational research, promote Interdisciplinary, elevate research ethics, build research partnerships in community, and establish strong multidisciplinary graduate research programs.

1P30DA027828-01A1 (Brown, CH)

07/01/11-06/30/16

NIDA/NIH

Center for Prevention Implementation Methods for Drug Abuse & Sex Risk Behavior

The proposed Center for Prevention Implementation Methodology (Ce-PIM) for Drug Abuse and Sexual Risk Behavior is designed to accelerate research through the application and integration of system science methods. These system science methods directly model the complex interactions that occur across multiple levels and organizations as prevention programs are implemented.

1 R01 NS0072599-01

Antoni, Michael (PI)

08/16/10-05/31/15

Patient-Partner Stress Management Effects on CFS Symptoms and Neuroimmune Process

This is a 5-year study to evaluate the effect of a 10-week patient-partner telephone-based cognitive behavioral stress management (CBSM) intervention on chronic fatigue syndrome (CFS) symptoms in 150 patients diagnosed with CFS.

Czaja, Sara J., PI
Wallace H. Coulter Foundation

12/1/2013 – 11/30/2014

Title: The Development and Validation of Computer Based Cognitive Assessment and Functional Skills Training Package

The overall goal of our project is to develop a commercially available technology-based functional skills training and assessment package.

1R21AG041740-01

04/01/12 – 03/31/15

Principal Investigators Sara J. Czaja, Phillip Harvey, David Loewenstein

NIH/NIA

Title: “Improving the Functional Outcomes in Older Adults with Schizophrenia”

This developmental project examines the feasibility and efficacy of using a technology-based approach that combines a customized cognitive enhancement intervention, cognitive assessment, and measurement of FC. The study will involve a randomized clinical trial. Eighty older patients with schizophrenia will be randomized in equal numbers to a customized cognitive remediation intervention or to a video games control condition used in previous studies.

2 PO1 AG017211-11

Czaja (PI)

08/1/09 – 07/31/15

National Institute on Aging/National Institutes of Health

Center on Research and Education for Aging and Technology Enhancement (CREATE III)

The Center on Research and Education for Aging and Technology Enhancement (CREATE) conducts multidisciplinary research aimed at understanding how age-related changes in function impact on older person’s ability to interact successfully with technical systems. The Center also disseminates research findings in a wide variety of settings such as design guidelines for the design of technical systems.

1R01HL096578-01A1 (Ownby, Raymond PI)

08/10/10 – 04/30/14

Nova Southeastern University/NHLBI

Literacy Measure Development and Validation of a Computer-Administered Health

To help with the development of new health literacy measure product. Provide guidance with respect to usability issues and protocols, pilot testing, data analysis activities and the development of publications and presentations relevant to the outcomes of this project.

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Kunjan R. Dave		POSITION TITLE Research Associate Professor	
eRA COMMONS USER NAME (credential, e.g., agency login) KRDAVE			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Gujarat University, Ahmedabad, India	B.Sc.	12 / 1993	Biochemistry
The M. S. University of Baroda, Vadodara, India	M.Sc.	12 / 1995	Biochemistry
The M. S. University of Baroda, Vadodara, India	Ph.D.	06 / 2000	Biochemistry
University of Miami School of Medicine, Miami, USA.	Post doc	2000-2003	Neurology

A. Personal Statement

NA.

B. Positions and Honors**Professional experience:**

- Research Associate Professor (2013 -) Department of Neurology, Univ. of Miami School of Medicine, Miami, USA.
- Research Assistant Professor (2006 - 2013) Department of Neurology, Univ. of Miami School of Medicine, Miami, USA.
- Assistant Scientist (2003 - 2006) Department of Neurology, Univ. of Miami School of Medicine, Miami, USA.
- Biochemist (September, 1999 – February, 2000) Pharmacology Division, Research and Development, The Zandu Pharmaceutical Works, Mumbai (Bombay), India.

Scholarship / Award:

- Stanley J. Glaser Foundation biomedical research award, University of Miami Miller School of Medicine 2007 - 2008.
- Recipient of award of Bursaries for young scientists to attend Brain'05 conference (Amsterdam, The Netherlands, June 2005) organized by the International Society for Cerebral Blood Flow and Metabolism.
- Received "Hari Ohm Ashram Prerit Shri Bhaikaka Inter-University Smarak Trust" Award, Sardar Patel University, Vallabh Vidyanagar, Gujarat, India for research paper "Effect of Aluminium-induced Alzheimer-like condition on oxidative energy metabolism in rat liver, brain and heart mitochondria," for the year 1999-2000.
- Received "Hari Ohm Ashram Prerit Shri Bhaikaka Inter-University Smarak Trust" Award, Sardar Patel University, Vallabh Vidyanagar, Gujarat, India for research paper "Paracetamol hepatotoxicity and microsomal function." for the year 1999-2000.
- Recipient of award of The Lady Tata Memorial Trust Research Scholarship, Mumbai (Bombay), India for years 1996-98.
- Recipient of Scholarship from Higher Education Commissioner, Government of Gujarat, India for year 1996.

Membership in Professional Societies:

- Member Society for Neurosciences.

C. Selected Peer-reviewed Publications

- * First two authors contributed equally to the work.

- 1) Thompson JW, Narayanan SV, Koronowski KB, Morris-Blanco K, **Dave KR**, Perez-Pinzon MA. Signaling pathways leading to ischemic mitochondrial neuroprotection. *J Bioenerg Biomembr.* 2014 (In press)
- 2) Rehni AK, Nautiyal N, Perez-Pinzon MA, **Dave KR**. Hyperglycemia / hypoglycemia-induced mitochondrial dysfunction and cerebral ischemic damage in diabetics. *Metab Brain Dis.* 2014 (In press)
- 3) Koch S, Della-Morte D, **Dave KR**, Sacco RL, Perez-Pinzon MA. Biomarkers for ischemic preconditioning: finding the responders. *J Cereb Blood Flow Metab.* 2014 Jun;34(6):933-41.
- 4) Lin HW, Gresia VL, Stradecki HM, Alekseyenko A, Dezfulian C, Neumann JT, **Dave KR**, Perez-Pinzon MA. Protein kinase C delta modulates endothelial nitric oxide synthase after cardiac arrest. *J Cereb Blood Flow Metab.* 2014 Apr;34(4):613-20.
- 5) Lin HW, Saul I, Gresia VL, Neumann JT, **Dave KR**, Perez-Pinzon MA. Fatty acid methyl esters and Solutol HS 15 confer neuroprotection after focal and global cerebral ischemia. *Transl Stroke Res.* 2014 Feb;5(1):109-17.
- 6) **Dave KR**, Della-Morte D, Saul I, Prado R, Perez-Pinzon MA. Ventricular fibrillation-induced cardiac arrest in the rat as a model of global cerebral ischemia. *Transl Stroke Res.* 2013 Oct 1;4(5).
- 7) Thompson JW, **Dave KR**, Saul I, Narayanan SV, Perez-Pinzon MA. Epsilon PKC Increases Brain Mitochondrial SIRT1 Protein Levels via Heat Shock Protein 90 following Ischemic Preconditioning in Rats. *PLoS One.* 2013 Sep 13;8(9):e75753.
- 8) Thompson JW, **Dave KR**, Young JI, Perez-Pinzon MA. Ischemic preconditioning alters the epigenetic profile of the brain from ischemic intolerance to ischemic tolerance. *Neurotherapeutics.* 2013 Oct;10(4):789-97.
- 9) Neumann J.T., Cohan C.H., **Dave K.R.**, Wright C.B., Perez-Pinzon M.A. Global Cerebral Ischemia: Synaptic and Cognitive Dysfunction. *Curr Drug Targets.* 2013 Jan 1;14(1):20-35.
- 10) **Dave K.R.**, Bhattacharya S.K., Saul I., DeFazio R.A., Dezfulian C., Lin H.W., Raval A.P., Perez-Pinzon M.A. Activation of protein kinase C delta following cerebral ischemia leads to release of cytochrome C from the mitochondria via bad pathway. *PLoS One.* 2011;6(7):e22057.
- 11) **Dave K.R.**, Tamariz J., Desai K.M., Brand F.J., Liu A., Saul I., Bhattacharya S.K., Pileggi A. Recurrent hypoglycemia exacerbates cerebral ischemic damage in streptozotocin-induced diabetic rats. *Stroke.* 2011, 42:1404-11.
- 12) **Dave K.R.**, Defazio R.A., Raval A.P., Dashkin O., Saul I., Iceman K.E., Perez-Pinzon M.A., Drew K.L. Protein kinase C epsilon activation delays neuronal depolarization during cardiac arrest in the euthermic arctic ground squirrel. *J Neurochem.* 2009, 110:1170-9.
- 13) * Della-Morte D., **Dave K.R.**, Defazio R.A., Bao Y.C., Raval A.P., Perez-Pinzon M.A. Resveratrol pretreatment protects rat brain from cerebral ischemic damage via a sirtuin 1 -- uncoupling protein 2 pathway. *Neuroscience.* 2009, 159, 993-1002.
- 14) * **Dave K.R.**, Anthony Defazio R, Raval A.P., Dashkin O., Saul I., Iceman K.E., Perez-Pinzon M.A., Drew K.L. Protein kinase C epsilon activation delays neuronal depolarization during cardiac arrest in the euthermic arctic ground squirrel. *J Neurochem.* 2009, 110, 1170-9.
- 15) **Dave K.R.**, DeFazio R.A., Raval A.P., Torraco A., Saul I., Barrientos A., Perez-Pinzon M.A. Ischemic preconditioning targets the respiration of synaptic mitochondria via protein kinase C epsilon. *J Neurosci.* 28:4172-82, 2008.
- 16) * **Dave, K.R.**, R. Prado, A.P. Raval, K.L. Drew, M.A. Perez-Pinzon, The arctic ground squirrel brain is resistant to injury from cardiac arrest during euthermia, *Stroke*, 37:1261-1265, 2006
- 17) * Raval A.P., **K.R. Dave**, M.A. Perez-Pinzon, Resveratrol mimics ischemic preconditioning in the brain, *J Cereb Blood Flow Metab*, 26:1141-7, 2006.
- 18) * **Dave, K.R.**, C. Lange-Asschenfeldt, A.P. Raval, R. Prado, R. Busto, I. Saul, M.A. Perez-Pinzon, Ischemic preconditioning ameliorates excitotoxicity by shifting glutamate/gamma-aminobutyric acid release and biosynthesis, *J Neurosci Res.*, 82:665-673, 2005
- 19) * Raval, A. P., **K.R. Dave**, R. Prado, L.M. Katz, R. Busto, T.J. Sick, M.D. Ginsberg, D. Mochly-Rosen, M.A. Perez-Pinzon, Protein kinase C delta cleavage initiates an aberrant signal transduction pathway after cardiac arrest and oxygen glucose deprivation, *J Cereb Blood Flow Metab*, 25:730-741, 2005
- 20) * **Dave, K.R.**, A.P. Raval, R. Prado, L.M. Katz, T.J. Sick, M.D. Ginsberg, R. Busto, M.A. Perez-Pinzon, Mild cardiopulmonary arrest promotes synaptic dysfunction in rat hippocampus. *Brain Res*, 1024:89-96, 2004

D. Research Support

1R01NS073779 Dr. Dave, P.I. 3/1/2012 – 12/31/2016
NIH/NINDS

Increased cerebral ischemic injury by repeated hypoglycemic episodes in diabetes.

The major goal of this project is to determine the mechanism by which repeated hypoglycemic episodes increases cerebral ischemic injury in diabetics.

Role: Principal Investigator

American Stroke Association-Bugher Foundation Centers for Excellence in Stroke Collaborative Research for Regeneration, Resilience and Secondary Prevention, Ralph S. Sacco (PI): Project 2: Enriched Environment, Exercise and Neurotherapeutics to Enhance Functional Recovery Following Stroke. Project PI: Dr. Perez-Pinzon

4/1/2014 – 3/31/2018

Role: co-investigator project 2

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.

NAME	POSITION TITLE		
Hong Jiang eRA COMMONS USER NAME: hongjiang	Clinical Assistant Professor, Neuro-Ophthalmology, Bascom Palmer Eye Institute, Neurology, Dept. of Neurology.		
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing,</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Zhejiang Medical University, Hangzhou, China	MD	1988	Medicine
Zhejiang Medical University, Hangzhou, China	Internship	1988-1990	Internal Medicine
Zhejiang Medical University, Hangzhou, China	M.Sc	1993	Neurology
University of Hong Kong, Hong Kong, China	PhD	2001	Neuroscience
University of Rochester, Rochester, NY, USA	Post-doc	2001-2005	Neuroscience
Rochester General Hospital, Rochester, NY	Internship	2006	Internal Medicine
Jackson Memorial Hospital/University of Miami, Miami, FL	Residency	2007-2010	Neurology
Bascom Palmer Eye Institute, University of Miami, Miami, FL	Clinical Fellow	2011	Neuro-Ophthalmology

A. Positions and Honors

Professional Positions and employment

- 2012 – Clinical assistant professor, Neuro-ophthalmology & Neurology, Bascom Palmer Eye Institute & Dept. of Neurology, University of Miami, Miami, FL.
- 2011- 2012 Clinical Instructor, Neuro-ophthalmology & Neurology, Bascom Palmer Eye Institute & Dept. of Neurology, University of Miami, Miami, FL.
- 1990-1997 Neurologist, Dept. of Neurology, 2nd Affiliated Hospital of Zhejiang Medical University, Hangzhou, China.

Selected honors

- 2011 National Eye Institute Travel Grant, ARVO Annual Meeting 2011
- 2008 Travel Award, the Florida Society of Neurology, USA
- 2000 Young Investigator Award for Best Oral Presentation, Queen Mary Hospital, Hong Kong
- 2000 Dr. Lo Kwee Seong Education Foundation Travel and Conference Grants
- 1999 Travel Grant, International Federation of Parkinson's disease Foundations, USA
- 1997 Lady Ivy Wu Fellowship from University of Hong Kong, Hong Kong, China

B. Peer-Reviewed Publications (Selected from 21 peer-reviewed publications)

Most relevant to current application (* corresponding author)

1. **Jiang H,*** Zhong J, Debuc DC, Tao A, Xu Z, Lam BL, Liu C, Wang JH. Functional slit-lamp biomicroscopy for imaging bulbar conjunctival microvasculature in contact lens wearers. **Microvascular Research**, 2014; 92: 62-71.

2. **Jiang H**,* DeBuc DC, Rundek T, Lam BL, Wright CB, Shen MX, Tao A, Wang JH. Automated segmentation and fractal analysis of high-resolution, non-invasive capillary perfusion maps (nCPMs) of the human retina. **Microvascular Research**. 2013; 89:172-5.
3. **Jiang H***, Ye YF, Cabrera DeBuc D, Lam BL, Rundek T, Tao AZ, Shao YL, Wang JH. Human conjunctival microvasculature assessed with a retinal function imager (RFI). **Microvascular Research**, 2013;85:134-7.
4. Sonfai G, Tatrai E, Laurik L, Varga B, Olvedy V, **Jiang H**, Wang JH, Smiddy WE, Somogyi A, Debuc DC. Automated classifiers for early detection and diagnosis of retinopathy in diabetic eyes. **BMC Bioinformatics**. 2014; 15:106.
5. Ye YF, **Jiang H**, Zhang HC, Karp CL, Zhong JG, Tao AZ, Shao YL, Wang JH. Resolution of slit-lamp microscopy photography using various cameras. **Eye & Contact Lens**, 2013;39: 205–213.
6. Ye YF, **Jiang H***, Shen MX, Lam B, Ge L, Cabrera DeBuc D, Wang JH. Repeatability of spectral oximetry measured with ultra-high resolution optical coherence tomography. **Clinical Ophthalmology**, 2012;6:2085-2092. http://www.dovepress.com/articles.php?article_id=11728
7. Wang YH, **Jiang H***, Shen MX, Lam BL, Cabrera DeBuc D, Ye YF, Li M, Wang JH. Quantitative analysis of the intraretinal layers and optic nerve head using ultra-high resolution optical coherence tomography. **J Biomedical Optics**, 2012; 17 (6): 066013.
8. **Jiang H**, Abukhalil F, Shen M, Gregori G, Lam BL, Wang YH, Wang JH. Slit-lamp-adapted ultra-high resolution OCT for imaging posterior segment of the eye. **Ophthalmic Surg Lasers Imaging**. 2012; 43(1):76-81.

Additional recent publications of importance to the field

9. Zhong J, Tao A, Xu Z, **Jiang H**, Shao Y, Zhang HC, Liu C, Wang JH. Whole eye axial biometry during accommodation using ultra-long scan depth optical coherence tomography. **American Journal of Ophthalmology**. 2014;157:1064-1069.
10. Shao YL, Tao AZ, **Jiang H**, Shen MX, Zhong JG, Lu F, Wang JH. Simultaneous real-time imaging of the ocular anterior segment including the ciliary muscle during accommodation. **Biomedical Optics Express**. 2013;4:466-480.
11. Zhu DX, Shen MX, **Jiang H**, Li M, Wang MR, Wang YH, Ge L, Qu J, Wang JH. Broadband super-luminescent diode-based ultra-high-resolution optical coherence tomography for ophthalmic imaging. **J Biomedical Optics**, 2011; 16 (12):12600-6.
12. Wang JH, Wang MR, **Jiang H**, Shen M, Cui L, Bhattacharya S. Detection of magnetic particles in live DBA/2J mouse eyes using magnetomotive optical coherence tomography. **Eye and Contact Lens**. 2010;36:346-351.
13. **Jiang H**, Mankodi A, Swanson MS, Henderson D, Moxley RT, and Thornton CA. Neuronal RNA inclusions sequester muscleblind proteins in myotonic dystrophy type 1. **Human molecular genetics**, 2004; 13:3079-3088.
14. Berg J, **Jiang H**, Thornton CA, and Cannon SC. Truncated CIC-1 mRNA in myotonic dystrophy exerts a dominant-negative effect on the chloride current. **Neurology**, 2004; 63:2371-2375.
15. **Jiang H**, Xie T, Ramsden DB, Ho SL. Human Catechol-O-methyltransferase down-regulation by estradiol. **Neuropharmacology**, 2003;45:1011-1018.

C. Research Support

Ongoing projects

Ocular Microvascular Biomarkers in Alzheimer's Disease Hong Jiang (PI) 12/1/2014 - 11/30/2015

University of Miami Office of Research, Research Education and Innovative Medicine (RIM) Internal Award Committee (IAC) Research Support Award (UM RSA 2015-41).

Our objective is to characterize the ocular microvascular dysfunction and its relationship with the retinal micro-structural changes in AD. The support will support to collect the preliminary data from a small group of study participants.

Retinal vascular dysfunction in multiple sclerosis

Hong Jiang (PI)

4/1/2014 –3/31/2015

National Multiple Sclerosis Society (NMSS) Pilot Research Grant

The purpose is to characterize the retinal microvascular dysfunction and optical properties for the development of ocular biomarkers in MS patients using the Retinal Function Imager (RFI) and Polarization Sensitive Optical Coherence Tomography (PS-OCT). Dr. Jiang has 1.8 calendar month effort in this project.

Conjunctival microvascular characterization of contact lens wear

Hong Jiang (PI)

12/1/2014-12/31/2016

Johnson & Johnson Vision Care Inc.

The purpose is to characterize conjunctival microvasculature in contact lens wearers. Dr. Jiang has 1.5 calendar month effort in this project.

A double-blind, randomized, multicenter, placebo-controlled, parallel-group study to evaluate the efficacy and safety of fingolimod 0.5 mg administered orally once daily versus placebo in patients with chronic inflammatory demyelinating polyradiculoneuropathy (CIDP).

Khema Sharma (PI) 7/1/2012 –4/30/2016

Novartis FTY720/Fingolimod

This study is a double-blind, randomized, multicenter, placebo-controlled, parallel-group study to study the efficacy and safety of fingolimod in CIDP patients. Dr. Jiang is a co-investigator.

A Phase 2 multi-center, randomized, double blind, placebo controlled, parallel group study to evaluate the efficacy and safety of T-817MA in patients with mild to moderate Alzheimer's Disease (US202)

Clinton Wright (PI) 6/1/2014 -6/1/2015

This study is a double-blind, randomized, multicenter, placebo-controlled, parallel-group study to study the efficacy and safety of T-817MA in patients with Alzheimer's Disease. Dr. Jiang is a sub-investigator.

Finished projects

Advanced imaging for diabetic retinopathy

Delia Cabrera DeBuc (PI) 02/01/2011 – 10/31/2013

NIH/NEI (R01EY020607S)

Advanced imaging for diabetic retinopathy

This award (R01 supplement for 21 months) provides support under the Research Supplements to Promote Diversity in Health-Related Research Program to Dr. Jiang who studies diabetic retinopathy and other retinal neurodegenerative diseases by using the unique prototype of UHR-OCT with added oximetry capability and the Retinal Function Imager (RFI). Dr. Jiang had 8.16 calendar month effort in this project.

Departmental start-up research project

Jiang, Hong (PI)

07/01/2011- 06/30/2012

Department of Ophthalmology

Functional Imaging of optical coherence tomography

The purpose of this project was to assess retinal hemodynamics and structure morphology differences between normal healthy subjects and multiple sclerosis using spectral analysis of images obtained with ultra-high resolution optical coherence tomography. Dr. Jiang had 20% time effort in this project in addition to material support for building OCT.

D. Patent

Provisional patent application entitled "Single shot high resolution conjunctival small vessel perfusion method for evaluating microvasculature in systemic and ocular vascular diseases. Inventors: Hong Jiang, Delia Cabrera DeBuc and Jianhua Wang.

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.

NAME Bonnie E. Levin, Ph.D.	POSITION TITLE Professor of Neurology and Psychology		
eRA COMMONS USER NAME bonnie_levin			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Georgetown University	BS	1974	Psychology
Temple University	Ph.D.	1983	Psychology

A. Personal Statement

I hold the Bernard and Alexandria Schoninger Professorship in Neurology and I am the founder and Director of the Division of Neuropsychology at the University of Miami Miller School of Medicine. I also run the Neuropsychology Assessment Program and supervise the clinical activities of PhD graduate students in the Child and Behavioral Medicine tracks. I have the expertise to conduct the neuropsychological studies.

I am currently involved in several studies examining the relationship between MRS metabolites and cognitive changes in normative aging, TBI, ALS and Parkinson's disease. I am also collaborating with investigators on the NOMAS (Northern Manhattan Study) project to examine the role of inflammation and other cardiometabolic variables on age related cognitive decline. I have published extensively on cognitive change across the lifespan.

B. Positions and Honors**B. Employment:**

1979-1980	Fellow in Psychology, Department of Psychiatry, Harvard Medical School, Boston, MA
1979-1980	Intern, Clinical Pediatric Neuropsychology, Children's Hospital Center, Boston, MA.
1980	Extern, Boston Veteran's Administration Hospital, Boston, MA
1981-1982	Instructor, Department of Neurology, University of Miami
1981	Director, Division of Neuropsychology, Department of Neurology, University of Miami
1986-1992	Assistant Professor, Department of Neurology, University of Miami
1992-2011	Associate Professor, Department of Neurology, University of Miami
2011-	Professor, Department of Neurology

Awards and Other Professional Experiences:

1974-Cum Laude, Georgetown University; Psi Chi Honor Society
Fellow, Mahoney Residential College
International Neuropsychology Society (INS) Program Chair-1997
INS Board of Governors 1998-2001
NINDS Study Section Member NSD-K, 2001-2005
NINDS AD hoc Reviewer-NSD-A 2001, 2002
NINDS Special Emphasis Panels 7/1998, 8/1999, 12/1999, 5/2000, 8/2000, 10/2000, 12/2001, 6/2001, 10/2001, 8/2002, 12/2002, 1/2004, 8/2004, 12/2004, 2/2005, 1/2006, 10/2006, 11/2006, 11/2006, 6/2007, (6/24 & 6/29) 3/2008, 4/2008.
NINDS Ad hoc reviewer, NSD-K, 2006 - 2008
Alzheimer Association Medical and Scientific Council Reviewer, 1999, 2002
Consultant: University of Miami Brain Endowment Bank, Department of Neurology; Clinical Neuroscience Unit, UM Department of Neurology
Member, National Acute Brain Injury Study: Hypothermia II: Data Safety of Monitoring Board Pediatrics; UM Sleep Center, Department of Neurology.

C. Selected Publications:

1. Papapetropoulos, S. Katzen, H., Schrag, A., Singer, C., Scanlon, B. K., Nation, D. Guevara, A. & Levin, B.E. A questionnaire-based (UM-PDHQ) study of hallucinations in Parkinson's disease. BMC Neurology, 2008, 8(21).
2. Nation, DA, Katzen, HL, Scanlon, B.E., Papapetropolis, S, Duncan R, Rodriguez, RA, Singer, C, Levin, BE. Defining subthreshold depression in Parkinson's disease, International Journal of Geriatric Neuropsychiatry, 2009, 24 (9) 937-943.
3. Levin, BE. Behavioral/Neuropsychological outcomes and quality of life endpoints, Woodbury KM, Coull BM (eds) Clinical Trials in Neurosciences. Frontiers of Neurology and Neuroscience. Basel, Karger, 2009 (25) ; 78-92
4. Papapetropoulos, S., Katzen, H., Scanlon, B., Guevera, A., Singer, C., & Levin, B. (2010). Objective quantification of neuromotor symptoms in Parkinson's disease: implementation of a portable, computerized measurement tool. Parkinson's Disease, Vol. 2010. Article ID 760196,, 2010. doi:10.4061/2010/760196
5. Katzen, H., Myerson, C., Papapetropoulos, S., Nahab, F., Gallo, B. & Levin, B. (2010). Multi-modal hallucinations and cognitive function in Parkinson's disease. Dementia and Geriatric Cognitive Disorders, 30 (1):51-56.
6. Katzen, H., Ravdin, L.D., Assuras, S., Heros, R., Kaplitt, M., Schwartz, T. H., Fink, M., Levin, B.E., & . Relkin, N.R. (2011). Post-shunt cognitive and functional improvement in idiopathic Normal Pressure Hydrocephalus (iNPH). Neurosurgery, 68(2): 416-419.
7. Levin BE., Katzen, HL., Maudsley, A., Post, J, Myerson, C., Govind, G., Nahab, F. Scanlon, B., Mittel. A. Whole-brain proton MR spectroscopic imaging in Parkinson's disease. Journal of Neuroimaging, 2012 DOI: 10.1111/j.1552-6569.2012
8. Geldmacher, DS, Levin BE, Wright CB. Characterizing healthy samples for studies of normal cognitive aging. Front. Ag. Neurosci., 4:6, 2012
9. Robertson, ED, DeFazio, A., Barnes, CA., Alexander, GE., Bizon, JL., Bowers, D., Foster, TC., Glisky, EL, Levin, BE, Ryan, L., Wright, CB., Geldmacher, DS. Challenges and opportunities for characterizing cognitive aging across species. Front.Ag, Neurosci., 4:6, 2012
10. Nahab, F., Levin, BE. Characterizing the Spectrum of Volition in Psychogenic Movement Disorders. Psychogenic Movement Disorders and other Conversion Disorders. M. Hallet (Ed) Cambridge University Press, 2012.
11. Assuras, S., Levin , BE. Special considerations for the neuropsychological interview of older adults. In L. Ravdin and H. Katzen (eds) Handbook on the Neuropsychology of Aging and Dementia. New York, Springer Publishing, 2012
12. Levin BE. Dementia. In MD Gellman and JR Turner (eds). Encyclopedia of Behavioral Medicine. Springer Science and Business Media, New York, 2012, , 2012, 553-557.
13. Levin, B.E., Katzen,H.L., Maudsley, A., Post, J., Myerson, C., Govind, V., Nahab, F., Scanlon, B., & Mittel, A. Whole-brain Proton MR Spectroscopic Imaging in Parkinson's Disease. [published online ahead of print December 10 2012. Journal of Neuroimaging, 2012.
14. Scanlon, B. K., Levin, B. E., Nation, D. A., Katzen, H. L., Guevara-Salcedo, A., Singer, C., & Papapetropoulos, S.. An accelerometry-based study of lower and upper limb tremor in Parkinson's disease. J Clin Neurosci, 2013 , 20(6), 827-30.
15. Levin BE, Llabre MM, Dong C, Elkind MS, Stern Y, Rundek T, Sacco RL, Wright CB. [Modeling metabolic syndrome and its association with cognition: the northern Manhattan study.](#) J Int Neuropsychol Soc. 2014 Nov;20(10):951-60.
16. Maudsley A, Govind V, Levin B, Saigal G, Harris LT, Sheriff S. [Distributions of MR Diffusion and Spectroscopy Measures with Traumatic Brain Injury.](#) J Neurotrauma. 2014 Oct 21. [Epub ahead of print] PMID: 25333480
17. Levin BE, Katzen HL, Maudsley A, Post J, Myerson C, Govind V, Nahab F, Scanlon B, Mittel A. [Whole-brain proton MR spectroscopic imaging in Parkinson's disease.](#) J Neuroimaging. 2014 Jan-Feb;24(1):39-44

D. Research Support

Completed:

NINDS 1 UO1 NS052478-01A2 (Adelson) 7/30/07 – 6/30/2011

Pediatric Traumatic Brain Injury Consortium: Hypothermia

This is a multicenter clinical trial to determine the efficacy of early induced moderate hypothermia after severe TBI in a pediatric sample. Subject mortality at 3 months is the primary measure of outcome. Secondary outcome measures included functional assessment and performance based neuropsychological measures.

Role: Study Principal Investigator of the Outcome Center.

NIH/NINDS 2U01NS38529-07A1 (Benavente/ Romano, site PI) 02/01/2008 – 6/30/2011

Secondary Prevention of Small, Subcortical Strokes (SPS3)

NIH/NINDS R01 NS055107 (Maudsley) 6/1/2006 – 12/31/2012

Volumetric MRSI Evaluation of Traumatic Brain Injury

Goals are to evaluate advanced metabolic imaging methods for injury assessment and prognosis following mild and moderate traumatic brain injury.

NIH/NINDS R01 NS060874 (Govind) 1/1/2009 – 8/31/2012

Brain Metabolic Imaging in Amyotrophic Lateral Sclerosis

The major goal of this project is to examine the efficacy of whole-brain proton MRSI and DTI methods for evaluating cerebral pathological changes in ALS.

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Gustavo J. Rey, Ph.D.	POSITION TITLE Clinical Associate Professor (pending) Department of Neurology University of Miami Miller School of Medicine
eRA COMMONS USER NAME (credential, e.g., agency login)	

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of South Carolina, Columbia, SC	BA	05/1981	Psychology
University of Houston, Houston, Texas	MA	12/1987	Clinical Neuropsychology
University of Houston, Houston, Texas	PH.D.	12/1989	Clinical Neuropsychology

A. Personal Statement. N/A

B. Positions and Honors

1997-2013 Head Neuropsychology Service, Brain Institute, Miami Children's Hospital.
 1990-1997 Assistant Professor of Neurology, University of Miami School of Medicine.
 1989-1990 Post-doctoral fellow, Department of Neurology, University of Miami School of Medicine.

C. Selected Peer-reviewed Publications (most relevant to project)

1. Korman, B., Krsek, P., Duchowny, M., Maton, B., Pacheco, E., Rey, G. Early seizure onset and dysplastic lesion extent independently disrupt cognitive networks. *Neurology*. 20; 81(8): 745-51. 2013.
2. Pavel Krsek, Alena Jahodova, Martin Kyncl, Martin Kudr, Vladimir Komarek, Petr Jezdik, Prasanna Jayakar, Ian Miller, Brandon Korman, Gustavo Rey, Trevor Resnick, Michael Duchowny (2013). Predictors of seizure-free outcome after epilepsy surgery for pediatric tuberous sclerosis complex. *Epilepsia*, September 2013
3. Fronto-temporal mapping and connectivity using NIRS for language-related paradigms. Michael Hall, Ujwal Chaudhary, Gustavo Rey, Anuradha Godavarty. *Journal of Neurolinguistics*, 2012, 1-7.
4. Rivas-Vazquez RA, Bello I, Sarria M, Fernandez ND, Rey GJ. (2011) Prevalence of Metabolic Syndrome in a Predominantly Cuban, Psychiatrically Ill, and Homeless Population. *Prim Care Companion CNS Disord* 2011;13(3):e1–e5.
5. Krsek, P., Jahodova, A., Maton, B., Jayakar, P., Dean, P., Korman, B., Rey, G., Dunoyer, C., Vinters, H., Resnick, T., Duchowny, M. (2010) Low grade cortical dysplasia is associated with pre-natal and peri-natal brain injury. *Epilepsia*. 51(12), 2440-2448.
6. Korman, B., Bernal, B., Duchowny, M., Dunoyer, C., Jayakar, P., Altman, N., Garaycoa, G., Resnick, T., Rey, G. Atypical propositional language organization in prenatal and early-acquired temporal lobe lesions. *J Child Neurol* August 2010 vol. 25 no. 8 985-993.
7. Byron Bernal, MD; Gustavo Rey, PhD; Catalina Dunoyer, MD; Harshad Shanbhag, MS; Nolan Altman, MD. (2010) Agenesis of the Arcuate Fasciculi in Congenital Bilateral Perisylvian Syndrome A Diffusion Tensor Imaging and Tractography Study. *Archives of Neurology* 67(4):501-505.
8. Krsek, P., Maton, B., Jayakar, P., Dean, P., Korman, B., Rey, G., Dunoyer, C., Pacheco-Jacome, E., Morrison, G., Ragheb, J., Resnick, T., Duchowny, M. (2009). Incomplete resection of focal cortical dysplasia is the main predictor of poor surgical outcome. *Neurology*, 72, 217-223.

D. Research Support

Ongoing Research Support

N/A

Prior Research Support in last 3 years

U.S. Army Medical Research and Materiel Command. Ragheb, J- PI [W81XWH-06-1-0663] - Traumatic Brain Injury: Multimodal Biomarker Screening and Field Applications for the Military” – years 2006-11 ---- \$ 4.2 Million.

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Ralph Lewis Sacco, MD MS		POSITION TITLE Chairman and Professor of Neurology, Public Health Sciences, Human Genetics, and Neurosurgery	
eRA COMMONS USER NAME (credential, e.g., agency login) SACCORL			
EDUCATION/TRAINING (<i>Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.</i>)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Cornell University, College of Engineering	B.S. distinction	1975-79	BioElectrical Engineering
Boston University, School of Medicine	M.D. cum laude	1979-83	Medicine
Columbia University, School of Public Health	M.S.	1987-89	Epidemiology
Neurological Institute, Presbyterian Hospital	Residency	1984-87	Neurology
Columbia College of Physicians & Surgeons	Fellow	1987-89	Cerebrovascular Disease

A. Personal Statement. N/A

B. Positions and Honors

- 1989-97 Assistant Professor of Neurology & Public Health (Epidemiology) in the Sergievsky Center
- 1997-02 Associate Professor of Neurology & Public Health (Epidemiology) in the Sergievsky Center (with tenure)
- 2003-07 Professor of Neurology & Epidemiology, Columbia University, College of Physicians and Surgeons, Mailman School of Public Health, and the Sergievsky Center (with tenure)
- 2007- Olemberg Family Chair in Neurological Disorders, Miller Professor of Neurology, Epidemiology and Public Health, Neurosurgery, and Human Genetics (with tenure) and Chairman of Neurology, Miller School of Medicine, University of Miami

Honors

- | | | | |
|------|---|------|---|
| 1982 | Alpha Omega Alpha | 2007 | AHA Chairman's Award |
| 1998 | American Neurological Association | 2008 | American Association of Physicians |
| 2001 | Fellow of the American Heart Association | 2008 | NINDS Jacob Javits Award in the Neurosciences |
| 2004 | Fellow of the American Academy of Neurology | 2011 | AHA, Distinguished National Leadership Award |
| 2006 | AHA/ASA William Feinberg Award | 2012 | AAN, Wartenberg Lecture Award |

Other Professional Experience

- 1999-05 American Academy of Neurology - Clinical Research Subcommittee, Chair
- 1997-03 NINDS, Performance Safety & Monitoring Committee, VISP Trial
- 2004-06 NINDS Neurosciences Training Grant Review Group, Member
- 2002-03 Center for Scientific Review, EDC-3
- 2003-07 FDA, Peripheral and Central Nervous System Drug Advisory Panel
- 2005-08 AHA, National Board of Directors; ASA, Chair Stroke Advisory Committee
- 2005-09 American Academy of Neurology, Board of Directors
- 2010-11 President, American Heart Association, National Board of Directors
- 2013-15 Vice President, American Academy of Neurology
- 2013-16 National Advisory Neurological Disorders and Stroke Council, NINDS
- 2015-17 President-elect, American Academy of Neurology

C. Selected Peer-reviewed Publications

1. Sacco RL, Gan R, Boden-Albala B, Lin IF, Kargman DE, Hauser WA, Shea S, Paik M. Leisure-Time Physical Activity and Ischemic Stroke Risk: The Northern Manhattan Stroke Study. **Stroke** 1998;29:380-387 PMID: 9472878
2. Sacco RL, Boden-Albala B, Gan R, Kargman DE, Paik M, Shea S, Hauser WA, and the Northern Manhattan Stroke Study Collaborators. Stroke incidence among white, black and Hispanic residents of an urban community: the Northern Manhattan Stroke Study. **Am J Epidemiol** 1998;147:259-268 PMID: 9482500
3. Sacco RL, Elkind M, Boden-Albala B, Lin I-F, Kargman DE, Hauser WA, Shea S, Paik M. The protective effect of moderate alcohol consumption on ischemic stroke. **JAMA** 1999;281:53-60 PMID: 9892451
4. Sacco RL, Benson RT, Kargman DE, Boden-Albala B, Tuck C, Lin I-F, Cheng JF, Paik MC, Shea S, Berglund L. High-density lipoprotein cholesterol and ischemic stroke in the elderly. **JAMA** 2001;285:2729-35 PMID: 11386928

Program Director/Principal Investigator (Last, First, Middle): Sacco, Ralph L

5. Sacco RL, Boden-Albala B, Abel G, Lin IF, Elkind M, Hauser WA, Paik MC, Shea S. Race-ethnic disparities in the impact of stroke risk factors: The Northern Manhattan Stroke Study. **Stroke** 2001;32:1725-1731 PMID: 11486097.
6. Wright CB, Moon Y, Paik MC, Brown TR, Rabbani L, Yoshita M, Decarli C, Sacco R, Elkind MS. Inflammatory Biomarkers of Vascular Risk as Correlates of Leukoariorosis. **Stroke**. 2009 Nov;40(11):3466-71.
7. Sacco RL, Khatri M, Rundek T, Xu Q PhD, Gardener H, Boden-Albala B, Di Tullio M, Homma S, Elkind MSV, Paik MC. Improving Global Vascular Risk Prediction with Behavioral and Anthropometric Factors: The Multi-ethnic Northern Manhattan Cohort Study. **J Am Coll Cardiol** 2009;54:2303-11 PMID: 19958966
8. Willey JZ, Disla N, Moon YP, Paik MC, Sacco RL, Boden-Albala B, Elkind MS, Wright CB. Early depressed mood after stroke predicts long-term disability: the Northern Manhattan Stroke Study. **Stroke**. 2010;41:1896-900.
9. Rundek T, Gardener H, Xu Q, Goldberg RB, Wright CB, Boden-Albala B, Disla N, Paik MC, Elkind MS, Sacco RL. Insulin resistance and risk of ischemic stroke among nondiabetic individuals from the northern Manhattan study. **Arch Neurol**. 2010;67:1195-200.
10. Marcus J, Gardener H, Rundek T, Elkind MS, Sacco RL, Decarli C, Wright CB. Baseline and longitudinal increases in diastolic blood pressure are associated with greater white matter hyperintensity volume: the northern Manhattan study. **Stroke**. 2011 Sep;42(9):2639-41.
11. Vieira JR, Elkind MS, Moon YP, Rundek T, Boden-Albala B, Paik MC, Sacco RL, Wright CB. The metabolic syndrome and cognitive performance: the northern Manhattan study. **Neuroepidemiology**. 2011;37(3-4):153-9.
12. Dong C, Rundek T, Wright CB, Anwar Z, Elkind MS, Sacco RL. Ideal cardiovascular health predicts lower risks of myocardial infarction, stroke, and vascular death across whites, blacks, and Hispanics: the northern Manhattan study. **Circulation**. 2012 Jun 19;125(24):2975-84.
13. Economos A, Wright CB, Moon YP, Rundek T, Rabbani L, Paik MC, Sacco RL, Elkind MS. Interleukin 6 Plasma Concentration Associates with Cognitive Decline: The Northern Manhattan Study. **Neuroepidemiology**. 2013 Jan 24;40(4):253-259.
14. Warsch JR, Rundek T, Paik MC, Elkind MS, Sacco RL, Wright CB. Association between northern Manhattan study global vascular risk score and successful aging. **J Am Geriatr Soc**. 2013 Apr;61(4):519-24.
15. Katan M, Moon YP, Paik MC, Sacco RL, Wright CB, Elkind MS. Infectious burden and cognitive function: the Northern Manhattan Study. **Neurology**. 2013 Mar 26;80(13):1209-15.
16. Ramos AR, Dong C, Elkind MS, Boden-Albala B, Sacco RL, Rundek T, Wright CB. Association between sleep duration and the mini-mental score: the Northern Manhattan study. **J Clin Sleep Med**. 2013 Jul 15;9(7):669-73.
17. Gutierrez J, Rundek T, Elkind MS, Sacco RL, Wright CB. Perivascular Spaces Are Associated with Atherosclerosis: An Insight from the Northern Manhattan Study. **AJNR Am J Neuroradiol**. 2013 Sep;34(9):1711-6Apr 4. PubMed PMID: 23557952.
18. Ramos AR, Jin Z, Rundek T, Russo C, Homma S, Elkind MS, Sacco RL, Di Tullio MR. Relation between long sleep and left ventricular mass (from a multiethnic elderly cohort). **Am J Cardiol**. 2013 Aug 15;112(4):599-603. doi:10.1016/j.amjcard.2013.04.029. Epub 2013 May 24. PubMed PMID: 23711813; PubMed Central PMCID: PMC3770129
19. Willey JZ, Park Moon Y, Ruder R, Cheung YK, Sacco RL, Elkind MS, Wright CB. Physical Activity and Cognition in the Northern Manhattan Study. **Neuroepidemiology**. 2014;42(2):100-6. Epub 2013 Dec 3. PubMed PMID: 24335048; PubMed Central PMCID: PMC3942085.
20. Jaubert MP, Jin Z, Russo C, Schwartz JE, Homma S, Elkind MS, Rundek T, Sacco RL, Di Tullio MR. Alcohol consumption and ambulatory blood pressure: a community-based study in an elderly cohort. **Am J Hypertens**. 2014 May;27(5):688-94. Epub 2013 Dec 21. PubMed PMID: 4363276; PubMed Central PMCID: PMC3978947.
21. Dhamoon MS, Moon YP, Paik MC, Sacco RL, Elkind MS. Diabetes predicts long-term disability in an elderly urban cohort: the Northern Manhattan Study. **Ann Epidemiol** 2014 May;24(5):362-368.e1. doi: 10.1016/j.annepidem.2013.12.013.Epub 2014 Jan 3. PubMed PMID: 24485410; PubMed Central PMCID: PMC4011963.
22. Everson-Rose SA, Roetker NS, Lutsey PL, Kershaw KN, Longstreth WT Jr, Sacco RL, Diez Roux AV, Alonso A. Chronic stress, depressive symptoms, anger, hostility, and risk of stroke and transient ischemic attack in the multi-ethnic study of atherosclerosis. **Stroke**. 2014 Aug;45(8):2318-23. PubMed PMID: 25013018; PubMed Central PMCID: PMC4131200.
23. Ramos AR, Dong C, Rundek T, Elkind MS, Boden-Albala B, Sacco RL, Wright CB. Sleep duration is associated with white matter hyperintensity volume in older adults: the Northern Manhattan Study. **J Sleep Res**. 2014 Jul 7. PubMed PMID: 25040435.

D. Research Support

Ongoing Research Support

Stroke Incidence and Risk Factors in a Tri-Ethnic Region

Role: PI; Agency: NIH/NINDS; Type: R37 (formerly 2R01) (NS 29993); Period: 01.01.93-03.31.15

Aims: To determine the effects of risk factors including subclinical carotid and brain disease on the risk of stroke, MI, and vascular death in a prospective cohort of 3299 stroke-free community subjects from Northern Manhattan.

Program Director/Principal Investigator (Last, First, Middle): Sacco, Ralph L

Novel Factors for Unexplained Phenotypes of Carotid Atherosclerosis

Role: Co-I; PI: TRundek/SBlanton; Agency: NIH/NINDS; Type: R01 (NS 065114); Period: 07.01.10-06.30.15

Aims: This is a genetic study to help uncover genetic factors related to unexplained extreme carotid phenotypes within the Northern Manhattan Study cohort using extreme phenotypes.

Oral Infections, Carotid Atherosclerosis and Stroke

Role: Co-PI; PI: Desvarieux; Agency: NIH/NIDCR; Type: 1R01 (DE 13094); Period: 07.01.00-12.31.15

Aims: To determine the effect of chronic periodontal disease and inflammation as a risk factor for stroke and carotid atheroma progression.

Subclinical Cardiovascular Disease Study: MESA

Role: Adjudicator; Agency: NIH/NHLBI; Type: Subcontract (NHLBI-HC-N01HC95159); Period: 01.14.99 - 02.14.15

Aims: To identify subclinical predictors of atherosclerotic disease in a multi-center cohort.

Subclinical Cardiovascular Disease Study: MESA Air

Role: Adjudicator; Agency: NIH/NHLBI; Type: Subcontract (NHLBI-HC-83169701); Period: 04.01.07-02.14.15

Aims: The prospective study of atherosclerosis, clinical cardiovascular disease and long term exposure to ambient particulate matter and other air pollutants in a multiethnic cohort.

Ethnic/Racial Variations of Intracerebral Hemorrhage (ERICH)

Role: Co-I; PI: Woo; Agency: NIH/NINDS; Type: R01 (NS069763) Period: 08.01.10-07.31.15

Aims: To identify the relative importance of leading risk factors for ICH in whites among blacks and Hispanics, determine differences in outcomes, and differences in neuroimaging characteristics by race and ethnicity.

FGF-23 and the Risk of Stroke and Cognitive Decline

Role: Co-I; PI: Wright; Agency: NIH/NHLBI; Type: R01 HL108623-01A1; Period: 03.16.12-02.29.16

Aims: To evaluate the role of FGF23 in stroke and cognitive decline.

Physical activity patterns via new dimension-informative cluster models

Role: Co-I; PI: Paik/Cheung; NIH/NHLBI; Type: R01 HL111195-01A1; Period: 07.01.12-06.30.16

Aims: The goals of the project are to develop new cluster analysis methods for physical activity data from questionnaire and the accelerometry, and validate utility of the identified patterns via novel methods.

Family Study of Stroke Risk and Carotid Atherosclerosis

Role: PI; Agency: NIH/NINDS; Type: 1R01 (NS 240807); Period: 05.01.02-08.30.17

Aims: The major goals of this project are to determine the genetic determinants of carotid IMT and plaque among high-risk Caribbean Hispanic families of the NOMAS.

Hispanic Stroke Prevention Intervention Research Program

Role: PI; Agency: NIH/NINDS; Type: U54 (NS 081763); Period: 01.01.13-12.31.17

Aims: The major goals of this project are to create the Florida Puerto Rico Stroke Registry to identify and reduce stroke disparities in acute stroke and secondary prevention

AHA/ASA Bugher Center Foundation Center of Excellence in Stroke Award

Role: Center Director; Agency: AHA

Period: 04.01.14-03.31.18; Total Cost: \$2,416,000

Aims: To conduct two projects evaluating the effects of physical activity and cognitive training on animals and stroke survivors on cognitive recovery.

University of Miami: Network of Excellence in Neuroscience Clinical Trials (NEXT)

Role: PI (dual); Agency: NIH/NINDS; Type: U10 (NS077423); Period: 09.30.2011-08.31.2018

Aims: The goals of this proposal are (a) to function effectively as a NEXT consortium trial site, (b) to enhance quality and efficiency of NEXT and other NINDS trial implementation at the University of Miami and (c) to leverage existing institutional strengths to enhance NEXT consortium activities.

Miami Clinical and Translational Science Institute

Role: Co-I; PI: JSzapocznik; Agency: NIH/NCRR/NIMHD; Type: UL1TR000460; Period: 06.01.13-05.31.20

Aim: To build research capacity and facilitate translational research at University of Miami.

Prior Research Support in last 3 years

NINDS Ischemic Stroke Genetics Consortium

Role: Co-I; PI: Kittner; Agency: NIH/NINDS; Type: U01 (NS069208); Period: 07.01.10-06.30.14

Aims: To assemble ischemic stroke phenotypic data and DNA samples from 11 stroke studies.

Hispanic Community Health Study – Miami Field Center

Role: Co-I; PI: Schneiderman; Agency: NIH/NHLBI (HHSN268200625234C); Period: 09.30.06-03.31.13; Aims: This

longitudinal, epidemiological, multi-center study will identify health status, chronic disease risk factors and protective health behaviors in 16,000 Hispanic/Latino participants, of whom 4,000 primarily Cuban participants will be examined in Miami-Dade County, FL.

A Primary Hyperparathyroidism - non-classical Manifestations

Role: Co-I; PI: Silverberg; Agency: NIH/NIDK; Type: R01 (DK 066329); Period: 4.15.05-03.31.11

Program Director/Principal Investigator (Last, First, Middle): Sacco, Ralph L

Aims: This is a prospective study to evaluate the effects of hyperparathyroidism on carotid disease and other cardiovascular outcomes.

Genetic Determinants of Subclinical Carotid Disease

Role: Co-I; PI: Tanja Rundek; Agency: NIH/NINDS; Type: R01 (NS 047655); Period: 01.01.04-12.31.10

Aims: This is a cross-sectional study evaluating potential candidate genes related to carotid IMT and distensibility in the Northern Manhattan Study cohort.

Aortic, Cardiovascular Disease and Silent Brain Infarcts

Role: Co-I; PI: Di Tullio; Agency: NIH/NINDS; Type: 1R01 (NS 36286); Period: 06.01.97-05.31.10

Aims: To determine whether aortic arch plaques and cardiovascular exposures are risk factors for silent infarcts and vascular outcomes within a prospective cohort study.

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.**

NAME Xiaoyan Sun	POSITION TITLE Education Director, Evelyn F McKnight Brain Institute Assistant Professor, Department of Neurology		
eRA COMMONS USER NAME (credential, e.g., agency login) SUN.XIAOYAN			
EDUCATION/TRAINING <i>(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
Xi'an Medical College (Present name: School of Medicine of Xi'an Jiaotong University, China)	M.D.	08/1984	Medicine
Gunma University School of Medicine (Japan)	Ph.D.	03/1996	Biochemistry/ Neuroscience

A. Personal Statement: N/A

B. Positions and Honors

Positions

1983.9-1984.8	Intern, Shanxi Provincial People's Hospital, China
1984.9-1989.6	Resident Doctor, Dept. Neurology, Qinghai Provincial People's Hospital, China
1987.2-1987.5	Clinical Fellowship, The Iodine Deficient Disorder (IDD) Project Between China And Australia, Australia
1989.7-1990.9	Attending Doctor, Dept. Neurology, Qinghai Provincial People's Hospital
1990.10-1992.3	Clinical Fellowship of Neurology, Gunma University School of Medicine, Japan
1996.5-1998.3	Postdoctoral Fellow, Dept. Medicine, UCLA, Los Angeles, CA
1998.7-2002.8	Staff Scientist, Brain Science Institute of RIKEN, Japan
2002.8-2004.7	Postdoctoral Fellow, Dept. of Neurology, Center for Neurological Disease, Brigham and Women's Hospital, Harvard University School of Medicine, Boston, MA
2004.8-2008.6	ELISA Consultant, Center for Neurological Disease, Harvard University School of Medicine, Boston, MA
2004.8-2008.6	Clinical Research Fellow, Dept. of Psychiatry, New England Medical Center and School of Nutrition Science and Policy, Tufts University, Boston, MA
2008.7-2012.6	Resident, Dept. of Neurology, Medical University of South Carolina, Charleston, SC
2012.7-2014.6	Geriatric/behavioral Neurology fellow, Boston VA Medical Center, Boston, MA
2013.8-2014.6	Assistant professor in Dept of Neurology, Boston University School of Medicine, Boston, MA
2014.10-present	Assistant professor in Dept of Neurology, University of Miami Miller School of Medicine, Miami, FL

Honors

1992.4-1996.3	Japanese Government Scholarship for Ph.D. Course, Japan
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- 1996.8 Travel Award 5th International Alzheimer's Disease Conference, Japan
- 1996-1997 Staff Incentive Award for Exceptional Performance and Valuable Contribution, Dept. Medicine, UCLA, USA
- 2010.5 Best Case Presentation Award, Dept. of Neuroscience, Medical University of South Carolina

C. Selected Peer-reviewed Publications

- 1 **Sun X.**, Tashiro T., Hirai S. and Yamaguchi H. Identification of 5.8 kDa C-terminal fragments of Alzheimer amyloid generated in the lysosomal system. *Amyloid: Int.J.Exp.Clin.Invest.* 1994;1:100-106
- 2 **Sun X.**, Tashiro T., Hirai S., Yamamoto H., Miyamoto E., and Komiya Y. Preparation of tau from the peripheral nerve: Presence of insoluble low molecular weight tau with high phosphorylation *Biochem. Biophys. Res. Comm.* 1995; 210:338-344
- 3 **Sun X.**, Cole GM, Chu T., Xia W., Galasko D., Yamaguchi H., Frautschy SA., and Takashima A.. Intracellular A-beta is increased by okadic acid exposure in the transfected neuronal and non-neuronal cell lines *Neurobiol. of Aging* 2002; 23:195-203
- 4 **Sun X.**, Sato S., , Murayama O., Murayama M., Park J.-M., Yamaguchi H., and Takashima A. Lithium inhibits amyloid secretion in the cells transfected with amyloid precursor protein C100 *Neurosci Lett* 2002; 321:61-64
- 5 Leissring M.A., Farris W., Chang A.Y., Walsh D.M., Wu X., **Sun X.**, Frosch M.P., Selkoe D.J. Enhanced proteolysis of beta-amyloid in APP transgenic mice prevents plaque formation, secondary pathology, and premature death. *Neuron.* 2003 Dec 18; 40(6):1087-93
- 6 Beglopoulos V*, **Sun X.***, Saura R., Kim R., and Shen J. Reduced amyloid production and increased inflammatory responses in presenilin conditional knockout mic. *J Biol Chem.* 2004 Nov 5; 279 (45): 46907-14 (*equal contribution)
- 7 **Sun X.** and Takashima A. Regulation of amyloid by lithium. In *Amyloid precursor protein: A practical approach* 2005; pp. 145-154.
- 8 **Sun X. ***, Beglopoulos V*, Mattson M, Shen J. Hippocampal Spatial Memory Impairments Caused by the Familial Alzheimer's Disease-linked Presenilin 1 M146V Mutation *Neurodegenerative Dis* 2005; 2:6-15
- 9 Qiu W.Q., *, **Sun X.**, *, Selkoe D.J., Mwamburi D.M., Huang T. , Bhadela R., Bergethon P., Scott T.M., Summergrad P., Wang L., Rosenberg I., and Folstein M. . Depression is Associated with Low Plasma Ab42 Independently of Cardiovascular Disease in the Homebound Elderly. *Int J. Ger Psych,* Nov. 6, 2006 (*equal contribution)
- 10 **Sun X.**, Selkoe D.J., Mwamburi D.M., Bungay K., Prasad J., Yee J., Lin Y. , Liu T.C., Summergrad P., Folstein M. , and Qiu W.Q. Depression, antidepressants and plasma Ab peptides in those elderly who do not have cardiovascular disease. *Biological Psychiatry,* 2007 Jun. 1;
- 11 **Sun X.**, Steffens D.C., AU R., Folstein M., Summergrad P., Yee J., Rosenberg I., Mwamburi D.M., Qiu W.Q.. Amyloid-associated depression: a prodromal depression of Alzheimer disease? *Arch Gen Psych* 2008, 65: 542-50
- 12 **Sun X.**, Chiu C.C., Liebson E., Crivello N.A., Wang L., Folstein M., Rosenberg I., Mwamburi D.M. , Peter I., and Qiu W.Q. Depression and plasma Amyloid β peptides in the elderly with and without apolipoprotein E4 allele. *Alzheimer Dis Assoc Disord.* 2009 Jul-Sep; 23(3):238-44.
- 13 **Sun X**, Bhadelia R, Liebson E, Bergethon P, Folstein M, Zhu JJ, Mwamburi DM, Patz S, Qiu WQ. The relationship between plasma amyloid- β peptides and the medial temporal lobe in the homebound elderly. *Int J Geriatr Psychiatry.* 2011 Jun;26(6):593-601
- 14 **Sun X.**, Nicholas J., Walker A., Wagner M., and Bachman D. APOE genotype in the diagnosis of Alzheimer's disease in the patients with cognitive impairment. *American Journal of Alzheimer's disease and other dementia.* 2012 Aug; 27 (5):315-20.

- 15 **Sun X.**, Salat D, Upchurch K, Deason R, Kowall N, Budson A; Alzheimer's Disease Neuroimaging Initiative. Destruction of white matter integrity in patients with mild cognitive impairment and Alzheimer disease. 2014 J Investig Med. 2014 Oct;62(7):927-33

D. Research Support

Completed Research Support:

2002-2003 Sabbatical Program In Drug Discovery, HCNR of Harvard Medical School, USA

2011-2012 Pilot grant, Boston University Alzheimer's Disease Center, co-investigator

White matter in older adult with Alzheimer's disease and PTSD

BIOGRAPHICAL SKETCH

NAME Clinton Wright	POSITION TITLE Scientific Director, Evelyn F. McKnight Brain Institute		
eRA COMMONS USER NAME (credential, e.g., agency login) WRIGHTCL	Associate Professor of Neurology, Neuroscience, Public Health Sciences		
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
George Washington University; Washington DC	B.A.	09/90	Psychology
Columbia University College of P&S; New York, NY	M.D.	05/97	Medicine
Columbia University, Mailman School of PH; New York, NY	M.S.	05/03	Epidemiology

A. Personal Statement: N/A

B. Positions and Honors

1997-1998	Intern, Internal Medicine.
1998-2001	Resident, Neurology, New York Presbyterian Hospital; New York, NY
2001-2003	Stroke Fellowship, Columbia University College of Physicians and Surgeons, New York, NY
2001-2003	Neuroepidemiology Fellowship, Columbia University College of Physicians and Surgeons, New York, NY
2001-2003	Neuroepidemiology NIH Training Grant (T32) awardee
2001-2008	Assistant Attending in Neurology, New York Presbyterian Hospital, New York, NY
2003-2008	Assistant Professor of Neurology, Columbia University, New York, NY
2008-present	Adjunct Associate Professor, Department of Neurology, Columbia University, New York, NY
2008-present	Associate Professor of Neurology, Neuroscience, and Epidemiology & Public Health, University of Miami, Miami, FL
2008-present	Scientific Director, Evelyn F. McKnight Brain Institute
2008-present	Chief, Division of Cognitive Disorders, Department of Neurology, University of Miami School of Medicine
2012	Chairman's Award for Teaching Excellence, Department of Neurology, University of Miami School of Medicine
2012-present	Member, Center On Aging, Department of Psychiatry & Behavioral Sciences, University of Miami School of Medicine

C. Selected Peer-reviewed Publications

- Holton P, Ryten M, Nalls M, et al., **Wright CB** (collaborator). Alzheimer Disease Genetics Consortium. Initial assessment of the pathogenic mechanisms of the recently identified Alzheimer risk Loci. *Ann Hum Genet.* 2013 Mar;77:85-105. *PMCID: PMC3578142*
- Economos A, **Wright CB**, Moon YP, Rundek T, Rabbani L, Paik MC, Sacco RL, Elkind MS. Interleukin 6 Plasma Concentration Associates with Cognitive Decline: The Northern Manhattan Study. *Neuroepidemiology.* 2013;40:253-259. *PMCID: PMC3725587*
- Wright CB**, Zonderman AB. What can memory tests predict about the aging brain? The freedom to recall. *Neurology.* 2013; 80:1274-5. *PMID: 23468540*
- Warsch JR, Rundek T, Paik MC, Elkind MS, Sacco RL, **Wright CB**. Association Between Northern Manhattan Study Global Vascular Risk Score and Successful Aging. *J Am Geriatr Soc.* 2013 Apr;61(4):519-24. *PMCID: PMC3628415*

5. Katan M, Moon YP, Paik MC, Sacco RL, **Wright CB**, Elkind MS. Infectious burden and cognitive function: The Northern Manhattan Study. *Neurology*. 2013 Mar 26;80:1209-15. *PMCID: PMC3691781*
6. Miyashita A, Koike A, Jun G, Wang LS, Takahashi S, **Wright CB** et al. SORL1 is genetically associated with late-onset Alzheimer's disease in Japanese, Koreans and Caucasians. *PLoS One*. 2013; 8. Epub 2013 Apr 2. *PMCID: PMC3614978*
7. Reitz C, Jun G, Naj A, et al., **Wright CB** (collaborator). Alzheimer Disease Genetics Consortium. Variants in the ATP-binding cassette transporter (ABCA7), apolipoprotein E ϵ 4, and the risk of late-onset Alzheimer disease in African Americans. *JAMA*. 2013 Apr 10; 309:1483-92. *PMCID: PMC3667653*
8. Willey JZ, Park Moon Y, Ruder R, Cheung YK, Sacco RL, Elkind MS, **Wright CB**. Physical Activity and Cognition in the Northern Manhattan Study. *Neuroepidemiology*. 2013 Dec 3; 42(2):100-106. *PMCID: PMC3942085*
9. Del Brutto OH, Gardener H, Del Brutto VJ, Maestre GE, Zambrano M, Montenegro JE, **Wright CB**. Edentulism Associates with Worse Cognitive Performance in Community-Dwelling Elders in Rural Ecuador: Results of the Atahualpa Project. *J Community Health*. 2014 Mar 14. *PMID: 24627152*
10. Gardener H, Rundek T, **Wright CB**, Gu Y, Scarmeas N, Homma S, Russo C, Elkind MS, Sacco RL, Di Tullio MR. A Mediterranean-Style Diet and Left Ventricular Mass (from the Northern Manhattan Study). *Am J Cardiol*. 2014 Nov 29. pii: S0002-9149(14)02179-1. doi: 10.1016/j.amjcard.2014.11.038. [Epub ahead of print] *PMID: 25542392*
11. Noble JM, Scarmeas N, Celenti RS, Elkind MS, **Wright CB**, Schupf N, Papapanou PN. Serum IgG antibody levels to periodontal microbiota are associated with incident Alzheimer disease. *PLoS One*. 2014 Dec 18;9(12):e114959. doi: 10.1371/journal.pone.0114959. eCollection 2014. *PMID: 25522313*
12. Levin BE, Llabre MM, Dong C, Elkind MS, Stern Y, Rundek T, Sacco RL, **Wright CB**. Modeling metabolic syndrome and its association with cognition: the northern Manhattan study. *J Int Neuropsychol Soc*. 2014 Nov;20(10):951-60. doi: 10.1017/S1355617714000861. Epub 2014 Nov 10. *PMID: 25382144*
13. Khatri M, Moon YP, Scarmeas N, Gu Y, Gardener H, Cheung K, **Wright CB**, Sacco RL, Nickolas TL, Elkind MS. The association between a Mediterranean-style diet and kidney function in the Northern Manhattan Study cohort. *Clin J Am Soc Nephrol*. 2014 Nov 7;9(11):1868-75. doi: 10.2215/CJN.01080114. Epub 2014 Oct 30. *PMID: 25359387*
14. Tiozzo E, Gardener H, Hudson BI, Dong C, Della-Morte D, Crisby M, Goldberg RB, Elkind MS, Cheung YK, **Wright CB**, Sacco RL, Rundek T. High-density lipoprotein subfractions and carotid plaque: The Northern Manhattan Study. *Atherosclerosis*. 2014 Nov;237(1):163-8. doi: 10.1016/j.atherosclerosis.2014.09.002. Epub 2014 Sep 9. *PMID: 25240111*
15. Del Brutto OH, Mera RM, Del Brutto VJ, Maestre GE, Gardener H, Zambrano M, **Wright CB**. Influence of depression, anxiety and stress on cognitive performance in community-dwelling older adults living in rural Ecuador: Results of the Atahualpa Project. *Geriatr Gerontol Int*. 2014 Aug 26. doi: 10.1111/ggi.12305. [Epub ahead of print] *PMID: 25155360*
16. Ramos AR, Dong C, Rundek T, Elkind MS, Boden-Albala B, Sacco RL, **Wright CB**. Sleep duration is associated with white matter hyperintensity volume in older adults: the Northern Manhattan Study. *J Sleep Res*. 2014 Oct;23(5):524-30. doi: 10.1111/jsr.12177. Epub 2014 Jul 7. *PMID: 25040435*
17. Willey JZ, Gardener H, Moon YP, Yoshita M, DeCarli C, Cheung YK, Sacco RL, Elkind MS, **Wright CB**. Lipid profile components and subclinical cerebrovascular disease in the northern Manhattan study. *Cerebrovasc Dis*. 2014;37(6):423-30. doi: 10.1159/000362920. Epub 2014 Jul 12. *PMID: 25034465*

18. Hudson BI, Dong C, Gardener H, Elkind MS, **Wright CB**, Goldberg R, Sacco RL, Rundek T. Serum levels of soluble receptor for advanced glycation end-products and metabolic syndrome: the Northern Manhattan Study. *Metabolism*. 2014 Sep;63(9):1125-30. doi: 10.1016/j.metabol.2014.05.011. Epub 2014 Jun 4. PMID: 25012910
19. Monteith T, Gardener H, Rundek T, Dong C, Yoshita M, Elkind MS, DeCarli C, Sacco RL, **Wright CB**. Migraine, white matter hyperintensities, and subclinical brain infarction in a diverse community: the northern Manhattan study. *Stroke*. 2014 Jun;45(6):1830-2. doi: 10.1161/STROKEAHA.114.005447. Epub 2014 May 15. PMID: 24876263
20. Russo C, Jin Z, Homma S, Elkind MS, Rundek T, Yoshita M, Decarli C, **Wright CB**, Sacco RL, Di Tullio MR. Response to letter regarding article, "subclinical left ventricular dysfunction and silent cerebrovascular disease: the cardiovascular abnormalities and brain lesions (CABL) study". *Circulation*. 2014 May 6;129(18):e486-7. doi: 10.1161/CIRCULATIONAHA.114.009354. No abstract available. PMID: 24799510
21. Gardener H, **Wright CB**, Cabral D, Scarmeas N, Gu Y, Cheung K, Elkind MS, Sacco RL, Rundek T. Mediterranean diet and carotid atherosclerosis in the Northern Manhattan Study. *Atherosclerosis*. 2014 Jun;234(2):303-10. doi: 10.1016/j.atherosclerosis.2014.03.011. Epub 2014 Mar 22. PMID: 24721190
22. Rincon F, **Wright CB**. Current pathophysiological concepts in cerebral small vessel disease. *Front Aging Neurosci*. 2014 Mar 24;6:24. doi: 10.3389/fnagi.2014.00024. eCollection 2014. Review. PMID: 24715862
23. **Wright CB**, Dong C, Stark M, Silverberg S, Rundek T, Elkind MS, Sacco RL, Mendez A, Wolf M. Plasma FGF23 and the risk of stroke: the Northern Manhattan Study (NOMAS). *Neurology*. 2014 May 13;82(19):1700-6. doi: 10.1212/WNL.0000000000000410. Epub 2014 Apr 4. PMID: 24706015 [PubMed - indexed for MEDLINE]
24. Willey JZ, Park Moon Y, Ruder R, Cheung YK, Sacco RL, Elkind MS, **Wright CB**. Physical activity and cognition in the northern Manhattan study. *Neuroepidemiology*. 2014;42(2):100-6. doi: 10.1159/000355975. Epub 2013 Dec 3. PMID: 24335048
25. Gutierrez J, Bagci A, Gardener H, Rundek T, Elkind MS, Alperin N, Sacco RL, **Wright CB**. Dolichoectasia diagnostic methods in a multi-ethnic, stroke-free cohort: results from the northern Manhattan study. *J Neuroimaging*. 2014 May-Jun;24(3):226-31. doi: 10.1111/j.1552-6569.2012.00781.x. Epub 2013 Jan 14. PMID: 23317292

D. Research Support

Ongoing Research Support

1 R01 HL108623

Wright (PI)

03/16/12-02/29/16

NIH/ NHLBI

FGF-23 and the Risk of Stroke and Cognitive Decline

Elevated fibroblast growth factor 23 and serum phosphate are novel risk factors for cerebrovascular disease and cognitive decline. This study takes advantage of an ongoing population-based cohort study that includes Hispanic, black, and white people living in the same community, to examine elevated serum FGF23 and phosphate and the risk for stroke, subclinical small and large vessel injury, and cognitive decline. Elevated serum phosphate is modifiable and the results of this study have therapeutic potential that can be tested in randomized clinical trials.

HHSN268200900048C

09/14/09-10/2/18

Wake Forest University (subcontract)/NHLBI

Systolic Blood Pressure Intervention Trial (SPRINT) – MRI Substudy

The purpose of this grant is to examine the effects of tight blood pressure control on brain morphology and relate these findings to cognitive outcomes in the MIND component of the SPRINT trial.

R37 NS029993 Sacco (PI)

01/07/93 - 03/31/15

NIH/NINDS: Subcontract to Columbia University

Stroke Incidence and Risk Factors in a Tri- Ethnic Region

This prospective cohort study (Northern Manhattan Study, NOMAS) investigates risk factors for stroke and other vascular outcomes in a multi-ethnic, urban population. In addition, the study seeks to understand the relationships between these risks factors and cognition and MRI-defined cerebrovascular disease.

Role: Co-investigator

AHA/ASA 14BFSC1759000 Sacco (PI)

04/01/14 – 03/31/18

AHA

Bugher Center Foundation Center of Excellence in Stroke Award

This award will conduct two projects evaluating the effects of physical activity and cognitive training on animals and stroke survivors on cognitive recovery.

Role: Co-investigator

Completed Research Support

AHA 0735387N (PI: Wright)

07/01/2008- 06/30/11

AHA

Vascular Risk and Cognition in a Tri- Ethnic Community

The purpose of this grant is to examine vascular risk factors as correlates of cognitive dysfunction in a stroke-free multi-ethnic sample. Aims will focus on the role of both traditional and novel vascular risk factors.

K02 NS 059729-03 (PI: Wright)

09/01/2008 - 11/30/13

NIH/NINDS

Vascular Risk and Cognition in a Multi-ethnic Cohort

The purpose of this grant is to examine vascular risk factors for cognitive dysfunction in a stroke-free multi-ethnic sample. Aims will focus on identification of traditional and novel vascular risk factors for cognitive dysfunction as well as the role of brain imaging markers of vascular damage.

Collaborators

Antonio Barrientos, Ph.D.

Susan Blanton, Ph.D.

Elizabeth Crocco, M.D.

Chuanhui Dong, Ph.D.

Hannah Gardener, Sc.D.

Joyce Gomes-Osman, Ph.D.

Hung-Wen Lin, Ph.D.

Teshamae S. Monteith, M.D.

Carlos Moraes, Ph.D.

Miguel Perez-Pinzon, Ph.D.

Alberto Ramos, M.D.

Ami P. Raval, Ph.D.

Tatjana Rundek, M.D., Ph.D.

Juan I. Young, Ph.D.

Adina Zeki Al Hazzouri, Ph.D.

BIOGRAPHICAL SKETCH

NAME BARRIENTOS, Antoni		POSITION TITLE	
eRA COMMONS USER NAME abarrientos		Professor	
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Univ. of Barcelona. Teachers' School. SPAIN	B.S.	1981-1984	Science Education
Univ. of Barcelona. School of Biology. SPAIN	B.S.	1986-1992	Fundamental Biology
Univ. of Barcelona. School of Medicine. SPAIN	Ph.D.	1993-1997	Mitochondrial Genetics and Biochemistry
Uni. of Miami. School of Medicine. FL. USA	Post-doctoral fellow	1997-1999	Mitochondrial Genetics and Biochemistry
Columbia University. New York. NY. USA	Post-doctoral fellow	1999-2000	Yeast mitochondrial Genetics and Biochemistry

A. Personal Statement

The study of mitochondria and their function is critical to the understanding of key cellular functions. There are still significant gaps in knowledge about the mechanisms regulating the assembly of multisubunit membrane protein complexes, which have a dual genetic origin (nuclear and mitochondrial). The study of mitochondria is also critical to understand aging and the pathogenesis of several diseases with wide social impact, for example neurodegenerative disorders. Alterations in mitochondrial energy production are also the cause of fatal childhood diseases, mostly encephalomyopathies and cardiomyopathies.

I have devoted my entire career to mitochondrial research, initially studying samples from patients and later developing novel mammalian and yeast culture models. We routinely use the facultative aerobe/anaerobe yeast *Saccharomyces cerevisiae* as a model organism to study mitochondrial biogenesis in health and disease. Additionally, we study human cultured cells to validate and/or complement the discoveries made in yeast and generate findings that are relevant to human biology and diseases.

My main research interest focuses on the **biogenesis of mitochondrial membrane complexes in health and neurological disease**. Over the last five years we have been extensively working on mitochondrial translational regulation and on the biogenesis of mitochondrial respiratory chain with the support of several NIH RO1 and Muscular Dystrophy Association Research Grants. During my 11 years as an academic faculty I have trained 9 postdoctoral trainees; I have mentored 8 graduate students (4 currently), have been in the dissertation committee of 16 graduate students and was a mentor of 7 undergraduate students.

B. Positions and Honors.**Positions:**

1985-1992. Permanent position as Teacher of Sciences in Secondary Public Schools. Barcelona. SPAIN.

2000-2003. Associate Research Scientist. Dept Biological Sciences. Columbia University (New York, NY).

2003-2007. Tenure-earning track Assistant Professor. Department of Neurology. The John Macdonald Foundation. Center for Medical Genetics. University of Miami (Miami. FL)

2005-2007. Tenure-earning track Assistant Professor. Department of Biochemistry and Molecular Biology. University of Miami (Miami. FL)

June 2007 – June 2009. Tenure-earning track Associate Professor. Department of Neurology and Department of Biochemistry & Molecular Biology. University of Miami (Miami. FL)

June 2009 until June 2013. Tenured Associate Professor. Department of Neurology and Department of Biochemistry & Molecular Biology. University of Miami (Miami. FL)

June 2013 until present. Tenured Professor. Department of Neurology and Department of Biochemistry & Molecular Biology. University of Miami (Miami. FL)

Honors:

1993-1996. Pre-Doctoral Scholarship from the Spanish Government: Education of University' Professors.

1997-1999. Post-Doctoral Scholarship from the Spanish Government: Program for Research Profs. Abroad.
2003-2004. Selected candidate to represent the University of Miami for the Pew Award in Biomedical Sciences.
2004-2005. Selected candidate to represent the University of Miami for the Ellison Foundation award in Aging Research.

Editorial Responsibilities:

Ad hoc reviewer for: Cell Metabolism, Nature Genetics, Journal of Biological Chemistry, Human Molecular Genetics, Molecular Biology of the Cell, Journal of Molecular Biology, Trends Mol Med, Mitochondrion, Antioxidants and Redox Signaling, Biochemical Journal, FEBS Letters, Aging: clinical and experimental Research, Genetics in Medicine, Annals of Neurology and Neurology.

Advisory panels:

Federal Agencies

- Ad hoc reviewer for the Cellular Mechanisms of Aging and Development (CMAD) study section (NIH) in 2012, the Membrane Biology and Protein Processing (MBPP) Study Section in 2011 and 2013, and the Macromolecular Structure and Function A (MSFA) study section in 2013.
- Reviewer in several special emphasis panels (2012-2013)
- Ad hoc reviewer for R13 Scientific Conference Grant (NIH) (2011).
- Stage 1 reviewer for The Fellowships ZRG1 F05-Cell Biology and Development study section (NIH) (in 2010).
- Stage 1 reviewer for Recovery Act RC1 (2009) and RC4 (2010) applications (NIH)
- Regular member of the Membrane Biology and Protein Processing (MBPP) Study Section since June-2014

Reviewer of research grants from:

- Muscular Dystrophy Association (MDA) (*ad hoc* reviewer since 2008)
- Italian Telethon (*ad hoc* reviewer since 2006)
- The British Medical Research Council (MRC) (*ad hoc* reviewer since 2008)
- The Spanish National Evaluation and Foresight Agency (ANEP) from the Spanish Government Ministry of Education and Science -Secretary for Universities and Research (permanent reviewer since 2004).

C. Selected peer-reviewed Publications from the last three years

(Selected from a total of **85 papers** and **11 book chapters**)

Most relevant over the last 3 years

- 1- Hess KC, Liu J, Manfredi G, Mühlischlegel FA, Buck J, Levin LR, Barrientos A. (2014) **A mitochondrial CO₂-adenylyl cyclase-cAMP signalosome controls yeast normoxic cytochrome c oxidase activity.** *FASEB J.* 28: 4369-80. PMID: PMC4202101
- 2- Bourens M, Boulet A, Leary SC, Barrientos A. (2014) **Human COX20 cooperates with SCO1 and SCO2 to mature COX2 and promote the assembly of cytochrome c oxidase.** *Hum. Mol. Genet.* 23(11): 2901-13. PMID: PMC4014192
- 3- De Silva D, Fontanesi F and Barrientos A. (2013) **The DEAD-Box Protein Mrh4 Functions in the Assembly of the Mitochondrial Large Ribosomal Subunit.** *Cell Metab.* [Epub ahead of print] (2013)
- 4- Barrientos A and Ugalde C. (2013) **I function, therefore I am: overcoming doubt about mitochondrial supercomplexes.** *Cell Metab.* July 18(2):147-9
- 5- Ocampo A, Liu J and Barrientos A. (2013) **NAD⁺ salvage pathway proteins suppress proteotoxicity in yeast models of neurodegeneration by promoting the clearance of misfolded/oligomerized proteins.** *Hum. Mol. Genet.* 22(9):1699-708 doi: 10.1093/hmg/ddt016
- 6- Liu J. and Barrientos A. (2013) **Transcriptional regulation of yeast OXPHOS hypoxic genes by oxidative stress.** *Antiox Redox Signal.* 19(16):1940-52. PMID: PMC3852343
- 7- Bourens M, Fontanesi F, Soto IC, Liu J, Barrientos A. (2013) **Redox and Reactive Oxygen Species Regulation of Mitochondrial Cytochrome c Oxidase Biogenesis.** *Antioxid. Redox Signal.* 19(16):1940-52. PMID: PMC3852343

- 8- Soto IC, Fontanesi F, Myers RS, Hamel P and Barrientos A. (2012) **A heme-sensing mechanism in the translational regulation of mitochondrial cytochrome c oxidase biogenesis.** *Cell Metab.* 16 (6): 801-813. PMID: PMC3523284
- 9- Bourens M, Dabir DV, Tienson HL, Sorokina, I, Koehler CM and Barrientos A. (2012) **Role of twin-CysX₉Cys motif cysteines in mitochondrial import of the cytochrome c oxidase biogenesis factor Cmc1.** *J. Biol. Chem.* 287(37):31258-69. PMID: PMC3438957
- 10- Barrientos A. (2012) **Complementary roles of mitochondrial respiration and ROS signaling on cellular aging and longevity.** *Aging* 4(9): 1-2. PMID: PMC3492222
- 11- Ocampo A, Liu JJ, Schroeder EA, Shadel GS and Barrientos A. (2012) **Mitochondrial respiratory thresholds regulate yeast chronological life span and its extension by caloric restriction.** *Cell Metab* 16(1):55-67. PMID: PMC3397320
- 12- Moreno-Lastres D, Fontanesi F, García-Consuegra I, Martín MA, Arenas J, Barrientos A, Ugalde C. (2012) **Mitochondrial Complex I plays an Essential Role in Human Respirasome Assembly.** *Cell Metab* 15(3):324-35. PMID: PMC3318979
- 13- Fontanesi F., Clemente P, Barrientos A. (2011) **Cox25 teams up with Mss51, Ssc1 and Cox14 to regulate mitochondrial cytochrome c oxidase subunit 1 expression and assembly in *Saccharomyces cerevisiae*.** *J. Biol. Chem.* 286(1):255-266. <http://www.jbc.org/content/286/1/555.long>
- 14- Ocampo A and Barrientos A. (2011) **Developing yeast models of human neurodegenerative disorders.** *Methods Mol. Biol.* 793: 113-127
- 15- Yong Pan Y, Schroeder EA, Ocampo A, Barrientos A and Shadel GS. (2011) **Regulation of yeast chronological life span by TORC1 via adaptive mitochondrial ROS signaling.** *Cell Metab.* 13(6): 668-678. PMID: PMC3110654
- 16- Ocampo A and Barrientos A. (2011) **Quick and reliable assessment of chronological life span in yeast cell populations by flow cytometry.** *Mech. Ageing. Dev.* 132: 315-323
- 17- Fontanesi F., Soto I.C., Horn D. and Barrientos A. (2010) **Mss51 and Ssc1 facilitate translational regulation of cytochrome c oxidase biogenesis.** *Mol Cell Biol.* 30: 245-259. PMID: 2798308
- 18- Ocampo A, Zambrano A. and Barrientos A. (2010) **Suppression of polyglutamine-induced cytotoxicity in *Saccharomyces cerevisiae* by enhancement of mitochondrial biogenesis.** *FASEB J.* 24(5):1431-41. <http://www.fasebj.org/content/24/5/1431.long>

D. Research Support

Ongoing Research Support

1-1-2012 / 12-31-2015. RO1 grant from NIH (NIH # 2 R01 GM071775-06A1). “*Cytochrome c oxidase assembly in health and disease*”. We use the yeast *Saccharomyces cerevisiae* and human cultured cells as models to study COX assembly in wild-type strains and others carrying mutations in evolutionary conserved COX assembly factors, relevant for human mitochondrial diseases. **PI:** Antoni Barrientos. DC: \$190.000 per year

1-1-2013 / 12-31-2015. Supplement to RO1 grant from NIH (NIH # 2 R01 GM071775-06A1S3). “*Macromolecular assemblies in cells*”. We use the human cell culture models to study cytochrome c oxidase assembly and how it is regulated at the translational level through dynamic protein-protein interactions. **PI:** Antoni Barrientos. DC: \$80.000 per year

1-1-2014 / 12-31-2018. RO1 grant from NIH (NIH # R01 GM105781A). “*The biogenetic pathway of mitochondrial respirasomes*”. We use the yeast *Saccharomyces cerevisiae* and human cultured cells as models to study the assembly of mitochondrial supercomplexes and respirasomes. **PI:** Antoni Barrientos. **Subcontract** : Cristina Ugalde. DC: \$250.000 per year (50% for subcontract)

Pending Research Support

1-1-2015 / 12-31-2019. RO1 grant from NIH (NIH # R01 GM112179A). “*Biogenesis of the mitochondrial translation machinery*”. We use the yeast *Saccharomyces cerevisiae* and human cultured cells as models to study the assembly of mitochondrial ribosomes. **PI:** Antoni Barrientos. DC: \$250.000 per year .

Score: **20**; Percentile: **6.0**

Completed Research Support

2000-2003. Development Grant from the Muscular Dystrophy Association. Research project: "Function of Shy1p, the yeast homolog of Surf1p, responsible for Leigh's syndrome". **PI:** Antoni Barrientos. Mentor: Alexander Tzagoloff.

2003-2004. Research Grant from the Muscular Dystrophy Association. Research project: "*Cytochrome c oxidase assembly in health and disease*". **PI:** Antoni Barrientos.

2004-2005. Research Grant from the Glaser Foundation. Research project: "*Mitochondrial Physiology in a Yeast Model of Huntington's Disease*". **PI:** Antoni Barrientos.

2004-2007. Research Grant from the Muscular Dystrophy Association (MDA # 3844). "*Role of Evolutionary Conserved Cytochrome c Oxidase Assembly Factors*". **PI:** Antoni Barrientos.

2008-2009. Research Grant from the Glaser Foundation. Research project: "*Searching for suppressors of polyglutamine-induced mitochondrial and cellular toxicities in yeast*". **PI:** Antoni Barrientos.

2006-2010. NIH – RO1 Research grant NS054147. Research project: "*Mitochondria and Cerebral Ischemia: intracellular signaling*". **PI:** Perez-Pinzon, Miguel; **Co-Inv-** Antoni Barrientos.

2007-2010. Research Grant from the Muscular Dystrophy Association (MDA). "*Understanding the molecular basis of Leigh's syndrome associated to cytochrome c oxidase deficiency*". **PI:** Antoni Barrientos.

2006-2011. RO1 grant from NIH (NIH # R01GM071775). Research project: "*Cytochrome c oxidase assembly in health and disease*". **PI:** Antoni Barrientos.

2009-2011. Competitive ARRA supplement NIGMS 3 R01 GM071775-04S1. Research project: "*Cytochrome c oxidase assembly in health and disease*". **PI:** Antoni Barrientos.

2010-2012. Research Challenge grant from the Florida Department of Health / James & Esther King Biomedical Research Program. "*Slowing degenerative processes by bolstering cellular bioenergetics*" **PI:** Antoni Barrientos, **PI:** C. T. Moraes (multiple PI grant).

2011-2013. Research Grant from the Muscular Dystrophy Association. Research project: "*Characterization of novel conserved cytochrome c oxidase chaperones*". **PI:** Antoni Barrientos.

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Blanton, Susan Halloran.		POSITION TITLE Associate Professor	
eRA COMMONS USER NAME (credential, e.g., agency login) Shblanton			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Virginia Commonwealth University, Richmond VA	B.S.	1980	Biology
Virginia Commonwealth University, Richmond VA	Ph.D.	1985	Human Genetics
University of Pittsburgh, Pennsylvania	(Post-Doc)	1986	Biostatistics
Fox Chase Cancer Center, Philadelphia PA	(Post-Doc)	1988	Population Oncology

A. Personal Statement

Not Applicable

B. Positions and Honors

Positions and Employment

1980-1983 Graduate Asst, Dept of Human Genetics, VCU, Richmond
 1983-1985 Graduate Asst, Div of Human Genetics, Univ of Maryland at Baltimore
 1985-1986 Research Assoc, Dept of Biostatistics, U of Pittsburgh, Pittsburgh, PA
 1987-1988 Postdoc, Population Oncology, Fox Chase Cancer Ctr, Philadelphia PA
 1988-1989 Instructor, Dept of Pediatrics, U of Conn Health Center, Farmington
 1989-1991 Asst Professor-Research, Medical Genetics Center, U of TX, Houston
 1991-1996 Asst Professor of Research, Dept of Pediatrics, UVA, Charlottesville
 1996-2006 Assoc Professor of Research, Dept of Pediatrics, UVA, Charlottesville
 1997-2007 Assoc Professor, Collateral Faculty, Dept of Human Genetics, VCU, Richmond, VA
 2006 Assoc Research Professor, Center for Human Genetics, Duke, Durham, NC
 2007-present Assoc Professor, Dr. John T. Macdonald Foundation Department of Human Genetics, University of Miami Leonard M. Miller School of Medicine, Miami, Florida
 2012-present Executive Director, John P. Hussman Institute for Human Genomics University of Miami Leonard M. Miller School of Medicine, Miami, Florida

Other Experience and Professional Memberships

1990-1995 Member, Tuberos Sclerosis Advisory Board
 1995-1998 Research Proposal Reviewer, MD Anderson Cancer Center
 1995-2000 Research Proposal Reviewer, Wellcome Trust, England
 1997 Ad Hoc, NIDDK NIH study section
 2001-2003 Ad Hoc, NINDS NIH study section NSD-C
 2002/2005 Research Proposal Reviewer, Alzheimer’s Association
 2003-2005 Member, NINDS NIH study section NSD-C
 2005/2006 Special emphasis panel, NINDS
 2005-2007 Ad Hoc, NINDS study section NST
 2007-2011 Member, NINDS study section NST
 2008-2013 Editorial Board, Journal of Biomedicine and Biotechnology
 2008 Reviewer, March of Dimes
 2011 NCBDDD, Fragile X/Rare Disorders special emphasis panel
 2012 Research proposal Reviewer, Gallaudet Research Institute
 2014 Field Reviewer, CDC study section, Center for Research and Training to Promote the Health of People with Developmental and Other Disabilities

Honors

1980	Phi Kappa Phi, Virginia Commonwealth University
1980	Biology Award to Outstanding Senior, Virginia Commonwealth University, Dept. of Biology
1980-1983	NIH Pre-Doctoral Fellowship, Medical College of Virginia
1982	Alpha Sigma Chi, Virginia Commonwealth University
1983-present	Sigma Zi
1994	IBM Shared University Resource Award

C. Selected Peer-reviewed Publications (Selected from 161 peer-reviewed publications)

Recent publications of importance to the field (in chronological order)

1. **Blanton SH**, Burt A, Stal S, Mulliken J, Garcia E, Hecht JT. Family-based study shows heterogeneity of susceptibility locus on chromosome 8q24 for nonsyndromic cleft lip and palate. *Birth Defects Research Part A: Birth Defects Res A Clin Mol Teratol.* 2010 Apr;88(4):256-259. PMID: PMC2861347.
2. Sirmaci A, Erbek S, Price J, Huang M, Duman D, Cengiz FB, Bademci G, Tokgoz-Yilmaz S, Hismi B, Ozdag H, Öztürk B, Kulaksizoglu S, Yildirim E, Kokotas H, Grigoriadou M, Petersen MB, Shahin H, Kanaan M, King MC, Chen ZY, **Blanton SH**, Liu XZ, Zuchner S, Akar N, Tekin M. A Truncating Mutation in SERPINB6 is Associated with Autosomal Recessive Non-Syndromic Sensorineural Hearing Loss. *Am J Hum Genet.* 2010 May 14;86(5):797-804. PMID: PMC2869020.
3. Wang L, Di Tullio MR, Beecham A, Slifer S, Rundek T, Homma S, **Blanton SH**, Sacco RL. A Comprehensive Genetic Study on Left Atrium Size in Caribbean Hispanics Identifies Potential Candidate Genes in 17p10. *Circ Cardiovasc Genet.* 2010 Aug;3(4):386-92. PMID: PMC2923674.
4. **Blanton SH**, Burt A, Garcia E, Mulliken JB, Stal S, Hecht JT. Ethnic Heterogeneity of IRF6 AP-2a Binding Site Promoter SNP Association With Nonsyndromic Cleft Lip and Palate. *Cleft Palate Craniofac J.* 2010 Nov;47(6):574-7. PMID: PMC3039881.
5. Dong C, Beecham A, Slifer S, Wang L, **Blanton SH**, Wright CB, Rundek T, Sacco RL. Genomewide Linkage and Peakwide Association Analyses of Carotid Plaque in Caribbean Hispanics. *Stroke.* 2010 Dec;41(12):2750-6. PMID: PMC3004531.
6. Dong C, Beecham A, Slifer S, Wang L, McClendon MS, Blanton SH, Rundek T, Sacco RL. Genome-wide linkage and peak-wide association study of obesity-related quantitative traits in Caribbean Hispanics. *Hum Genet.* Feb; 129(2):209-19, 2011. PMID: PMC4101466.
7. Wang L, Yanuck D, Beecham A, Gardener H, Slifer S, **Blanton SH**, Sacco RL, Rundek T. A Candidate Gene Study Revealed Sex-Specific Association between the OLR1 Gene and Carotid Plaque. *Stroke.* 2011 Mar;42(3):588-92. PMID: PMC3042493.
8. Gardener H, Beecham A, Cabral D, Yanuck D, Slifer S, Wang L, **Blanton SH**, Sacco RL, Juo SH, Rundek T. Carotid Plaque and Candidate Genes Related to Inflammation and Endothelial Function in Hispanics From Northern Manhattan. *Stroke.* 2011 Apr;42(4):889-96. PMID: PMC3116444.
9. Dong C, Beecham A, Wang L, Slifer S, Wright CB, **Blanton SH**, Rundek T, Sacco RL. Genetic loci for blood lipid levels identified by linkage and association analyses in Caribbean Hispanics. *J Lipid Res.* 2011 Jul;52(7):1411-9. PMID: PMC3122911.
10. Kuo F, Gardener H, Dong C, Cabral D, Della-Morte D, **Blanton SH**, Elkind MS, Sacco RL, Rundek T. Traditional Cardiovascular Risk Factors Explain the Minority of the Variability in Carotid IPlaque. *Stroke.* 2012 Jul;43(7):1755-60. PMID: PMC3383876.
11. Della-Morte D, Beecham A, Rundek T, Wang L, McClendon MS, Slifer S, Blanton SH, Di Tullio MR, Sacco RL. A Follow-Up Study for Left Ventricular Mass on Chromosome 12p11 Identifies Potential Candidate Genes. *BMC Med Genet.* 2011 Jul 26;12:100. PMID: PMC3199748.
12. Della-Morte D, Beecham A, Dong C, Wang L, McClendon MS, Gardener H, **Blanton SH**, Sacco RL, Rundek T. Association between variations in coagulation system genes and carotid plaque. *J Neurol Sci.* 2012 Dec 15;323(1-2):93-8. doi: 10.1016/j.jns.2012.08.020. PMID: PMC3483411.
13. Wang L, Rundek T, Beecham A, Hudson B, **Blanton SH**, Zhao H, Sacco RL, Dong C. Genome-Wide Interaction Study Identifies RCBTB1 as a Modifier for Smoking Effect on Carotid Intima-Media Thickness. *Arterioscler Thromb Vasc Biol.* 2013 Nov 7. [Epub ahead of print].

14. Della-Morte D, Dong C, Beecham A, Wang L, Cabral D, Markert MS, Blanton SH, Sacco RL, Rundek T. Relationship between sirtuin and mitochondrial uncoupling protein genes and carotid artery stiffness. *Transl Res.* 2014 Sep 6. pii: S1931-5244(14)00306-5. doi: 10.1016/j.trsl.2014.08.007.
15. Della-Morte D, Wang L, Beecham A, Blanton SH, Zhao H, Sacco RL, Rundek T, Dong C. Novel genetic variants modify the effect of smoking on carotid plaque burden in Hispanics. *J Neurol Sci.* 2014 Jun 14. pii: S0022-510X(14)00376-1. doi: 10.1016/j.jns.2014.06.006. [Epub ahead of print], 2014. PMID: PMC4143440 [Available on 2015/9/15].

D. Research Support

Ongoing Research Support

2 P50 DC000422-26 (Dubno, J) (Med Univ SC) 10/01/13–09/30/18
NIH/NIDCD

(Liu, X – subcontract Project 3)

“Experimental and Clinical Studies of Presbycusis –

Project 3: Identification of Susceptibility Genes for Age-Related Hearing Loss”

This proposal will investigate the genetic and molecular basis of human presbycusis.

Role: Co-Investigator on Project 3

7R01NS040807-09 (Sacco, Ralph) 10/01/09-06/30/17

NINDS

“Family Study of Stroke Risk and Carotid Atherosclerosis”

The purpose of this grant is to identify genetic determinants of quantitative cerebrovascular risk phenotypes.

Role: Co-investigator

1 R01 DC009645-01A2-05 (Tekin, M) 06/01/10-05/31/15

NIH

“A Collaborative Search for New Genes for Non-Syndromic Deafness”

The purpose of this grant is to identify new genes for deafness in inbred families from Turkey.

Role: Co-investigator

1R01NS065114-05 (Tatjana Rundek, Susan Blanton) 07/01/10-06/30/15

NIH-NINDS

“Novel factors for unexplained extreme phenotypes of subclinical atherosclerosis”

The purpose of this grant is to identify genes associated with extreme phenotypes of subclinical atherosclerosis.

Role: Principal Investigator

2R01DE011931-13 (Hecht, J; Blanton S) University of Texas 12/26/12-11/30/17

NIH-NIDCR

“Mapping nonsyndromic cleft lip and palate genetic loci”

Nonsyndromic cleft lip with or without cleft palate (NSCLP) is a common birth defect affecting 4000 newborns in the US and 135,000 worldwide each year. The etiology is poorly understood and currently, only 20% of the NSCLP genetic liability has been identified, limiting our ability to identify at-risk individuals or provide accurate counseling for families. In these studies, we apply the newest technology to identify the genetic variation underlying NSCLP in families with multiple cases, will test the variants for expression and functionality in a fish model and develop ethnic-specific risks. The results of this study will ultimately be utilized to identify and test for potential at-risk genotypes.

Role: Principal Investigator

1R01 DC012836-02 (Tekin, M) 03/01/13-02/28/18

NIH

“Genetic Studies of Inner Ear Anomalies”

The goals of the project are to identify new genes for deafness associated with inner ear anomalies and to establish a resource for research in inner ear anomalies including biological samples and clinical data from large numbers of affected families. Role: Co-Investigator

1R01DC012115-01A1-02 (Liu, X) 03/08/13 – 02/28/18

NIH

“Implementing Genomic Medicine in Clinical Care of Deaf Patients”

We will develop a comprehensive genetic testing platform and genomic deafness database for clinical care of deaf individuals to: 1) improve the clinical care of deaf and hard of hearing persons; and 2) determine the epidemiology of hereditary hearing loss in the United States. The successful completion of the proposed aims will significantly improve our ability to provide genetic counseling for affected patients/families and to expand our knowledge on the genomic basis of hereditary hearing.

Role: Co-Investigator

Completed Research Support (last three years)

1U54NS0657-12-03 (Shy, ME)

09/01/09-08/31/14

NIH/RDCRC/WSU

"Inherited Neuropathies Consortium - Project 2: Inherited neuropathies; an integrated approach leading to therapy"

The proposed CMT consortium will deliver high quality clinical data and collect a large number of CMT families/patients; apply innovative study designs using the latest technology to tackle some of the most pressing genetic issues in CMT that will ultimately pave the way for new therapeutic approaches.

Role: Senior Statistical Geneticist and Epidemiologist

2 T15 HG000026-17 (Scott, WK)

03/01/10-11/30/14

NIH/NHGRI

"Genetic Analysis Methods for Medical Researchers"

In order to successfully move into the next phase of disease gene mapping, and thus attain one of the primary goals of the Human Genome Initiative, it is critical that physician scientists and laboratory scientists be educated with respect to pedigree ascertainment, sampling and basic gene localization experimental design along with the understanding of the plethora of analytic tools available.

Role: Co-course organizer.

(Dong, C)

07/01/11-06/30/13

James and Esther King Biomedical Research

"Gene-Smoking Interactions and Atherosclerosis"

Role: Collaborator

5R01NS047655-07 (Rundek) PI – University of Miami

01/01/04-03/31/13

"Genetic Determinants of Subclinical Carotid Disease"

The main goal of this research is to study the genetic polymorphisms associated with carotid IMT and distensibility in the three race/ethnic groups (whites, blacks and Hispanics) from the Northern Manhattan Study (NOMAS) cohort.

Role: Co-Investigator

2R01EY007142-12A2 (Daiger) - UTHSC

09/15/08-08/31/12

NIH-NEI

"DNA Linkage Studies of Degenerative Retinal Diseases"

The purpose of this grant is to identify the genes and mutations causing autosomal dominant retinitis pigmentosa.

Role: PI on subcontract

1R56DE021862-01 (Hedges, D/Blanton, S)

09/27/11-08/31/12

NIH/NIDCR

"Multiprong Screening Strategy for Gene Discovery in Nonsyndromic Cleft Lip Palate"

Role: Co-Principal Investigator on Subcontract

5R01DE011931-13 (Hecht) PI – University of Texas

04/01/99-03/31/12

3R01DE011931-10S1 (Hecht) PI – University of Texas

09/22/09-08/31/11

NIH

"Mapping nonsyndromic cleft lip and palate genetic loci"

To map the genes for non-syndromic cleft lip/palate.

Role: PI on Subcontract

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed for Form Page 2.
Follow the sample format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME		POSITION TITLE	
Elizabeth A. Crocco, M.D.		Clinical Assistant Professor	
EDUCATION/TRAINING (<i>Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.</i>)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Douglas College, Rutgers University, NJ	B.S.	1989	Biology
UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ	M.D.	1993	Medicine

A. Personal Statement

I am currently the Director of the Memory Disorders Center (MDC) at the University Of Miami Miller School Of Medicine. I am Board-Certified in the sub-specialty of Geriatric Psychiatry. As the Director of the University of Miami Memory Disorder Center, I conducted comprehensive memory disorder evaluations and other patient examinations and participate in multidisciplinary staffing conferences to determine patient diagnosis and treatment. In this project my role will be in recruiting appropriate patients, periodically reviewing experimental data and statistical analysis to integrate the experimental findings and providing an overall perspective to the study.

B. Positions and Honors.**Positions and Employment**

1993-1997 Residency in Psychiatry, Mount. Sinai Medical Center, New York, N.Y

1996-1997 Administrative Chief Resident, Mount Sinai Medical Center, New York, N.Y.

1997-1998 Chief Fellow, Geriatric Psychiatry, Jackson Memorial Hospital, Miami, FL.

1998-2006 Clinical Director of Psychiatry, Wien Center for Memory Disorder, Mt. Sinai Medical Center, Miami Beach, FL.

1998-present Clinical Assistant Professor, Department of Psychiatry and Behavioral Sciences, University of Miami Miller School of Medicine, Miami, FL.

2001-present Director, Geriatric Psychiatry Training Program, Jackson Memorial Hospital, Department of Psychiatry and Behavioral Sciences, Miami, FL.

2001-2006 Clinical Director of Consultation-Liaison Psychiatry, Mt. Sinai Medical Center, Miami Beach, FL.

2000-2006 Medical Director, Mount Sinai Medical Center Geriatric Psychiatry Inpatient Unit, Miami, FL

2006-present Medical Director, Geriatric Medical/Psychiatry Inpatient Unit, Jackson Memorial Hospital,

Miami, FL.

4/2010-present Director, Memory Disorder Center, Department of Psychiatry and Behavioral Sciences, Miller School of Medicine at University of Miami, FL

12/2009-present Division Chief, Geriatric Psychiatry, Department of Psychiatry and Behavioral Sciences, Miller School of Medicine at University of Miami, Miami, FL

Professional Memberships

The American College of Psychiatrists

Florida Psychiatric Society

Distinguished Fellow, American Psychiatric Association

American Association of Geriatric Psychiatry

Honors

Geriatric Fellowship Excellence in Teaching Award, JMH, 2012.

Irma Bland Certificate of Excellence in Teaching Residents, American Psychiatric Association, 2011.

University of Miami/Miller School of Medicine Faculty Citizenship Award, Miami, FL 2010.

Nancy C.A. Roeske, M.D., Certificate of Recognition for Excellence in Medical Student Education, American Psychiatric Association, 2010.

Geriatric Psychiatry Training Program Teacher of the Year Award, JMH – 2007, 2008

C. Selected peer-reviewed publications (in chronological order)

Crocco E, Curiel RE, Acevedo A, Czaja SJ, Loewenstein DA. An evaluation of deficits in semantic cuing, proactive and retroactive interference as early features of Alzheimer's disease. *The American Journal of Geriatric Psychiatry*, 2014; 22(9): 889- 897.

Curiel, R., **Crocco, E.**, Duara, R, Acevedo, A and Loewenstein, DA . A new scale for the evaluation of proactive and retroactive interference in Mild Cognitive Impairment and early Alzheimer's disease. *Journal of Aging Science*. 2013 <http://dx.doi.org/10.4172/jasc.1000102>.

Kohli MA, John-Williams K, Rajbhandary R, Naj A, Whitehead P, Hamilton C, Carney RM, Wright C, **Crocco E**, Gwartzman HE, Lang R, Beecham G, Martin ER, Gilbert J, Benatar M, Small G, Mash D, Byrd G, Hanes J, Pericak-Vance MA, Zuchner S. Repeat expansion in the C9ORF72 gene contribute to Alzheimer's disease in Caucasians. *Neurobiology of Aging*. 2013;34(5): 1519.e5-1519.e12.

Crocco EA, Castro, K, Loewenstein D. How late-life depression affects cognition: neural mechanisms. *Current Psychiatric Reports*. 2010;12(1): 34-38.

Loewenstein DA, Acevedo A; Small, BJ; Agron J, **Crocco E**, Duara R. Stability of different subtypes of mild cognitive impairment among the elderly over a 2-to 3-year follow-up period. *Dementia and Geriatric Cognitive Disorders*. 2009; 27(5): 418-23.

Ownby RL, Hertzog C, **Crocco E**, Duara R. Factors related to medication adherence in memory disorder clinic patients. *Aging and Mental Health*. 2006;10(4): 378-385.

Ownby RL, **Crocco E**, Acevedo A, John V, Loewenstein D. Depression and risk for Alzheimer's disease: systematic review, meta-analysis and meta-regression analysis. *The Archives of General Psychiatry*, 2006;63: 530-538.

Loewenstein DA, Acevedo A, Agron J, Isaacson R, Strauman S, **Crocco E**, Barker W, Duara R. Cognitive profiles in Alzheimer's disease and in mild cognitive impairment of different etiologies. *Dementia and Geriatric Cognitive Disorder*. 2006; 21: 309-315.

Crocco, E, Loewenstein DA. Psychiatric aspects of mild cognitive impairment. *Current Psychiatric Reports*. 2005; 7: 32-36.

D. Research Support

Completed Research Support

1 RO1 AG020094-01A1 National Institute on Aging Semantic Interference and Early Detection of Dementia
Principal Investigator: David A. Loewenstein, Ph.D. Co-Investigator: Elizabeth Crocco, M.D. 6/1/03-4/30/08
The role of the Co-investigator in this grant is to examine the utility of a new semantic interference test and measures of prospective memory in combination with other neuropsychological and genetic predictors (e.g. ApoE) in predicting cognitive decline in patients diagnosed with mild cognitive impairment without dementia (MCI) and normal community dwelling elderly.
Total Direct Costs \$1,530,000.

Ongoing Research Support

XZ203 State of Florida Department of Elder Affairs Alzheimer's Disease Initiative/Memory Disorder Clinic
Principle Investigator: Elizabeth Crocco, M.D. 5/2010- present The University of Miami Memory Disorders Clinic (MDC) is funded by an ongoing state of Florida Department of Elder Affairs contract. The role of the Principal Investigator in the clinic is to provide clinical and diagnostic services, research and training for individuals about Alzheimer's disease or related disorders, as well as to their caregivers.
Total Agency Funds: \$222,801 annually.

UB4HP19066 Health Services Research Administration (HRSA) Miami Area Geriatric Education Center (MAGEC) Principal Investigator: Edwin Olsen, M.D. Funded Educator/Faculty Member: Elizabeth Crocco, M.D. 7/1/10-6/30/15 The Miami Area Geriatric Education Center (MAGEC) is a Consortium of organizations that work together to coordinate and provide interdisciplinary continuing education for professionals who serve the elderly in the southeast and central areas of Florida. The role of the faculty member is to contribute to the planning and development of educational programs to health care professionals who provide services to older adults in a variety of settings.
Total Agency Funds: \$846,323.

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Dong, Chuanhui		POSITION TITLE	
eRA COMMONS USER NAME (credential, e.g., agency login) CHDONG07		Research Associate Professor	
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Tongji Medical University, Wuhan, China	M.D.	07/84	Preventive Medicine
Hubei Medical University, Wuhan, China	M.A.	06/89	Epidemiology
Shanghai Medical University, Shanghai, China	Ph.D.	07/98	Molecular Epidemiology
Karolinska Institute, Stockholm, Sweden	Post-Doc	12/00	Genetic Epidemiology
University of Pennsylvania, Philadelphia	Post-Doc	10/03	Statistical Genetics

A. Personal Statement

N/A

B. Positions**Positions and Employment**

1984-1986 Teaching Assistant, Dept. of Epidemiology, Hubei Medical University, Wuhan, China
 1989-1995 Instructor, Clinical Epidemiology, Dept. of Epidemiology, Hubei Medical University, Wuhan, China
 1998-2000 Research Fellow, Epidemiology, Dept. of Biosciences, Karolinska Institute, Stockholm, Sweden
 2001-2003 Postdoctoral Researcher, Statistical Genetics, Dept. of Psychiatry, University of Pennsylvania, PA
 2003-2006 Research Associate, Statistical Genetics, Dept. of Psychiatry, University of Pennsylvania, PA
 2006-2007 Research Biostatistician, Clinical Research, American College of Radiology, PA
 2007-2009 Research Assistant Professor, Dept. of Psychiatry & Behavioral Sci., University of Miami, FL
 2009-2014 Research Assistant Professor, Dept. of Neurology, University of Miami, FL
 2014- Research Associate Professor, Dept. of Neurology, University of Miami, FL

Professional Memberships

2012- Member, American Heart Association
 2002- Member, American Association of Human Genetics
 2008- Member, International Genetic Epidemiology Society
 2008- Member, American Statistical Association
 2002-2006 Member, International Epidemiological Association
 2002-2006 Member, American Association for Cancer Research
 2006-2007 Statistical Design and Analysis Committee for QRRO, American College of Radiology

C. Selected Peer-Reviewed Publications (Selected from 90 peer-reviewed publications in international Journals and 25 in national journals)

- Dong C.,** Wong M.L., Licinio J. (2009). Sequence variations of ABCB1, SLC6A2, SLC6A3, SLC6A4, CREB1, CRHR1 and NTRK2: association with major depression and antidepressant response in Mexican-Americans. *Mol Psychiatry*, 14(12):1105-1118. PMID: 19844206
- Dong C.,** Beecham A., Slifer S., Wang L., Blanton S., Wright C.B., Rundek T., Sacco R.L. (2010). Genome-wide linkage and peak-wide association analyses of carotid plaque in Caribbean Hispanics. *Stroke*, 41(12):2750-2756. PMID: 20966410

3. **Dong, C.**, Beecham, A., Slifer, S., McClendon, M.S., Wang, L., Blanton, S.H., Rundek, T., Sacco, R.L. (2011). Linkage and association of obesity related-quantitative traits with genes on chromosome 1q43 in Caribbean Hispanics. *Human Genetics*, 129(2):209-19. PMID: 21104097
4. **Dong C.**, Beecham A., Wang L., Slifer S., Blanton S.H., Wright C.B., Rundek T., Sacco R.L. (2011). Genetic loci for blood lipid levels identified by linkage and association analyses in Caribbean Hispanics. *J Lipid Res*, 52(7):1411-1419, 2011. PMID: 21558551
5. **Dong, C.**, Della-Morte, D., Wang, L., Cabral, D., Beecham, A., McClendon, M.S., Luca, C.C., Blanton, S.H., Sacco, R.L., Rundek, T. (2011) Association of the Sirtuin and Mitochondrial Uncoupling Protein Genes with Carotid Plaque. *PLoS One*, 6(11): e27157. PMID: 22087257
6. **Dong, C.**, Beecham, A., Wang, L., Blanton, S.H., Rundek, T., Sacco, R.L. (2012) Follow-up association study of linkage regions reveals multiple candidate genes for carotid plaque in Dominicans. *Atherosclerosis*. 223(1):177–183. PMID: 22503546
7. Wang, L., Beecham, A., Zhuo, D., **Dong, C.**, Blanton, S.H., Rundek, T., Sacco, R.L. (2012). Fine Mapping Study Revealed Novel Candidate Genes for Carotid Intima-Media Thickness in Dominicans. *Circ Cardiovasc Genet*. 5(2):234-41. PMID:22423143
8. **Dong, C.**, Rundek T., Wright, C.B., Anwar, Z., Elkind, M.S.V., Sacco, R.L. (2012) Ideal cardiovascular health predicts lower risks of myocardial infarction, stroke, and vascular death across whites, blacks and Hispanics: the Northern Manhattan Study. *Circulation*, 125(24):2975-84. PMID: 22619283
9. Wong, M.L., **Dong, C.**, Andreev, V., Arcos-Burgos, M., Licinio, J., (2012). Prediction of susceptibility to major depression by a model of interactions of multiple functional genetic variants and environmental factors. *Mol Psychiatry*. 17(6):624-33. PMID: 22449891
10. Wang, L., Rundek, T., Beecham, A., Hudson, B., Blanton, S.H., Zhao, H., Sacco, R.L., **Dong, C.** (2014) Genome-Wide Interaction Study Identifies RCBTB1 as a Modifier for Smoking Effect on Carotid Intima-Media Thickness. *Arterioscler Thromb Vasc Biol*. 34(1):219-25. PMID: 24202307
11. Della-Morte, D., Wang, L., Beecham, A., Blanton, S.H., Zhao, H., Sacco, R.L., Rundek, T., **Dong, C.** (2014) Novel genetic variants modify the effect of smoking on carotid plaque burden in Hispanics. *J Neurol Sci*. 344(1-2):27-31. PMID: 25258298
12. Xu, W.H., **Dong, C.**, Rundek, T., Elkind, M.S., Sacco, R.L. (2014) Serum albumin levels are associated with cardioembolic and cryptogenic ischemic strokes: Northern Manhattan Study. *Stroke*. 45(4):973-8. PMID: 24549868
13. Wright, C.B., **Dong, C.**, Stark, M., Silverberg, S., Rundek, T., Elkind, M.S., Sacco, R.L., Mendez, A., Wolf, M. (2014) Plasma FGF23 and the risk of stroke: the Northern Manhattan Study (NOMAS). *Neurology*. 82(19):1700-6. PMID: 24706015
14. Wong M.L., **Dong, C.**, Flores, D.L., Ehrhart-Bornstein, M., Bornstein, S., Arcos-Burgos, M., Licinio, J. (2014) Clinical Outcomes and Genome-Wide Association for a Brain Methylation Site in an Antidepressant Pharmacogenetics Study in Mexican Americans. *Am J Psychiatry*. [Epub ahead of print] PMID: 25220861.
15. Sacco, R.L., **Dong, C.** (2014) Declining stroke incidence and improving survival in US communities: evidence for success and future challenges. *JAMA*. 312(3):237-8. PMID: 25027138.

D. Research Support

Ongoing Research Support

1U54NS081763, Ralph Sacco (PI)

01/13-12/17

Hispanic stroke prevention intervention research program

To create the Florida Puerto Rico Stroke Registry to identify and reduce stroke disparities in acute stroke and secondary prevention.

Role: Co-investigator/Statistician

R01MD009164, Olveen Carrasquillo (PI) 07/14-03/19
Hispanic Secondary Stroke Prevention Initiative (HISSPI)
To examine the effectiveness of a combined multilevel intervention consisting of Community Health Workers and mobile based phone technologies in lowering of systolic blood pressure which is the most important risk factor for recurrent stroke.

Role: Statistician

14BFSC17690000 Ralph Sacco (PI) 04/14-03/18
American Heart Association/ASA-Bugher Foundation
University of Miami ASA/Bugher Foundation Center of Excellence in Stroke Collaborative.

Role: Co-investigator/Statistician

R01 HL108623-01A1 Clinton Wright (PI) 03/12-02/16
FGF-23 and the Risk of Stroke and Cognitive Decline
To examine the relationship between FGF-23 and the risk of stroke and cognitive decline.

Role: Co-investigator/Statistician

R01NS065114 Tatjana Rundek (PI) 07/10-06/15
Novel factors for unexplained phenotypes of subclinical carotid atherosclerosis
To identify genetic variants influencing unexplained phenotypes of subclinical carotid atherosclerosis.

Role: Co-investigator/Statistician

R37 NS 029993 Ralph Sacco (PI) 02/03-03/15
Stroke Incidence and Risk Factors in a Tri-Ethnic Region
To determine the effects of risk factors for stroke, MI, and vascular death in a prospective cohort study of 3 race-ethnic groups from Northern Manhattan.

Role: Statistician

NATL MULTIPLE SCLEROSIS SOCIETY, Melissa Ortega (PI) 12/12-11/15
(Fast-Forward) A Randomized Double-Blind Placebo-Controlled Study of Caprylic Triglyceride for Cognitive Impairment in Subjects with Multiple Sclerosis 2012-2015

Role: Biostatistician

Completed Research Support (within the last three years):

2KN01, Florida JEK Program, Chuanhui Dong (PI) 07/11-06/14
Gene-smoking interactions and atherosclerosis
To identify genetic moderators in the association between smoking and atherosclerosis.

2KN09, Florida JEK Program, Dileep Yavagal (PI) 07/11-06/14
Intra-arterial mesenchymal stem cell delivery in a canine model of acute ischemic stroke
To evaluate safety sub-acute endovascular intra-carotid administration of MSCs in a canine stroke model.

Role: Co-investigator/Statistician

1U01NS069208 Kittner Steven(PI) 07/10-06/13
NINDS Ischemic Stroke Genetics Consortium
To assemble ischemic stroke phenotypic data and DNA samples from 11 stroke studies.

Role: Statistician

1K02NS059729-01A1 Clinton Wright (PI) 09/08-08/13
Vascular Risk and Cognition in a Multi-ethnic Cohort
To examine vascular risk factors for cognitive dysfunction in a stroke-free multi-ethnic sample.

Program Director/Principal Investigator (Last, First, Middle):

Role: Statistician

The Miami CTSI, CTSI-2013-P02, Dileep Yavagal (PI) 01/13-12/13
Time Window of Intracarotid Mesenchymal Stem Cell Therapy in a Large Animal Model of Stroke
Role: Co-investigator/Biostatistician

2R01NS040807 Ralph Sacco (PI) 09/09-08/11
Family study of stroke risk and carotid atherosclerosis
To investigate genes influencing carotid atherosclerosis through linkage and association studies.
Role: Statistician

R21MH084814 Drenna G Waldrop-Valverde (PI) 05/09-04/11
Health literacy, cognitive and social determinants of HIV appointment attendance
Role: Statistician

BIOGRAPHICAL SKETCH

NAME Hannah Gardener, ScD	POSITION TITLE Assistant Scientist		
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Dartmouth College, New Hampshire	AB	1996-2000	Psychological and Brain Sciences
Harvard School of Public Health, Massachusetts	ScD	2003-2007	Epidemiology

NOTE: The Biographical Sketch may not exceed four pages. Items A and B (together) may not exceed two of the four-page limit. Follow the formats and instructions on the attached sample.

A. Positions and Honors. List in chronological order previous positions, concluding with your present position. List any honors. Include present membership on any Federal Government public advisory committee.

December, 2009-present	Assistant Scientist, Department of Neurology, University of Miami Miller School of Medicine, Miami, FL
April-September, 2009	Research Assistant Professor, Department of Pediatrics, University of Miami Miller School of Medicine, Miami, FL
September 2007-April, 2009	Post-doctoral Associate, Department of Neurology, University of Miami Miller School of Medicine, Miami, FL
July, 2002-September, 2004	Senior Research Assistant, Department of Society, Human Development, and Health, Harvard School of Public Health, Boston, MA

B. Selected peer-reviewed publications (in chronological order). Do not include publications submitted or in preparation.

- Gardener H**, Rundek T, Wright CB, Gu Y, Scarmeas N, Homma S, Russo C, Elkind MS, Sacco RL, Di Tullio MR. A Mediterranean-Style Diet and Left Ventricular Mass (from the Northern Manhattan Study). *Am J Cardiol*. In press.
- Khatri M, Moon YP, Scarmeas N, Gu Y, **Gardener H**, Cheung K, Wright CB, Sacco RL, Nickolas TL, Elkind MS. The association between a Mediterranean-style diet and kidney function in the Northern Manhattan Study cohort. *Clin J Am Soc Nephrol*. 2014;9(11):1868-75.
- Tiozzo E, **Gardener H**, Hudson BI, Dong C, Della-Morte D, Crisby M, Goldberg RB, Elkind MS, Cheung YK, Wright CB, Sacco RL, Rundek T. High-density lipoprotein subfractions and carotid plaque: The Northern Manhattan Study. *Atherosclerosis*. 2014;237(1):163-8.

4. Del Brutto OH, Mera RM, Del Brutto VJ, Maestre GE, **Gardener H**, Zambrano M, Wright CB. Influence of depression, anxiety and stress on cognitive performance in community-dwelling older adults living in rural Ecuador: Results of the Atahualpa Project. *Geriatr Gerontol Int*. In press.
5. Willey JZ, **Gardener H**, Moon YP, Yoshita M, DeCarli C, Cheung YK, Sacco RL, Elkind MS, Wright CB. Lipid profile components and subclinical cerebrovascular disease in the northern Manhattan study. *Cerebrovasc Dis*. 2014;37(6):423-30.
6. Hudson BI, Dong C, **Gardener H**, Elkind MS, Wright CB, Goldberg R, Sacco RL, Rundek T. Serum levels of soluble receptor for advanced glycation end-products and metabolic syndrome: the Northern Manhattan Study. *Metabolism*. 2014;63(9):1125-30.
7. Goldberg S, **Gardener H**, Tiozzo E, Ying Kuen C, Elkind MS, Sacco RL, Rundek T. Egg consumption and carotid atherosclerosis in the Northern Manhattan study. *Atherosclerosis*. 2014;235(2):273-80.
8. Monteith T, **Gardener H**, Rundek T, Dong C, Yoshita M, Elkind MS, DeCarli C, Sacco RL, Wright CB. Migraine, white matter hyperintensities, and subclinical brain infarction in a diverse community: the northern Manhattan study. *Stroke*. 2014;45(6):1830-2.
9. **Gardener H**, Wright CB, Cabral D, Scarmeas N, Gu Y, Cheung K, Elkind MS, Sacco RL, Rundek T. Mediterranean diet and carotid atherosclerosis in the Northern Manhattan Study. *Atherosclerosis*. 2014;234(2):303-10.
10. Del Brutto OH, **Gardener H**, Del Brutto VJ, Maestre GE, Zambrano M, Montenegro JE, Wright CB. Edentulism associates with worse cognitive performance in community-dwelling elders in rural Ecuador: results of the Atahualpa project. *J Community Health*. 2014;39(6):1097-100.
11. Galor A, **Gardener H**, Pouyeh B, Feuer W, Florez H. Effect of a Mediterranean dietary pattern and vitamin D levels on Dry Eye syndrome. *Cornea*. 2014;33(5):437-41.
12. Global Burden of Metabolic Risk Factors for Chronic Diseases Collaboration (BMI Mediated Effects), Lu Y, Hajifathalian K, Ezzati M, Woodward M, Rimm EB, Danaei G. Metabolic mediators of the effects of body-mass index, overweight, and obesity on coronary heart disease and stroke: a pooled analysis of 97 prospective cohorts with 1.8 million participants. *Lancet*. 2014;383(9921):970-83.
13. **Gardener H**, Rundek T, Wright CB, Elkind MS, Sacco RL. Coffee and tea consumption are inversely associated with mortality in a multiethnic urban population. *J Nutr*. 2013;143(8):1299-308.
14. Gutierrez J, Bagci A, **Gardener H**, Rundek T, Elkind MS, Alperin N, Sacco RL, Wright CB. Dolichoectasia Diagnostic Methods in a Multi-Ethnic, Stroke-Free Cohort: Results from the Northern Manhattan Study. *J Neuroimaging*. 2014;24(3):226-31.
15. Alsulaimani S, **Gardener H**, Elkind MS, Cheung K, Sacco RL, Rundek T. Elevated homocysteine and carotid plaque area and densitometry in the Northern Manhattan Study. *Stroke*. 2013; 44(2):457-61.
16. **Gardener H**, Goldberg R, Mendez AJ, Wright CB, Rundek T, Elkind MS, Sacco RL. Adiponectin and risk of vascular events in the Northern Manhattan Study. *Atherosclerosis*. 2013; 226(2):483-9.
17. **Gardener H**, Crisby M, Sjoberg C, Hudson B, Goldberg R, Mendez AJ, Wright CB, Rundek T, Elkind MS, Sacco RL. Serum adiponectin in relation to race-ethnicity and vascular risk factors in the Northern Manhattan Study. *Metabolic Syndrome and Related Disorders*. 2013;11(1):46-55.
18. Modir R, **Gardener H**, Wright C. Blood pressure and white matter hyperintensity volume – a review of the relationship and implications for stroke prediction and prevention. *European Neurological Review*, 2012;7(3):174–7.

19. Della-Morte D, Beecham A, Dong C, Wang L, McClendon MS, **Gardener H**, Blanton SH, Sacco RL, Rundek T. Association between variations in coagulation system genes and carotid plaque. *Journal of the Neurological Sciences*. 2012;323(1-2):93-8.
20. Kuo F, **Gardener H**, Dong C, Cabral D, Della-Morte D, Blanton SH, Santiago M, Elkind MSV, Sacco RL, Rundek T. Traditional cardiovascular risk factors explain only small proportion of the variation in carotid plaque. *Stroke*. 2012;43(7):1755-1760.
21. **Gardener H**, Rundek T, Wright CB, Elkind MSV, Sacco RL. Dietary sodium and risk of stroke in the Northern Manhattan Study. *Stroke*. 2012;43(5):1200-1205.
22. **Gardener H**, Rundek T, Markert M, Wright CB, Elkind MSV, Sacco RL. Diet soft drink consumption is associated with an increased risk of vascular events in the Northern Manhattan Study. *Journal of General Internal Medicine*. 2012;27(9):1120-1126.
23. **Gardener H**, Sjoberg C, Crisby M, Goldberg R, Mendez A, Wright CB, Elkind MSV, Sacco RL, Rundek T. Adiponectin and carotid intima-media thickness in the Northern Manhattan Study. *Stroke*. 2012;43(4):1123-1125.
24. **Gardener H**, Scarmeas N, Gu Y, Boden-Albala B, Elkind MSV, Sacco RL, DeCarli C, Wright CB. Mediterranean diet and white matter hyperintensity volume in the Northern Manhattan Study. *Archives of Neurology*. 2012;69(2):251-256.
25. The Global Burden of Disease Stroke Expert Group: Bennett DA, Anderson LM, Nair N, Truelsen T, Barker-Collo S, Connor M, **Gardener H**, Krishnamurthi R, Lawes CMM, Moran A, O'Donnell M, Parag V, Sacco RL, Ezzati M, Mensah G, Feigin VL. Methodology of the global and regional burden of stroke study. *Neuroepidemiology*. 2011;38(1):30-40.
26. Ramos A, Wohlgemuth W, Dong C, **Gardener H**, Boden-Albala B, Elkind MSV, Sacco RL, Rundek T. Race-ethnic differences of sleep symptoms in an urban multi-ethnic cohort: The Northern Manhattan Study. *Neuroepidemiology*. 2011;37(3-4):210-215.
27. Markert MS, Della-Morte D, Cabral D, Roberts EL, **Gardener H**, Dong C, Wright CB, Elkind MS, Sacco RL, Rundek T. Ethnic differences in carotid artery diameter and stiffness: the Northern Manhattan Study. *Atherosclerosis*. 2011;219(2):827-832.
28. **Gardener H**, Wright CB, Gu Y, Demmer RT, Boden-Albala B, Elkind MSV, Sacco RL, Scarmeas N. A Mediterranean-style diet and the risk of ischemic stroke, myocardial infarction, and vascular death: The Northern Manhattan Study. *American Journal of Clinical Nutrition*. 2011;94(6):1458-1464.
29. Wallace DM, Shafazand S, Ramos AR, **Gardener H**, Lorenzo D, Carvalho DZ, Wohlgemuth WK. Insomnia characteristics and clinical correlates in Operation Enduring Freedom/Operation Iraqi Freedom veterans with post-traumatic stress disorder and mild traumatic brain injury: An exploratory study. *Sleep Medicine*. 2011;12(9):850-859.
30. Marcus J, **Gardener H**, Rundek T, Elkind MSV, Sacco RL, DeCarli C, Wright CB. Baseline and longitudinal increases in diastolic blood pressure are associated with greater white matter hyperintensity volume: The Northern Manhattan Study. *Stroke*. 2011;42(9):2639-2641.
31. **Gardener H**, Beecham A, Cabral D, Yanuck D, Slifer S, Wang L, Blanton SH, Sacco RL, Juo SH, Rundek T. Carotid plaque and candidate genes related to inflammation and endothelial function in Hispanics from Northern Manhattan. *Stroke*. 2011;42(4):889-896.
32. Wang L, Yanuck D, Beecham A, **Gardener H**, Slifer S, Blanton SH, Sacco RL, Rundek T. A candidate

gene study revealed sex-specific association between the ORL1 gene and carotid plaque. *Stroke*. 2011;42(3):588-592.

33. Rundek T, **Gardener H**, Xu Q, Goldberg RB, Wright CB, Boden-Albala B, Disla N, Paik MC, Elkind MSV, Sacco RL. Insulin resistance and risk of ischemic stroke among non-diabetic individuals from the Northern Manhattan Study. *Archives of Neurology*. 2010;67(10):1195-1200.
34. **Gardener H**, Gao X, Chen H, Schwarzschild MA, Spiegelman D, Alberto A. Prenatal and early life factors and risk of Parkinson's disease. *Movement Disorders*. 2010;25(11):1560-1567.
35. Ramos A, Wohlgemuth WK, **Gardener H**, Lorenzo D, Dib S, Wallace D, Nolan B, Boden-Albala B, Elkin MSV, Sacco RL, Rundek T. Snoring and insomnia are not associated with subclinical atherosclerosis in the Northern Manhattan Study (NOMAS). *International Journal of Stroke*. 2010;5(4):264-268.
36. Morte D, **Gardener H**, Denaro F, Boden-Albala B, Elkind MSV, Paik, MC, Sacco RL, Rundek T. Metabolic syndrome increases arterial stiffness: The Northern Manhattan Study. *International Journal of Stroke*. 2010;5(3):138-144.
37. **Gardener H**, Morte D, Elkind MSV, Sacco RL, Rundek T. Lipids and carotid plaque in the Northern Manhattan Study (NOMAS). *BMC Cardiovascular Disorders*. 2009;9:55.
38. Sacco RL, Khatri M, Rundek T, Xu Q, **Gardener H**, Boden-Albala B, Di Tullio M, Homma S, Elkind MSV, Paik MC. Improving global vascular risk prediction with behavioral and anthropometric factors: the multi-ethnic Northern Manhattan Cohort Study. *Journal of the American College of Cardiology*. 2009;54(24):2303-2311.
39. Sacco RL, Blanton SH, Slifer S, Beecham A, Glover K, **Gardener H**, Wang L, Sabala E, Juo SH, Rundek T. Heritability and linkage analysis for carotid intima-media thickness: The family study of stroke risk and carotid atherosclerosis. *Stroke*. 2009;40(7):2307-2312.
40. **Gardener H**, Munger KL, Chitnis T, Spiegelman D, Alberto A. The relationship between handedness and risk of multiple sclerosis. *Multiple Sclerosis*. 2009;15(5):587-592.
41. **Gardener H**, Munger KL, Chitnis T, Michels KB, Spiegelman D, Alberto A. Prenatal and perinatal factors and risk of multiple sclerosis. *Epidemiology*. 2009;20(4):611-618.
42. O'Reilly EJ, Chen H, **Gardener H**, Gao X, Schwarzschild MA, Ascherio A. Smoking and Parkinson's disease: using parental smoking as a proxy to explore causality. *American Journal of Epidemiology*. 2009;169(6):678-682.

C. Research Support

Novel Factors for Unexplained Phenotypes of Subclinical Carotid Atherosclerosis NIH/NINDS R01 NS 065114

PI: T. Rundek

07.01.10-06.3.15

This is a selective genotype study of individuals with high burden of atherosclerosis and no risk factors and those with high burden of risk factors but no evidence of atherosclerosis.

Stroke Incidence and Risk Factors in a Tri-Ethnic Region NIH/NINDS R37 NS 029993-11

PI: R.L. Sacco

02.01.03-01.31.15

The major goals of this project are to determine the effect of vascular risk factors on cognitive impairment and subclinical MRI findings in a prospective cohort study from 3 race-ethnic groups from Northern Manhattan.

**Stroke Prevention/Intervention Research Program in Hispanics
NIH/NINDS U54 NINDS SPIRP U54NS081763**

01.01.13-12.31.17

PI: R.L. Sacco

The goal is to develop high-impact stroke disparities interventions that have the ability to reduce stroke disparities in distinct Hispanic groups in Miami and Puerto Rico using effective and culturally appropriate methods.

Mild and Rapidly Improving Stroke Symptoms Study

Genentech

2012-2016

PI: J. Romano

The goal is to conduct an analysis of the national Get With The Guidelines-Stroke quality improvement database to determine the characteristics and short-term outcomes of patients with mild and rapidly improving stroke symptoms in relation to thrombolytic therapy.

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Joyce Gomes-Osman	POSITION TITLE Assistant Professor, Departments of Physical Therapy and Neurology Research Fellow, Berenson-Allen Center for Non-Invasive Brain Stimulation
eRA COMMONS USER NAME (credential, e.g., agency login)	

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Escola Bahiana de Medicina e Saude Publica	B.S.	06/07	Physical Therapy
University of Miami Miller School of Medicine	Ph.D.	09/13	Motor Control
Harvard Medical School	Post-Doc	09-13 (to present)	Non-Invasive Brain Stimulation

A. Personal Statement

I am a research neuroscientist with extensive experience in clinical research and non-invasive brain stimulation approaches, which include transcranial magnetic stimulation (TMS) and electroencephalography (EEG). I have a publication record that include studies utilizing non-invasive brain stimulation to characterize the neurophysiology and induce neurostimulation (as a potential therapeutic approach) in individuals with neurologic impairments from spinal cord injury. My experience in clinical trials are a result of 6 years working at the Miami Project to Cure Paralysis, University of Miami, where I was a project coordinator for two R01 grants, while working on my doctoral studies. Since then, I have expanded my knowledge in Neurology and non-invasive brain stimulation techniques during my postdoctoral fellowship with Dr. Alvaro Pascual-Leone, an internationally recognized leader in this field, at the Berenson-Allen Center for Non-Invasive Stimulation at Beth Israel Deaconess Medical Center at Harvard Medical School. I remain affiliated as a research scholar, and am a lecturer at the “Intensive Course in Transcranial Magnetic Stimulation”, organized by the aforementioned Center. I have re-joined the University of Miami at the Departments of Physical Therapy and Neurology, and am collaborating closely with Dr. Clinton Wright to conduct studies to investigate the effects of aerobic exercise on neuroplasticity and cognitive function in individuals with stroke and memory complaints.

B. Positions and Honors

Positions and Employment

- 2013- Assistant Professor, Departments of Physical Therapy and Neurology, University of Miami Miller School of Medicine, USA.
- 2013- Research Fellow, Beth Israel Medical Center, Harvard Medical School, USA.
- 2010-2013 Research Support Specialist, The Miami Project to Cure Paralysis, University of Miami, Florida, USA
- 2007-2010 Research Associate, the Miami Project to Cure Paralysis, University of Miami, Florida, USA

Honors

- 2007 Humberto de Castro Lima Award by the Bahiana School of Medicine and Public Health-Salvador, Brazil as Outstanding Student in the year of 2007.
- 2005 First Scholarship for young Scientists among the Physical Therapy Students in the State of Bahia, Brazil by the Foundation to Support Research in the State of Bahia (Fundacao de Amparo a Pesquisa do Estado da Bahia- FAPESB)

Other Experience and Professional Memberships

- 2014 Peer Review Committee: European Journal of Neuroscience, *ad hoc reviewer*
- 2010- Member, American Physical Therapy Association
- 2010- Member, Society for Neuroscience
- 2009- Peer Review Committee: Journal of Neurologic Physical Therapy, *ad hoc reviewer*

C. Selected Peer-reviewed Publications

1. **Gomes-Osman, J.**, Field-Fote EC. Improvements in Hand Function in Adults With Chronic Tetraplegia Following a Multiday 10-Hz Repetitive Transcranial Magnetic Stimulation Intervention Combined With Repetitive Task Practice. **J Neurol Phys Ther.** 2014.
2. **Gomes-Osman, J.**, Field-Fote EC. Cortical vs. afferent stimulation as an adjunct to functional task practice training: A randomized, comparative pilot study in people with cervical spinal cord injury. **Clin Rehabil.** 2014.
3. **Gomes-Osman, J.**, Field-Fote EC. Bihemispheric anodal corticomotor stimulation using transcranial direct current stimulation improves bimanual typing task performance. **J Mot Behav.** 2013.
4. **Rios-Gomes, J.**, De Ornelas, M., Ponski, E, Field-Fote EC. Bilateral excitatory transcranial direct current stimulation (tDCS) improves bimanual motor performance in non-disabled individuals-A pilot study. **Neuroscience** 2010. Poster November 2010.
5. Baptista AF, Goes BT, Menezes D, Gomes FC, Zugaib J, Stipursky J, **Gomes JR**, Oliveira JT, Vannier-Santos MA, Martinez AM PEMF fails to enhance nerve regeneration after sciatic nerve crush lesion. **J Peripher Nerv Syst.** 2009.
6. Baptista AF, **Gomes J.R.**, Oliveira JT, Santos SM, Vannier-Satos MA, Martinez AMB. High and low frequency transcutaneous electrical nerve stimulation delay sciatic nerve regeneration in the mouse. **J Perypher Nerv Syst**, 2007.
7. Baptista AF, **Gomes J.R.**, Oliveira JT, Santos SM, Vannier-Satos MA, Martinez AMB. A new approach to assess function after sciatic nerve lesion in the mouse-Adaptation of the sciatic static index. **J Neurosci Methods.** 2007.

D. Research Support

Completed

2007-2012 **National Institutes of Health (NIH) R01 HD053854.** Improving Arm and Hand Function in Individuals with SCI. This project consists of a comparison of different approaches to improve upper extremity function in individuals with tetraplegia using repetitive task practice and peripherally applied electrical stimulation. Principal Investigator: Edelle Field-Fote, PT, PhD. Role: Project Coordinator.

Program Director/Principal Investigator (Last, First, Middle):

2010-2011 **National Institutes of Health (NIH) R01HD053854-03S1.** Improving Arm and Hand Function in Individuals with SCI. This project consists of a comparison of different approaches to improve upper extremity function in individuals with tetraplegia using repetitive task practice and repetitive transcranial magnetic stimulation. Principal Investigator: Edelle Field-Fote, PT, PhD. Role: Project Coordinator

BIOGRAPHICAL SKETCH

NAME Lin, Hung Wen	POSITION TITLE Research Assistant Professor of Neurology
eRA COMMONS USER NAME (credential, e.g., agency login) Hungwenlin	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)*

INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
University of Wisconsin-Madison, Madison, WI	BS	1999	Biochemistry
Southern Illinois University School of Medicine, Springfield, IL	PhD	2007	Pharmacology
University of Miami Miller School of Medicine, Miami, FL	Post-doc	2007-2012	Neurology

A. Personal Statement

N/A

B. Positions and Honors

Positions and Employment

1995 - 1999	Undergraduate Research Assistant, University of Wisconsin-Madison, Zoology Research Center, Madison, WI
1998 - 1999	Assistant Grants Officer, Madison Area Technical College, Madison, WI
1998 - 1999	Minority Youth Career Awareness Project Assistant Coordinator, Madison Area Technical College, Madison, WI
2001 - 2007	Graduate Research Assistant, Southern Illinois University School of Medicine, Department of Pharmacology, Springfield, IL
2007 - 2012	Postdoctoral Research Associate, University of Miami Miller School of Medicine, Department of Neurology, Miami, FL
2013 - present	Research Assistant Professor, University of Miami Miller School of Medicine, Department of Neurology, Miami, FL

Honors and Professional Activities

2005	Guest Lecturer, Tzu Chi University, School of Medicine, Department of Neurology, Hualien Taiwan
2008	Young/New Investigator Travel Award at the "Brain Energy Metabolism and Blood Flow Conference", Gordon Conference
2009	Invited speaker, Cerebral Ischemia Research Group, University of Miami Miller School of Medicine, Miami, FL
2009	Invited speaker, Department of Physiology and Biophysics, University of Miami Miller School of Medicine, Miami, FL
2009	Invited judge for the Florida-Georgia Louis Stokes Alliance for Minority Participation Expo, Miami, FL
2010	Invited speaker, Minisymposium on Live Cell Imaging, University of Miami Miller School of Medicine, Miami, FL

2010	Recipient of the 4 th annual American Heart Association-Philips Resuscitation Fellowship Award, Presented at the Resuscitation Science Symposium, Chicago, IL
2011	Invited speaker, Cerebral Ischemia Research Group, University of Miami Miller School of Medicine, Miami, FL
2011	Invited speaker, The Miami Project to Cure Paralysis, University of Miami Miller School of Medicine, Miami, FL
2011	Reviewer for the Journal of Clinical and Experimental Cardiology
2012	Invited speaker and chair of the organizing committee, presentation entitled: "Investigating the Cerebral Vasculature. 2012 Past, Present, and Future." Presented at the "The 3 rd International Conference of Stem Cells and Regenerative Medicine and 2012 Tzu Chi University Symposium on Biomedicine, Technology, and Humanity", Hualien, Taiwan
2012	Reviewer for CNS & Neurological Disorder: Drug Target
2013	Reviewer for Neurological Research, Translational Stroke Research, PLoS One,
2013	Editorial Board member: Neurological Research and Therapy
2014	Reviewer for Journal of Cerebral Blood Flow Metabolism, International Journal of Molecular Sciences

Professional Memberships

2007 - present	American Heart Association
2008 - present	Society for Neuroscience
2012 - present	The American Society for Pharmacology and Experimental Therapeutics

C. Selected Peer-Reviewed Publications (Selected from 17 peer-reviewed publications)

Most relevant to the current application

1. **Lin HW**, Gresia VL, Stradecki HM, Alekseyenko A, Dezfulian C, Neumann JT, Dave KR, Perez-Pinzon MA. (2013) Protein kinase c delta modulates endothelial nitric oxide synthase-mediated hypoperfusion after cardiac arrest. J Cereb Blood Flow Metab. Epub ahead of print. PMC: In Process
2. **Lin HW**, Saul I, Gresia VL, Neumann JT, Dave KR, Perez-Pinzon MA. (2014) Fatty acid methyl esters and solutol HS 15 confers neuroprotection after focal and global cerebral ischemia. Transl Stroke Res. 109-17. PMC: In Process
3. **Lin HW**, Della-Morte D, Thompson JW, Gresia VL, Narayanan SV, DeFazio RA, Raval AP, Saul I, Dave KR, Morris KC, Si ML, Perez-Pinzon MA (2012) Differential effects of delta and epsilon protein kinase C in modulation of post-ischemic cerebral blood flow. Adv. Exp. Med. Biol. 737:63-69.
4. Della-Morte D, Raval AP, Dave KR, **Lin HW**, Perez-Pinzon MA (2011) Post-ischemia activation of protein kinase C epsilon protects the hippocampus from cerebral ischemic injury: possible alterations in cerebral blood flow. Neurosci. Lett. 487:158-162. PMCID: PMC3004991
5. Lee RH, Liu YQ, Chen PY, Liu CH, Chen MF, **Lin HW**, Kuo JS, Premkumar LS, Lee TJ (2011) Sympathetic alpha-3 beta-2- nAChRs mediate cerebral neurogenic nitroergic vasodilation in the swine. Am J Physiol Heart Circ Physiol. 301(2):H344-54.
6. **Lin HW**, DeFazio RA, Della Morte D, Thompson JW, Narayanan SV, Raval AP, Saul I, Dave KR, Perez-Pinzon MA (2010) Derangements of post-ischemic cerebral blood flow by protein kinase C delta. Neuroscience 171:566-576. PMCID: PMC2981031

7. DeFazio RA, Levy S, Morales CL, Levy RV, Dave KR, **Lin HW**, Abaffy T, Watson BD, Perez-Pinzon MA, Ohanna V (2010) A protocol for characterizing the impact of collateral flow after distal middle cerebral artery occlusion. *Trans. Stroke Res.* 2:122-127. PMID: PMC3095390
8. **Lin HW**, Liu CZ, Cao D, Chen PY, Chen MF, Lin SZ, Mozayan M, Chen AF, Premkumar LS, Torry DS, Lee TJ (2008) Endogenous methyl palmitate modulates nicotinic receptor-mediated transmission in the superior cervical ganglion. *Proc. Natl. Acad. Sci. U S A* 105:19525-19530. PMID: PMC2596137

Additional recent publications of importance to the field (*in chronological order*)

1. Della Morte D, Abete P, Gallucci F, Scaglione A, D'Ambrosio D, Gargiulo G, De Rosa G, Dave KR, **Lin HW**, Cacciatore F, Mazzella F, Uomo G, Rundek T, Perez-Pinzon MA, Rengo F (2008) Transient ischemic attack before non-lacunar stroke in the elderly. *J. Stroke Cerebrovasc. Dis.* 17:257-262. PMID: PMC2676578
2. DeFazio RA, Raval AP, **Lin HW**, Dave KR, Perez-Pinzon MA (2009) GABA synapses mediate neuroprotection after ischemic and epsilon PKC preconditioning in the rat hippocampal slice cultures. *J. Cereb. Blood Flow Metab.* 29: 375-384. PMID: PMC2696173
3. Dave KR, Bhattacharya SK, Saul I, DeFazio RA, Dezfulian C, **Lin HW**, Raval AP, Perez-Pinzon MA (2011) Activation of protein kinase C delta following cerebral ischemia leads to release of cytochrome c from the mitochondria via Bad pathway. *PloS One* 6: e22057. PMID: PMC3137627
4. **Lin HW**, Thompson JW, Morris KC, Perez-Pinzon MA (2011) Signal transducers and activators of transcription (STATs)-mediated mitochondrial neuroprotection. *Antioxid. Redox. Signal.* 14: 1852-1861. PMID: PMC3078497
5. Morris KC, **Lin HW**, Thompson JW, Perez-Pinzon MA (2011) Pathways for ischemic cytoprotection: role of sirtuins in caloric restriction, resveratrol and ischemic preconditioning. *J. Cereb. Blood Flow Metab.* 31:1003-1019. PMID: PMC3070983
6. **Lin HW**, Yoshida T, Rundek T (2012) Letter by Lin HW et al. regarding article, "Nitric oxide scavenging of red blood cell microparticles and cell-free hemoglobin as a mechanism for the red cell storage lesion". *Circulation* 125: e384.
7. **Lin HW**, Perez-Pinzon MA (2013) The role of fatty acids in the regulation of cerebral vascular function and neuroprotection in ischemia. *CNS Neurol. Disord. Drug Targets* 12: 316-324.

D. Research Support

AHA-13SDG13950014

National Scientist Development Grant from American Heart Association 01/01/13- 12/31/16

The Role of Fatty Acid Methyl Esters on Cerebral Blood Flow Following Cardiac Arrest

P.I.: Hung Wen Lin

R01 NS045676 NIH/NINDS 06/01/07- 05/31/15

Mechanisms of Neuroprotection against Cardiac Arrest

Role: Co-investigator

R01 NS073779 NIH/NINDS 03/01/12 - 12/31/16

Increased Cerebral Ischemic Injury by Repeated Hypoglycemic Episodes in Diabetes

Role: Co-investigator

Completed Research Support

T32 NS007459 NIH/NINDS 08/01/09- 07/31/10
Training Program in CNS Injury and Repair
Role: Investigator

10POST4340011 American Heart Association
Philips Resuscitation Fellowship 07/1/10- 06/30/12
Protein Kinase C Delta Exacerbates Post-ischemic Cerebral Blood Flow Derangements after
Cardiac Arrest
P.I.: Hung Wen Lin

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Teshamae S. Monteith, M.D.		POSITION TITLE Assistant Professor of Clinical Neurology Miller School of Medicine, University of Miami, FL	
eRA COMMONS USER NAME (credential, e.g., agency login) TMONTEITH			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Florida International University, Miami, FL	BS	12/98	Biology
University of Miami Miller School of Medicine, Miami, FL	MD	05/04	Medicine
Albert Einstein-Montefiore Medical Center, NY, NY	Intern	06/05	Internal Medicine
New York University School of Medicine, NY, NY	Residency	06/08	Neurology
Thomas Jefferson University School of Medicine, Philadelphia, PA	Fellowship	06/09	Headache
University of California, San Francisco, CA	Fellowship	06/11	Headache

A. Personal Statement N/A

B. Positions and Honors

POSITIONS AND EMPLOYMENT

Traineeship:

2004-2005	Intern	Montefiore Medical Center, Bronx, New York
2005-2008	Neurology Resident	New York University, New York, NY
2008-2009	Headache Fellowship	Thomas Jefferson University, Philadelphia, PA
2009-2011	Headache Fellowship	University of California, San Francisco, San Francisco, CA

Other:

1997	Laboratory Technician	Miami Dade College, Miami, FL
1998	Victimization Peer Educator	Florida International University, Miami, FL

Academic Appointments:

2011-Present	Assistant Professor of Clinical Neurology	Department of Neurology, University of Miami School of Medicine, Miami, FL
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OTHER EXPERIENCE AND PROFESSIONAL MEMBERSHIPS

Ad Hoc Reviewer for the Professional Journals: Headache, European Journal of Neurology.

Memberships:

1996-	American Academy of Neurology
2008-	American Headache Society
2008-	American Academy of Neurology Brain PAC Founder's Club
2008	New York State Neurological Society
2008	National Headache Foundation
2009	Pennsylvania Neurological Society
2009-	International Headache Society
2013	Florida Society of Neurology, board member

HONORS

1993	Florida International University Tuition Scholarship, Miami, FL
1994	National Institutes of Health, Minority Biomedical Research Support Program
1998	AMSA Outstanding Commitment Award, Minority Committee Chairman
1998	Florida International University Honors Program
2000	Leonard Miller School of Medicine at the University of Miami Tuition Award
2001	McClelland Brown Trust Rotary Scholarship Award
2006	American Neurological Association Resident's Program Scholarship
2007	National Headache Foundation Travel Award
2008	American Headache Society /Merck US Human Health Scholarship Award
2010	Palatucci Co-Advocate of the Year Award, American Academy of Neurology
2013	Harold G. Wolff Lecture Award, presented at the American Headache Society meeting
2014	Doctor of Excellence, Leaders in Healthcare Network

C. Selected Peer-reviewed Publications

Most relevant to the current application:

1. **Monteith, T.S.** and ML. Oshinsky, Tension-type headache with medication overuse: pathophysiology and clinical implications. *Curr Pain Headache Rep* 2009; 13(6): 463-9.
2. Kister I, Caminero AB, **Monteith TS**, Soliman A, Bacon TE, Bacon JH, et al. Migraine is comorbid with multiple sclerosis and associated with a more symptomatic MS course. *The journal of headache and pain.* 2010;11(5):417-25.
3. Raymond GV, Seidman R, **Monteith TS**, Kolodny E, Sathe S, Mahmood A, Powers JM. Head trauma can initiate the onset of adreno-leukodystrophy. *Journal of Neurological Sciences* 2010; 70-74.
4. **Monteith, TS**, Sprenger T. Tension type headache in adolescence and childhood: where are we now? *Curr Pain Headache Rep* 2010; 14 (6)424-30.
5. **Monteith T**, Goadsby PJ. Acute Migraine Therapy: New Drugs and New Approaches. *Current Treatment Options in Neurology* 2011; 13 (1): 1-14.
6. Knash ME, **Monteith TS**, Raskin NH. A comment on brief sharp stabs of head pain and giant cell arteritis. *Headache* 2011; 51 (6): 1010.
7. **Monteith, TS**, Scher AI. Epidemiology and classification of post-traumatic headache: What do we know and how do we move forward? *Cephalalgia.* 2013;34(2):83-5
8. Maniyar FH, Sprenger T, **Monteith T**, Schankin C, Goadsby PJ. Brain activations in the **premonitory** phase of nitroglycerin-triggered migraine attacks. *Brain.* 2014;137(Pt 1):232-41
9. **Monteith, TS**. Borsook D. Insights and Advances in Post-traumatic Headache: Research Considerations. *Current Neurology and Neuroscience Reports* 2014;14 (2):428.
10. Marmura, MJ, **Monteith, TS**, et al., Olfactory acuity in episodic migraine at baseline and during attacks. *Cephalalgia.* 2014 Mar 19. [Epub ahead of print].
11. **Monteith TS**, Gardener H, Rundek T, Dong C, Mitsuhiro Y, Elkind M, DeCarli C, Sacco R, Wright C. Migraine, White Matter Hyperintensities, and Subclinical Brain Infarction in a Diverse Community: The NOMAS Study. *Stroke.* 2014; 45(6):1830-2.

D. Research Support (Current)

The Relationship between Migraine, Subclinical Brain Lesions, and Biomarkers of Subclinical Cardiovascular Disease in a Tri-Ethnic Region: Supplement to Promote Diversity in Health-Related Research (R37 NS 29993) – NINDS 2011-2014

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Carlos T. Moraes	POSITION TITLE Professor		
eRA COMMONS USER NAME cmoraes			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Escola Paulista de Medicina, Sao Paulo, Brazil	B.Sc.	1983	Biomedical Sciences
Escola Paulista de Medicina, Sao Paulo, Brazil	M.Sc.	1987	Molecular Biology
Department of Genetics and Development, Columbia University	M.A.	1991	Genetics & Development
Department of Genetics and Development, Columbia University	Ph.D.	1993	Genetics & Development

A. Personal Statement

My independent group at the University of Miami was established in 1993 and one of its main focus in the last decade has been the study of mitochondrial defects and pathomechanisms in mitochondrial diseases. We are interested in understanding specific signaling mechanisms developing pharmacologic and genetic therapies for different mitochondrial diseases.

B. Positions and Honors.

PROFESSIONAL APPOINTMENTS

2014 - Esther Lichtenstein Endowed Chair in Neurology
2005 - Professor (Tenured). Dept. of Neurology, University of Miami, Miami, FL.
1998 – 2005 Associate Professor (Tenured). Dept. of Neurology, University of Miami, Miami, FL.
1993 – 1998 Assistant Professor. Dept. of Neurology, University of Miami, Miami, FL.
1992 – 1993 Postdoctoral Research Fellow. Dept. of Neurology, Columbia University, New York, NY.

AWARDS AND OTHER PROFESSIONAL ACTIVITIES:

2005 Provost Award for Scholarly Activity, University of Miami
2002 - 2006 NIH Scientific Review Panel Member (GHD)
2010- 2013 NIH Scientific Review Panel Member (NOMD)
2007- Present Scientific Advisory Committee member, Muscular Dystrophy Association
2005- Present Scientific Advisory Committee member, United Mitochondrial Disease Foundation
2009- Present Chair, Scientific Advisory Committee, United Mitochondrial Disease Foundation
1999 - 2004 Scientific Advisory Committee member, Muscular Dystrophy Association
1995 - 1999 PEW Scholar in the Biomedical Sciences
1997 National Eye Institute Committee on "Development of a National Plan for Vision Research
1997 National Heart, Lung, and Blood Institute Scientific Review Committee for RFA: HL-96-013
1998 Chemistry and Related Sciences Special Emphasis Review Panel (NIH).
1998 Molecular Cytology Special Emphasis Panel (NIH).

C. Selected peer-reviewed publications (in chronological order).

MOST RELEVANT PUBLICATIONS

- Human xenomitochondrial cybrids. Cellular models of mitochondrial complex I deficiency.
Barrientos, A., Kenyon, L. and Moraes, C. T. * *J Biol Chem*, 273:14210-7 (1998)
- Cytochrome c Oxidase Deficiency in Neurons Decreases both Oxidative Stress and Amyloid Formation in a Mouse Model of Alzheimer's Disease. Hirokazu Fukui, Francisca Diaz, Sofia Garcia, Carlos T. Moraes. *Proc Natl. Acad. Sci. USA* 104:14163-14168 (2007)
- Activation of the PPAR/PGC-1 α pathway prevents a bioenergetic deficit and effectively improves a mitochondrial myopathy phenotype. T. Wenz, F. Diaz, B. M. Spiegelman and C. T. Moraes*
Cell Metabolism 8:249-56. (2008)
- Increased muscle PGC-1 α expression protects from sarcopenia and metabolic disease during aging
Tina Wenz, Susana G. Rossi, Richard L. Rotundo, Bruce Spiegelman and Carlos T. Moraes*
Proc. Natl. Acad. Sci. USA 106:20405-20410 (2009)
- The mtDNA mutation spectrum of the progeroid Polg mutator mouse includes abundant control region multimers.
Siôn L. Williams, Jia Huang, Yvonne JK Edwards, Richard Ulla, Lloye Dillon, Tomas Prolla, Jeffery Vance, Carlos T. Moraes* and Stephan Züchner*
Cell Metabolism, 12:675-82. (*co-corresponding authors) (2010)
- A defect in the mitochondrial Complex III, but not Complex IV, triggers early ROS dependent damage in defined brain regions. Francisca Diaz, Sofia Garcia, Kyle R. Padgett and Carlos T. Moraes
Human Molecular Genetics, 21:5066-77 (2012)
- Altering mtDNA heteroplasmy with mitoTALEN
Bacman, S, Williams S, Pinto M, Moraes CT.
Nat. Med. 19:1111-3. (2013).
- Somatic mtDNA Mutation Spectra in the Aging Human Putamen. Siôn L. Williams, Deborah C. Mash, Stephan Züchner and Carlos T. Moraes
PLoS Genet, 9(12): e1003990 (2013)
- Partial Complex I deficiency due to the CNS conditional ablation of Ndufa5 results in a mild encephalopathy and no increase in oxidative damage
Susana Peralta, Alessandra Torraco, Tina Wenz, Sofia Garcia, Francisca Diaz and Carlos T. Moraes*.
Hum. Mol. Genet. 23:1399-412 (2014)

ADDITIONAL RELEVANT PUBLICATIONS

- Mitochondrial DNA deletions in progressive external ophthalmoplegia and Kearns-Sayre syndrome. Moraes, C.T., DiMauro, S., Zeviani, M., Lombes, A., Shanske, S., Miranda, A. F et al.. *New England Journal of Medicine*, 320: 1 293- 1299 (1989).
- Mitochondrial DNA depletion with variable tissue expression: A novel genetic abnormality in mitochondrial diseases.
Moraes, C.T., Shanske, S., Trishler H-J., Aprille, J.R., Andretta, F., Bonilla, E., Schon, E.A. and DiMauro, S. *American Journal of Human Genetics*, 48: 492-501 (1991).
- A mitochondrial tRNA anticodon swap associated with a muscle disease.
Moraes, C.T., Ciacci, F., Bonilla, E., Ionascescu, V., Schon, E.A., and DiMauro, S. *Nature Genetics*, 4:284-287 (1993).
- Rapid Directional Shift of Mitochondrial DNA Heteroplasmy in Animal Tissues by a Mitochondrially-Targeted Restriction Endonuclease.
Maria Pilar Bayona-Bafaluy, Bas Blits, Brendan Battersby, Eric A. Shoubridge, and Carlos T. Moraes. *Proc. Natl. Acad. Sci. USA* 102: 14392–14397 (2005)
- MTERF2 regulates oxidative phosphorylation by modulating mtDNA transcription.
Tina Wenz, Corneliu Luca, Alessandra Torraco and Carlos T. Moraes* *Cell Metabolism* 9:499-511 (2009)
- PGC-1 α/β induced expression partially compensates for respiratory chain defects in cells from patients with mitochondrial disorders.
Sarika Srivastava, Francisca Diaz, Luisa Iommarini, Karine Aure, Anne Lombes and Carlos T. Moraes*.
Human Molecular Genetics 18:1805-12. (2009)
- Organ-specific shifts in mtDNA heteroplasmy following systemic delivery of a mitochondria-targeted restriction endonuclease. Bacman SR, Williams SL, Garcia S, Moraes CT.

Gene Ther. 17:713-20. (2010)
 Mechanisms of formation and accumulation of mitochondrial DNA deletions in aging neurons
 Hirokazu Fukui and Carlos T. Moraes*. *Human Molecular Genetics* 18:1028-36 (2009)
 Increased muscle PGC-1 α expression protects from sarcopenia and metabolic disease during aging
 Tina Wenz, Susana G. Rossi, Richard L. Rotundo, Bruce Spiegelman and Carlos T. Moraes*
Proc. Natl. Acad. Sci. USA 106:20405-20410 (2009)
 Striatal dysfunctions associated with mitochondrial DNA damage in dopaminergic neurons in a mouse model of
 Parkinson's disease.
 Pickrell AM, Pinto M, Hida A, Moraes CT.
J Neurosci. 31:17649-58. (2011)
 Transient systemic mtDNA damage leads to muscle wasting by reducing the satellite cells pool.
 Xiao Wang, Alicia M. Pickrell, Susana G. Rossi, Milena Pinto, Lloye M. Dillon, Aline Hida, Richard L.
 Rotundo, and Carlos T. Moraes.
Hum. Mol. Genet., 21:2288-97 (2012)
 Partial Complex I deficiency due to the CNS conditional ablation of *Ndufa5* results in a mild encephalopathy
 and no increase in oxidative damage
 Susana Peralta, Alessandra Torraco, Tina Wenz, Sofia Garcia, Francisca Diaz and Carlos T. Moraes.
Hum. Mol. Genet., 2013 Nov 11. [Epub ahead of print]

C. Research Support.

Active

5R01EY010804-18 Moraes 12/01/94-4/30/17

NIH/NEI

"Setting the stage for the replacement of mitochondrial genes"

The objective of this project is to use mitochondria-targeted restriction endonucleases to modify mtDNA heteroplasmy. We express a mitochondria-targeted ApaLI in a mouse model of mtDNA heteroplasmy (BALB and NZB mtDNA haplotypes). ApaLI can cleave the BALB mtDNA but not the NZB mtDNA.

Role: PI

1R01NS079965-03 (Moraes, C.T.) 07/01/2012 – 05/31/2017

NIH/NINDS

"Cellular And Molecular Consequences Of Respiratory Chain Defects In Neurons"

The objective of this project is to investigate the phenotypic differences of mitochondrial encephalopathies caused by defects in different respiratory complexes. Genetically modified mice with defects in complexes I, III and IV are analyzed and compared.

UMDF (Moraes, C. T.) 09/01/2014-09/01/2016

Developing Specific Nucleases to Eliminate Mutant mtDNA

The objective of this project is to develop mitoTALEN against common mtDNA mutations and test delivery by adenovirus.

The Muscular Dystrophy Association (Moraes, C. T.) May/1/14-April/30/17

Reducing the levels of mtDNA mutations by mitochondrial nucleases

Develop Adenovirus vectors to deliver mitoTALENS

Ed and Ethel Moore Alzheimer's Disease Research Program (Moraes, C.T.) January 2015-June 2015

The Role of Mitochondrial Oxidative Phosphorylation Dysfunction in Alzheimers disease

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Miguel A. Perez-Pinzon, PhD, FAHA		POSITION TITLE Professor	
eRA COMMONS USER NAME (credential, e.g., agency login) mperezpinzon			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of Panama	B.Sc.	1983	Biology
University of Miami	M.Sc.	1987	Marine Biology (MB)
University of Miami	Ph.D.	1991	Neuroscience (MB)
New York University	Postdoc	1992	Neurophysiology
Stanford University	Postdoc	1993	Neuroscience

A. Personal Statement

I direct the Cerebral Vascular Disease Research Center at the University of Miami since 2005, which was established approximately 45 years ago. I am Professor of Neurology and Neuroscience and I am Vice-Chairman of Basic Sciences in the Department of Neurology. My main research expertise is in the area of cerebral ischemia, which results from cardiac arrest or a stroke. My research focuses on the areas of synaptic, vascular and mitochondrial dysfunction that ensue following cerebral ischemia. Over the last 17 years, my laboratory has investigated the signaling pathways that lead to neuroprotection against ischemia following ischemic preconditioning (IPC). Our goal is to develop new therapies for pre- and post-treatment in stroke and cardiac arrest patients. Our center uses a large number of techniques that include imaging, electrophysiology, behavior and molecular biology techniques.

B. Position and Honors

Positions and Employment

- 1994 – 1995 Research Associate, Department of Neurology, University of Miami School of Medicine. Dr. Thomas J. Sick (Supervisor)
- 1995 – 2001 Assistant Professor, Department of Neurology, University of Miami School of Medicine.
- 1999 – 2006 Co-Director of Cerebral Vascular Disease Center, University of Miami School of Medicine, Miami, FL (Dr. Ginsberg, Director)
- 2000 – 2003 NIH-NINDS BDCN-3 Study Section reviewer
- 2001 – 2006 Associate Professor, Department of Neurology, University of Miami School of Medicine.
- 2004 – 2008 Brain 2 American Heart Association Grant Reviewer
- 2006 – 2010 NIH-NINDS BINP Study Section
- 2006 – present Director of Cerebral Vascular Disease Center, University of Miami, Miller School of Medicine, Miami, FL
- 2006 – present Professor, Department of Neurology, University of Miami Miller School of Medicine, Miami, FL
- 2007 – 2008 International Stroke Conference Program Committee: Co-Chair–Experimental Mechanisms and Models.
- 2008 – 2010 International Stroke Conference Program Committee: Chair–Experimental Mechanisms and Models.
- 2007 – present Associate Chair for Basic Science, Department of Neurology, University of Miami Miller School of Medicine, Miami, FL
- 2010 – present Vice-Chair for Basic Science, Department of Neurology, University of Miami Miller School of Medicine, Miami, FL

Honors, Awards, and Professional Societies

1982, 1983	Fellowships (2), Smithsonian Tropical Research Institute (STRI).
1986	Fellowship, Fishing and Conservation Trust. Miami, FI
1989 - present	Member of Society for Neuroscience (1989), International Society on Oxygen Transport to Tissues (1996), International Society of Cerebral Blood Flow and Metabolism (1995), American Association for the Advancement of Science (1996) and American Heart Association (2000)
1991	Koczy Fellowship, (Student of the year) for excellence in graduate research and education, Rosenstiel School of Marine and Atmospheric Science, University of Miami, Miami, FI
1991	Invited speaker at the Society for Experimental Biology in Birmingham, U.K.
1996	James A. Shannon Director's Award from the National Institute of Neurological Disorders and Stroke, NIH.
2000	Invited speaker at the Pharmacology of Cerebral Ischemia Symposium. Marburg, Germany.
2002	Grass Traveling Scientist for the Alaska Chapter of the Society for Neuroscience. Society for Neuroscience
2009	Associate Editor for the journal: Translational Stroke Research
2010	Assistant Editor for the journal: Stroke
2010	Elected as Fellow of the American Heart Association/American Stroke Association (FAHA)
2012-13	Co-Chair of the Program Committee for the International Society of Cerebral Blood Flow and Metabolism (Brain 13), Shanghai, China

C. Publications (selected)

1. Koch S, Perez-Pinzon MA. Proceedings of the 2nd translational preconditioning meeting Miami. *Transl Stroke Res*. 2013 Feb;4(1):1-2.
2. Dave KR, Della-Morte D, Saul I, Prado R, Perez-Pinzon MA. Ventricular fibrillation-induced cardiac arrest in the rat as a model of global cerebral ischemia. *Transl Stroke Res*. 2013 Oct;4(5):571-8.
3. Thompson JW, Dave KR, Saul I, Narayanan SV, Perez-Pinzon MA. Epsilon PKC increases brain mitochondrial SIRT1 protein levels via heat shock protein 90 following ischemic preconditioning in rats. *PLoS One*. 2013 Sep 13;8(9):e75753.
4. Thompson JW, Dave KR, Young JI, Perez-Pinzon MA. Ischemic preconditioning alters the epigenetic profile of the brain from ischemic intolerance to ischemic tolerance. *Neurotherapeutics*. 2013 Oct;10(4):789-97.
5. Thompson JW, Narayanan SV, Perez-Pinzon MA. Redox signaling pathways involved in neuronal ischemic preconditioning. *Curr Neuropharmacol*. 2012 Dec;10(4):354-69.
6. Raval AP, Borges-Garcia R, Javier Moreno W, Perez-Pinzon MA, & Bramlett H (2013) Periodic 17beta-estradiol pretreatment protects rat brain from cerebral ischemic damage via estrogen receptor-beta. *PLoS One* 8(4):e60716.
7. Neumann JT, Cohan CH, Dave KR, Wright CB, & Perez-Pinzon MA (2013) Global cerebral ischemia: synaptic and cognitive dysfunction. *Curr Drug Targets* 14(1):20-35.
8. Narayanan SV, Dave KR, & Perez-Pinzon MA (2013) Ischemic preconditioning and clinical scenarios. *Curr Opin Neurol* 26(1):1-7.
9. Lin HW, Saul I, Gresia VL, Neumann JT, Dave KR, & Perez-Pinzon M (2013) Fatty Acid Methyl Esters and Solutol HS 15 Confer Neuroprotection after Focal and Global Cerebral Ischemia. *Transl Stroke Res* In Press.
10. Lin HW & Perez-Pinzon M (2013) The role of Fatty acids in the regulation of cerebral vascular function and neuroprotection in ischemia. *CNS Neurol Disord Drug Targets* 12(3):316-324.
11. Koch S & Perez-Pinzon M (2013) Proceedings of the 2nd Translational Preconditioning Meeting Miami. *Transl Stroke Res* 4:1-2.
12. Daviaud N, Garbayo E, Schiller PC, Perez-Pinzon M, & Montero-Menei CN (2013) Organotypic cultures as tools for optimizing central nervous system cell therapies. *Exp Neurol* 248:429-440.
13. Dave KR, Della-Morte D, Saul I, Prado R, & Perez-Pinzon MA (2013) Ventricular fibrillation-induced cardiac arrest in the rat as a model of global cerebral ischemia. *Transl Stroke Res* In Press.

14. Thompson JW, Narayanan SV, & Perez-Pinzon MA (2012) Redox signaling pathways involved in neuronal ischemic preconditioning. *Curr Neuropharmacol* 10(4):354-369.
15. Perez-Pinzon MA, Stetler RA, & Fiskum G (2012) Novel mitochondrial targets for neuroprotection. *J Cereb Blood Flow Metab* 32(7):1362-1376.
16. Lin HW, Della-Morte D, Thompson JW, Gresia VL, Narayanan SV, Defazio RA, Raval AP, Saul I, Dave KR, Morris KC, Si ML, & Perez-Pinzon MA (2012) Differential effects of delta and epsilon protein kinase C in modulation of postischemic cerebral blood flow. *Adv Exp Med Biol* 737:63-69.
17. Koch S, Sacco RL, & Perez-Pinzon MA (2012) Preconditioning the brain: moving on to the next frontier of neurotherapeutics. *Stroke* 43(6):1455-1457.
18. Ding D, Enriquez-Algeciras M, Dave KR, Perez-Pinzon M, & Bhattacharya SK (2012) The role of deimination in ATP5b mRNA transport in a transgenic mouse model of multiple sclerosis. *EMBO Rep* 13(3):230-236.
19. Dezfulian C, Alekseyenko A, Dave KR, Raval AP, Do R, Kim F, & Perez-Pinzon MA (2012) Nitrite therapy is neuroprotective and safe in cardiac arrest survivors. *Nitric Oxide* 26(4):241-250.
20. Della-Morte D, Guadagni F, Palmirotta R, Ferroni P, Testa G, Cacciatore F, Abete P, Rengo F, Perez-Pinzon MA, Sacco RL, & Rundek T (2012) Genetics and genomics of ischemic tolerance: focus on cardiac and cerebral ischemic preconditioning. *Pharmacogenomics* 13(15):1741-1757.
21. Dave KR, Christian SL, Perez-Pinzon MA, & Drew KL (2012) Neuroprotection: lessons from hibernators. *Comp Biochem Physiol B Biochem Mol Biol* 162(1-3):1-9.
22. Morris KC, Lin HW, Thompson JW, & Perez-Pinzon MA (2011) Pathways for ischemic cytoprotection: role of sirtuins in caloric restriction, resveratrol, and ischemic preconditioning. *J Cereb Blood Flow Metab* 31(4):1003-1019.
23. Lin HW, Thompson JW, Morris KC, & Perez-Pinzon MA (2011) Signal transducers and activators of transcription: STATs-mediated mitochondrial neuroprotection. *Antioxid Redox Signal* 14(10):1853-1861.
24. Koch S, Katsnelson M, Dong C, & Perez-Pinzon M (2011) Remote ischemic limb preconditioning after subarachnoid hemorrhage: a phase Ib study of safety and feasibility. *Stroke* 42(5):1387-1391.
25. Garbayo E, Raval AP, Curtis KM, Della-Morte D, Gomez LA, D'Ippolito G, Reiner T, Perez-Stable C, Howard GA, Perez-Pinzon MA, Montero-Menei CN, & Schiller PC (2011) Neuroprotective properties of marrow-isolated adult multilineage-inducible cells in rat hippocampus following global cerebral ischemia are enhanced when complexed to biomimetic microcarriers. *J Neurochem* 119(5):972-988.
26. Della-Morte D, Raval AP, Dave KR, Lin HW, & Perez-Pinzon MA (2011) Post-ischemic activation of protein kinase C epsilon protects the hippocampus from cerebral ischemic injury via alterations in cerebral blood flow. *Neurosci Lett* 487(2):158-162.
27. Defazio RA, Levy S, Morales CL, Levy RV, Dave KR, Lin HW, Abaffy T, Watson BD, Perez-Pinzon MA, & Ohanna V (2011) A protocol for characterizing the impact of collateral flow after distal middle cerebral artery occlusion. *Transl Stroke Res* 2(1):112-127.
28. Dave KR, Bhattacharya SK, Saul I, DeFazio RA, Dezfulian C, Lin HW, Raval AP, & Perez-Pinzon MA (2011) Activation of protein kinase C delta following cerebral ischemia leads to release of cytochrome C from the mitochondria via bad pathway. *PLoS One* 6(7):e22057.
29. Lin HW, Defazio RA, Della-Morte D, Thompson JW, Narayanan SV, Raval AP, Saul I, Dave KR, & Perez-Pinzon MA (2010) Derangements of post-ischemic cerebral blood flow by protein kinase C delta. *Neuroscience* 171(2):566-576.
30. Lin B, Levy S, Raval AP, Perez-Pinzon MA, & Defazio RA (2010) Forebrain ischemia triggers GABAergic system degeneration in substantia nigra at chronic stages in rats. *Cardiovasc Psychiatry Neurol* 2010:506952.
31. Kim EJ, Raval AP, Hirsch N, & Perez-Pinzon MA (2010) Ischemic Preconditioning Mediates Cyclooxygenase-2 Expression Via Nuclear Factor-Kappa B Activation in Mixed Cortical Neuronal Cultures. *Transl Stroke Res* 1(1):40-47.
32. Curtis KM, Gomez LA, Rios C, Garbayo E, Raval AP, Perez-Pinzon MA, & Schiller PC (2010) EF1alpha and RPL13a represent normalization genes suitable for RT-qPCR analysis of bone marrow derived mesenchymal stem cells. *BMC Mol Biol* 11:61.
33. Schaller BJ, Sandu N, Cornelius JF, Filis A, & Perez-Pinzon MA (2009) Oxygen-conserving implications of the trigemino-cardiac reflex in the brain: the molecular basis of neuroprotection? *Mol Med* 15(5-6):125-126.

34. Schaller B, Cornelius JF, Sandu N, Ottaviani G, & Perez-Pinzon MA (2009) Oxygen-conserving reflexes of the brain: the current molecular knowledge. *J Cell Mol Med* 13(4):644-647.
35. Sandu N, Cornelius J, Filis A, Arasho B, Perez-Pinzon M, & Schaller B (2009) Ischemic tolerance in stroke treatment. *Expert Rev Cardiovasc Ther* 7(10):1255-1261.
36. Raval AP, Saul I, Dave KR, DeFazio RA, Perez-Pinzon MA, & Bramlett H (2009) Pretreatment with a single estradiol-17beta bolus activates cyclic-AMP response element binding protein and protects CA1 neurons against global cerebral ischemia. *Neuroscience* 160(2):307-318.
37. Della-Morte D, Dave KR, DeFazio RA, Bao YC, Raval AP, & Perez-Pinzon MA (2009) Resveratrol pretreatment protects rat brain from cerebral ischemic damage via a sirtuin 1-uncoupling protein 2 pathway. *Neuroscience* 159(3):993-1002.
38. DeFazio RA, Raval AP, Lin HW, Dave KR, Della-Morte D, & Perez-Pinzon MA (2009) GABA synapses mediate neuroprotection after ischemic and epsilonPKC preconditioning in rat hippocampal slice cultures. *J Cereb Blood Flow Metab* 29(2):375-384.
39. Dave KR, Anthony Defazio R, Raval AP, Dashkin O, Saul I, Iceman KE, Perez-Pinzon MA, & Drew KL (2009) Protein kinase C epsilon activation delays neuronal depolarization during cardiac arrest in the euthermic arctic ground squirrel. *J Neurochem* 110(4):1170-1179.
40. Cornelius JF, Sandu N, Perez-Pinzon MA, & Schaller B (2009) Treatment of acute ischemic stroke: role of ischemic tolerance in intravenous and endovascular therapies. *Expert Rev Cardiovasc Ther* 7(4):331-332.
41. Yenari M, Kitagawa K, Lyden P, & Perez-Pinzon M (2008) Metabolic downregulation: a key to successful neuroprotection? *Stroke* 39(10):2910-2917.
42. Raval AP, Lin HW, Dave KR, Defazio RA, Della Morte D, Kim EJ, & Perez-Pinzon MA (2008) Resveratrol and ischemic preconditioning in the brain. *Curr Med Chem* 15(15):1545-1551.
43. Kim EJ, Raval AP, & Perez-Pinzon MA (2008) Preconditioning mediated by sublethal oxygen-glucose deprivation-induced cyclooxygenase-2 expression via the signal transducers and activators of transcription 3 phosphorylation. *J Cereb Blood Flow Metab* 28(7):1329-1340.
44. Della Morte D, Abete P, Gallucci F, Scaglione A, D'Ambrosio D, Gargiulo G, De Rosa G, Dave KR, Lin HW, Cacciatore F, Mazzella F, Uomo G, Rundek T, Perez-Pinzon MA, & Rengo F (2008) Transient ischemic attack before nonlacunar ischemic stroke in the elderly. *J Stroke Cerebrovasc Dis* 17(5):257-262.
45. Dave KR, DeFazio RA, Raval AP, Torraco A, Saul I, Barrientos A, & Perez-Pinzon MA (2008) Ischemic preconditioning targets the respiration of synaptic mitochondria via protein kinase C epsilon. *J Neurosci* 28(16):4172-4182.
46. Raval AP, Dave KR, DeFazio RA, & Perez-Pinzon MA (2007) epsilonPKC phosphorylates the mitochondrial K(+) (ATP) channel during induction of ischemic preconditioning in the rat hippocampus. *Brain Res* 1184:345-353.
47. Perez-Pinzon MA (2007) Mechanisms of neuroprotection during ischemic preconditioning: lessons from anoxic tolerance. *Comp Biochem Physiol A Mol Integr Physiol* 147(2):291-299.
48. Kim E, Raval AP, Defazio RA, & Perez-Pinzon MA (2007) Ischemic preconditioning via epsilon protein kinase C activation requires cyclooxygenase-2 activation in vitro. *Neuroscience* 145(3):931-941.
49. Rodenas-Ruano A, Perez-Pinzon MA, Green EJ, Henkemeyer M, & Liebl DJ (2006) Distinct roles for ephrinB3 in the formation and function of hippocampal synapses. *Dev Biol* 292(1):34-45.
50. Raval AP, Dave KR, & Perez-Pinzon MA (2006) Resveratrol mimics ischemic preconditioning in the brain. *J Cereb Blood Flow Metab* 26(9):1141-1147.

D. Research Support

American Stroke Association-Bugher Foundation Centers for Excellence in Stroke Collaborative Research for Regeneration, Resilience and Secondary Prevention, Ralph S. Sacco (PI): Project 2: Enriched Environment, Exercise and Neurotherapeutics to Enhance Functional Recovery Following Stroke.

Project PI: Dr. Perez-Pinzon

4/1/2014 – 3/31/2018

Program Director/Principal Investigator (Last, First, Middle):

R01 NS45676-05 **Pérez-Pinzón (PI)** 6/1/07-5/31/15

NIH/NINDS

Mechanisms of Neuroprotection against Cardiac Arrest

The major goal of this project is to study the mechanisms of synaptic and vascular dysfunction and putative neuroprotective agents following cardiac arrest.

R01 NS34773-11 **Pérez-Pinzón (PI)** 6/1/09-4/30/15

NIH/NINDS

Ischemic Preconditioning: Mechanisms of Neuroprotection

The major goal of this project is to study the signaling pathways that lead to ischemic preconditioning neuroprotection

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Alberto R. Ramos, MD	POSITION TITLE Assistant Professor of Neurology
eRA COMMONS USER NAME (credential, e.g., agency login) ARAMOS1	

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of Puerto Rico	BS	05/1999	Natural Sciences
Universidad Central del Caribe, PR. CUM LAUDE	MD	05/2003	Medical Doctor
Jackson Memorial Hospital-U. of Miami	Residency	06/2007	Neurology
Miami VA Health Care System-U. of Miami	Fellowship	06/2008	Sleep Medicine
University of Miami, Miller School of Medicine	MSPH	08/2012	Epidemiology

A. Personal Statement

Dr. Alberto Ramos is Assistant Professor of Clinical Neurology at the University of Miami, Miller School of Medicine. Dr. Ramos' research focus is on sleep and cerebrovascular disease. Dr. Ramos was the recipient of a Research Supplement in Health Related Research - an NIH/NINDS funded supplement grant to the ongoing Northern Manhattan Study, to study the relationship between sleep and risk factors for stroke. He was the site Principal Investigator for the Sleep Patterns as a Risk Factor for Disease in the Hispanic Community Health Study – Field Center at the University of Miami. An NHLBI funded ancillary study to the Hispanic Community Health Study to evaluate sleep patterns and cardiovascular risk. Dr. Ramos is also the recipient of Mentored Translational Research Scholars Program (K12) from the CTSI at the Miller School of Medicine. The K12 study will focus on cerebral hemodynamics in sleep apnea utilizing the Hispanic Community Health Study.

B. Positions and Honors**Positions**

2006-07 Administrative Chief Resident-Neurology, University of Miami/Jackson Memorial Hos., Miami, FL.
2007-09 Staff Physician; Neurology Service, Miami VA Healthcare System, Miami, FL
2008-09 Instructor, Miller School of Medicine, University of Miami, Miami, FL.
2009 - Assistant Professor of Clinical Neurology, Miller School of Medicine, Miami, FL.
2010- present. Co-Director, Sleep Medicine Program, Miller School of Medicine, Miami, FL.

Honors

2003 Alpha Omega Alpha. Universidad Central Del Caribe, School of Medicine. PR
2007 Clinical Neuroscience Prize, Neurology Residency program, U. of Miami. Miami, FL
2008 Faculty Development Award-American Neurological Association.
2010-2014 Who's who in America
2010-2014 America's Top Physician, Consumer's Research Council of America.
2011 Distinguished Judge. Department of Otolaryngology, Miller School of Medicine. Miami, FL.
2012 NIH/American Academy of Sleep Medicine Young Investigators forum travel award.
2013 Scholar, Program to Increase Diversity among Individuals Engaged in Health-Related Research (PRIDE), NHLBI-New York University, NY.
2013- Fellow, American Academy of Sleep Medicine

C. Peer-reviewed Publications

1. **Ramos AR**, Tarraf W, Rundek T, Redline S, Wohlgemuth WK, Loredó JS, Sacco RL, Lee DJ, Arens R, Lazalde P, Choca JP, Mosely T, Gonzalez, HM. Obstructive Sleep Apnea and Neurocognitive Function among Hispanics/Latinos. *NEUROLOGY*. 2014. MS#592089. Accepted. 9/29/2014
2. **Ramos AR**, Wallace DM, Williams NJ, Spence DW, Pandi-Perumal SR, Zizi F, Jean-Louis G. Association between visual impairment and sleep duration: analysis of the 2009 National Health Interview Survey (NHIS). *BMC Ophthalmol*. 2014 1; 14(1):115. PMID:25274449
3. **Ramos AR**, Dong C, Rundek T, Elkind ESV, Boden-Albala B, Sacco RL, Wright CB. Sleep Duration is associated with White Matter Hyperintensity Volume in Older Adults: The Northern Manhattan Study. *J Sleep Res*. 2014; 23(5):524-30. PMID: 25040435
4. Redline S, Sotres-Alvarez D, Loredó J, Hall M, Patel SR, **Ramos AR**, Shah N, Ries A, Arens R, Barnhart J, Youngblood M, Zee P, Daviglius ML. Sleep Disordered Breathing in Hispanic/Latino Individuals of Diverse Backgrounds: The Hispanic Community Health Study/Study of Latinos. *Am J Respir Crit Care Med*. 2014; 189(3):335-44. PMID:24392863
5. **Ramos AR**, Dib S, Koch S. Risk for Sleep Apnea among Caribbean Hispanics, non-Hispanic blacks and non-Hispanic whites with ischemic strokes. *Sleep Breath*. 2014 Mar;18(1):165-8. PMID:23771345
6. **Ramos AR**, Dib SI, Wright CB. Vascular Dementia. *Curr Transl Geriatr and Exp Gerontol Rep* 2013; 2:188–195.
7. **Ramos AR**, Jin A, Rundek T, Russo C, Homma S, Elkind M, Sacco RL, Di Tullio MR. Relation between Long Sleep and Left Ventricular Mass from a Multi-Ethnic Elderly Cohort. *Am J Cardiol*. 2013; 112(4):599-603. PMID: 23711813
8. **Ramos AR**, Dong C, Elkind MSV, Boden-Albala B, Sacco RL, Rundek T, Wright CB. Association between Sleep Duration and the Mini-Mental Score: The Northern Manhattan Study. *J Clin Sleep Med*. 2013 15; 9(7):669-73. PMID: 23853560
9. Dib S, **Ramos A**, Wallace D, Rundek T. Sleep and Stroke. *Periodicum Biologorum*. 2013;114:369-75
10. **Ramos AR**, Cabral D, Lee DJ, Sacco RL, Rundek T. Cerebrovascular Pulsatility in Patients with Sleep Disordered Breathing. *Sleep Breath*. 2013; 17(2):723-6. PMID: 22773271
11. Shafazand S; Wallace DM; Vargas SS; Del Toro Y; Dib S; Abreu AR; **Ramos A**; Nolan B; Baldwin CM; Fleming L. Sleep disordered breathing, insomnia symptoms, and sleep quality in a clinical cohort of US Hispanics in South Florida. *J Clin Sleep Med* 2012; 8(5):507-514. PMID:23066361
12. Wallace WK, **Ramos AR**, Rundek T. Sleep Disorders and Stroke. *Int J Stroke*. 2012; 7(3):231-42. PMID:22336145
13. **Ramos AR**, Wohlgemuth WK, Dong C, et al. Race-ethnic differences of sleep symptoms in an elderly multi-ethnic cohort: The Northern Manhattan Study. *Neuroepidemiology*. 2011; 37(3-4):210-5. PMID:22123526

14. Wallace DM, Shafazand S, **Ramos AR**, et al. Insomnia characteristics and clinical correlates in Operation Enduring Freedom/Operation Iraqi Freedom veterans with post-traumatic stress disorder and mild traumatic brain injury: An exploratory study. *Sleep Med.* 2011; 12(9):850-9. PMID:21925943
15. Reidy L, Nolan B, **Ramos AR**, Walls HC, Steele BW. Zolpidem Urine Excretion Profiles and Cross-Reactivity with ELISA(®) Kits in Subjects Using Zolpidem or Ambien(®) CR as a Prescription Sleep Aid. *J Anal Toxicol.* 2011; 35(5):294-301. PMID: 21619724
16. **Ramos-Sepulveda A**, Wohlgemuth W, Gardener H, Lorenzo D, Dib S, Wallace DM, Nolan B, Boden-Albala B, Elkind MS, Sacco RL, Rundek T. Snoring and insomnia are not associated with subclinical atherosclerosis in the Northern Manhattan Study. *Int J Stroke.* 2010; 5:264-8. PMID:20636708
17. Liewluck T, Ferreira MA, Reyes-Iglesias Y, **Ramos AR**. Restless legs syndrome as an initial manifestation of metastatic conus medullaris lesion. *Mov Disord.* 2009. 15; 24:2294-6. PMID:19795474

D. Research Support

1. Sleep apnea and cerebral hemodynamics: The Hispanic Community Health Study.
 KL2 Scholar-PI: Alberto R. Ramos, Mentor: Tatjana Rundek. Agency: CTSI-Miller School of Medicine: K12 Scholar: 5KL2TR000461-02. 75% effort time. Aims: To evaluate the cerebral hemodynamics as an early marker of cerebrovascular risk in participants with sleep apnea and controls.

Completed:

1. Supplements to Promote Diversity in Health-Related Research-Stroke Incidence and Risk Factors in a Tri-Ethnic Region PI- Ralph L. Sacco; Agency: NIH/NINDS; Type: R37 (Javits Award): 2R01 (NS 29993). Supplement Grant for Alberto R. Ramos: Period 06.01.09-05.31.12. Aims: To investigate the associations between sleep symptoms and sub-clinical vascular disease in a prospective cohort of 3298 community subjects in the Northern Manhattan Study.
2. Sueño: Sleep patterns as a risk factor in the Hispanic Community Health Study.
 PI: S. Patel.; Agency: NIH/ NINDS; Type RO1: HL098297.
 Role: Site PI/Co-investigator. 10% effort time. Period 07.1.2011-04.31.2014. Aims: To determine the cardiovascular consequences of abnormal sleep patterns in Hispanics.

E. Other Support

1. National Institutes of Health/National Institute of Minority Health and Health Disparities-Loan Repayment Program. Two year extension, 08/2014-07/2016.
2. National Institutes of Health/National Institute of Minority Health and Health Disparities-Loan Repayment Program. One year extension, 08/2013-07/2014.
3. National Institutes of Health/National Institute of Minority Health and Health Disparities-Loan Repayment Program. One year extension, 08/2012-07/2013.
4. National Institutes of Health/National Institute of Minority Health and Health Disparities-Loan Repayment Program. Period 08/2010- 07/2012.

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Ami P. Raval		POSITION TITLE Research Assistant Professor	
eRA COMMONS USER NAME (credential, e.g., agency login) ARAVAL			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
M.S. University of Baroda, India	B. Sc	1989	Zoology, Botany, Chemistry
M.S. University of Baroda, India	M.Sc	1991	Zoology
M.S. University of Baroda, India	Ph.D	1995	Zoology (Physiology of reproduction)
University of Miami, USA	Post-doc	2000-2003	Neurophysiology
University of Miami, USA	MSPH	2013	Epidemiology

A. Statement (N/A)

B. Positions and Honors:

Professional Experience:

Research Assistant Professor: University of Miami, U.S.A. 2/1/2006 - Present
Assistant scientist: University of Miami, U.S.A. 9/1/2003 – 12/31/2006.
Lecturer: Zoology, M. S. University of Baroda, Gujarat, India. 07/1994 to 11/2000.

Honors, Awards, and Professional Societies:

- Fellowship awarded by Gujarat Government of India for Ph.D. studies from 1991 to 1994.
- Awarded Young Scientist award on "Effect of sex hormones on Salivary gland" by ICMR, New Delhi.
- Awarded American Heart Association (Florida/Puerto Rico) Post-doctoral Fellowship 7/2002 to 6/2004. (AHA identification number- 0225227B)
- Best poster 2009 at Celebrating Excellence in Women's Health Research, University of Miami, Miami
- Member of the Society for Neuroscience.
- Member of the Society for Cerebral Blood Flow & Metabolism.

C. Publications (out of 60) Note: * represents equal contribution; Underline represents corresponding author

Most relevant to the current application

1. Cue L, Diaz F, Briegel K, Patel HH and **Raval AP**. Periodic estrogen receptor-beta activation: a novel approach to prevent ischemic brain damage. *Neurochemical Research* 2014 (in press)
2. **Raval AP****, Borges-Garcia R, Moreno WJ, Perez-Pinzon MA and Bramlett H. (2013) Periodic 17 β -estradiol pretreatment protects rat brain from cerebral ischemic damage via estrogen receptor-beta. *Plos One*;8(4):e60716
3. **Raval AP**, Saul I, Dave KR, DeFazio RA, Perez-Pinzon MA, Bramlett H. (2009) Pretreatment with a single estradiol-17 β bolus activates CREB and protects CA1 neurons against global cerebral ischemia. *Neuroscience*. 160; 307–318. (PMID: 19272413; PMCID: 2711690)
4. **Raval AP**, Bramlett H and Perez-Pinzon MA. (2006) Estrogen preconditioning protects the hippocampal CA1 against ischemia. *Neuroscience*. 141(4):1721-1730. (PMID: 16777351)

5. **Raval AP**, Dave KR, Saul I, Gonzalez GJ, Diaz F. (2012) Synergistic inhibitory effect of nicotine plus oral contraceptive on mitochondrial complex-IV is mediated by estrogen receptor- β in female rats. *J Neurochemistry* 121(1):157-67. (PMID:22248091)
6. **Raval AP**, Hirsch N, Dave KR, Yavagal DR, Bramlett H, Saul I. (2011) Nicotine and estrogen synergistically exacerbate cerebral ischemic injury. *Neuroscience* 181:216-25. (PMID: 21334425)
7. **Raval AP**, Sick JT, Gonzalez GJ, Defazio RA, Dong C and Sick TJ. Chronic nicotine exposure inhibits estrogen-mediated synaptic functions in hippocampus of female rats. *Neuroscience letters* 2012; 517(1):41-6
8. **Raval AP**, Bhatt A, Saul I. (2009) Chronic nicotine exposure inhibits 17β -estradiol-mediated protection of the hippocampal CA1 region against cerebral ischemia in female rats. *Neuroscience letters*. 458(2):65-69. (PMID: 19442878)
9. **Raval AP**. (2011) Nicotine addiction causes unique detrimental effects on female brain. *Journal of Addictive Diseases*. Review 30(2):149-58. (PMID: 21491296)
10. **Raval AP**, Dave KR, Mochly-Rosen D, Sick TJ, Perez-Pinzon MA. (2003) ϵ PKC is required for the induction of tolerance by ischemic and NMDA-mediated preconditioning in the organotypic hippocampal slice. *J Neuroscience*. 23(2): 384-391. (PMID: 12533598)
11. Lange-Asschenfeldt C*, **Raval AP***, Dave KR, Mochly-Rosen D, Sick TJ, Pérez-Pinzón MA. (2004) ϵ PKC mediated ischemic tolerance requires activation of the ERK pathway in the organotypic hippocampal slice. *J Cereb Blood Flow Metab*. 24(6):636-645. (PMID: 15181371)
12. Bright R, **Raval AP**, Dembner JM, Pérez-Pinzón MA, Steinberg GK, Yenari MA, Mochly-Rosen D. (2004) Protein kinase C delta mediates cerebral reperfusion injury in vivo. *J. Neuroscience*. 24 (31): 6880-6888. (PMID: 15295022)
13. **Raval AP***, Dave KR*, Perez-Pinzon MA. (2005). Resveratrol mimics ischemic preconditioning in the brain. *J Cereb Blood Flow Metab*. 26(9):1141-1147. (PMID: 16395277)
14. **Raval AP***, Dave KR*, Prado R, Katz LK, Busto R, Sick TJ, Ginsberg MD, Mochly-Rosen D, Pérez-Pinzón MA. (2005). Protein kinase c delta cleavage initiates an aberrant signal transduction pathway after cardiac arrest and oxygen glucose deprivation. *J Cereb Blood Flow Metab*. 25(6):730-741. (PMID: 15716854)
15. **Raval AP**, Dave KR, DeFazio RA, Perez-Pinzon MA. (2007). Epsilon PKC phosphorylates the mitochondrial K^+ ATP channel during induction of ischemic preconditioning in the rat hippocampus. *Brain Res*. 1184:345-353. (PMID: 17988655; PMCID: 2577914)

D. Active Support

University of Florida Southeast Center for Integrated Metabolomics
Pilot and Feasibility Projects

07/1/14-6/30/15

Nicotine alters brain oxidative metabolism

Role: PI, no % efforts

United Mitochondrial Disease Foundation

07/1/14-6/30/16

Modulation of GSK3 activity and enhancement of glycolysis to maintain neuronal survival in complex IV deficient mice

PI: Dr. Francisca Diaz

Role: Co-investigator (5% effort).

Completed Research Support (past 3 years):

Florida Department of Health#09KN-14 07/1/11-06/30/14

Intra-arterial mesenchymal stem cell delivery in a canine model of acute ischemic stroke.

Principal Investigator: Dr. Dileep Yavagal

Role: Co-investigator (5% effort).

American Heart Association- Grant-in-aid

AHA # 11GRNT7370069

7/1/11- 6/30/2013

Nicotine inhibits estrogen-mediated synaptic plasticity after cerebral ischemia in female rat.

The major goal of this project is to study the effects of chronic nicotine usage on synaptic functions in female rats. There is no scientific/ financial overlap between NIH-R01 application under consideration and the funded AHA-grant-in-aid.

Role: Dr. Raval, PI, % efforts 25%

University of Miami Specialized Center Of Research on Addiction & Health in Women, Children & Adolescents (UM-SCOR)

10/1/2011-3/31/2013

Nicotine inhibits estrogen-mediated synaptic plasticity after cerebral ischemia in female rat

Role: PI, no % efforts

University of Miami, Stanley J. Glaser Foundation Award

UM 700852

6/1/11 - 12/31/12

Nicotine impairs hippocampal mitochondrial function in female rat.

This is a seed funding from University of Miami to generate pilot data for future federal funding. The major goal of this project is to study the effects of chronic nicotine exposure on mitochondrial function in hippocampus of female rats.

Role: Dr. Raval, PI, no % efforts

American Heart Association- Scientist Development Grant (National center)

AHA # 0730089N

1/1/11-12/31/11

Estrous cyclicity and mechanism of neuroprotection after cerebral ischemia.

The major goal of this project was to study the effects of endogenous estrogen fluctuations on neuroprotection against cerebral ischemia in normal cyclic rats.

Role: Dr. Raval, PI, % efforts 39%

Florida Department of Health

#07KN-10

7/1/07-6/30/10

Inhibitory effects of nicotine on estrogen-induced natural hippocampal neuroprotection against ischemia

The major goal of this project was to study the effects of chronic nicotine usage and female sex hormones on cerebral ischemic outcomes.

Role: Dr. Raval, PI, % efforts 50%

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Tatjana Rundek, MD PhD		POSITION TITLE Professor of Neurology	
eRA COMMONS USER NAME (credential, e.g., agency login) TR89XX		Director, Clinical Translational Research University of Miami Miller School of Medicine	
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of Zagreb, College of Mathematics, Croatia	B.S.	09/79-06/83	Applied Mathematics
Medical School University of Zagreb, Croatia	M.D.	08/84-06/89	Medicine
Medical School University of Zagreb, Croatia	M.S.	07/89-06/91	Epidemiology/Bioinformatics
Ludwig-Maximillan University, Munich, Germany	Ph.D.	08/91-05/95	Neuroscience
Medical School University of Zagreb, Croatia	Residency	1991-1994	Neurology
Grossharden Spital, Munich, Germany	Fellowship	1994-1995	Stroke
Columbia University, New York	Fellowship	1998-2001	Stroke/Epidemiology

A. Personal Statement: N/A.

B. Positions and Honors

POSITIONS AND EMPLOYMENT

Traineeship:

1990-91	Medicine Internship	Clinical Hospital for Pulmonary Diseases, Zagreb, Croatia
1991-94	Neurology Residency	Grossharden Spital Munich, Germany
1995-96	Neurosonology Post-Doctoral Fellow	Neurosonology Laboratory University of Ulm, Germany
1998-00	Stroke Fellow (Epidemiology)	Columbia University, New York, NY

Academic Appointments:

1994-96	Assistant Professor of Neurology	Department of Neurology, University of Zagreb, Croatia
1996-98	Associate Professor of Neurology	Department of Neurology, University of Zagreb, Croatia
2002-07	Assistant Professor of Neurology	Columbia University, New York, NY
2007-11	Associate Professor of Neurology	Miller School of Medicine, University of Miami, Miami, FL
2011-	Professor of Neurology	Miller School of Medicine, University of Miami, Miami, FL

Hospital Appointments:

1994-98	Stroke Attending	Department of Neurology, University of Zagreb, Croatia
2002-07	Director, Neurosonology Laboratory	Columbia University, New York, NY
2007-	Director, Clinical Translational Research Division in Neurology	Department of Neurology, Miller School of Medicine, University of Miami, Miami, FL

OTHER EXPERIENCE AND PROFESSIONAL MEMBERSHIPS

Editorial Board Member of the Professional Journals: Stroke, Neurology, Cerebrovascular Disease, Journal of Ultrasound in Medicine, Journal of CardioMetabolic Syndrome

Ad Hoc Reviewer for the Professional Journals: Neuroepidemiology, Circulation, JACC, Scandinavian Journal of Rheumatology, Headache, Annals of Internal Medicine, Archives of Neurology

Memberships:

1997-	American Academy of Neurology
1997-	American Heart Association
1997-	European Federation of Neurological Societies - Dementia Panel Delegate
1994-	American Institute of Ultrasound in Medicine
1994-	European Society of Neurosonology and Cerebral Hemodynamics

HONORS

1997	Fulbright Award and Scholarship, Neurological Institute, Columbia University, New York, NY
1996	George Soros Scholarship, Neurology Seminars, University of Krems, Austria
1995	Humbolt Award, Neurosonology Laboratory, University of Ulm, Germany

2006 Nassau Women Physicians Foundation Award for Stroke Research in Women; Long Island, NY
2009 President, Neurosonology Community Practices of the American Institute of Ultrasound in Medicine
2012 Member of the Board of the Directors of the Intersocietal Accreditation Committee

C. Selected Peer-Reviewed Publications (from 12 chapters, 28 invited articles, 209 peer-reviewed articles):

1. **Rundek T**, Brown SC, Wang K, Dong C, Farrell MB, Heller GV, Gornik HL, Hutchisson M, Needleman L, Benenati JF, Jaff MR, Meier GH, Perese S, Bendick P, Hamburg NM, Lohr JM, LaPerna L, Leers SA, Lilly MP, Tegeler C, Alexandrov AV, Katanick SL. Accreditation status and geographic location of outpatient vascular testing facilities among Medicare beneficiaries: the VALUE (Vascular Accreditation, Location & Utilization Evaluation) study. *Vasc Med*. 2014;19(5):376-8.
2. **Rundek T**, Brown DL. Socioeconomic status and subclinical atherosclerosis: are we closing disparity gaps? *Stroke*. 2014;45(4):948-9.
3. Xu WH, Dong C, **Rundek T**, Elkind MS, Sacco RL. Serum albumin levels are associated with cardioembolic and cryptogenic ischemic strokes: Northern Manhattan Study. *Stroke*. 2014;45(4):973-8.
4. Della-Morte D, Cacciatore F, Salsano E, Pirozzi G, Genio MT, D'Antonio I, Gargiulo G, Palmirotta R, Guadagni F, **Rundek T**, Abete P. Age-related reduction of cerebral ischemic preconditioning: myth or reality? *Clin Interv Aging*. 2013;8:1055-1061. **PMCID: PMC3817003**
5. Della-Morte D, Ricordi C, **Rundek T**. The fountain of youth: role of sirtuins in aging and regenerative medicine. *Regen Med*. 2013 Nov;8(6):681-3. **PMID: 24147522**
6. Wallace DM, Ramos-Sepulveda A, **Rundek T**. Sleep disorders and stroke. *Int J Stroke*. 2012;7(3):231-42. **PMCID: PMC3387919**
7. Kuo F, Gardener H, Dong C, Cabral D, Della-Morte D, Blanton SH, Elkind MS, Sacco RL, **Rundek T**. Traditional cardiovascular risk factors explain the minority of the variance in carotid plaque. *Stroke*. 2012; 43:1755-60. **PMCID: PMC3383876**
8. Gardener H, Sjoberg C, Crisby M, Goldberg R, Mendez A, Wright CB, Elkind MS, Sacco RL, **Rundek T**. Adiponectin and Carotid Intima-Media Thickness in the Northern Manhattan Study. *Stroke*. 2012; 43(4):1123-5. **PMCID:PMC3314722**
9. Markert MS, Della-Morte D, Cabral D, Roberts EL Jr, Gardener H, Dong C, Wright CB, Elkind MS, Sacco RL, **Rundek T**. Ethnic differences in carotid artery diameter and stiffness: The Northern Manhattan Study. *Atherosclerosis*. 2011;219(2):827-32. **PMCID: PMC3226921**
10. Dong C, Della-Morte D, Wang L, Cabral D, Beecham A, McClendon MS, Luca CC, Blanton SH, Sacco RL, **Rundek T**. Association of the sirtuin and mitochondrial uncoupling protein genes with carotid plaque. *PLoS One*. 2011;6(11):e27157. **PMCID: PMC3210138**
11. Gardener H, **Rundek T**, Markert M, Wright CB, Elkind MS, Sacco RL. Diet Soft Drink Consumption is Associated with an Increased Risk of Vascular Events in the Northern Manhattan Study. *J Gen Intern Med*. 2012;27(9):1120-6. **PMCID: PMC3514985**
12. Gardener H, **Rundek T**, Wright CB, Elkind MS, Sacco RL. Dietary sodium and risk of stroke in the Northern Manhattan study. *Stroke*. 2012;43(5):1200-5. **PMCID:PMC3347890**

D. Research Support
Ongoing Research Support

Genetic Determinants of Extreme Phenotypes of Subclinical Atherosclerosis

NIH/NINDS K24 NS 062737 PI: T. Rundek

(09.30.09-08.31.14)

This is a mid career award to train young investigators in patient-oriented research, perform research on genetic factors of extreme phenotypes of subclinical atherosclerosis.

Novel Factors for Unexplained Phenotypes of Subclinical Carotid Atherosclerosis NIH/NINDS R01 NS 065114

PI: T. Rundek

(07.01.10-06.3.15)

This is a selective genotype study of individuals with high burden of atherosclerosis and no risk factors and those with high burden of risk factors but no evidence of atherosclerosis.

Stroke Incidence and Risk Factors in a Tri-Ethnic Region

PI: R.L. Sacco; T. Rundek, Co-Investigator

NIH/NINDS R37 NS 029993-11

(02.01.03-01.31.15)

The major goals of this project are to determine the effect of vascular risk factors on cognitive impairment and subclinical MRI findings in a prospective cohort study from 3 race-ethnic groups from Northern Manhattan.

Family Study of Stroke Risk and Carotid Atherosclerosis

PI: R.L. Sacco; T. Rundek, Co-Investigator

NIH/NINDS R01 NS 40807

(05.01.02-09.30.12)

The major goal of this study is to evaluate heritability and genetic linkage of novel vascular risk factors such as carotid intima-media thickness and carotid stiffness among the families of high-risk Caribbean Hispanics.

U Miami: Network of Excellence in Neuroscience Clinical Trials (NEXT) NIH/NINDS U10 NS 077423

PI: M. Benatar, R.L. Sacco; T. Rundek, Co-Investigator

(09.30.11-08.31.18)

The goals of this proposal are to enhance quality and efficiency of NEXT and other NINDS trial implementation at the U of Miami and to leverage existing institutional strengths to enhance NEXT consortium activities.

Ischemic Stroke Genetics

NINDS U01 The NINDS International Stroke Genetics Consortium Study

PI: S. Kittner on behalf of ISGC, U of Maryland, Site PIs: T. Rundek, R.L. Sacco (04.01.10-3.31.14)

This is a GWAS, which will greatly advance the field of ischemic stroke genetics by establishing a large 11-study collaboration of unique scale of the world's leading clinician-scientists in stroke genetics.

The Albert Einstein Study Program Project in Aging NIA 2P01 AG003949-26

PIs: Lipton, Derby; Albert Einstein, NY, T. Rundek, PI for the TCD Core Laboratory (07.01.11-06.30.15)

This is a Cerebral Hemodynamics Study of Aging of the AES program project aimed to study the vascular mechanisms of normal aging, MCI and dementia using TCD challenge test.

Oral Infections, Carotid Atherosclerosis and Stroke (INVEST) NIH/NIDCR R01 DE 13094

PI: M. Desvarieux; T. Rundek, Co-Investigator

(06.15.06-05.31.17)

This cohort study will examine the effect of chronic periodontal disease and inflammation as a risk factor for stroke and carotid atheroma progression.

Gene-Smoking Interactions and Atherosclerosis KN01 James & King Biomedical Research Program

PI: C. Dong; T. Rundek, Co-Investigator

(09.01.11-08.31.14)

The major goal of this project is to identify genetic variants that modify the effect of smoking on the development of atherosclerosis and the risk of clinical vascular diseases.

FGF-23 and the Risk of Stroke and Cognitive Decline

PI: C. Wright; T. Rundek, Co-Investigator

NIH/NHLBI R01 HL108623-01A1

(12.01.12-11.30.16)

We anticipate that the results of this study, in concert with our ongoing projects on FGF23 in more advanced CKD, will rapidly set the stage for randomized controlled trials.

Stroke Prevention/Intervention Research Program in Hispanics (& supplement FL-PR CReSD-W)

NIH/NINDS U54 NINDS SPIRP U54NS081763

PI: RL Sacco; T. Rundek, Co-Investigator

(01.01.13-12.31.17)

The goal is to develop high-impact stroke disparities interventions that have the ability to reduce stroke disparities in distinct Hispanic groups in Miami&Puerto Rico using effective and culturally appropriate methods.

Miami Regional Coordinating Center for NINDS Stroke Trials Network

NIH/NINDS PI: J Romano; T. Rundek, Co-Investigator

U10 NINDS NS086528

(09.30.13-07.31.18)

The major goal of this award is to function effectively as a Regional Coordinating Center for the NINDS stroke trials and to enhance quality and efficiency of NINDS stroke trial implementation at the Miami site.

Prior Research Support

Genetic Determinants of Subclinical Carotid Disease

PI: T. Rundek

NIH/NINDS R01 NS 047655

(01.01.04-12.31.10).

This was a cross-sectional study evaluating potential candidate genes related to carotid IMT and distensibility in the Northern Manhattan Study cohort.

Primary Hyperparathyroidism: Non-Classical Manifestations

PI: S. Silverberg; T. Rundek, Co-Investigator

NIH/NIDK R01 DK 66329

(7.01.05-06.30.11)

The main objective of this study was to determine whether there was structural and functional evidence of increased vascular stiffness or cardiovascular calcification in patients with mild asymptomatic PHPT.

Aortic, Cardiovascular Disease and Silent Brain Infarcts

PI: M. Di Tullio; T. Rundek: Co-Investigator

NIH/NINDS R01 NS 36286

(7.01.05-06.30.11)

The objective of this study was to investigate cardiac sources of silent brain infarcts and cerebral white matter disease.

Mechanisms of Stroke in Intracranial Stenosis and Stenting (MoSISS)

PI: J. Romano; T. Rundek, Co-Investigator

NIH/NINDS R01 (NS 069938)

(04.15.10-09.30.11).

This was an ancillary study of SAMMPRIS to study the underlying mechanisms in intracranial stenosis randomized to stenting vs. best medical treatment using TCD and QMRI.

MESA (Multi-Ethnic Subclinical Atherosclerosis

CU PI: S. Shea; T. Rundek, Collaborator

NIH/NHLBI-HC

(06.15.02-05.31.10)

The objective of this large NIH contract was to examine traditional and novel risk factors and markers of subclinical atherosclerosis in a large sample of individuals from multi-ethnic communities.

A Multicenter, Randomized, Double-Blind Placebo-Controlled Study to test the Safety and Efficacy of Lipitor (atorvastatin) in Reducing the Progression of Carotid IMT in Early Childhood SLE", The Atherosclerosis Prevention in Pediatric Lupus Erythematosus (APPLE) Study; NIH/NIAMS BAA-02;

PI: L.E. Schanberg, Duke; T.Rundek, Site Co-I

(06.15.04-05.31.08).

The objective of this study was to assess the efficacy of atorvastatin in reducing carotid IMT in children with systemic lupus erythematosus.

Carotid Artery Distensibility and Risk of Stroke; *The Gilbert Baum Memorial Grant and the American Institute of Ultrasound in Medicine Award;*

PI: T. Rundek

(7.01.04-06.30.05).

The objective of this case-control study was to determine whether impaired carotid distensibility assessed by ultrasound is associated with an increased risk of stroke.

The Hazel K. Goddess Fund for Stroke Research in Women;

PI: T. Rundek

The Hazel K. Goddess Fund;

(7.01.01-06.30.04).

The major goals was to determine the effects of structural and functional carotid artery wall properties in a prospective cohort study of postmenopausal women over age 55 from 3 race-ethnic groups from northern Manhattan.

The PACTS-HOPE Project: Premature Atherosclerosis and Cardiovascular Risk in Children: Carotid Ultrasound Sub-study; CDC;

PI: E. Abrams, T. Rundek: Co-Investigator

(7.01.05-06.30.06).

The objective of this sub-study was to examine the presence of subclinical atherosclerosis in HIV positive children and its associations with increased risk of CVD in children on the AZT medication.

BIOGRAPHICAL SKETCH

NAME	Juan I Young	POSITION TITLE		
eRA COMMONS USER NAME	JYOUNG1	Assistant Professor		
EDUCATION/TRAINING				
INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY	
School of Exact and Natural Sciences, University of Buenos Aires, Argentina	M.Sc.	1992	Biological Sciences	
University of Buenos Aires, Argentina.	Ph. D.	1998	Molecular Genetics.	

A. Personal Statement

I have over 15 years of experience in cellular and molecular biology, biochemistry and mouse genetics. I have a long standing interest in mechanisms of gene regulation in general and in understanding the role of DNA methylation in particular. My work includes the determination of DNA methylation dynamics in serially passaged human fibroblasts, the identification of functions of the epigenetic regulators methyl-CpG binding protein 2 (MeCP2) and MBD5, mutated in Rett Syndrome and 2q23.1, respectively. We have characterized mouse models for these diseases. My lab has also been carrying out studies aimed to understand the epigenetic correlate of drug intake.

B. Positions and Honors

Positions and Employment

- 1993-1995 Junior Research Fellowship, National Council of Scientific and Technological Research (CONICET-Argentina)
- 1995-1997 Senior Research fellowship, National Council of Scientific and Technological Research (CONICET-Argentina)
- 1997 Visiting Student, Oregon Health Science University, Vollum Institute for Advanced Biomedical Research (OHSU-VIABR).
- 1998-2001 Postdoctoral Associate, Baylor College of Medicine, Houston, Texas.
- 2001-2004 Postdoctoral Associate, Baylor College of Medicine, Houston, Texas.
- 2005-2009 Assistant Professor, Centro de Estudios Científicos-CECS, Valdivia, Chile.
- 2009 Assistant Professor, Dr. John T. Macdonald Foundation Department of Human Genetics, Leonard M. Miller School of Medicine, University of Miami, Miami, Florida
- 2010 Director, Division for Epigenetics, John P. Hussman Institute for Human Genomics. University of Miami Miller School of Medicine
- 2013 Co-Director, Center for Human Molecular Genetics, John P. Hussman Institute for Human Genomics. University of Miami Miller School of Medicine

Other Experience and Professional Memberships

- 2009 American Society of Human Genetics, Member

Honors

- 1991 Research Grant for Advanced Students- University of Buenos Aires
- 1997 Bernardo A. Houssay Award-Argentina
- 2002 RSRF Research Award-USA
- 2002 Alan P. Wolffe Memorial Fellowship (RSRF)-USA
- 2004 Extension of the RSRF Research Award-USA
- 2005 Proyecto Fondecyt Regular-Chile # 1051079
- 2006 RSRF Research Award-USA

C. Selected Peer-reviewed Publications (Selected from 38 peer-reviewed publications)

1. Shahbazian M, **Young JI**, Yuva-Paylor L, Spencer C, Antalffy B, Noebels J, Armstrong D, Paylor R, Zoghbi H. Mice with truncated MeCP2 recapitulate many Rett syndrome features and display hyperacetylation of histone H3. *Neuron* July 18; **35**:243-54, 2002.
2. **Young JI**, Sedivy J.M. and Smith J.R. Telomerase expression in normal human fibroblasts stabilizes DNA 5-methylcytosine transferase I. *J. Biol. Chem.* May 30;**278**:19904-8, 2003. PMID: 12665523
3. **Young JI** and Zoghbi H.Y. X-chromosome inactivation patterns are unbalanced and affect the phenotypic outcome in a mouse model of Rett syndrome. *Am. J. Hum. Genet.* Mar; **74**:511-20, 2004. PMCID: PMC1182264
4. **Young JI**, Hong E.P., Castle J.C., Crespo-Barreto J., Bowman A.B., Rose M.F., Kang D., Richman R., Johnson J.M., Berget S. and Zoghbi H.Y. Regulation of RNA splicing by the methylation-dependent transcriptional repressor methyl-CpG binding protein 2. *Proc Natl Acad Sci U S A.* Dec 6;102:17551-8, 2005. PMCID: PMC1266160
5. Alvarez-Saavedra M, Sáez MA, Kang D, Zoghbi HY and **Young JI**. Cell-specific expression of wild-type MeCP2 in mouse models of Rett syndrome yields insight about pathogenesis. *Human Molecular genetics*, Oct 1;16 :2315-25, 2007.
6. Kerr B, Alvarez-Saavedra M, Sáez MA, Saona A and **Young JI**. Defective body weight regulation and motor control in *Mecp2* hypomorphic mice. *Human Molecular Genetics*, Jun 15;**17**:1707-17, 2008.
7. Alvarez-Saavedra M, Carrasco L, Sura-Trueba S, Demarchi Aiello V, Walz K, Xavier Neto J, **Young JI**. Elevated expression of MeCP2 in cardiac and skeletal tissues is detrimental for normal development. *Hum Mol Genet.* Jun 1;**19**(11):2177-90, 2010.
8. Ricard G, Molina J, Chrast J, Gu W, Gheldof N, Pradervand S, Schütz F, **Young JI**, Lupski JR, Reymond A, Walz K. Phenotypic consequences of copy number variation: insights from Smith-Magenis and Potocki-Lupski syndrome mouse models. *PloS Biol.* 2010 Nov 23;**8**(11):e1000543. PMCID: PMC2990707
9. Kerr B, Soto J, Saez M, Abrams A, Walz K, **Young JI**. Transgenic complementation of MeCP2 deficiency: phenotypic rescue of *Mecp2*-null mice by isoform-specific transgenes. *Eur J Hum Genet.* 2012 Jan;**20**(1):69-76. PMCID: PMC3234513
10. Minor EA, Court BL, **Young JI**, Wang G. Ascorbate induces Ten-eleven translocation (Tet) methylcytosine dioxygenase-mediated generation of 5-hydroxymethylcytosine. *J Biol Chem.* 2013 May 10;**288**(19):13669-74. PMCID: PMC3650403
11. Tekin M, Chioza BA, Matsumoto Y, Diaz-Horta O, Cross HE, Duman D, Kokotas H, Moore-Barton HL, Sakoori K, Ota M, Odaka YS, Foster J 2nd, Cengiz FB, Tokgoz-Yilmaz S, Tekeli O, Grigoriadou M, Petersen MB, Sreekantan-Nair A, Gurtz K, Xia XJ, Pandya A, Patton MA, **Young JI**, Aruga J, Crosby AH. SLITRK6 mutations cause myopia and deafness in humans and mice. *J Clin Invest.* 2013 May 1;**123**(5):2094-102. Doi: 10.1172/JCI65853. PMCID:PMC3635725
12. Cao L, Molina J, Abad C, Carmona-Mora P, Cárdenas Oyarzo A, **Young JI**, Walz K. Correct developmental expression levels of *Rai1* in forebrain neurons is required for control of body weight, activity levels and learning and memory. *Hum Mol Genet.* 2014 Apr 1;**23**(7):1771-82.
13. Itzhak Y, Ergui I, **Young JI**. Long-term parental methamphetamine exposure of mice influences behavior and hippocampal DNA methylation of the offspring. *Mol Psychiatry.* 2014 Feb 18. 1-11 PMID: 24535458.

14. Camarena V, Cao L, Abad C, Alexander A, Toledo Y, Araki K, Araki M, Walz K, **Young JI**. Disruption of Mbd5 in mice causes neuronal functional deficits and neurobehavioral abnormalities consistent with 2q23.1 Microdeletion Syndrome. EMBO Mol Med. 2014 Jul 7;6(8):1003-15. PMID: 25001218
15. Walz K, **Young JI**. The methyl binding domain containing protein MBD5 is a transcriptional regulator responsible for 2q23.1 deletion syndrome. Rare Diseases, 2014.

D. Research Support
Ongoing Research Support

5 R21MH093876-02 (Young, JI) 04/01/12-11/30/14
 NIH
 "Modulation of Rett-Like Phenotypes in Mouse Models of Rett Syndrome"
 We will use mouse and cellular models of Rett syndrome to test whether the effect of mutations that affect MeCP2's functionality (but do not eliminate the protein) could be reversed by transgenic restoration of MeCP2.
 Role: PI

2P50NS071674-02 (Vance JM) 09/01/11 -08/31/16
 NIH/NINDS
 "Genetics of Parkinsonism" – Morris K. Udall Parkinson's Disease Research Center of Excellence
 Project 2 "Long ncRNAs as Epigenomic Modulators and CSF Biomarkers in Parkinson's Disease"
 The overall goal of the center is to identify genes that cause or contribute to an individual's susceptibility to Parkinson Disease (PD). The discovery of PD risk genes will provide insight into the biological and environmental mechanisms that cause PD.
 Role: Co-PI Project 2

1R01NS081208-01A1 (Faghihi, M). 04/01/13-03/30/18
 NIH/NINDS
 "Antisense RNA Mediated Epigenetic Regulation of Brain Derived Neurotrophic Factor"
 The major goal of this research is to investigate epigenetic regulation of BDNF, both in vitro and in vivo and to study potential beneficial effect of BDNF upregulation on Rett Syndrome mouse model.
 Role: Co-I

1R21AI103547-01 (Adkins, R) 4/10/13-3/31/15
 NIH
 "Genetic and Epigenetic Contributions to the Neonatal Th2 Bias"
 This proposal will examine the contribution of selective components of the genome to the poor immunity in newborn animals. This information will provide an important foundation for developing novel approaches to meet the health challenges of pediatric life, such as (a) enhancing vaccine responsiveness, (b) mitigating pediatric-onset asthma, and (c) increasing resistance to pathogenic microorganisms.
 Role: Co-I

Completed Research Support

Jérôme Lejeune Foundation (Young, JI) 07/01/11-09/06/14
 "Modulation of Rett-like phenotypes in mouse models of Rett syndrome"
 We will use mouse models of Rett syndrome to test whether the effect of a truncating mutation that affects MeCP2's functionality could be reversed by transgenic restoration of MeCP2.
 Role: PI

Jérôme Lejeune Foundation (Walz, K) 07/01/11-09/06/14
 "Exploring the reversibility of neuron functional deficiency"

The presence of microdeletions or microduplications in our genome is often related to various diseases. Our studies will uncover if restoring the appropriate amount of key proteins can prevent or ameliorate the phenotypic consequences related to abnormal gene dosage.

Role: Co-I

NIH/NIAID 2R56AI044923-11

(Adkins, RD)

07/01/11-07/01/12

“Developmentally regulated epigenetic programs in fetal/neonatal T lineage cells”

The purpose of this proposal is to investigate genetic and epigenetic contributions to gene expression in T lineage cells during the newborn phase of life.

Role: Co-investigator

UM SCOR - University of Miami

(Itzhak, Y / Young, JI)

06/01/11-05/30/12

“Epigenetic mechanisms in sex- and age-dependent differences in response to cocaine”

We hypothesize that sex- and age-dependent differences in the behavioral responses to cocaine are due to distinct effects of cocaine on epigenetic modifications, such as DNA methylation, in the NAC of males and females and adolescent and adult subjects.

Role: Co-PI

Proyecto Regular/1051079

(Young JI)

2005-2009

Fondecyt –Chile

Es posible revertir el síndrome de rett? Restitucion condicional de mecp2 en modelos murinos para esta enfermedad.

Role: PI

Proyecto Regular/1061067

(Walz K)

2006-2009

Fondecyt –Chile

Estudio de la participacion de la proteina inducida por acido retinoico 1 (rai1) en el fenotipo observado en el síndrome dup (17) (p11.2p11.2) utilizando modelos murinos.

Role: Co-PI

RSRF Research Award

(Young JI)

2006-2008

Rett Syndrome Research Foundation

MeCP2's function in post-translational regulation of gene expression.

Role: PI

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.

Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Zeki Al Hazzouri, Adina	POSITION TITLE Assistant Professor		
eRA COMMONS USER NAME ahazzouri			
EDUCATION/TRAINING (<i>Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training if applicable.</i>)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
American University of Beirut, Lebanon	BS	2001-2004	Biology
American University of Beirut, Lebanon	MSc	2004-2006	Epidemiology
University of Michigan, Ann Arbor, MI	PhD	2007-2011	Epidemiology
University of California San Francisco, San Francisco, CA	Post-doctoral Fellow	2011-2013	Epidemiology

A. Personal statement

I am an epidemiologist and my research focuses on life course determinants of health and healthy cardiovascular aging. My research also focuses on how to use novel statistical methods to address important research questions while leveraging existing data. To that end, I was trained as a social epidemiologist and graduated in 2011 with my doctorate from the University of Michigan School of Public Health where I received an excellence award from the Center on Social Epidemiology and Population Health. As part of my dissertation work, I examined life course determinants of minorities' health. I later joined the University of California San Francisco (UCSF) where I was awarded a 2-year postdoctoral fellowship jointly funded by the American Heart Association, American Stroke Association, and American Brain Foundation to conduct research on how measures of subclinical cardiovascular disease influence outcomes in older age. I am currently an Assistant Professor of Epidemiology at the University of Miami, and I hold a 5-year K01 Award from the National Institute on Aging.

B. Research and Professional Experience

Employment

09/2005-06/2006	Graduate Assistant, Department of Epidemiology and Population Health, American University of Beirut, Lebanon.
8/2006-08/2007	Research Assistant, Osteoporosis and Calcium Metabolism Program, Department of Internal Medicine, American University of Beirut, Lebanon.
01/2008-12/2008	Graduate Student Research Assistant, Department of Epidemiology, University of Michigan School of Public Health.
09/2009-12/2009	Graduate Student Instructor (Epi 600), University of Michigan School of Public Health.
2009-2011	Graduate Student Research Assistant, Center for Social Epidemiology and Population Health, University of Michigan School of Public Health.
2011-2013	Post-Doctoral Fellow, Department of Epidemiology and Biostatistics, School of Medicine, University of California San Francisco.
2013-2014	Assistant Professor of Epidemiology, Department of Epidemiology and

2014-Present Biostatistics, School of Medicine, University of California San Francisco.
Assistant Professor of Epidemiology, Division of Epidemiology and Population Health, Department of Public Health Sciences, University of Miami.

Honors

2008-2009 Rackham International Student Fellowship to assist international students with outstanding academic and professional promise. University of Michigan.

2009-2010 Rackham One-Term Dissertation Fellowship. University of Michigan.

2009 Student Dissertation Workshop Award on Epidemiological Methods. 42nd Annual Society for Epidemiologic Research (SER) meeting, June 23, 2009 Anaheim, CA.

2010 Society of Epidemiologic Research (SER) Travel Scholarship to attend the 2010 Society of Epidemiologic Research Annual Scientific Meeting, Seattle, WA.

2010-2011 The Barbour Scholarship for women from the 'Orient' region and who are of high academic and professional caliber. Rackham Graduate School. University of Michigan.

2010 University of Michigan, Rackham Graduate Student Research Grant to participate in the Summer Biomarker Institute at the Center on Social Disparities and Health, Institute for Policy Research, Northwestern University, Evanston, IL.

2010 The Harburg Student Award for Excellence in Social Epidemiology. Center for Social Epidemiology and Population Health, School of Public Health. University of Michigan.

2011 RAND Summer Institute award to attend the Mini-Med workshop and the workshop on Aging. RAND Institute, Santa Monica, CA.

2012 2012 attendee of the US 10-Day Seminar on Epidemiology and Prevention of cardiovascular Disease. Tahoe City, CA.

2012 Award for "Excellence in Research on Alzheimer's and Related Disorders" from the Alzheimers' Association in Northern California and Northern Nevada.

2012 American Heart Association/American Stroke Association/ American Brain Foundation (AHA/ASA/ABF) Lawrence M. Brass, M.D. Stroke Research Postdoctoral Fellowship.

Professional Societies and Public Advisory Committees

Professional Memberships

2009-present Member: Society for Epidemiologic Research, Gerontological Society of America

2012-present Member: American Heart Association, International Society to Advance Alzheimer's Research and Treatment

AdHoc Reviewer: Social Science & Medicine, Journal of Aging and Health, Journal of Gerontology Social Sciences, Journal of Cross-Cultural Gerontology, PLoS ONE, American Journal of Epidemiology

Abstract Grader: International Stroke Association meetings 2012 and 2013.

C. Publications

1. Zeki Al Hazzouri A, Yaffe K. Arterial Stiffness and Cognitive Function in the Elderly. *J Alzheimers Dis* 2014; 42(0): S503-14. [PMCID in Process]
2. López L, Peralta Carmen, Lee A, Zeki Al Hazzouri A, Haan MN. Impact of Acculturation on Cardiovascular Risk Factors Among Elderly Mexican Americans. *Annals of Epidemiology* 2014; 24(10):714-9.
3. Zeki Al Hazzouri A, Haan MN, Deng Y, Yaffe K. Reduced heart rate variability is associated with worse cognitive performance in elderly Mexican Americans. *Hypertension* 2014; 63(1):181-7. PMC4045649.
4. Reis JP, Launer LJ, Terry JG, Loria CM, Zeki Al Hazzouri A, Sidney S, Yaffe K, Jacobs DR, Whitlow C, Zhu N, Carr J. Subclinical Atherosclerosis and Cognitive Functioning in Middle-Aged Adults: The CARDIA Study. *Atherosclerosis* 2013; 231(1):72-7. PMC3828555.

Development in Young Adults (CARDIA) study: The goal of this grant, offered by the Center for Aging in Diverse Communities (CADC), is to examine the role of life course socioeconomic factors on cognitive performance among black and white young to middle-aged adults. Role: PI.

8 KL2 TR000143-08 (Johnston) 9/06 – 6/16

NCATS

Clinical and Translational Science Institute (CTSI)

The goal of the CTSI KL2 career development award is to increase the number and quality of clinical and translational investigators skilled at leading multidisciplinary research teams. My role is as a KL2 Scholar, for which I receive salary support for 9 calendar months, plus research funds.

Zeki Al Hazzouri (KL2 scholar) 10/13 – 04/14

Effects of race and lifecourse cardiovascular risk on neuropsychiatric outcomes: Using data from four combined cohorts, the goal of this grant is to evaluate person-specific trajectories of cardiovascular risk factor development over the adult life course and their associations with the development and progression of depressive symptoms and cognitive change, comparing whites and blacks. Role: KL2 Scholar.

Lawrence M. Brass, MD Stroke Zeki Al Hazzouri (PI) 01/12 – 10/13

Research Fellowship

Cardiovascular risk factors for stroke and consequences of stroke among three racial/ethnic groups:

The goal of this Postdoctoral research fellowship grant is to examine subclinical measures of disease and risk factors for stroke (such as arterial stiffness and heart rate variability) in relation to cognitive function among three racial/ethnic older adult populations; Mexican Americans, African Americans and Non-Hispanic Whites. Role: PI.

Pilot Grant- CADC, UCSF Zeki Al Hazzouri (PI) 10/11– 06/13

Socioeconomic factors, metabolic and inflammatory biomarkers in relation to cognitive status in older

Mexican Americans: The goal of this grant, offered by the Center for Aging in Diverse Communities (CADC), is to examine the interplay between socioeconomic factors, inflammatory and metabolic biomarkers in predicting cognitive outcomes among older adult U.S. Hispanics. Role: PI.

Pilot Grant- Psychiatry Zeki Al Hazzouri (PI) 01/12 – 12/12

Department, UCSF

Arterial stiffness and depressive symptoms among white and black older adults: The goal of this grant is to examine whether arterial stiffness is associated with change in depressive symptoms over time and whether this association is different for whites and blacks. Role: PI.