

**Andreana Benitez, Ph.D.**

Dr. Benitez's research aims to characterize cognitive aging and to detect early signs of neurodegenerative disease, particularly Alzheimer's disease and Vascular Cognitive Impairment, using neuroimaging, neuropsychological and advanced psychometric methods. She has particular interest in diffusion MRI and biophysical modeling of diffusional kurtosis imaging parameters to quantify tissue-specific brain changes associated with aging and disease.

**John H. Denning, Ph.D.**

My research interests focus on various aspects of performance validity testing (PVT) across a variety of patient populations (mTBI, psychiatric disorders, Dementia/MCI). In particular, I am interested in developing/validating more efficient validity measures by utilizing shorter versions of freestanding PVTs (e.g., TOMM trial 1) in order to more efficiently and accurately screen for those exaggerating cognitive deficits. In addition, I have been exploring the statistical combination of embedded PVTs in order to improve the identification of invalid test performance patterns. A final aspect of my current research involves characterizing and quantifying the monetary cost of those exaggerating cognitive deficits during disability evaluations for mTBI in the VA healthcare system.

**Michael David Horner, Ph.D.**

One of Dr. Horner's main research interests is validity in clinical neuropsychological assessment. While the detection of invalid data on neuropsychological examination remains a key issue, he is also interested in the specific characteristics of individuals who provide noncredible data, and in the development of techniques to decrease the frequency of this occurrence. Another area of interest is traumatic brain injury, including investigations of psychiatric and other noncognitive factors in this population. Previous interns for whom Dr. Horner has served as preceptor have also conducted investigations on various other topics, using research databases available in the Ralph H. Johnson VA Medical Center's Neuropsychology Clinic and Memory Disorders Clinic. Dr. Horner has recently been funded (as Principal Investigator or Co-Investigator) by the National Academy of Neuropsychology, the Department of Veterans Affairs, and the National Institute of Mental Health.

**Lindsay M. Squeglia, Ph.D.**

Dr. Squeglia's research focuses on understanding the effects of alcohol and marijuana use on adolescent brain development, using structural and functional neuroimaging and neuropsychological testing, as well as creating effective treatment options for substance-using youth. She is funded by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) and the National Institute on Drug Abuse (NIDA).

**Travis H. Turner, Ph.D.**

Travis H Turner, PhD, is a neuropsychologist at the Ralph H. Johnson VAMC in Charleston, SC, and holds faculty appointments at MUSC in the departments of Psychiatry and Behavioral Sciences and Neuroscience, Neurology. Research efforts are split between two separate lines of investigation, Movement Disorders and Cognition and Nutrition, and include the following studies:

**Movement Disorders**

Title: Eagle Eye: Validation of computer-based saccade measures as a sensitive, reliable, and freely available biomarker for tracking subtle neurocognitive changes in Parkinson's disease.

Role: Principal Investigator

Sponsor: Michael J. Fox Foundation

Description: This study aims to validate a computer-based task to enable clinicians and researchers to measure saccades without the cost and complexity of traditional eye-tracking equipment.

Title: Atomoxetine Treatment for Cognitive Impairment in Parkinson's Disease (ATM-Cog).

Role: Co-Investigator

Sponsor: Michael J. Fox Foundation

Description: This is a RCT assessing the safety and efficacy of ATM for cognitive impairment in Parkinson's disease.

Title: Development and standardization of an iPhone-based application for quantitative measurement of the pupillary light reflex in healthy adults and patients with Parkinson's disease. (iDilate)

Role: Co-Principal Investigator

Sponsor: Chairs Departmental Research Foundation

Description: This aim of this project is to develop and standardize an application that would allow clinicians, researchers, and community-based safety personnel (e.g., police and EMS) to obtain quantitative measurements of the pupillary light reflex, a highly sensitive measure of neurological functioning.

Cognition and Nutrition

Title: Ranger Resilience and Improved Performance on phospholipid bound Omega-3's (RRIP-3).

Role: Co-Principal Investigator

Sponsor: Aker Biomarine.

Description: This is a RCT examining whether supplementation with phospholipid bound omega-3 improves resiliency to psychophysiological distress in a sample of 400 candidates going through Infantry Basic Officer Leadership Course (IBOLC) and subsequent Ranger training at Ft. Benning. In addition to grades from IBOLC and success/failure in Ranger training, a number of neuropsychiatric measures are included as outcome and mediator/moderator variables.

Title: Better Resiliency Among Veterans with Omega-3's (BRAVO)

Role: Co-Investigator

Sponsor: Congressionally Directed Medical Research Program.

Description: This RCT seeks to determine if dietary supplementation with omega-3 HUFAs reduces the risk for serious suicidal behaviors in an at-risk clinical population. Changes in cognitive processes specific to suicide risk are evaluated, including implicit associations, response inhibition and sustained attention.

**Mark T. Wagner, Ph.D.**

Neuropsychology at the Medical University of South Carolina is a section within the Department of Neurology involved in state-of-the-art neurological care, education and research. This is one of the two major training sites for Neuropsychology Interns and Fellows at the Charleston Consortium Psychology Internship Training Program. Dr. Wagner is a Professor of Neurology and has led this section for the past 15 years. Nationally MUSC Neurology is one of the larger academic group practices and has been rated in the top 25% nationally. Specific specialty divisions include Behavioral Neurology, Level 4 Epilepsy Center, Comprehensive Stroke and Cerebrovascular Center, Movement Disorder, Multiple Sclerosis Program, Neuro-oncology within the Gamma Knife Center, Sports Neurology, Neuromuscular, and others. Research programs include Alzheimer Research and Clinical Programs, Carroll Campbell, Jr Brain Bank, Center on Aging, Murray Center for Research on Parkinson Disease and Related Disorders, Translational Research Unit. Stroke, epilepsy and neuro-oncology have strong ties with Neurointerventional Radiology and Neurosurgery. Clinical neuropsychology cuts across all divisions and

provides a platform for educational and clinical training experiences, whether in the outpatient clinics or in the intraoperative interventional suite for traditional Wada or superselective mapping studies. Interns have protected 20% research time and there are ample opportunities for retrospective or prospective projects. Intensive 1:1 “bedside” teaching occurs in the clinical setting primarily with neuropsychology, but also includes a multidisciplinary venue with other neurology faculty, residents and medical students. Formal multidisciplinary educational opportunities exist with weekly Neurology Grand Rounds, weekly Refractory Epilepsy Conferences, weekly Tumor Board Conferences, and bimonthly Neuropsychology Seminars. The latter conference pulls together the community of neuropsychologists from MUSC, VA and the local community to share in education, research, and career developmental issues. Dr. Wagner has trained over 80 psychology interns and 15 post-doctoral residents. Former trainees have achieved leadership roles at many leading academic medical centers, graduate/undergraduate universities, NIH, private hospital settings, private practices, etc.