

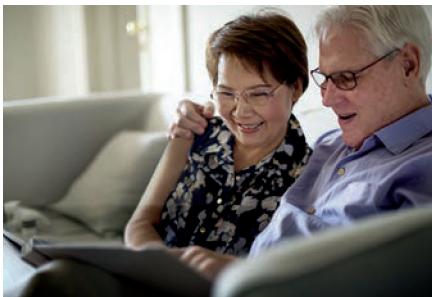
## Center for Cognitive Neuroscience and Aging (CNSA)

### The CNSA Launches Study of Second Generation Tau Agents for Early Detection of Alzheimer's disease (AD)

CNSA Director Dr. Loewenstein and his colleagues have been awarded a \$3.2 million NIH grant as well as a Florida Department of Health Grant to study new and advanced cognitive stress tests as they relate to early biomarkers of Alzheimer's disease (AD) such as amyloid tau deposition within the brain.

The scientific work that helped secure this grant, done by Dr. Loewenstein and the CNSA, renders the University of Miami the first academic institution in the state of Florida to use neuroimaging to detect the presence of tau protein in the brain and to link these findings to the earliest neurocognitive changes associated with AD and related disorders. Tau is a very important marker of neurodegeneration that is present in persons with incipient Alzheimer's disease. The CNSA is expected to expand its tau imaging capacity and its relationship to other biological markers of AD. These markers are related to the Cognitive Stress Test®, a new empirically designed clinical outcome measure developed at the CNSA to detect cognitive decline in preclinical Alzheimer's disease. This study proposes to validate its use for preclinical AD clinical trials in a well-defined cohort of Hispanic and non-Hispanic at-risk individuals, and compare its utility to the Alzheimer's Disease Assessment Scale (ADAS-Cog), the most widely used clinical outcome measure in AD clinical trials.

The CST is a computerized measure that builds upon the success of the



LASSI-L® with additional trials that better probe recovery from proactive semantic interference and failure to recover from retroactive semantic interference, an early cognitive marker of preclinical AD. It builds upon established collaborations between the UM Department of Psychiatry and Behavioral Sciences and the Department of Neurology, the McKnight Brain Institute, as well as the Departments of Radiology, Anesthesiology, Nuclear Medicine, Computer Science and the Bascom Palmer Eye Institute.



### UM Takes on Enhanced Role in the NIA-funded 1Florida Alzheimer's Disease Research Center

CNSA clinician-scientists are expanding their leadership in the 1Florida Alzheimer's Disease Research Center (ADRC), a consortium of Florida institutions whose mission is to help change the current understanding of Alzheimer's disease and related dementias from being incurable, inevitable and largely untreatable to a new reality in which these diseases are curable, preventable and treatable. For the ADRC renewal, CNSA Director Dr. David Loewenstein will serve in the role of Associate Director of the ADRC at-large, and the Clinical Core Leader at the University of Miami, which will focus on early detection of AD in minority subgroups. Drs. Elizabeth Crocco and Rosie Curiel Cid will play a major role in the Clinical Core as well. Dr. Curiel Cid is slated to lead the Outreach, Recruitment and Engagement Core for the ADRC at-large. Under the leadership of Dr. Tatyana Rundek in the Department of Neurology, the University of Miami and the Clinical and

Translational Science Institute (CTSI) will play a major role in the ADRC's Education Component, which focuses on training the next generation of scientist-clinicians in the field of Alzheimer's disease and related disorders. Dr. Loewenstein is currently Co-Leader of the 1Florida ADRC Clinical Core, and directs Scientific Project 2 with co-Leader Rosie Curiel Cid. Dr. Loewenstein states, "Addressing the challenges of AD in our culturally diverse, aging population is a national and international priority.

I am so pleased that UM and its CNSA in collaboration with many other UM Departments and Institutes have the opportunity to advance state-of-the-art research in AD and related disorders." This will expand the infrastructure for UM to secure additional NIH funding for program projects, center grants, RO1s and training opportunities for the next generation of clinical and translational scientists.

### LASSI-L®

**The Lowenstein-Acevedo Scales for Semantic Interference and Learning, or LASSI-L®, is a cognitive stress test akin to an exercise electrocardiogram. It is highly related to biological AD changes in the brain before the emergence of clinical symptoms such as amyloid load (amyloid are complex proteins deposited in tissues or organs), fMRI functional connectivity, and loss of volume and cortical thickness in the brain. Early detection leads to a better understanding of the pathogenesis of AD, preventive and earlier interventions, and helps more effectively assess participants who may benefit from these newer interventions.**

