



### **Postdoctoral Scholar Receives ASU ISSR Funding**

Mild cognitive impairment (MCI), recognized as a clinical state between normal cognitive aging and dementia, is often a predecessor to neurocognitive disorders and subsequent diagnosis, such as Alzheimer's disease. Progression of MCI is not guaranteed; therefore, development of interventions aimed at reducing cognitive decline are critical.

One of the risk factors associated with MCI is circadian rhythm misalignment. Notably, a modifiable regulator of circadian rhythm misalignment and metabolic health is the timing of food intake, or the time(s) of day during which an individual consumes calories. Intermittent fasting, specifically prolonged nightly fasting, has been shown to improve metabolic risk factors, and further in animal models, to improve brain-derived neurotrophic factor (BDNF). Prolonged nightly fasting also ensures that food intake occurs in-sync with optimum circadian physiology. Recognized as a biomarker of MCI, BDNF is a protein found in the brain that is easily detectable in human serum. Higher levels of BDNF are significantly associated with reduced rate of cognitive decline and may indicate improvements in MCI.

ASU's Institute for Social Science Research has awarded a seed grant to Dr. Dara James, CHPDP postdoctoral scholar, for a project titled "Prolonged nightly fasting in older adults with mild cognitive impairment (MCI): A pilot study exploring changes in neurocognitive function." The intervention aims to test whether prolonged nightly fasting will improve cognitive function and increase BDNF in older adults with MCI, and further, to explore how prolonged nightly fasting may potentially improve cardiometabolic risk factors.

"We're excited for the opportunity to conduct this innovative research and hopefully improve cognitive function, cognitive performance, and well-being among those living with MCI," stated Dr. James.

ASU collaborators include Drs. Linda Larkey, David Coon and Molly Maxfield, of Edson College, and Dr. Dorothy Sears, of the College of Health Solutions. Results from this grant will inform the design of a larger randomized controlled trial. Congratulations to this multidisciplinary team!