

NEW Brain Aging Pilot Project Award Program -- 2023

Background:

Early evidence indicates an association between emotional (evaluative and experienced) well-being (EWB) and underlying brain processes, and that those processes change with both normal and pathological brain aging. However, the nature of these associations, the mechanisms by which EWB and its component domains change with brain aging, and how those changes may be associated with common neuropathologies like Alzheimer's disease and related dementias (AD/ADRD), are largely unexplored. The objective of the Network for Emotional Well-being and Brain Aging (**NEW Brain Aging**, U24 AG072701) is to address mechanistic research on the role of emotional well-being in health, identifying and testing neurobiological mechanisms by which brain aging influences EWB and how EWB may impact risk for and progression of AD/ADRD. Synthesizing human and animal literature, our premise is that relationships between EWB and AD/ADRD are bidirectional – normal and pathological changes in aging brain influence EWB and EWB contributes to brain health and illness, such as AD/ADRD.

Objectives of the Pilot Project Award Program:

NEW Brain Aging Pilot Project Awards are intended to develop novel research infrastructure and projects that will advance the science of EWB and brain aging in specific areas requiring interdisciplinary partnerships or collaborations. They will serve two primary purposes. First, we seek to expand the quality, quantity, and translational impact of research into the mechanistic relationships between brain structure and function on one hand and EWB in older adults on the other. Second, we intend to engage investigators new to the study of brain aging and EWB – both those who are early in their careers and have yet to define a topic area for their programs of study as well as investigators who have established research programs in other areas that they can productively extend to include NEW Brain Aging topics.

The 2023 Pilot Project Award Program invites applications for 1-year awards up to \$50,000 total cost to provide project support for investigators. We are particularly interested in two themes: (1) using a social neuroscience approach to the study of brain and positive affect that may implicate future research on aging and EWB; (2) AD/ADRD pathophysiology (see biological research framework of AD/ADRD (Jack et al., 2018)) in relation to EWB.

A variety of activities may be conducted within the scientific scope of this FOA. These include, but are not limited to, the following:

- Infrastructure development designed to stimulate and support subsequent studies of EWB and brain aging in human, animal, and cross-species research. Examples include:
 - Innovative brain imaging data acquisition and processing pipelines suitable for examining brain imaging data from older adults and/or types of older animals;
 - Cross-species comparable behavioral and/or physiological task paradigms or measures for understanding EWB in older humans and animals;
 - Novel intervention paradigm development addressing EWB in older adults with and without AD/ADRD. Following the [NIH Stage Model](#) is preferred.
- Testing of a theoretical model in aging animals or humans that includes quantifiable mechanisms of action whereby EWB is targeted (and validly measure those mechanisms)

- Study of aging and AD/ADRD related phenotypes in humans and animals, focusing on EWB's causal effect on brain using rigorous quantitative-computational methods

Timeline:

Application due: 2/1/2023 by 11:59PM (CT)

Announcement of Recipients: 02/21/2023

Project start data (estimated): 03/10/2023 (IRB approval is required to receive the NOA)

Final report of the funded study: 02/28/2024

Presentation of the pilot study: Quarterly meeting of New Brain Aging, 2024.

Eligibility:

- Postdoc fellows and faculty in any rank.

Amount and Period of Support:

1. Funding amounts: up to \$50,000 total cost.*

* The NEW Brain Aging Network does not fund extra indirect costs. All funds must directly support the proposed research.

2. Studies are limited to 12 months
3. Allowable costs
 - Regular salaries and fringe benefits of the postdoctoral fellows and research project staff members (faculty investigators should rely on other resources to fund their effort)
 - Research supplies, equipment, and other costs directly related to the proposed study (eg, subject reimbursement, survey administration)
 - Dataset and data management fees
 - Publication costs
 - Consultation fees
4. Grant funds may not be used for:
 - Indirect/F&A costs
 - Travel
 - Tuition
 - Large equipment
 - Secretarial/administrative costs
 - Construction, space modification
 - Office equipment

Application submission process:

Applicants should submit the documents as a single PDF file in the following order. Application should be single-spaced, with at least 0.5-inch margins, and use 11- or 12-point Arial or Times fonts:

1. 1-page cover letter that designates investigators and their affiliations, abstract (max 250 words) and keywords

2. 3 pages, including specific aims and research strategy. Research strategy should include significance, innovation, and approach
3. A document of human subject protection plan or vertebrate animals section
4. Resource sharing plan
5. Budget and Budget justification
6. NIH biographical sketches of key personnel

PIs of projects selected for funding must provide all necessary documentation (including Human Subjects Protections, Data and Safety Monitoring) to submit for NIH approval prior to initiating the project as well as documentation of necessary regulatory approvals from their own Institutional Review Board before starting the research. After verification of NIH approval, the administrative assistant will prepare a formal Notice of Award, stipulating terms and conditions that will be shared with each PI's departmental administrator.

Application should be submitted by 2/1/2023 by 11:59PM (CT) to Sarah Amy Fitzgerald Therrien stherrie@stanford.edu with subject on "NEW Brain Aging pilot award application (PI name)."

Application Evaluation Process:

Each application will be reviewed by at least three reviewers identified by the NEW Brain Aging's national pool of affiliated investigators and supplemented as needed by content experts appropriate to each individual application. Standard NIH practices for grant review will be followed. Key review criteria will include significance, relevance to NEW Brain Aging mission and goals, environment and investigator qualifications, innovation, approach (including feasibility, rigor, reproducibility), and likelihood of future funding.

Additional Expectations:

Grantees are expected to submit:

1. A two-page final report that specifies study outcomes; new collaborations established; meeting abstracts/presentations; publications/manuscripts submitted; grant applications submitted and awards funded.
2. Grantees may also be asked to provide updates on their work related to brain aging and EWB periodically following completion of the grant.

Grantees are also requested to present the results of their work at pertinent NEW Brain Aging meetings.

Any questions should be addressed to Sarah Amy Fitzgerald Therrien stherrie@stanford.edu

Reference

Jack, C. R., Jr., Bennett, D. A., Blennow, K., Carrillo, M. C., Dunn, B., Haeberlein, S. B., . . . Contributors. (2018). NIA-AA Research Framework: Toward a biological definition of Alzheimer's disease. *Alzheimers Dement*, 14(4), 535-562. doi:10.1016/j.jalz.2018.02.018