AITC | Artificial Intelligence and Technology Collaboratory

Funding Opportunity Number: **AITC-ARA-27-001**

Artificial Intelligence and Technology Collaboratories (AITC)

Annual National Research Award Competition

Request for Applications (RFA)

Release Date: **October 19, 2026**

The Artificial Intelligence and Technology Collaboratories (AITC) for Aging Research invite letters of intent (LOIs) for the 2027 cycle of the AITC Annual National Research Award Competition.

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01 Overview

Funded by the National Institute on Aging (NIA), the competition supports research projects that develop and implement Artificial Intelligence (AI) and technology approaches to improve the health and well-being of older adults, including people living with Alzheimer's disease and Alzheimer's disease-related dementias (AD/ADRD) and their caregivers. At least 80% of research funds are allocated to AD/ADRD projects, while at most 20% will be allocated to projects on other aging research topics.

Funding

	RESEARCH PROJECTS	
	Non-Clinical Trial	Clinical Trial
Budget	Up to **$200,000** direct costs over the project period	Up to **$300,000** direct costs over the project period
Project period	up to 24 months	up to 24 months
Number of Awards	Approximately 60 across all AITCs	Up to 5 (1 per AITC)
Indirect costs	Negotiated facilities and administrative (F&A) rate, or 10% de minimis if none	Negotiated facilities and administrative (F&A) rate, or 10% de minimis if none

Key Dates

October 19, 2026	RFA released
November 3, 2026	LOI Informational Webinar 4:00–5:00 p.m. ET | 3:00–4:00 p.m. CT 2:00–3:00 p.m. MT | 1:00–2:00 p.m. PT
November 16, 2026	**LOI due** 5:00 p.m. Pacific Time
December 15, 2026	Invitations to submit full application
January 22, 2027	**Full application due** 5:00 p.m. Pacific Time
Spring 2027	Finalists notified; awards pending NIA approval
Summer 2027	Anticipated project start

02 Scope

The competition funds cutting-edge AI and technology approaches to advance aging and AD/ADRD research. Projects may develop a new AI-enabled tool or technology; adapt, integrate, or strengthen an existing technology for a new aging or AD/ADRD application; or evaluate a technology's feasibility, usability, effectiveness, safety, or implementation with older adults, caregivers, clinicians, or health systems.

The competition welcomes AI and technology projects across all of NIA's scientific areas: aging biology, neuroscience, geriatrics and clinical gerontology, and behavioral & social research. Examples include computational biology and multi-omics analysis of aging and AD/ADRD, AI-driven neuroimaging, clinical decision support, sensors and devices for independent living, and tools for caregivers.

Each AITC has its own distinct research priorities as described below.

03 Participating AITCs

Each AITC funds projects within its own focus areas and offers resources to its awardees. Carefully review all five to determine the best match. All AITCs use the same eligibility rules, budget limits, deadlines, and review criteria as stated in this RFA.

AITC Name	Funding Institution	Contact Information
Duke AITC-AIGE	Duke University	AITC Website: aitc.duke.edu Juliessa Pavon Email: aitc@duke.edu
Johns Hopkins AITC	Johns Hopkins University	AITC Website: aitc.jhu.edu Ann Wiker Email: awiker@jhu.edu
Stanford University AITC	Stanford University	AITC Website: suaitc.stanford.edu Ehsan Adeli Email: suaitc-admin@stanford.edu
APEX-ADRD Collaboratory (UCLA)	University of California, Los Angeles	AITC Website: apexadrd.healthsciences.ucla.edu John Mafi Email: apexadrd@mednet.ucla.edu
MassAITC	University of Massachusetts Amherst	AITC Website: massaitc.org David Paquette Email: massaitc@umass.edu

The AITC Coordinating Center (AITCC) at Yale University, in partnership with Indiana University, coordinates one shared application, review, and award process for all five centers.

AITC Priority Topics

Duke AITC-AIGE

01 **AI performance, reliability, and failure analysis**	Development and evaluation of AI tools, foundation models, AI agents, digital health technologies, and clinical decision-support systems designed to perform reliably across older adult populations, care settings, and real-world conditions. Areas of interest include robustness, reliability, validation, performance monitoring, and failure analysis.
02 **Trustworthy AI across the deployment lifecycle**	Methods and technologies that support safe, transparent, and continuously monitored AI systems throughout the deployment lifecycle. Areas of interest include AI governance, auditing, fairness assessment, safety surveillance, explainability, human oversight, and post-deployment monitoring.
03 **Methods for multimodal aging data**	AI approaches that leverage clinical, imaging, biomarker, omics, sensor, social, and real-world data to improve prediction, diagnosis, decision support, scientific discovery, and intervention development for aging and AD/ADRD. Areas of interest include multimodal learning, longitudinal modeling, foundation models, and integration of complex aging datasets.
04 **Validation, harmonization, and transportability**	Approaches that improve the portability, robustness, and scalability of AI technologies across populations, institutions, technologies, and care environments. Areas of interest include cross-cohort validation, data harmonization, transfer learning, model transportability, domain adaptation, and methods that improve generalizability performance.
05 **Real-world implementation and continuous learning**	Studies evaluating and improving AI technologies in real-world clinical, home, community, and long-term care settings. Areas of interest include workflow integration, implementation science, continuous learning systems, human-AI collaboration, adoption, effectiveness, safety, and long-term impact on older adults, caregivers, clinicians, and health systems.

JOHNS HOPKINS AI & TECHNOLOGY COLLABORATORY for AGING RESEARCH

Johns Hopkins AITC

01 **Cognitive and physical health**	Trustworthy AI technologies for detecting, monitoring, preventing, or managing cognitive decline, dementia, frailty, functional limitations, and other aging-related conditions.
02 **Independent living and caregiving**	Sensors, wearables, robotics, assistive technologies, agentic AI, and digital tools supporting mobility, safety, daily activities, social connection, and caregivers.
03 **Clinical care and decision support**	AI-enabled assessment, personalized care, multimorbidity management, clinician workflows, and care coordination across home, community, and health care settings.
04 **Biology of aging**	AI and machine learning approaches to molecular, cellular, and physiological changes with aging, including analysis of omics, imaging, and other biological data to identify mechanisms, biomarkers, and potential intervention targets.
05 **Translation and adoption**	Usability, clinical validation, implementation, and commercialization of accessible technologies informed by older adults, caregivers, and clinicians.

Stanford AITC
Precision Health & Intervention in Aging & ADRD

Stanford University AITC

01 **AI-guided intervention design**	AI, design, and technology approaches that inform intervention decisions, including target and component selection, dose, timing, adaptation, and delivery.
02 **Digital monitoring and mechanistic modeling**	Digital tools and models that link cognition, mobility, and daily activities to intervention mechanisms, target engagement, and response.
03 **Adaptive personalized technologies**	Health technologies that adjust support as older adults' needs and abilities change, designed for real-world use.
04 **Responsible translation**	Translation of precision interventions into real-world care, with attention to AI safety, privacy, accessibility, and human oversight.
05 **Computational biology and neuroscience of aging**	Computational approaches to identify mechanisms and intervention targets in aging and AD/ADRD.

UCLA Health

APEX-ADRD Collaboratory (UCLA)

01 **Real-world trials and evaluation of AI and technology**	Pragmatic and randomized trials of AI tools and technology in clinical, home, and long-term care settings, including secondary analyses of completed trials, to assess effectiveness, safety, fairness, and costs, including which populations benefit most.
02 **Model development and validation across settings, EHR vendors, and subgroups**	Development and validation of AI models for risk prediction, early detection, and clinical decision support, including multimodal and large language models, with attention to fairness, generalizability, and performance across health systems, electronic health record platforms, and differing populations.
03 **AI for emerging neurotechnology, wearables, and sensing**	Machine learning applied to non-invasive brain stimulation and neuromodulation (transcranial and sensory-driven stimulation), wearables and sensors, and remote monitoring, including digital biomarkers of cognition, gait, sleep, and daily activity, personalization of stimulation, identification of who benefits in device trials, and caregiver support, evaluated for real-world effectiveness, safety, and fairness.
04 **AI for the biology of aging and ADRD**	Machine learning approaches on multi-omics, neuroimaging, biomarker, and other biologic data to identify mechanisms, aging clocks, and biomarkers of aging and neurodegeneration, with a path toward clinical use.
05 **Safe and fair use after deployment**	Continuous monitoring of deployed AI for drift, safety, fairness, and impact on patients, caregivers, clinicians, and health systems. Particular emphasis on older adults with multimorbidity or polypharmacy, or populations facing barriers to care or digital access.

MassAITC
Massachusetts AI and Technology Center for Connected Care in Aging & Alzheimer's Disease

MassAITC

01 Development and implementation of novel device technologies (e.g., wearables, mobile and wireless sensors, including biosensors) and AI models to support monitoring and prediction of health, cognition, and overall well-being for older adults and individuals with AD/ADRD, with a focus on approaches that can be deployed outside of the clinic.

02 Development and implementation of AI-enhanced tools for use by formal and informal caregivers of older adults and individuals with AD/ADRD, such as virtual assistants, care coordination and navigation tools, decision support tools, real-time care coaching and training tools, fraud and financial exploitation detection tools, and emotional and social support tools.

03 Development and implementation of AI-enhanced devices and apps (e.g., smart glasses, mobile devices, robotics, AI agents) for supporting memory, cognition, communication, mobility, and activities of daily living.

04 Development and implementation of novel device technologies and AI models that enable the early detection of cognitive decline and/or the identification of specific dementia subtypes, with a focus on approaches that can be deployed outside of the clinic.

05 Development and application of foundation models and other AI approaches to advance the fundamental understanding of the biology of aging, including approaches that advance the mechanistic understanding of AD/ADRD.

04 Award Types

The competition includes two types of research projects: Non-Clinical Trial or Clinical Trial. All AITCs accept Non-Clinical Trial projects.

Research Project Awards

1 Non-Clinical Trial

a. Up to **$200,000** in direct costs; project period up to 24 months.

b. Eligible projects: any project that does not meet the NIH definition of a clinical trial. This includes projects without human subjects, such as computational, data, or device development work, and human subjects research such as usability and feasibility testing.

2 Clinical Trial

Trials of behavioral interventions, including technology-delivered interventions, should follow the NIH Stage Model where it applies.

a. Up to **$300,000** in direct costs; project period up to 24 months.

b. Eligible projects: projects that meet the NIH definition of a clinical trial.

Human Subjects Research (both award types)

All non-exempt human subjects research must be reviewed by a single institutional review board (sIRB) identified by the AITC.

Not sure how to classify your project?

Refer to National Institutes of Health (NIH)
Human Subjects Research Decision Tool and Clinical Trial Decision Tool.

Clinical trials carry additional NIH requirements during the award, including a data and safety monitoring plan, ClinicalTrials.gov registration, and progress and safety reporting through your AITC. Plan your budget and timeline for these. If your trial needs an FDA investigational device exemption (IDE) or investigational new drug (IND) application, state its status in your LOI.

05 Eligibility

U.S. organizations of all types may apply:

- Colleges, universities, and medical or nursing schools
- Health care systems and nonprofits
- For-profit companies, including small businesses and startups
- State, local, and tribal governments and eligible federal entities

Additional Requirements:

- The applicant organization must have a Unique Entity ID (UEI) by the time of award.
- Budgets may not include subawards to foreign organizations.*

**International collaborators and foreign consultants not funded by the award are allowed.*

Not Eligible

- Non-U.S. organizations and non-U.S. components of U.S. organizations.
- Projects solely focused on market research, such as focus groups or surveys.*
- Drug discovery, development, or target identification, except bioinformatics-based approaches
- Incremental enhancements, new indications, or new patient populations for technologies or platforms already supported by NIH Small Business Innovation Research (SBIR) or Small Business Technology Transfer (STTR) funding.
- Substantially similar or overlapping applications submitted to more than one AITC.
- Projects that substantially overlap with work already funded by an AITC, including prior a2 pilot awards.

**User testing and engagement of older adults, caregivers, or clinicians as part of technology development is allowed.*

06 How the competition works

Submit LOI here

by **November 16, 2026, 5:00 PM** Pacific Time

An applicant may submit more than one LOI if each describes a distinct project.

1. Submit your LOI through the AITCC central portal by the LOI deadline.
2. Select one AITC when you submit your LOI. It cannot be changed after submission.
3. Your selected AITC will review your LOI for responsiveness to this RFA, relevance to aging or AD/ADRD, the role of AI or technology, and fit with the AITC's priorities. LOIs will not be scored.
4. Selected applicants will be invited to submit a full application. Full application instructions and templates will be provided.
5. Full applications must be submitted by the specified deadline. Scientific reviewers will be assigned by your selected AITC and will review them using shared criteria.
6. Each AITC will identify finalists and will recommend them to NIA for funding. NIA must approve each project before an award is made.
7. Awardees are funded through a subaward from the selected AITC's institution.

07 Letter of Intent (LOI)

Project statement: 2 pages.

Follow NIH criteria for font, line spacing and margins. The LOI may include a bibliography that does not count toward the page limit.

The project statement should describe:

- The problem and its relevance to aging or AD/ADRD.
- The proposed AI or technology approach and its Technology Readiness Level.
- Project aims and expected outcomes.
- Path to translation, such as commercialization, adoption, or follow-on funding.
- For projects recruiting study participants: a list of recruiting sites and expected capacity.
- For clinical trials: population, intervention, primary outcome, and planned sample size.

In addition to the project statement, complete the following in the application portal:

- Enter the project title, focus, and award type.
- Select your primary AITC.
  - You may choose only one, and it cannot be changed after submission.
- List the Principal Investigator (PI) and all key personnel.
  - Upload an NIH biosketch or CV/resume for the PI and each key personnel member. Limit 5 pages per person.
- Estimated direct costs and project duration.
- Indicate whether the project involves human subjects and whether it meets the NIH definition of a clinical trial.
- Provide demographic information (optional).

Your selected AITC will decide whether to invite a full application based on:

- Eligibility and responsiveness to this RFA
- Fit with the AITC's priority research areas and themes
- Relevance to aging or AD/ADRD
- AI or technology as a core part of the project
- Scientific approach
- Significance and innovation
- Feasibility within the budget and project period

08 Additional Information

- Frequently Asked Questions (FAQs): aitcc.ai/faq
- LOI Informational Webinar: aitcc.ai/events/2026-11-03-aitcc-loi-webinar
- Full application information: aitcc.ai/full-application
- Contact us: aitcc@yale.edu

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AITC
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Technology Collaboratory

AITC-AIGE
Duke Artificial Intelligence and
Technology Collaboratory for Aging:
Governance and Evaluation

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