Artificial Intelligence/Machine Learning Consortium to Advance Health Equity And Researcher Diversity

AIM-AHEAD Program for AI Readiness (PAIR)

Cohort II

Informational Webinar

November 18th, 2024, 5:00PM EST

AIM-AHEAD Coordinating Center is funded by NIH, Agreement No.: 1OT2OD032581-01

Welcome to AIM-AHEAD

Introduction

The Artificial Intelligence/Machine Learning Consortium to Advance Health Equity and Researcher Diversity (AIM-AHEAD) program was established by the National Institutes of Health (NIH).

Purpose

The purpose of AIM-AHEAD is to enhance diversity in the field of artificial intelligence and machine learning (AI/ML), with emphasis on reducing health disparities and promoting health equity. This will be achieved by engaging in a fair, equitable, and transparent process of building a consortium of AI/ML partners to promote health equity and an inclusive and diverse workforce.

Consortium Building

Many communities have untapped potential to contribute new expertise, data, recruitment strategies, and cutting-edge science to the AI/ML field. The AIM-AHEAD Coordinating Center (A-CC) was created to increase participation and engagement through mutually beneficial partnerships, stakeholder engagement, and outreach to advance health equity.

AIM-AHEAD Coordinating Center is funded by NIH, Agreement No.: 1OT2OD032581

The AIM-AHEAD Coordinating Center

Introduction

The A-CC consists of four cores, focused on various initiatives to achieve AIM-AHEAD's mission. The cores include institutions and organizations that have a mission to serve underrepresented or underserved groups impacted by health disparities.

Leadership Core

Lead, recruit, and coordinate the AIM-AHEAD Consortium

Data Science Training Core

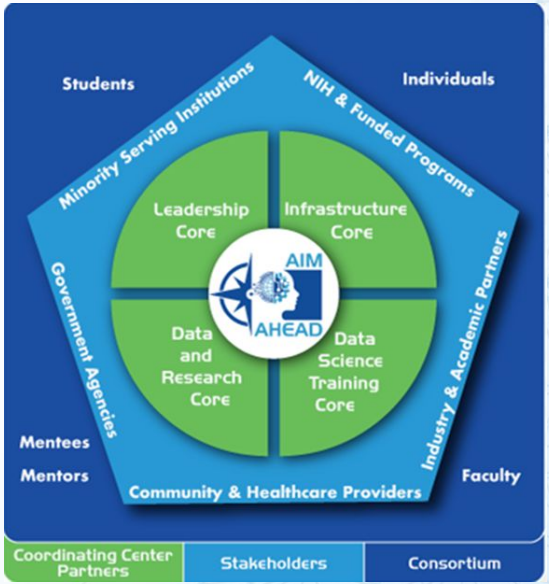
Assess, develop, and implement data science training curriculum

Data and Research Core

Address research priorities and needs to form an inclusive basis for AI/ML

Infrastructure Core

Assess data, computing, and software infrastructure to facilitate AI/ML and health disparities research



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AIM-AHEAD Connect

- Join diverse discussion groups
- Connect with experts
- Access your courses and the entire AIM-AHEAD Course Catalog
  https://courses.aim-ahead.net/course/catalog
- Access funding opportunities
- Access to the Job Board

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NIH AIM-AHEAD Leadership Team

Samson Gebreab
Program Lead, AIM-AHEAD
Office of Data Science Strategy,
NIH

Eva Lancaster
Program Director
Office of Data Science Strategy,
NIH

Emir Khatipov
Program Director
Office of Data Science Strategy,
NIH

Christian Evans
Program Specialist, AIM-AHEAD
Office of Data Science Strategy,
NIH

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PAIR Leadership Team

Jamboor Vishwanatha, PhD
Contact PI

Gordon Gao, PhD
Co-Director

Toufeeq A. Syed, PhD
Co-Director

Harlan Jones, PhD
Co-Director

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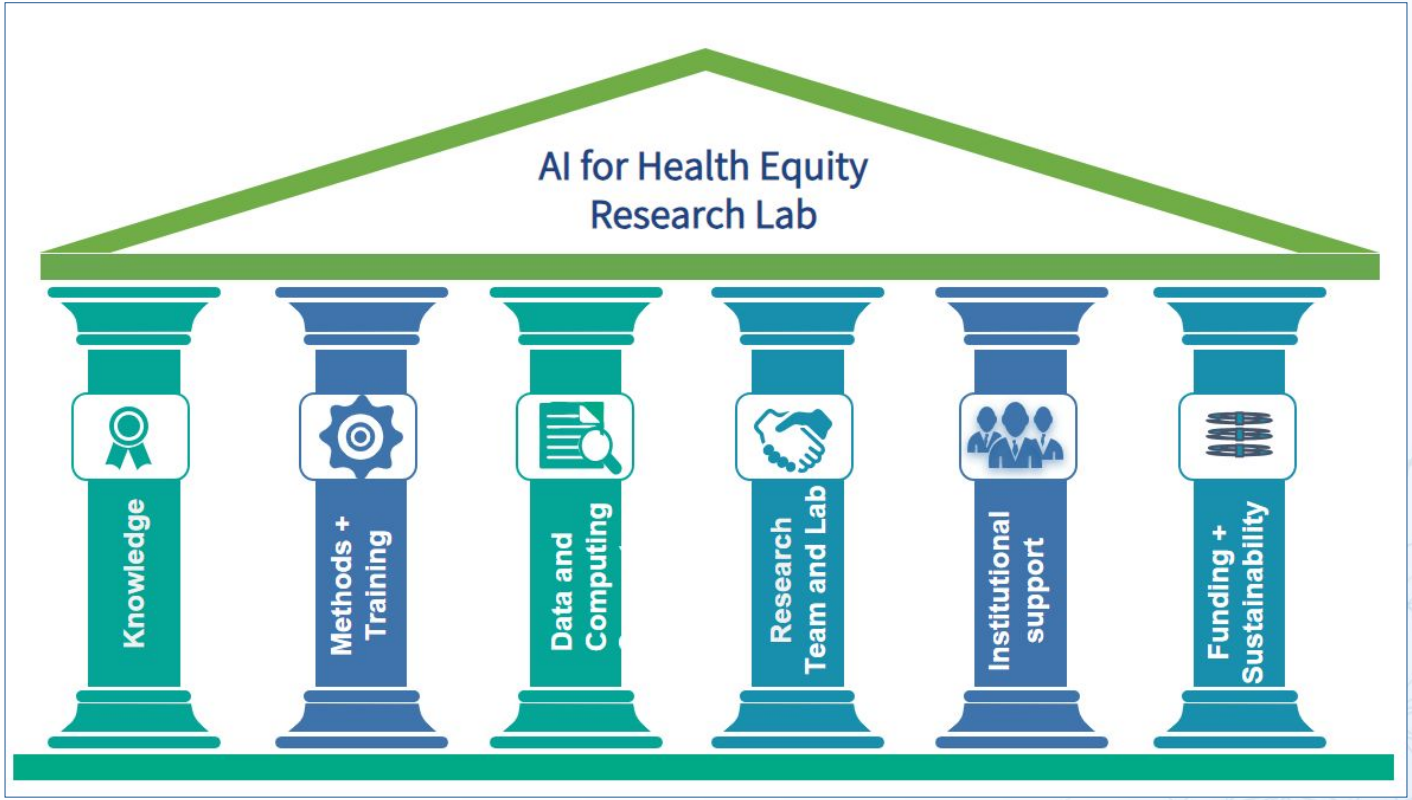
The Future is Now



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Challenges to Jump Start AIHE Research

How to jumpstart AI/ML+Health Equity research and sustain these projects?

Lack of AI knowledge

Unclear of AI and health equity research frontier

Difficult to scope the project

Not sure of data readiness

Lack of computing capacity

Concerns on trust and safety

Worried about long term continuity

AIM-AHEAD's Program for AI Readiness (PAIR) is here to help!

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Program Purpose

Purpose

The central goal of the AIM-AHEAD PAIR Program is to build capacity for low-resource organizations new to AI and ML in health equity. Through comprehensive AI training, research mentorship with experts, and grant writing support, awardees can establish an AI health equity research lab at their institution.

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PAIR Two-Phase Model

Phase 1

Institutional Teaming/Training

Up to 15 institutions will be selected
Up to $100K each
Bond with AIM-AHEAD resources
Training in AIHE/Team science/Grant writing
Build the team, refine the research ideas

Phase 2

AI Health Equity Research Lab

Up to 10 teams will be funded
Up to $150K each
Establish AI Health Equity Research Lab
Carry out exploratory research
Ready for R01/R21 submission towards long-term sustainability

Outcomes

Scalability

Awardees serve as mentors for future AIM-AHEAD stakeholders
Future opportunities for undergrad and grad students to do research
Future AIM-AHEAD engagement and PAIR ambassadors

AIM-AHEAD Resources	AI for Health Equity	Grant Writing	Team Science
Cores/Hubs/Offices Data sets and Computing	Research Proposals and Dissemination Conference Posters	NIH R21 Style Proposals, Feedback + Critique (Phase 1) NIH R01/R21 Proposals (Phase 2)	Soft Skill Development Networking with National Leading Labs and Experts

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Program Benefits

Award

Up to $100,000 grant for each institution receiving a Phase 1 award.

Up uo $150,000 grant for each institution receiving a Phase 2 award.

Support

- Guidance from PAIR faculty, experts, and grant writing coaches
- Access to AIM-AHEAD data resources
- Consultations with AIM-AHEAD research support offices
- Support to develop R01/R21 application

Training

Training on:

- Health Equity Essentials
- AI Essentials
- AI Ethics & Fairness
- Team Science: Build an AI Lab for Health Equity
- Grant Writing Essentials
- AIM-AHEAD Connect Platform Training

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PAIR Program Goals

Goal 1

Onboard to AIM-AHEAD PAIR Program

AIM-AHEAD Connect registration, Kickoff, Orientation, Hub reporting

Goal 2

Teaming and institutional support

Develop multidisciplinary team at your institution

Goal 3

Complete all PAIR training

Complete AI for health equity skills training, team science training, grant writing training

Goal 4

Collaborate with experts & program stakeholders

Participate in meetings, seminars, and networking events

Goal 5

Establish AI for health equity research lab

Develop AI/ML health equity project

Prepare NIH R01 & R21 grant proposal submission

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Training Overview

Awardees will gain insights into AI methodologies to improve health equity. Participants will also receive training in research proposal development, funding strategies, and effective team science approaches.

Grant Writing Training

AIHE Training

Team Science Training

Expert/Coach-Led Webinars

Networking Opportunities

Mock Reviews
Think-A-Thons
AIM-AHEAD Conference

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Training Overview - AIHE

PAIR AIHE Training is designed to provide awardees with foundational knowledge and skills needed to navigate the intersection of artificial intelligence and health equity.

Through a carefully crafted curriculum of expert-led seminars, networking events, and innovation modules, awardees will gain insights into cutting-edge AI methodologies while understanding how to apply them ethically and inclusively in healthcare research, fostering a new generation of experts committed to advancing equitable health outcomes through innovative technologies.

Deploying Explainable AI

Natural Language Processing

AI for Precision Medicine

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Training Overview - Team Science

PAIR Team Science Training is tailored to equip awardees with the essential knowledge and skills required to establish a robust AI for health equity research lab.

This is achieved through a meticulously designed curriculum featuring expert-led seminars and virtual training sessions conducted by AI-Lab Co-Directors. Awardees will acquire the expertise needed to construct the framework for pioneering research within their institutions and broader communities while gaining insights on managing multidisciplinary teams, fostering external collaborations, and securing funding for future initiatives.

Team Building for AI Research Labs

Expanding Your Research Lab: Networking & Collaboration

AI Research Lab Sustainability

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Training Overview - Grant Writing

PAIR Grant Writing Training aims to improve grant infrastructure and writing skills to advance the long-term sustainability of institutions' research programs.

With hands-on guidance and feedback from grant writing instructors and coaches, awarded teams will improve their understanding of institutional structures and timelines, funding development, proposal development, budget development, the submission process, and the after-submission process. By the end of Phase 2, awarded teams will submit their AI for health equity research proposal to National Institutes of Health (NIH) for research funding, if applicable.

Crafting Effective Specific Aims

Developing Effective Research Strategy

Responding to Reviewers

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PAIR Experts – Cohort 1

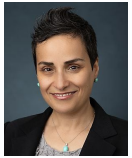
Each awarded team will be assigned to a **PAIR Cluster**. Clusters include one **PAIR faculty lead**, three **PAIR experts**, and one **grant writing coach**

Dr. Jasjit S. Ahluwalia
Brown University

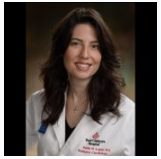
Dr. William Brown III
University of California San Francisco

Dr. Jun Deng
Yale University

Dr. Arya Farahi
University of Texas at Austin

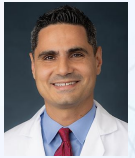


Dr. Elham Hatef
Johns Hopkins University



Dr. Keila Lopez
Baylor College of Medicine

Dr. Xinghua Lu
University of Pittsburgh



Dr. Nestoras Mathioudakis
Johns Hopkins Medicine

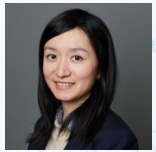
Dr. Jeffrey Scott McCullough
University of Michigan Ann Arbor

Dr. Abu Mosa
University of Missouri Columbia

Dr. Chirag Patel
Harvard Medical School

Dr. Dakuo Wang
Northeastern University

Dr. Wei-Qi Wei
Vanderbilt University Medical Center



Dr. Yiye Zhang
Cornell University

Dr. Xiaopeng Zhao
University of Tennessee-Knoxville

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PAIR Grant Writing Coaches – Cohort 1

Each awarded team will be assigned to a **PAIR Cluster**. Clusters include one **PAIR faculty lead**, three **PAIR experts**, and one **grant writing coach**

Dr. Riyaz Basha
University of North Texas Health Science Center

Dr. Chellu Chetty
Savannah State University

Dr. Marc Cox
University of Texas at El Paso

Ms. Mary Louise Healy
Johns Hopkins University

Dr. Paul Juarez
Meharry Medical College

Dr. Edward Krug
Medical University of South Carolina

Dr. Jamie Rubin
Columbia University

Dr. Roland Thorpe
Johns Hopkins Bloomberg

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Cohort 1 PAIR Clusters

CLUSTER 1

Dr. Angie Liu
PAIR FACULTY

Dr. Arya Farahi
University ofTexas at Austin

Dr. Xiaopeng Zhao
University of Tennessee-Knoxville

Dr. Jun Deng
Yale University

University of Alaska Fairbanks

Southern University and Agricultural & Mechanical College

Hawai'i Pacific University

CLUSTER 2

Dr. Anjalie Field
PAIR FACULTY

Dr. Chirag Patel
Harvard Medical School

Dr. Jasjit S. Ahluwalia
Brown University

Dr. Wei-Qi Wei
Vanderbilt University

Texas A&M University Corpus Christi

Sam Houston State University

Johnson C. Smith University

CLUSTER 3

Dr. Gordon Gao
PAIR FACULTY

Dr. Nestoras Mathioudakis
Johns Hopkins Medicine

Dr. Jeffrey Scott McCullough
University of Michigan-Ann Arbor

Dr. Dakuo Wang
Northeastern University

Prairie View A&M University

SDSU San Diego State University

Fayetteville State University

CLUSTER 4

Dr. Roy Adams
PAIR FACULTY

Dr. Elham Hatef
Johns Hopkins University

Dr. Keila Lopez
Baylor College of Medicine

Dr. William Brown III
University of California San Francisco

CSUN California State University Northridge

Howard University

Morehouse School of Medicine

CLUSTER 5

Dr. Weiguang Wang
PAIR FACULTY

Dr. Abu Saleh Mohammad Mosa
University of Missouri

Dr. Xinghua Lu
University of Pittsburgh

Dr. Yiye Zhang
Cornell University

Marymount University

University of Washington Tacoma

Morgan State University

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Meet PAIR Cohort 1 Awardees

CSUN California State University Northridge

Marymount University

Sam Houston State University

Hawai'i Pacific University

Morehouse School of Medicine

SDSU San Diego State University

University of Washington Tacoma

Johnson C. Smith University

Morgan State University

UAF University of Alaska Fairbanks

Howard University 1867

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Voices of Awardees

"I feel like the PAIR Program came at exactly the right time to support me and my colleagues in attracting Federal grant funding that can help sustain this Phd. Program in the long term, and build out the AI research capacity on our campus." **- Dr. Martine De Cock, University of Washington Tacoma**

"This one [PAIR] was the [first] major grant for me and my Co-PI Dr. Adam Natoli". **- Dr. ABM Islam, Sam Houston State University**

"Utilizing this NIH-AIM-AHEAD-PAIR grant, and utilizing the NSF-MRI instrumentation, I established an AI-Lab at UAF which was not there before…I am focusing on Data/AI workforce development in Alaska this year" **- Dr. Arghya Das, University of Alaska Fairbanks**

"So under this program (PAIR), my collaborators and I, we actually submitted an R25,and the title of it was Expanding Access to Digital Health Technologies for Underserved Communities." **- Dr. John Valdovinos, California State University Northridge**

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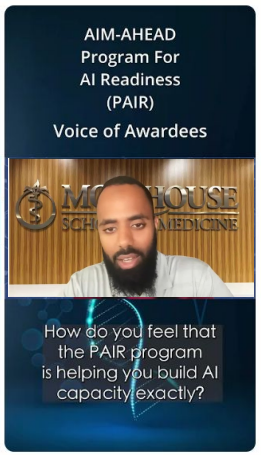

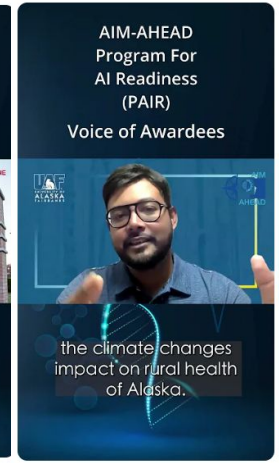

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PAIR Cohort 1 – Morgan State University

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PAIR Cohort 1 (Phase 1)

40 APPLICATIONS

15 AWARDEES

95 MENTOR APPLICATIONS

15 EXPERTS SELECTED

8 COACHES SELECTED

9 GRANTS AWARDED

2024 AIHES AIM-AHEAD Annual Meeting

100% OF PHASE 1 AWARDEES PRESENTED AT POSTER SESSION

5 TEAMS PRESENTED IN THE LIGHTNING ROUND

2 TEAMS FEATURED IN RESEARCH SPOTLIGHTS

Developed New Online Course for AIM-AHEAD

LAUNCHING AI & HEALTH EQUITY RESEARCH

59 LESSONS EXPLORING AI, HEALTH EQUITY RESEARCH, AND THE GRANT WRITING PROCESS

13 MODULES PRESENTED BY LEADING EXPERTS IN AI, HEALTH EQUITY, AND GRANT WRITING

Awardee Testimonial

"I feel like the PAIR Program came at exactly the right time to support me and my colleagues in attracting Federal grant funding that can help sustain this PhD Program in the long term and build out the AI research capacity on our campus."

– DR. MARTINE DE COCK, UNIVERSITY OF WASHINGTON TACOMA (COHORT 1, PHASE 1)

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Applicant Eligibility

Institution

Primary applicant organization must be a domestic institution/organization located in the US and its territories

Only 1 application per institution is allowed

Higher Education Institutions
Public, Private, HSIs, HBCUs, TCUs, AANAPISI, or NAH Serving Institutions

Non-Academic Organizations
Nonprofits with or without 501(c)(3) status, Community-Based Organizations, Tribally derived institutions, Trivial health and/or human service organizations, or For-Profit Businesses/Organizations

Applicant

Citizenship

Must be a U.S. Citizen, Permanent Resident, or Non-Citizen U.S. National

Education

Must hold a PhD

All PD(s)/PI(s) must have an eRA Commons account

Skills & Experience

Each team is encouraged to have at least one investigator with a background in a health-related field and one investigator with a computer science background with basic knowledge of AI

For full eligibility criteria, please see the Cohort 2 CFP

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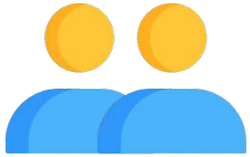
Multi-Pi Structure

An institution may propose a single team with key personnel from the institution itself or affiliated institutions, including **at least 2 but no more than 3 Co-PIs, each from a distinct discipline.**



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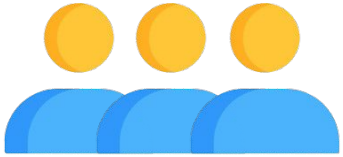

To meet the program's goals, each team is encouraged to have at least **one investigator with a background in a health-related field** and **one investigator with a computer science background** with basic knowledge of AI.

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Application Process

Applications must be submitted by 11:59PM EST on January 15, 2025

Note: Please submit via InfoReady.

- Familiarize yourself with the program requirements outlined in the call for applications
- Create an account on AIM-AHEAD Connect and register as a "mentee/learner"
- Gather all of the required application materials
- Submit application for review using the InfoReady platform

Up to 15 Institutions will be selected for Phase 1 awards

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Application Requirements

Submission Deadline: January 15, 2025 by 11:59 PM EST

- **Title Page**: Project Title, List of Principal Investigator(s), cross-disciplinary multi-PI structure, and project summary/abstract, specific aims, & intended target demographic
- **Letter(s) of Support:** Letter(s) of support from the school or institution leadership should spell out institutional commitment to the project and outline resources that will be made available to the project's leader, including protected time for the faculty and staff to participate in this program.
- **Project Timeline:** Submit a clear timeline and plan to achieve project milestones.
- **NIH Biosketch:** Include Principal Investigator and any key personnel. 5-page limit per person.
- **Project Budget & Budget Justification**: Funds may be used only for expenses directly related to the proposed project's development. The award includes negotiated indirect cost rate, and a rate of 10% applies in the absence of a negotiated rate.

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Application Requirements

Submission Deadline: January 15, 2025 by 11:59 PM EST

Project Plan: Description of the proposed project must include the following elements:

1. The way in which the institution will benefit from this program in building AI/ML research capacities to address health inequity and increasing diversity

2. Current AI research capacity if available, as well as faculty and staff expertise to establish AI research lab

3. Well-defined outcome measure for rigorous evaluation

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Application Requirements

Submission Deadline: January 15, 2025 by 11:59 PM EST

Project Plan: Description of the proposed project must include the following elements:

4. How the proposed project is aligned with one or more of the AIM-AHEAD North Stars defined below:

   a. **North Star I:** Develop a diverse, equitable, and inclusive AI/ML Workforce
   b. **North Star II:** Increase knowledge, awareness, and community engagement/empowerment in AI/ML
   c. **North Star III:** Use AI/ML to address disparities and minority health in behavioral health, cardiometabolic health, and cancer
   d. **North Star IV:** Build community capacity and infrastructure in AI/ML to address community-centric health disparities and minority health

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Phase 1 Program Timeline

Funding Cycle	2025-2026
Release Date	October 22, 2024
Application Deadline	January 15, 2025 by 11:59 PM EST
Notice of Award	February 26, 2025
Program Start Date	March 3, 2025
AIM-AHEAD Annual Meeting 2025	July 2025
Program Length	Each phase: 12 months

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Resources

Application Resources

(Items linked)

- CFP Link (QR code on last slide)
- InfoReady
- AIM-AHEAD Connect
- NIH biosketch sample

Application Workshop

January 8, 2025, 5-6PM ET

https://signup.aim-ahead.net/event/index/cdd3761c14

Assessing Research Topic Viability for the PAIR Program

(Items linked)

***All of Us* Data Repository**: Comprehensive details on the entirety of the *All of Us* data repository

OCHIN Data Overview: Comprehensive details on the entirety of the *OCHIN* data set

ScHARe Data: Comprehensive details on the entirety of the *ScHARe* data set

AADB Dataset: Comprehensive details on the MedStar Health *AIM-AHEAD Data Bridge*

You are welcome to bring your own dataset!

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Upcoming Informational Events

Townhall Q&A

Come ask PAIR leadership and current awardees questions about your PAIR Cohort 2 application. Hear inspiring success stories from participants currently in the program!

December 18, 2024: 4-5PM CT, 5-6PM ET

Registration link:
https://signup.aim-ahead.net/event/p/22DF91F016

Application Workshop

PAIR leadership will provide insights into submitting a successful application. Application templates and other resources will be provided.

January 8, 2025: 4-5PM CT, 5-6PM ET

Registration link:
https://signup.aim-ahead.net/event/p/cdd3761c14

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Questions?

SCAN ME

Start Your Application TODAY!

https://aim-ahead.inforeadv4.com/#freeformCompetitionDetail/1952956

Please feel free to submit a PAIR Help Desk Ticket:

LINK

Use the QR code above to access the AIM-AHEAD PAIR Program Cohort 2 Call for Applications

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Application Requirements

Submission Deadline: January 15, 2025 by 11:59 PM EST

- **Facilities, Equipment, and Other Resources:** This document elucidates how the research's scientific setting enhances the likelihood of success. This encompasses institutional support, physical support, and intellectual synergy.

- **Current & Pending Document:** The "Other Support" or "Current and Pending Support" document of the Principal Investigator and any key personnel needs to be submitted to ensure there is no scientific, budgetary, or commitment overlap.

- **Subrecipient Commitment Form:** Completed by the sponsor, signed by the applicant organization's authorized official along with any applicable documents referenced therein.

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Application Review Process

Pre-administrative review: Verify that all necessary sections and fields have been appropriately filled out, and there is no missing information. Applicants will be reminded to complete missing sections and fix the formatting issues.

Administrative review: Verify that all required fields are completed appropriately (no missing values or placeholder information). Check eligibility of 1) applicant and 2) institution. Check the Biosketch to ensure completeness and adherence to NIH format, and verify it belongs to the applicant. Verify applicant can submit required regulatory documents.

Scientific evaluation: The Application Review's primary goal is to identify applicants who will benefit most from the AIM-AHEAD PAIR Program. The committee evaluates applications for eligibility, reviews referral letters for program consistency, and notes any relevant attributes, concerns, or recommendations affecting the criterion scores.

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