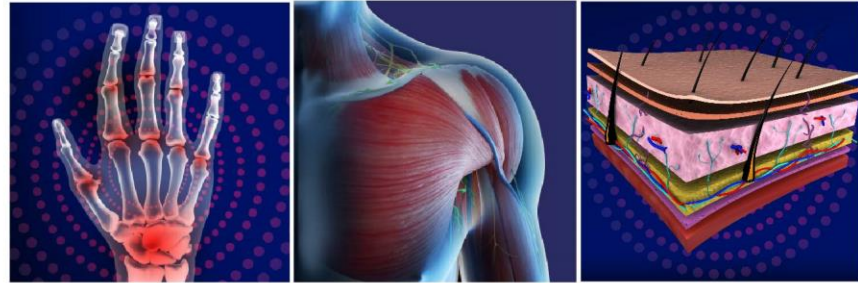


The Role of the National Institute of Arthritis and Musculoskeletal and Skin Diseases in Supporting Early Career Investigators

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Director, NIAMS

April 3, 2024

2024 VERITY/Brigham Course in Rheumatology
Clinical Research



National Institute of
Arthritis and Musculoskeletal
and Skin Diseases

Overview of Presentation

- My background
- Overview of NIAMS
- Award mechanisms and other opportunities
- Research activities





Training



- **University of California, Berkeley**
 - BA, Genetics (1982)
 - MPH, Epidemiology (1992)
- **University of California, San Francisco**
 - MD (1986)
 - Rheumatology Fellowship (1992)
- **Scripps Clinic / Green Hospital**
 - Internal Medicine (1989)





Importance of Mentorship

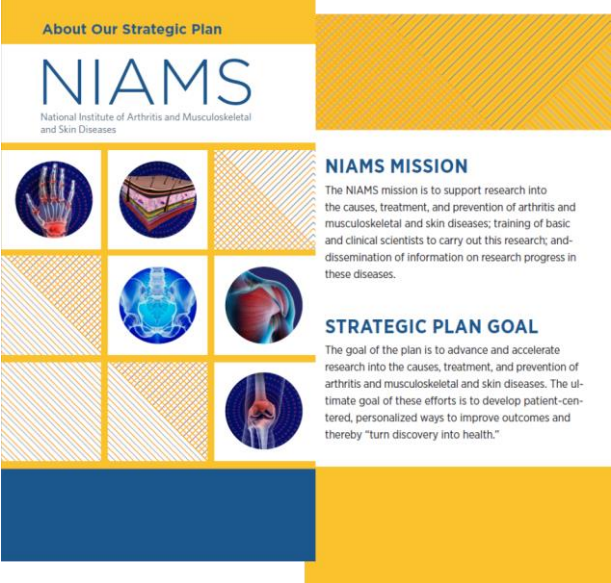
Pivotal NIAMS Support

- Determination of the relative efficacy, toxicity and cost-effectiveness of methotrexate in a longitudinal panel study of rheumatoid arthritis (D&F Study, MAMDC)
- Testing SLE candidate loci using cases and their parents (first R01)
- The genetic epidemiology of RA and SLE (K24)
- Genetics, ancestry and SLE outcomes (P60)
- Resource-based Center for the Advancement of Precision Medicine in Rheumatology (P30)



NIAMS Mission

- To support **research** into the causes, treatment, and prevention of arthritis and musculoskeletal and skin diseases; the **training** of basic and clinical scientists to carry out this research; and the **dissemination** of information on research progress in these diseases.
- Disease- and Tissue-Specific interests:
 - Bone Biology and Diseases
 - Joint Biology and Diseases and Orthopaedics
 - Muscle Biology and Diseases
 - Rheumatic and Autoimmune Diseases
 - Skin Biology and Diseases



The graphic is a vertical layout with a yellow header and footer. The header contains the text "About Our Strategic Plan" and the NIAMS logo. The main body is a grid of six circular icons: a hand, a cross-section of a joint, a hand holding a joint, a hand holding a joint, a hand holding a joint, and a hand holding a joint. To the right of the grid, the text "NIAMS MISSION" and "STRATEGIC PLAN GOAL" is displayed, followed by their respective descriptions.

About Our Strategic Plan

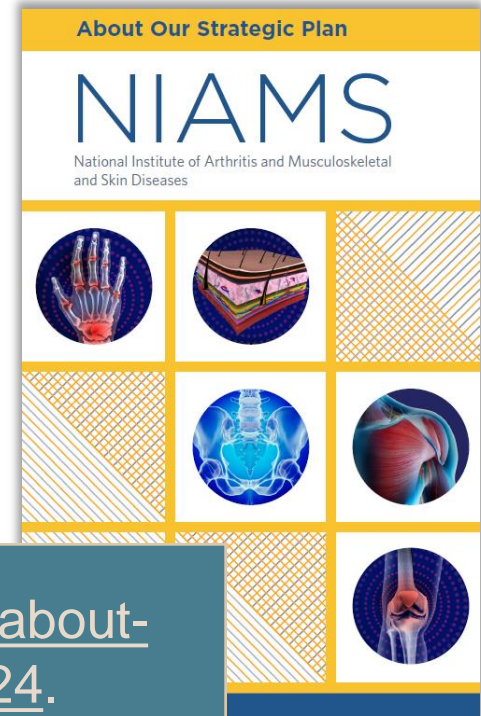
NIAMS
National Institute of Arthritis and Musculoskeletal and Skin Diseases

NIAMS MISSION
The NIAMS mission is to support research into the causes, treatment, and prevention of arthritis and musculoskeletal and skin diseases; training of basic and clinical scientists to carry out this research; and dissemination of information on research progress in these diseases.

STRATEGIC PLAN GOAL
The goal of the plan is to advance and accelerate research into the causes, treatment, and prevention of arthritis and musculoskeletal and skin diseases. The ultimate goal of these efforts is to develop patient-centered, personalized ways to improve outcomes and thereby "turn discovery into health."

Developing the Next NIAMS Strategic Plan

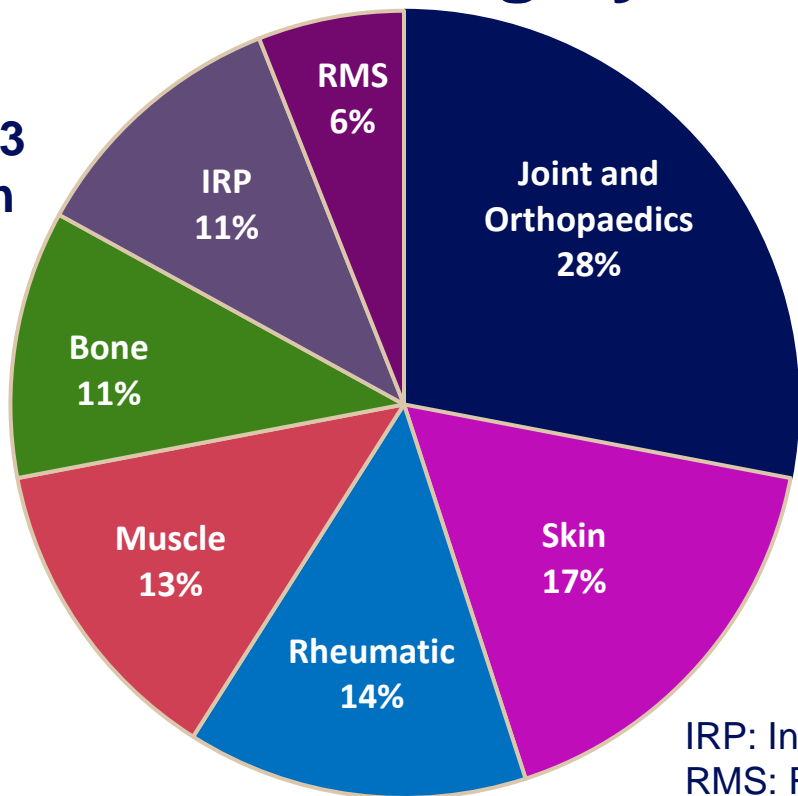
- **Public statement** of Institute's interests
- **Guidepost** for researchers
 - Needs to cover the Institute's broad mission
- **Internal reference**



For the current Plan, visit www.niams.nih.gov/about-niams/strategic-plan-fiscal-years-2020-2024.

NIAMS FY 2023 Funding by Budget Activity

NIAMS Total FY 2023
Budget: \$688 Million



IRP: Intramural Research Program
RMS: Research Management and Support

Opportunities for Early-Career Investigators

- Funding landscape
- Award mechanisms
- Research opportunities



Complexities of the Funding Landscape



Addressing the Complexities of Funding Landscape

Start thinking about funding from multiple sources, including non-profits.



**Hidradenitis
Suppurativa**
Foundation, Inc.



Rheumatology Research Foundation
Advancing Treatment | Finding Cures

Will I lose ESI status if...

<https://grants.nih.gov/policy/early-stage/index.htm>

<https://grants.nih.gov/grants/esi-status.pdf>

Early-Stage Investigator Status

- Has completed their terminal research degree or end of post-graduate clinical training in the **past 10 years**
- Has **not** previously competed successfully as PD/PI for a **substantial NIH independent research award.**

YES

- It has been more than 10 years since my terminal research degree or end of post-graduate clinical training and I have not experienced situations that qualify for an ESI extension request. (See these [FAQs about ESI Extensions.](#))

MAYBE

- I am the PD/PI (or multi-PD/PI) on an NIH award.
 - Yes, if you successfully competed as a PD/PI for a substantial independent research award.
 - No, if you are the PD/PI of an award on our [list of smaller grants & awards that maintain ESI status.](#)
- I am the PD/PI (or multi-PD/PI) on a multi-project award.
 - Yes, if you successfully competed as a PD/PI for the overall multi-project application.
 - No, if you led a component but were not the PD/PI of the overall application.

NO

- I'm a Co-Investigator on the grant. (NIH only recognizes senior/key with the role PD/PI as principal investigators.)
- I'm the PD/PI on a subaward or subcontract.
- I became the PD/PI due to a change of investigator action. (If you did not compete successfully as the PD/PI for a substantial NIH independent research award you won't lose status.)



Types of NIH Awards Appropriate for Early-Career Investigators

- **Fellowship Programs (F)**
 - Postdoctoral Individual National Research Service Award (F32)
- **Training Programs (T)**
 - Ruth L. Kirschstein National Research Service Award (NRSA) Institutional Research Training Grants (T32)
- **Career Development Awards (K)**
 - Mentored Research Career Development Awards (K01, K08, K23, K25)
 - Pathway to Independence Award (K99/R00)
- **Research Grants (R)**
 - Research Project Grants (R01)
 - Dr. Stephen I. Katz R01 Award



Research Project Grant (R01)

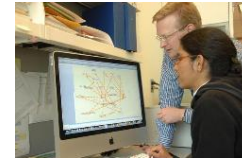
- **Most common type of NIH grant**
- **Supports a discrete, specified project in an area representing the investigator's specific interests and competencies, based on the mission of the NIH**
 - Can be multi-PI
- **Budget is not limited**
 - Must reflect the actual needs of the proposed project
 - Budgets over \$500K require prior approval
- **Project period of up to 5 years**
 - May be renewed
- **More generous payline for Early-Stage Investigators**



NIAMS Mentored Research Career Development Awards

Provide **protected time** for research with salary support (up to \$75K/100K for 75% effort*) and research expenses (\$20K/\$30K)

- **K01:** Mentored research scientist development award
- **K08:** Mentored clinical scientist development investigator award
- **K23:** Mentored patient-oriented research career development award
- **K25:** Mentored Quantitative Research Career Development award



*50% effort for K08 and K23 orthopaedic surgeons

Administrative Supplements to Promote Research Continuity and Retention of NIH Mentored Career Development (K) Award Recipients and Scholars

Purpose:

- to enhance retention of investigators facing critical life events who are transitioning from mentored career development awards to research independence
- to minimize departures from the biomedical research workforce.

Expiration: October 1, 2025

NIAMS Forum for Clinical Mentored K Awardees – December 2023



Pathway to Independence Award (K99/R00)

- **Transition award**
 - Postdocs moving to assistant professor positions (tenure track or equivalent)
 - <4 years of postdoc experience
- ***This is the only K with no citizenship/green card requirement***
- **Requires 75% of the candidate's full-time professional effort**
- **Mentored K99 Phase**
 - Up to 2 years
 - Salary, research, and benefits support
- **Independent R00 Phase**
 - Up to 3 years
 - Salary, research, and benefits
 - Expected to obtain R01 support during this phase

Extremely competitive



Early-Stage Investigator Opportunities Cont.

Katz R01

- **Purpose:** for ESIs to propose research in projects in a direction for which preliminary data do not exist.
- **Expiration Date:** December 29, 2026

R03 Program for K Awardees

- **Purpose:** For current NIAMS-supported K01, K08, K23, and K25 recipients to apply for Small Grant (R03) support in their second to fourth year of their K award.
- **Expiration Date:** February 20, 2025



Who Do You Call if You Need Help with Your NIH Proposal or Award?

- **Program Officer**
 - Can answer questions about the scientific and technical aspects of your application or award
- **Scientific Review Officer**
 - Can answer questions about peer review
- **Grants Management Specialist**
 - Can provide help with policy and fiscal aspects of the award



NIH Early Career Reviewer Program



- **Qualifications:**
 - At least 1 year of experience as a full-time Assistant Professor or researcher in a similar role
 - Evidence of an active, independent research program
 - Have not held an R01 or R01-equivalent grant as a PI
- **More information:**
 - public.csr.nih.gov/ForReviewers/BecomeAReviewer/ECR
 - Contact the SRO of the relevant NIH study section

LRP Awards are up to \$100,000 over a two-year period. Use the repayment calculator to get an estimate on your award amount. ➔



APPLY



AWARD



RENEW



Examples of Research Resources

- **Center grants at your own institutions**
- **Professional society resources**
 - Grant writing workshops
 - Funding opportunities
- **Patient registries**
- **Large data sets**



Welcome to the ARK Portal

The ARK Portal hosts data generated by a network of research teams working collaboratively to deepen the understanding of Arthritis and Autoimmune and Related Diseases. It was established by the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) and includes data from the Accelerating Medicines Partnership® (AMP®).



Programs

Explore research Programs supported by the ARK Portal



Projects

Explore research Projects within each program



Dataset Collections

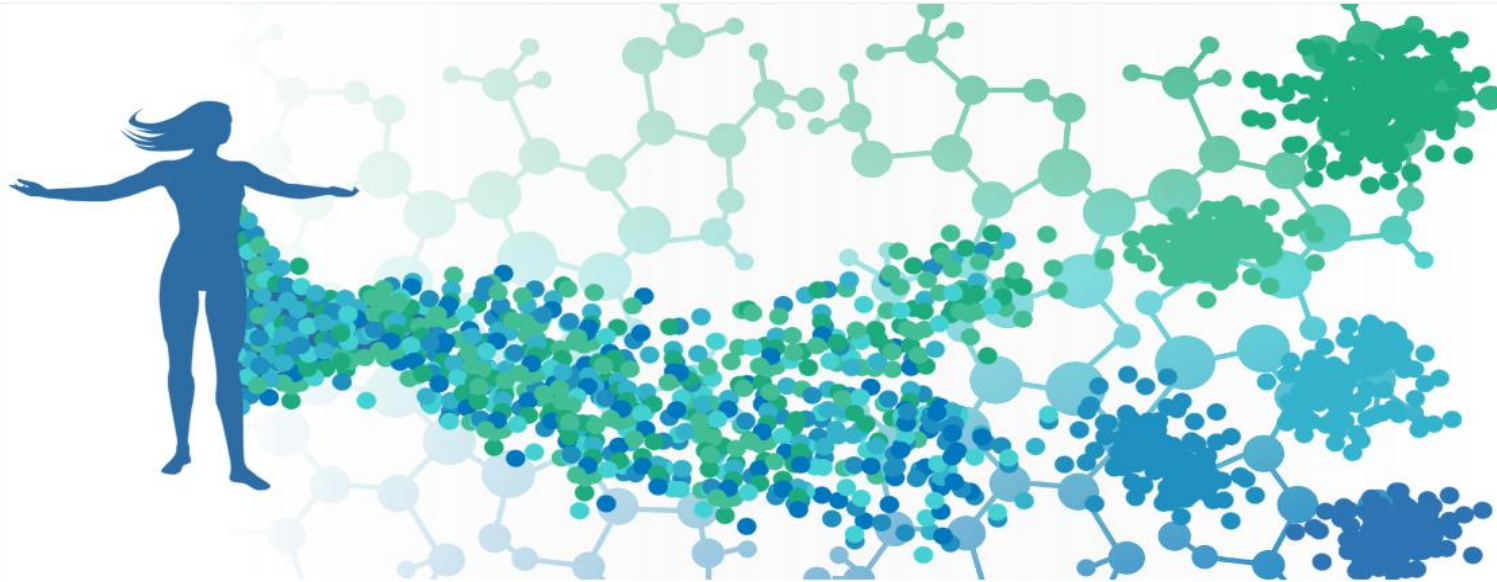
Explore Collections of data organized by topic



All Data

Explore all data in the ARK Portal.





Team Science Leadership Scholars Program (LSP) in Women's Health, Autoimmune and Immune-Mediated Diseases 2.0

Funding Opportunity Announcement (FOA) Number: RFA-AMPAIM-LSP-23-002

The Osteoarthritis Initiative (OAI)



- **Partners**

- Institutes and Centers, including the NIA
- Foundation for NIH
- Industry

- **Active between 2001-2016**

- **4,796 participants with or at risk of developing knee OA**

- 58% female

- **Participant visits through 8 years of follow-up**

- clinical, genomic, patient-reported, functional data
- biospecimens; x-ray and MRI data

NIH *All of Us* Research Program

As of
July 31, 2023

684,000+

Participants

471,000+

Participants who have
completed initial steps of the
program

Over 80% of *All of Us*
participants are
underrepresented
in biomedical research



Electronic Health Records

Data types collected from EHR include:

- Demographics
- Vital signs
- Diagnoses
- Procedures
- Medications
- Doctor and Laboratory Visits



Participant Surveys

The Basics
Overall Health
Lifestyle

Health Care Access & Utilization
Personal and Family Medical History
Social Determinants of Health



Physical Measurements

- Blood pressure
- Heart rate
- Height
- Weight
- BMI
- Hip circumference
- Waist circumference



Biosamples

- Blood
- Saliva
- Urine



Wearable Data

Fitbit data, including:

- Heart Rate
- Activity (Daily Summary)
- Activity Intraday Steps
- Sleep data

Diversity Initiatives



The graphic features the NIH logo and the text "National Institute of General Medical Sciences" at the top. Below this, it reads "MOSAIC Program to Promote Faculty Diversity". The central part of the graphic is a collage of hexagonal images, some showing diverse individuals and others showing scientific imagery like a microscope and a cell. At the bottom, there is a purple banner with white text.

Are you a postdoctoral researcher from an underrepresented group in biomedical sciences preparing to launch your independent research career?

If so, the Maximizing Opportunities for Scientific and Academic Independent Careers (MOSAIC) program might be a great opportunity for you.

nigms.nih.gov/training/careerdev/Pages/MOSAIC.aspx

New NIH Administrative Supplements Available to Support Diversity Mentorship

Home / Blog

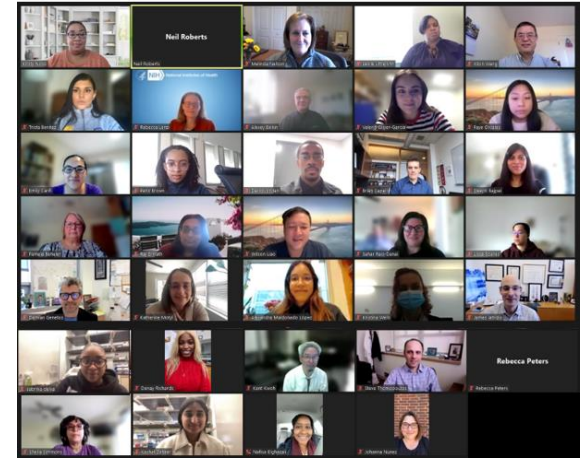
02.09.22 By Marie A. Bernard



I am pleased to announce the availability of a new NIH administrative supplement that recognizes the crucial role outstanding mentors play in fostering future leaders in the biomedical research enterprise.

Qualified investigators can now submit proposals in response to the Chief Officer for Scientific Workforce Diversity (COSWD)-led Notice of Special Interest (NOS) NOT-OD-22-057: Administrative Supplements to Recognize Excellence in Diversity, Equity, Inclusion, and Accessibility (DEIA) Mentorship. Proposals are due by April 7, 2022.

NOSI: Administrative Supplements to Recognize Excellence in Diversity, Equity, Inclusion, and Accessibility (DEIA) Mentorship



NIAMS Diversity Supplement Scholars Program 2023 Cohort Webinar Participants

Research With Activities Related to Diversity (ReWARD)

- **Purpose:** To enhance the breadth and geographical location of research and research-related activities supported by NIH. The ReWARD program provides:
 - Support for the health-related research of scientists who are making a significant contribution to DEIA and who have no current NIH research project grant funding;
 - Funding for both the scientific research and the DEIA activities of investigators.
- **NOFO:** PAR-23-122
- **Expiration Date:** May 8, 2026



Stay Up-to-Date on NIAMS-related Funding Opportunities

- Receive the monthly *NIAMS Funding News* and periodic *NIAMS Funding Alerts* by e-mail. Subscribe at www.niams.nih.gov/newsletters.
- Follow our X (Formerly Twitter) account ([@NIAMSFunding](https://twitter.com/NIAMSFunding)).



The graphic is a rectangular box with a green border. At the top left is the NIH logo and the text 'National Institute of Arthritis and Musculoskeletal and Skin Diseases'. Below this is the date 'January 25, 2024' and the title 'NIAMS Funding Alert'. The main heading is 'New Funding Opportunity to Reduce Health Disparities and Advance Health Equity by Addressing SDOH (U01 Clinical Trial Optional)'. The body text describes the funding opportunity, mentioning support from various NIH institutes and the goal of advancing health equity. It includes a link to the full announcement and the application due date of March 22, 2024. At the bottom, it asks to share the announcement with colleagues.

NIH National Institute of Arthritis and Musculoskeletal and Skin Diseases

January 25, 2024

NIAMS Funding Alert

New Funding Opportunity to Reduce Health Disparities and Advance Health Equity by Addressing SDOH (U01 Clinical Trial Optional)

With support from more than a dozen National Institutes of Health institutes, centers, and offices, the National Institute of Nursing Research has published a funding opportunity ([RFA-NR-24-004](#)) to support the development of innovative interventions that advance health equity. This funding opportunity solicits research that addresses social determinants of health (SDOH) to prevent, reduce, or eliminate health disparities. Projects must demonstrate a focus on populations experiencing health disparities and include meaningful community partnerships.

For more information about this initiative as well as details on eligibility, research objectives, key dates, application review, and award administration, [please view the full funding opportunity announcement](#).

Application Due Date: March 22, 2024

Please share this announcement with interested colleagues.



Map Your Successful Academic Research Career Path with NIH Funding

- **Review** Institute and Center priorities and goals
- **Learn** the NIH application and review process
- **Identify** the grant programs offered by each Institute and Center
- **Make** early contact with program officers
- **Find** innovative, well-respected mentors and collaborators
- **Study** your mentors' and collaborators' successful grant applications
- **Propose** your best and most creative ideas
- **Apply** (and then **Persevere**): *"It's not that I'm so smart, it's just that I stay with problems longer." ~Albert Einstein*



QUESTIONS?
