

NIH's Scientific Approach to Inclusive Excellence

Marie A. Bernard, MD

Acting NIH Chief Officer for Scientific Workforce Diversity
Deputy Director, National Institute on Aging

NASEM Committee on Increasing Diversity and Inclusion
in the Leadership of Competed Space Missions

April 27, 2021



National Institutes of Health
Office of the Director
Scientific Workforce Diversity

Questions to Be Addressed

- Why does diversity and inclusion matter?
- What is the current diversity of the scientific workforce?
- What are best practices to promote inclusive excellence?
 - Generalized principles
 - NIH application of those principles
 - NIH-wide activities of interest

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Why Diversity Matters

More Productive Collaborations

Homophily (researchers publishing with co-authors of the same ethnicity) associated with publication in **lower-impact journals**, with **fewer citations**

Mean and Standard Deviations of Statistics for Multi-Authored Publications

Statistics	Two-authored	Three-authored	Four-authored	Ten-authored
Same ethnicity (All Authors)	0.43 (0.49)	0.15 (0.36)	0.08 (0.26)	NS*
Homophily Index	0.70 (0.25)	0.54 (0.22)	0.46 (0.20)	0.27 (0.14)
Impact Factor	2.32 (2.90)	2.59 (3.00)	2.90 (3.23)	4.57 (4.68)

*NS – Not Stated

Freeman & Huang (2015). Collaborating with people like me: ethnic co-authorship within the US. *Journal of Labor Economics* 33(3): S289-S318.

Why Diversity Matters

Improved Science

A study of 2.5 million scientific papers shows various types of diversity leads to **higher impact factor publications & greater number of citations**

Independent Variables	Dependent Variables	
	Impact Factor	Citation Percentile
Lack of Ethnic Diversity Homophily Factor	-0.153*** (0.042)	-0.833** (0.422)
Geographic Diversity Number of Addresses on Paper	0.044*** (0.006)	0.346*** (0.061)
Information Diversity Number of References on Paper	0.015*** (0.001)	0.400*** (0.012)

Note: Sample presented from PubMed for 4-authored papers. Most findings are similarly significant across 2-authored and 3-authored papers for PubMed and Web of Science.

Freeman & Huang (2015). Collaborating with people like me: ethnic co-authorship within the US. *Journal of Labor Economics* 33(3): S289-S318.

Why Diversity Matters

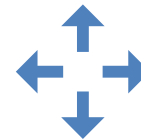
Capitalizing on the Opportunity



**Excellence, Creativity,
Innovation**



**Broadening Scope of
Inquiry: Health Disparities**



**Changing Demographics:
Types of Diversity**



**Global Research
Preeminence**

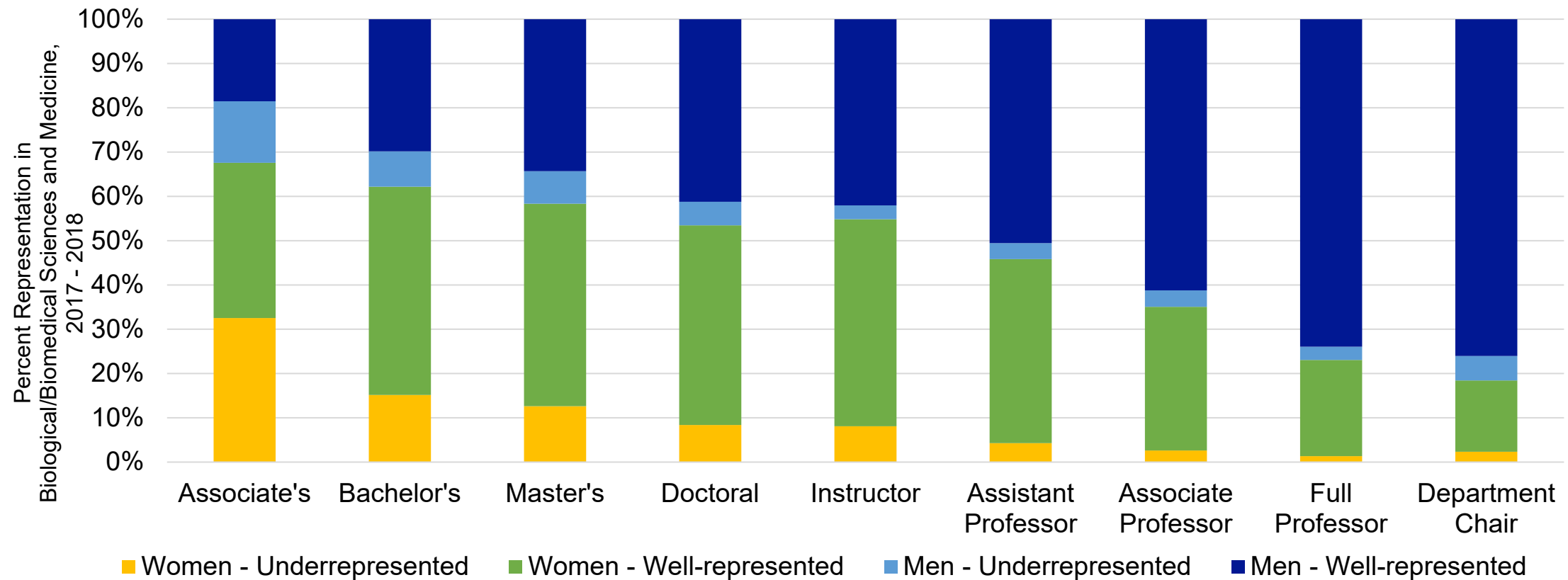
Questions to Be Addressed

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Current Workforce

Diminishing Representation for Women and URG Scientists

Proportion of **women** and **underrepresented men** diminish in more advanced positions along the career path



https://nces.ed.gov/programs/digest/2019menu_tables.asp

<https://www.aamc.org/data-reports/faculty-institutions/interactive-data/data-reports/faculty-institutions/interactive-data/2018-us-medical-school-faculty>

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Inclusive Excellence Best Practices

Foster Science Identity

- Pictures of actual faculty members in STEM at elite universities
- Rated for masculinity and femininity
- Separate group of students rated pictures for likelihood of being a scientist
- Females with increased femininity decreased the perception of being a scientist and increased the perception of being a childhood educator.



Banchefsky S, et al. (2016). But You Don't Look Like A Scientist!: Women Scientists with Feminine Appearance are Deemed Less Likely to be Scientists. *A Journal of Research* 75(3-4): 95-109.

Inclusive Excellence Best Practices

Address Implicit Bias

Research suggests that interventions can help reduce some forms of implicit bias¹ :

- Raise awareness²
- Broaden images of success³
- Consistency in judgment and evaluation criteria
- Avoid ambiguity and time pressure
- Practice speaking up when implicit bias is perceived

1. Kaufmann L, et al. (2009). Debiasing strategies in supply management decision-making. *Journal of Business Logistics* 30(1): 85-106.

2. Devine PG, et al. (2017). A gender bias habit-breaking intervention led to increased hiring of female faculty in STEMM department. *J of Exp Soc Psyc* 73: 211-5.

3. Gocłowska MA, et al. (2013). Can counter-stereotypes boost flexible thinking? *Group Processes & Intergroup Relations* 16(2): 217-31.

Inclusive Excellence Best Practices

Intervene at the Individual and Institutional Level



Interventions at INDIVIDUAL Level

Necessary but not sufficient



Interventions needed at INSTITUTIONAL Level

Inclusive Excellence Best Practices

Seek Institutional Transformation and Culture Change

Promote Transparency and Accountability

→ Link to Institutional Values and Reward Systems

Systematic review and transparency of hiring and promotion procedures, policies

Transparency: collect and publicize aggregate diversity metrics

Provide tools to Divisions, Departments for enhancing recruitment and retention

Evaluate impact

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Inclusive Excellence Best Practices

Annually Evaluate Key Metrics: NIH Equity Committee

Tenured and tenure-track investigators analyzed separately

- Demographic data,
- Salaries, resources for hiring

Equity of review practices

- BSC and ad hoc reviewers, promotion, and tenure committees

Efforts to correct identified problems

Efforts to promote diversity, equity, inclusion

- Diversity of speakers at seminars hosted by the IC
- Promote awareness of stereotypical thinking
- Best practices for search committees and outreach
- Award nominations
- Routine review of lab chief leadership and mentoring

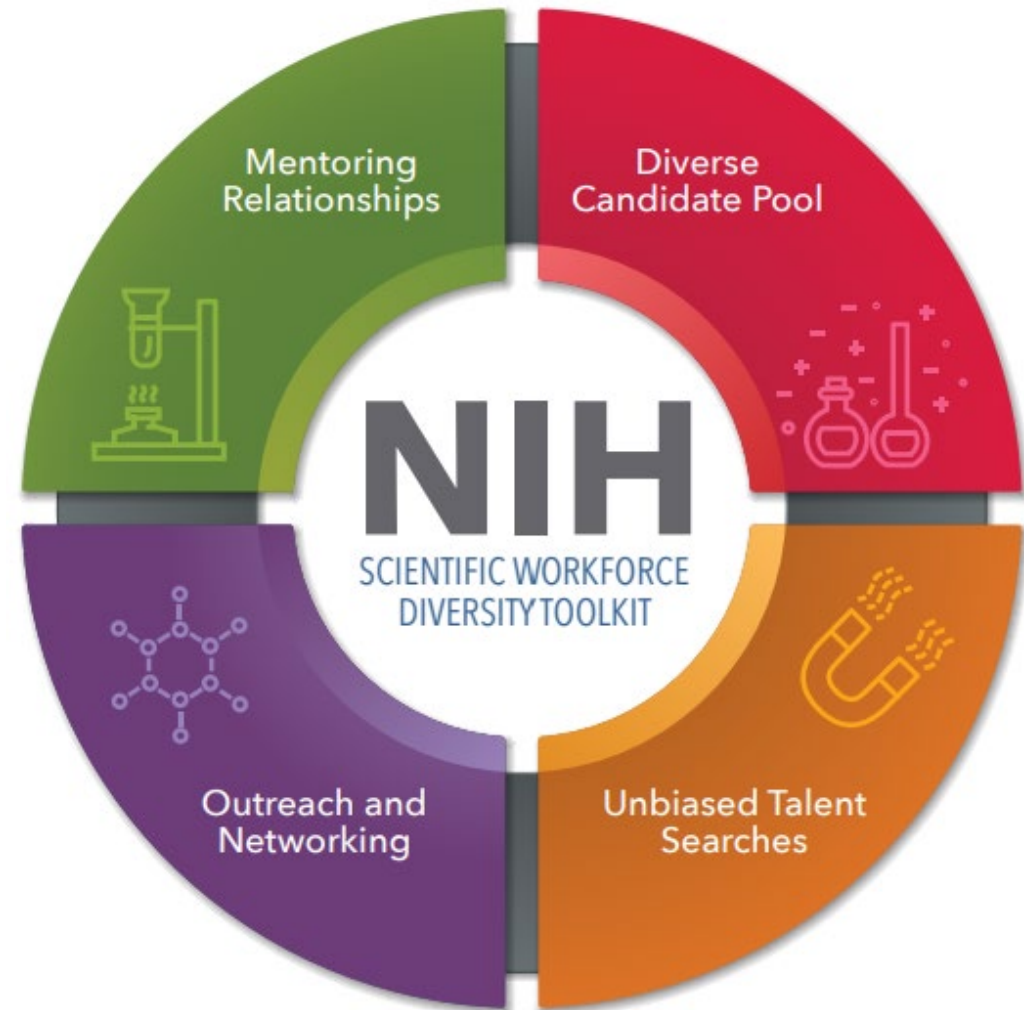
Inclusive Excellence Best Practices

Leverage NIH Approaches and Resources

SWD Interactive Toolkit

Evidence-based resource to support diversity efforts—provides information on conducting unbiased talent searches, outreach and networking, and mentoring

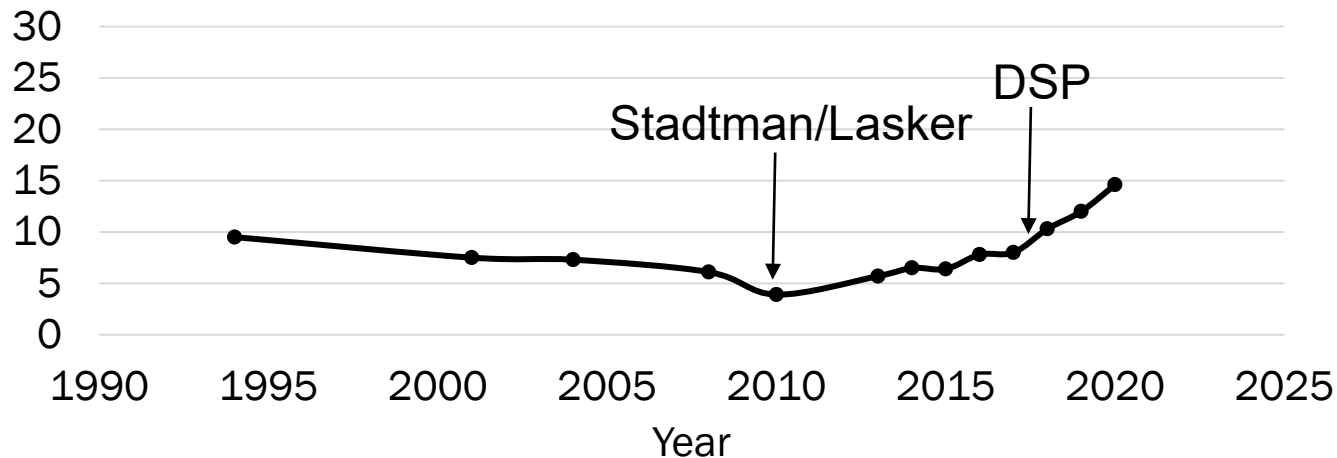
www.diversity.nih.gov/toolkit



Inclusive Excellence Best Practices Distinguished Scholars Program (DSP)

- Built upon the Stadtman and Lasker investigator programs
- Self-reinforcing community of PIs devoted to diversity and inclusion

% URM IRP Tenure-Track Investigators



URM=Underrepresented minority (Black, Hispanic [any race], American Indian, Alaska/Hawaii natives); Source: [OIR](#)



Inclusive Excellence Best Practices

Faculty Institutional Recruitment for Sustainable Transformation



Faculty Cohort RFA 1 U54

Faculty cohort model
for hiring, multi-level
mentoring,
professional
development.

RFA RM-20-022*

Due Date: March 1, 2021
Earliest Start: Sept 1, 2021



Coordination & Evaluation Center (CEC) RFA 2 U24

**Coordination and
Evaluation Center
(CEC)**

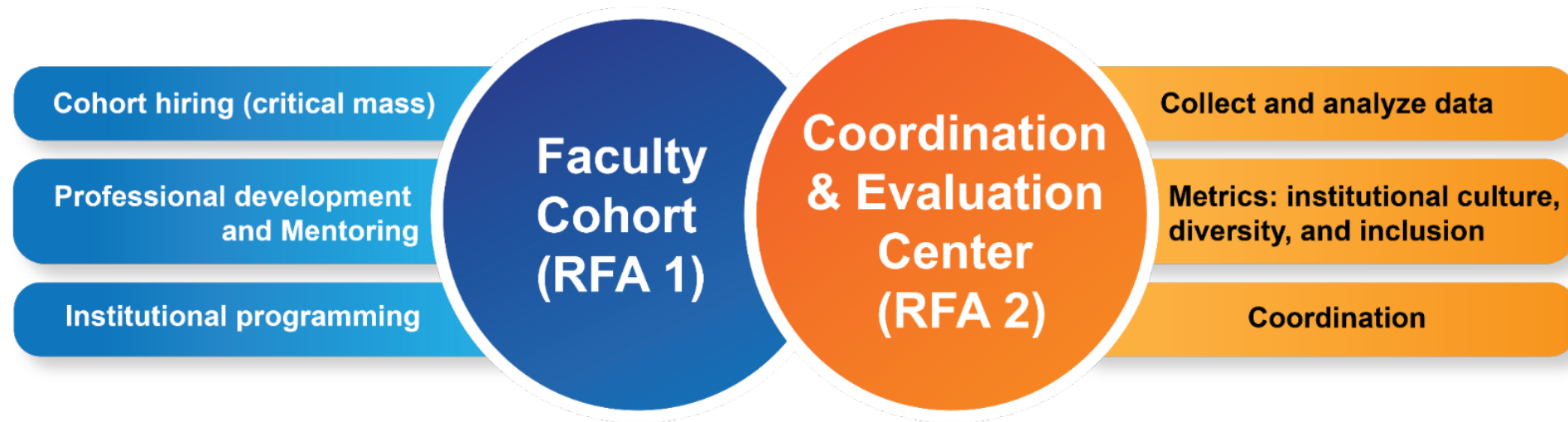
RFA RM-20-023

Due Date: March 1, 2021
Earliest Start: Sept 1, 2021

* NIH expects that this RFA will be reissued two more times (FY 22 and FY23)

Inclusive Excellence Best Practices

Faculty Institutional Recruitment for Sustainable Transformation



Cohort Features

- Institutional cohort - ≥ 10
 - ≥ 120 new hires over 3 years (nationally)
- Mentoring, sponsorship
- Community building to limit isolation
- Enhanced networking for career advancement

Example Faculty Metrics

- Time to tenure, tenure rate
- Research productivity, bibliometrics
- Time to independent funding
- Interdisciplinary collaborations

Culture/Climate Metrics

- Culture: e.g., C-Change metrics

Three Levels of Analysis

- Cohort
- Departmental
- Institution-wide

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*Note: Although generally NIH awards are made to institutions, as the applicants and awardees of NIH funding, for purposes of this presentation, the terms “applications,” “applicants,” and “awardees” reference those individuals designated as senior/key personnel on NIH applications and/or awards, respectively.

NIH-Wide Initiatives

NIH's Commitment to Ending Structural Racism



“To those individuals in the biomedical research enterprise who have endured disadvantages due to structural racism, I am truly sorry. NIH is committed to instituting new ways to support diversity, equity, and inclusion, and identifying and dismantling any policies and practices at our own agency that may harm our workforce and our science.”

— Francis S. Collins, M.D., Ph.D., NIH Director

For more information, visit nih.gov/ending-structural-racism

NIH-Wide Initiatives

NIH's Commitment to Ending Structural Racism



- U** Understanding stakeholder experiences through listening and learning
- N** New research on health disparities/minority health/health equity
- I** Improving the NIH Culture and Structure for Equity, Inclusion, and Excellence
- T** Transparency, communication, and accountability with our internal and external stakeholders
- E** Extramural Research Ecosystem: Changing Policy, Culture, and Structure to Promote Workforce Diversity

NIH's Commitment to Ending Structural Racism: Action

NIH Common Fund Transformative Research to Address Health Disparities and Advance Health Equity



Two FOAs released 3/26/21:

- 1) RFA-RM-21-021 Transformative Research to Address Health Disparities and Advance Health Equity (U01 Clinical Trial Allowed)
- 2) RFA-RM-21-022 Transformative Research to Address Health Disparities and Advance Health Equity at Minority Serving Institutions (U01 Clinical Trial Allowed)

NIH-Wide Initiatives

NIH's Commitment to Ending Structural Racism: Action



Funding Opportunity Title

Understanding and Addressing the Impact of Structural Racism and Discrimination on Minority Health and Health Disparities (R01 Clinical Trial Optional)

Activity Code

[R01](#) Research Project Grant

Announcement Type

New

Related Notices

None

Funding Opportunity Announcement (FOA) Number

RFA-MD-21-004

Companion Funding Opportunity

None

Number of Applications

See [Section III. 3. Additional Information on Eligibility](#).

A total of 22 ICOs have agreed to co-sponsor

- **Letters of intent due 7/20/21**
- **Applications due 8/24/21**

NIH's Commitment to Ending Structural Racism: Action



Notice of Special Interest (NOSI): Understanding and Addressing the Impact of Structural Racism and Discrimination on Biomedical Career Progression and the Biomedical Research Enterprise

Notice Number:

NOT-GM-21-033

Key Dates

Release Date:	March 11, 2021
First Available Due Date:	May 17, 2021
Expiration Date:	October 04, 2022

Related Announcements

[PAR-19-295](#) - Research to Understand and Inform Interventions that Promote the Research Careers of Individuals in the Biomedical Sciences (R01 - Clinical Trial Not Allowed)

[PAR-19-367](#) - Maximizing Investigators' Research Award (R35 - Clinical Trial Optional)

[PAR-20-117](#) - Maximizing Investigators' Research Award (MIRA) for Early Stage Investigators (R35 - Clinical Trial Optional)

Issued by

National Institute of General Medical Sciences ([NIGMS](#))

NIH's Commitment to Ending Structural Racism: Action

Department of Health and Human Services

Part 1. Overview Information

Participating Organization(s)

National Institutes of Health ([NIH](#))

Components of Participating Organizations

National Institute of Mental Health ([NIMH](#))

National Eye Institute ([NEI](#))

National Institute on Aging ([NIA](#))

National Institute on Alcohol Abuse and Alcoholism ([NIAAA](#))

National Institute of Biomedical Imaging and Bioengineering ([NIBIB](#))

Eunice Kennedy Shriver National Institute of Child Health and Human Development ([NICHD](#))

National Institute on Deafness and Other Communication Disorders ([NIDCD](#))

National Institute on Drug Abuse ([NIDA](#))

National Institute of Neurological Disorders and Stroke ([NINDS](#))

National Center for Complementary and Integrative Health ([NCCIH](#))

Funding Opportunity Title

BRAIN Initiative: Reagent Resources for Brain Cell Type-Specific Access and Manipulation to Broaden Distribution of Enabling Technologies for Neuroscience (U24 Clinical Trial Not Allowed)

BRAIN FOA with Diversity Criteria



Summary

- NIH is committed to enhancing recruitment and retention of diverse talent in the scientific workforce
- Diversity and inclusion increase creativity and innovation
- We need more diversity of the scientific workforce
- There are best practices to promote inclusive excellence



National Institutes of Health

Office of the Director

Scientific Workforce Diversity



Great minds think differently...



Check out our website at diversity.nih.gov



Sign up for our [monthly newsletter](#) and
visit our [SWD blog](#) for twice monthly updates



Follow us on Twitter [@NIH_COSWD](https://twitter.com/NIH_COSWD)



Email us at SWD_Talks@nih.gov