



National Institute of
General Medical Sciences



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Update on NIGMS Programs and Initiatives

Overview

- 1) NIGMS at a Glance
- 2) Maximizing Investigators' Research Award (MIRA) Program
- 3) Training, Workforce Development and Diversity Initiatives
- 4) Institutional Development Award (IDeA) Program

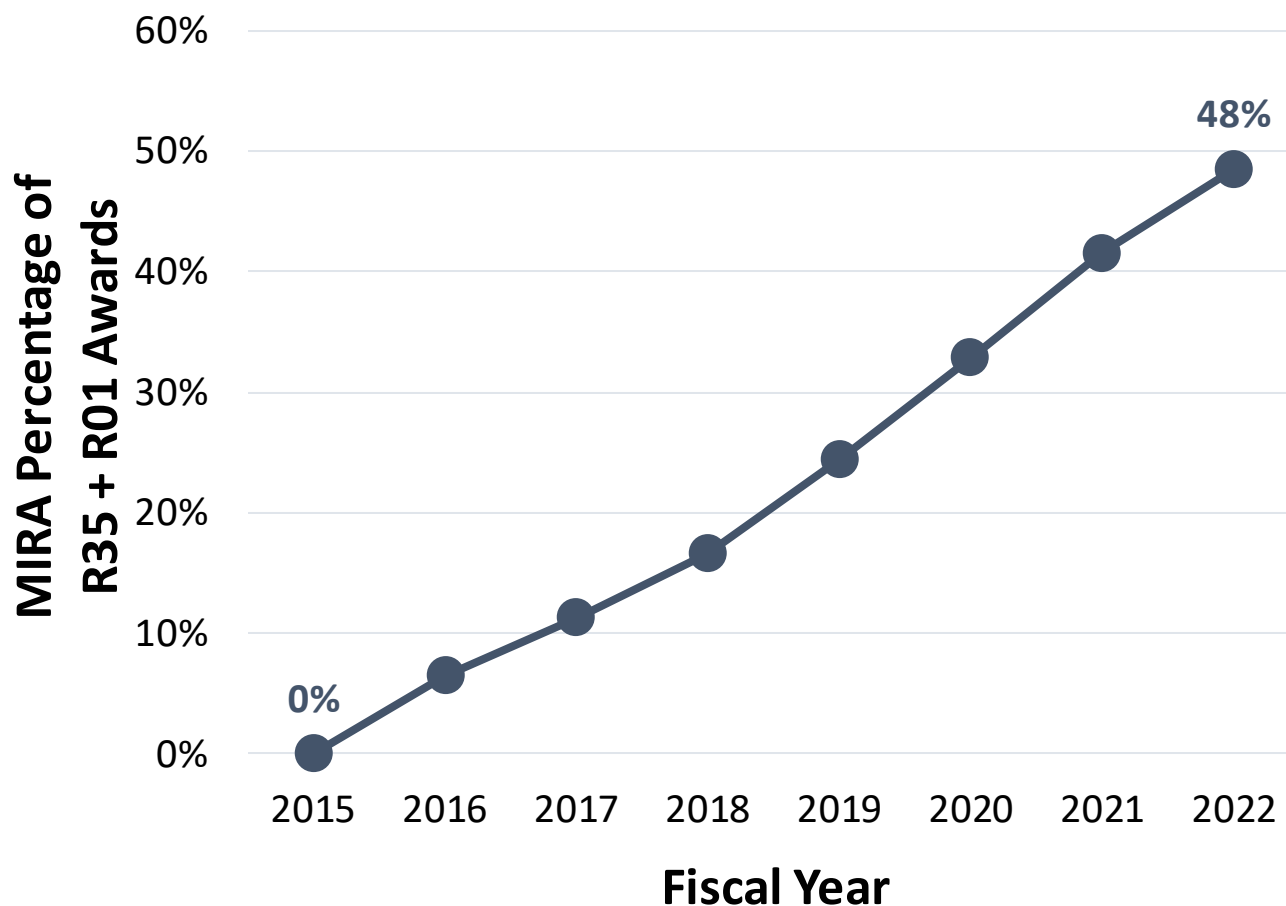
NIGMS at a Glance

- NIGMS' main scientific focus is fundamental (basic) research
 - Also a few clinical research areas of responsibility, including sepsis
- NIGMS has the largest training, workforce development, diversity and research capacity building portfolios at NIH
- Fiscal Year 2023 NIGMS appropriation was \$3.239B

Maximizing Investigators' Research Awards (MIRA) Program

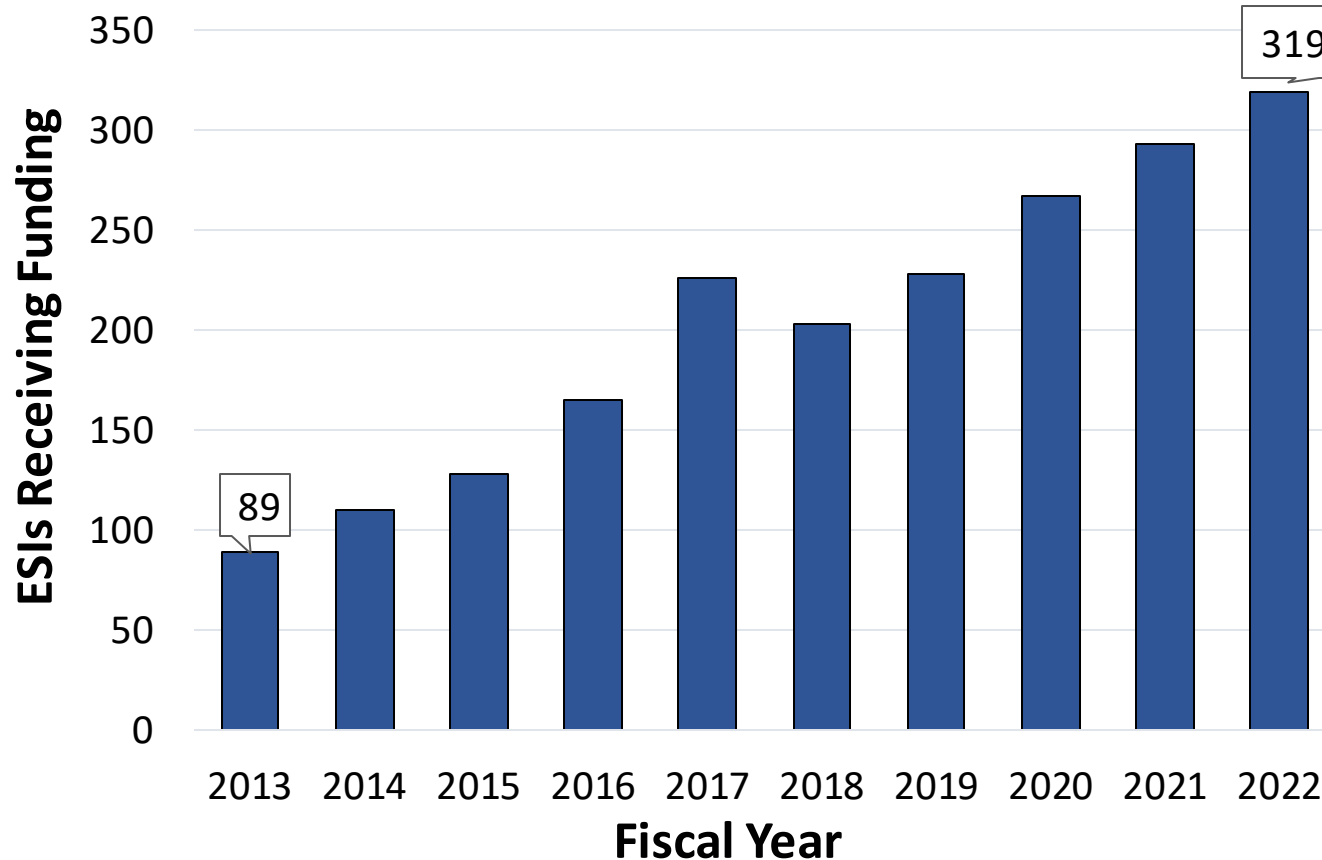
- One grant per PI to provide support for their NIGMS-related research program
 - Cannot apply for other NIGMS research grants (with a few exceptions)
- MIRA grants are longer and on average larger than NIGMS R01s
- Flexible: No specific aims; research can change direction
- High renewal rates, significantly higher than for R01s (~2x)
- Eligibility: Early-stage investigators (ESIs), new investigators (NIs), established investigators with at least one single PI NIGMS R01-equivalent grant
 - Research must be within the NIGMS mission – PIs should contact a program officer before writing an application!

NIGMS MIRA Awards Percentage of Total R01 and MIRA Pool FY 2015-2022



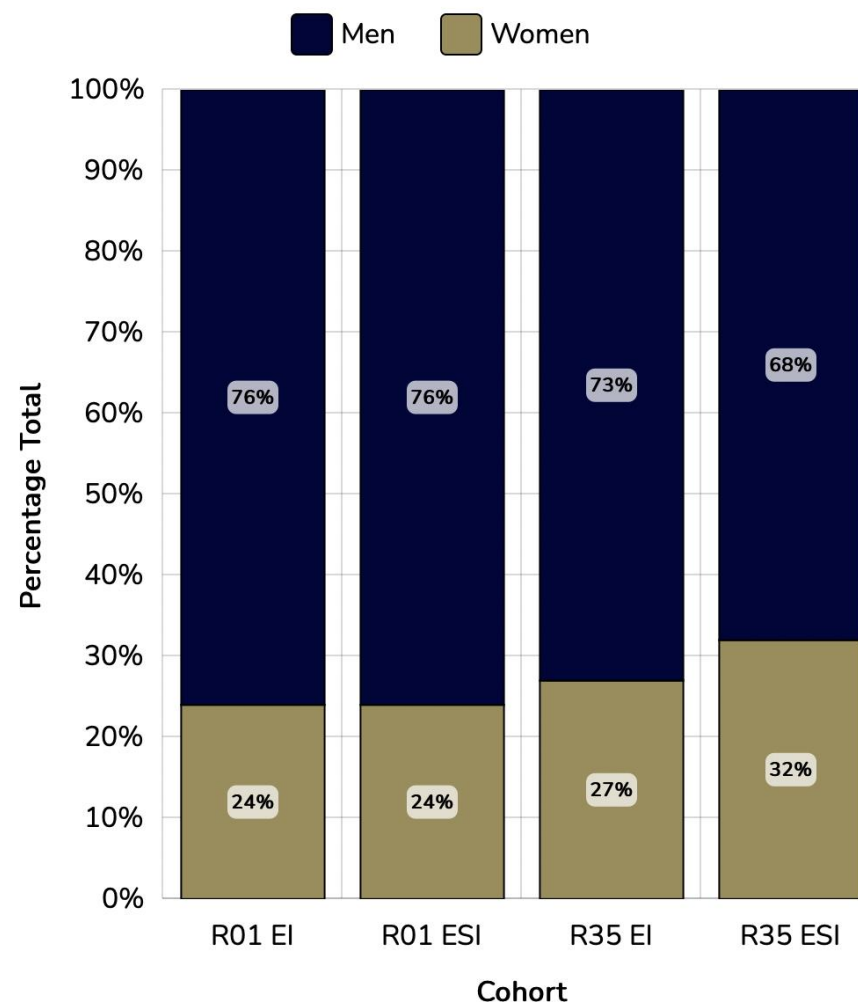
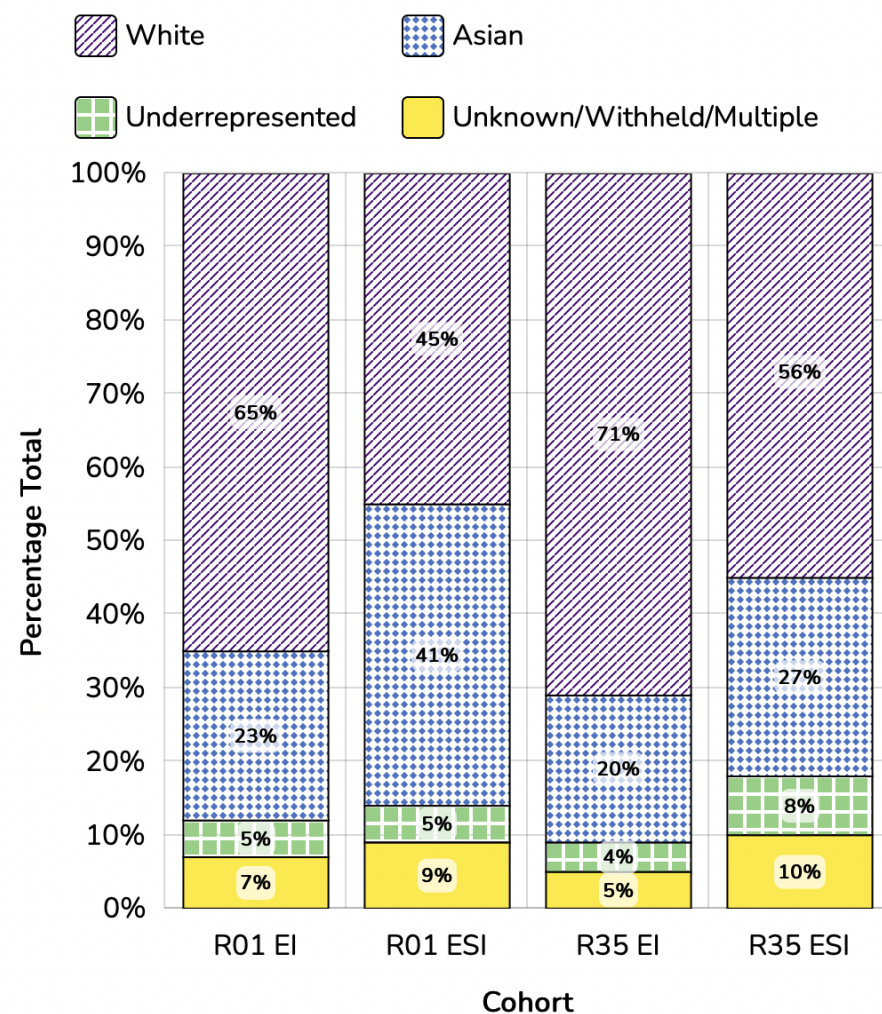
- In FY 2022, MIRA represented 48% of the R35 MIRA + R01 award pool, an increase of 6 percentage points from the previous fiscal year.
- NIGMS awarded 2,054 R35 MIRAs and 2,182 R01s in FY 2022.
- NIGMS targets MIRAs to comprise at least 60% of the R01-equivalent pool by 2025.

NIGMS Competing Early-Stage Investigator (ESI) Awardees FY 2013-2022



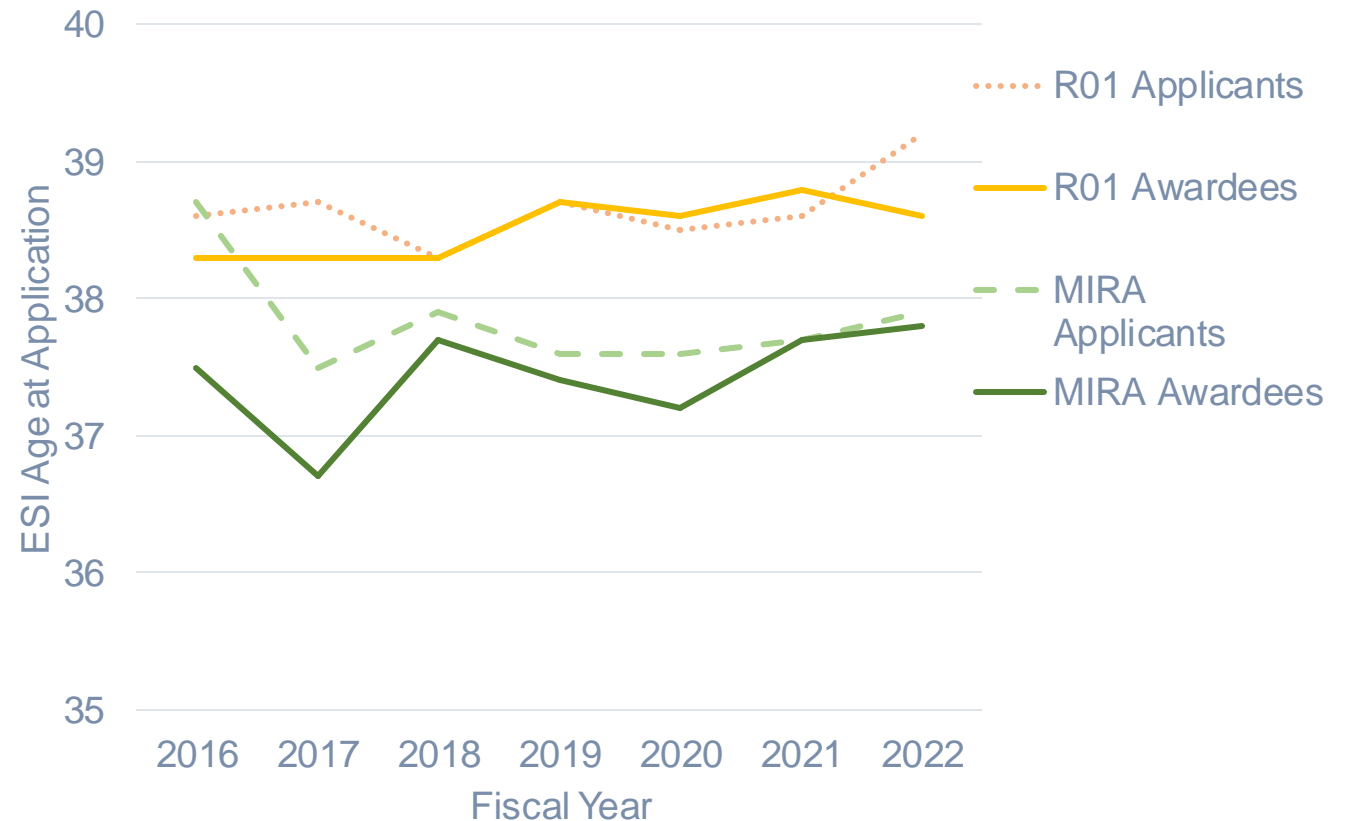
- In FY 2022, NIGMS made R01-equivalent awards to 319 ESIs: (31 R01 awards, 268 R35 MIRA awards and 20 DP2 awards).
- This represents the highest number of ESIs supported by NIGMS since creation of the investigator category.
- Nearly 85% of the ESIs awarded in FY 2022 received R35 MIRAs.
- See Feedback Loop Post for more details: <https://loop.nigms.nih.gov/2023/04/application-and-funding-trends-in-fiscal-year-2022/>

Comparison of MIRA and R01 PI Demographics, FY 19-21

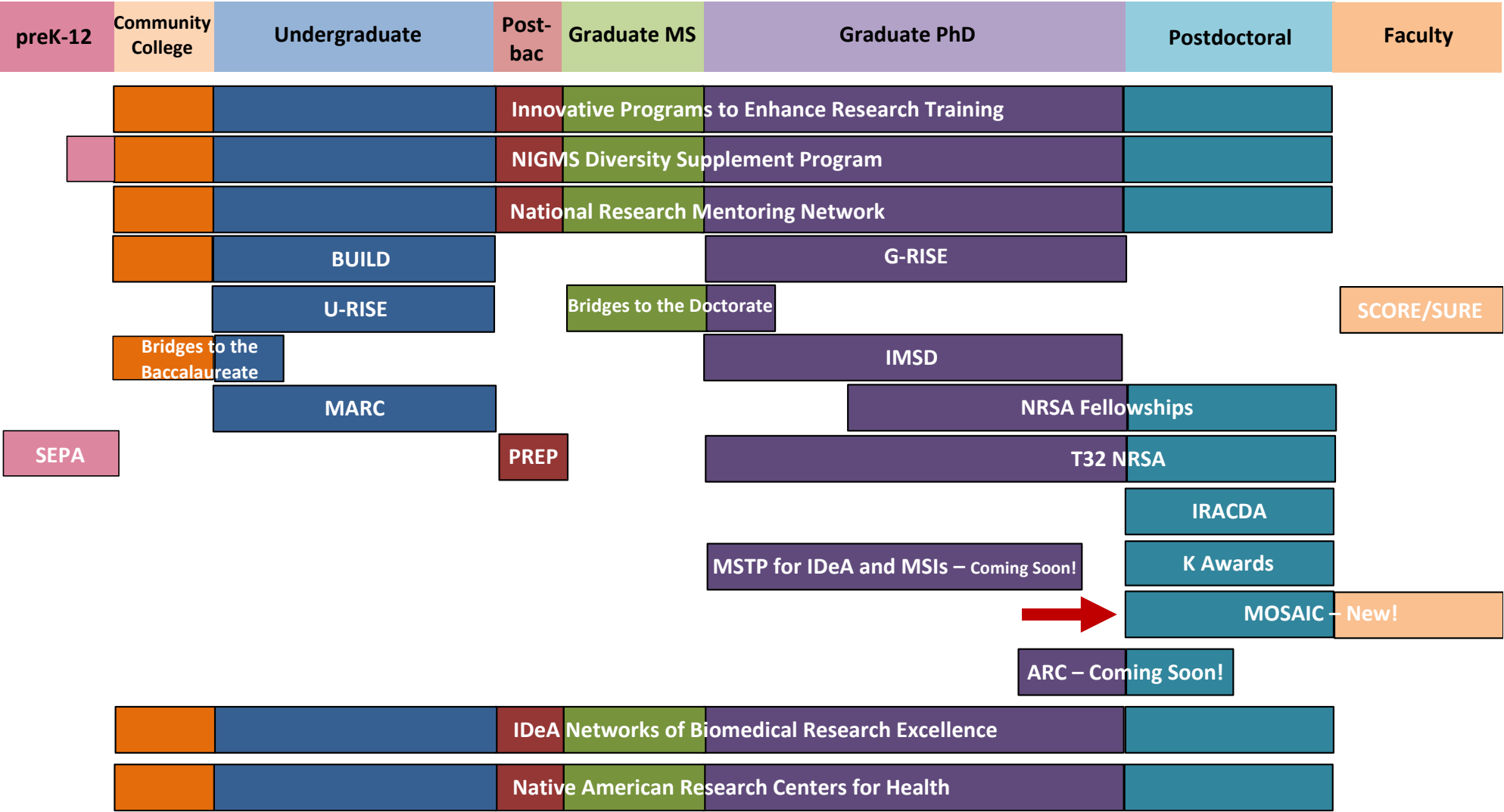


ESI Ages: NIGMS R01 vs. MIRA Grantees

- ESI MIRA applicants and awardees are typically about a year younger than ESI R01 applicants and awardees.
- Over 60% of investigators applying for ESI MIRA in 2022 did so within 2 years of their first Assistant Professor or equivalent position.



NIGMS has workforce development programs that span career stages from preK to independent researcher



MOSAIC Program Updates

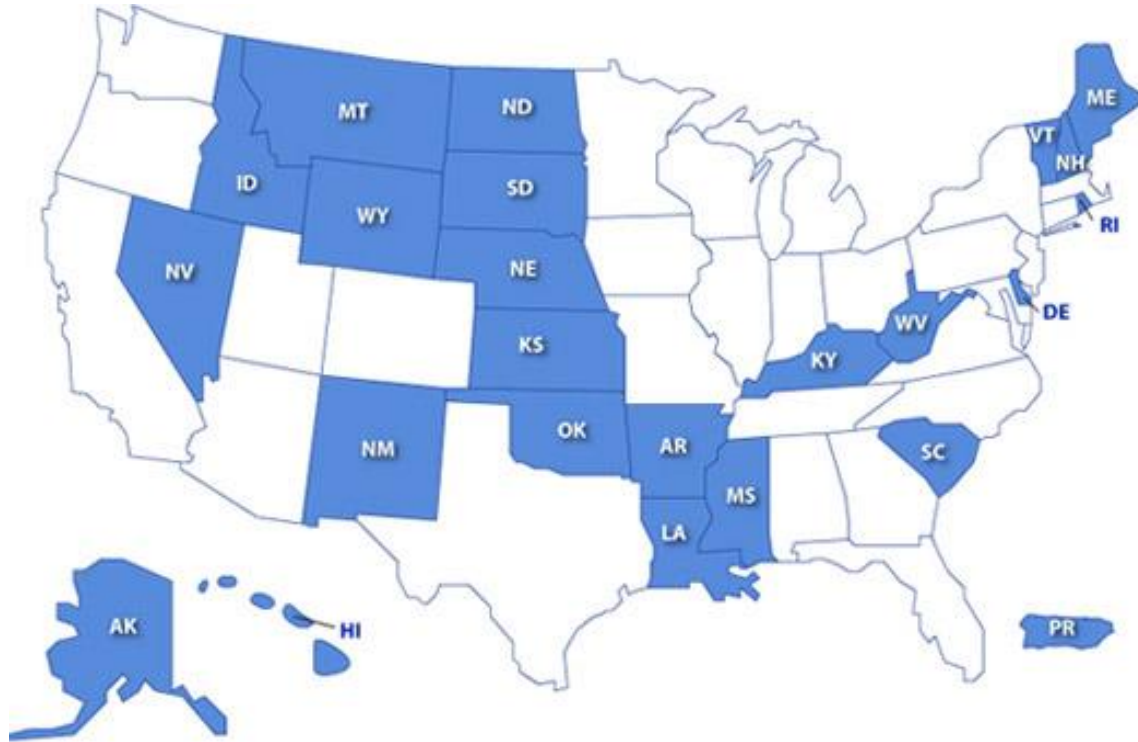
- Enhance diversity of faculty in research-intensive positions
- Diversity-focused K99/R00s and UE5 Mentoring Hubs (AAMC, ASBMB, ASCB – *need neurosci. and microbio.*)
- 23 NIH ICOs currently participate in MOSAIC
- 80 K99s awarded FY21-22 by 16 ICs (~50% success rate)
- MOSAIC scholars - ~80% women, ~70% URM
- ≥27 scholars have already started or accepted faculty positions
- Scholars' bios: go.usa.gov/xuR35



New NIGMS Training, Workforce Development and Diversity Programs

- Advancing Research Careers (ARC) diversity-focused F99/K00 graduate student to postdoc transition program
 - Similar model as MOSAIC – cohorts and mentoring centers
- Second branch of Medical Scientist Training Program (MSTP): Leading Equity and Diversity (LEAD) MSTP
 - Eligibility limited to HBCUs, TCUs, and IDeA State institutions
 - PAR-23-030; first due date February 10, 2023
- Undergraduate and graduate training grants for Tribal Organizations

NIGMS IDeA Program



- **IDeA Networks of Biomedical Research Excellence (INBRE)**
 - Link one or more research-intensive institution in an IDeA state to Primarily Undergraduate Institutions in the state
- **Centers of Biomedical Research Excellence (COBRE)**
 - Develop research capacity in broad scientific areas with a focus on early-career independent researchers
- **IDeA Clinical and Translational Research Programs**

Examples of studies that show INBREs are effective

- Chou, A. F., Hammon, D., & Akins, D. R. (2019). Impact and outcomes of the Oklahoma IDeA network of biomedical research excellence summer undergraduate research program. *Journal of Microbiology & Biology Education*, 20(3), 20.3.50.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6853779/>

- **“compared with those in the control group, there was a 100% increase in OK-INBRE participants who enrolled in or had completed a professional degree (e.g., MD/DO) and a 175% increase in students attending a biomedical science graduate program.”**

- Chou, A. F., Hammon, D., & Akins, D. R. (2022). Impact of the Oklahoma IDeA network of biomedical research excellence research support and mentoring program for early-stage faculty. *Advances in Physiology Education*, 46(3), 443–452.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9273261/>

- **“In achieving extramural funding, R[esearch] P[roject] I[nvestigator] awardees were 12.5 times ($P = 0.005$) as likely to receive a grant award of any type and 4.5 times ($P = 0.06$) as likely to receive a subsequent federal grant as those in the control group.”**



Questions or Comments?