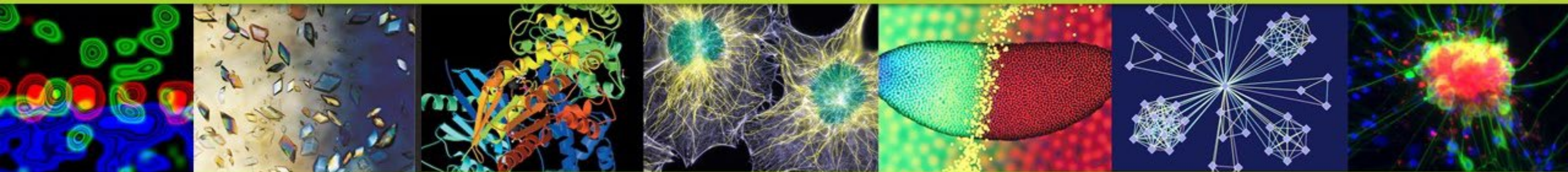


**Jon R. Lorsch, Ph.D., Director
National Institute of General
Medical Sciences**

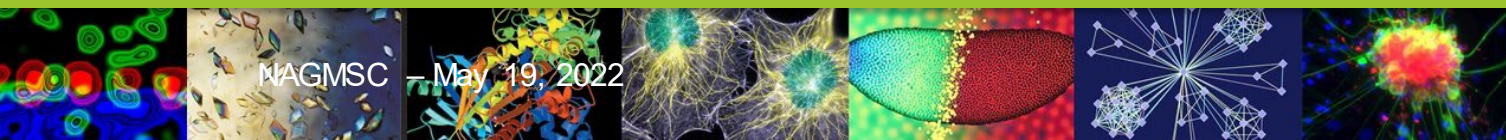
May 19, 2022

National Advisory General Medical Sciences Council



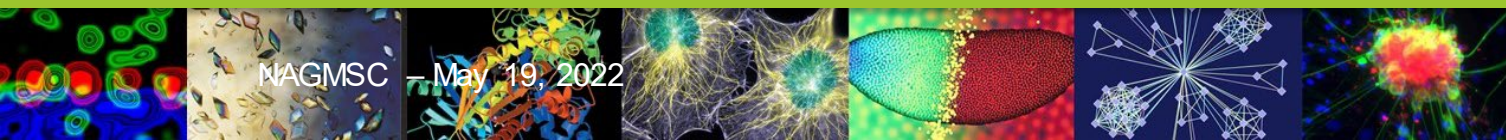
Ad hoc Council Participants

- **Vera Moiseenkova-Bell, Ph.D.**
Professor of Pharmacology
Department of Pharmacology
University of Pennsylvania
- **Christopher W. Seymour, M.D., M.Sc.**
Associate Professor of Critical Care Medicine
and Emergency Medicine
Department of Critical Care Medicine
University of Pittsburgh



Early Career Investigator *Ad hoc* Council Participants

- **Sarah Cohen, Ph.D.**
Assistant Professor
Department of Cell Biology and Physiology
School of Medicine
University of North Carolina at Chapel Hill
- **Paul Sigala, Ph.D.**
Assistant Professor
Department of Biochemistry
University of Utah



NIGMS Personnel Changes

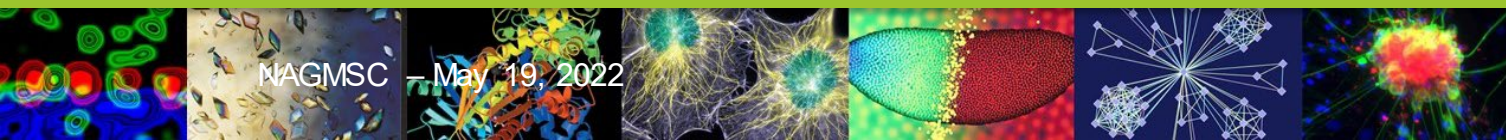
New Hire

- **Chi-Wing Chow, Ph.D.**, Program Officer, Cell Biology Branch, Division of Genetics and Molecular, Cellular, and Developmental Biology



Departures

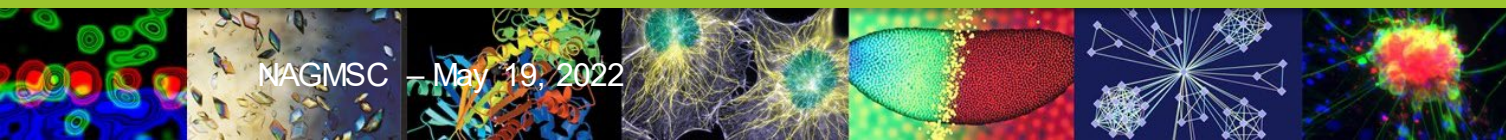
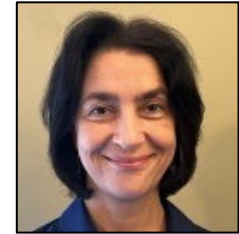
- **Behrouz Davani, Ph.D.**, Program Officer, Division for Research Capacity Building (move to the National Cancer Institute)
- **Hongwei Gao, M.D., Ph.D.**, Program Officer, Division for Research Capacity Building (move to the National Institute on Aging)



NIGMS Personnel Changes (cont.)

Departures

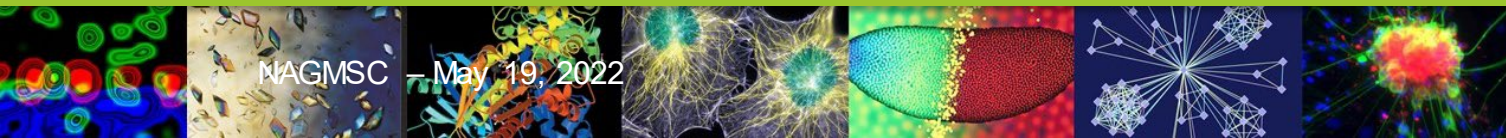
- **Tanya Hoodbhoy, Ph.D.**, Program Officer, Division of Genetics and Molecular, Cellular, and Developmental Biology (move to the National Institute of Dental and Craniofacial Research)
- **Gary Marlowe**, Division of Extramural Activities (move to the National Institute of Neurological Disorders and Stroke)



NIH Departure

Norman E. “Ned” Sharpless, M.D.

- Stepped down as director of the National Cancer Institute (NCI) in April; had held position since 2017
- Served as acting commissioner for Food and Drugs at the U.S. Food and Drug Administration for 7 months in 2019
- Advocated for policies to ensure continued support for investigator-initiated cancer research and diversity in the cancer research workforce
- NCI Principal Deputy Director Douglas R. Lowy, M.D., serving as acting director



Save the Dates: Upcoming NIGMS Lectures

Judith H. Greenberg Early Career Investigator Lecture

- Cesar de la Fuente, Ph.D., University of Pennsylvania
- September 28, 1–2 p.m. ET

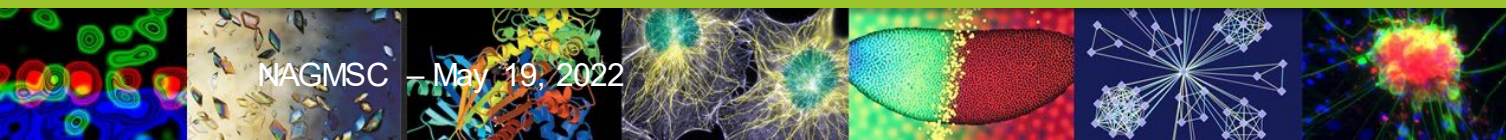


DeWitt Stetten Jr. Lecture

- Sally Hodder, M.D., West Virginia University
- November 30, 3–4 p.m. ET

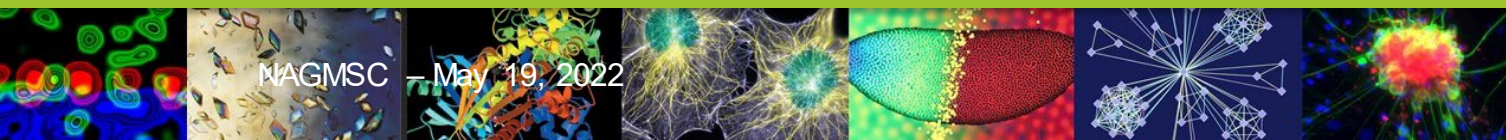
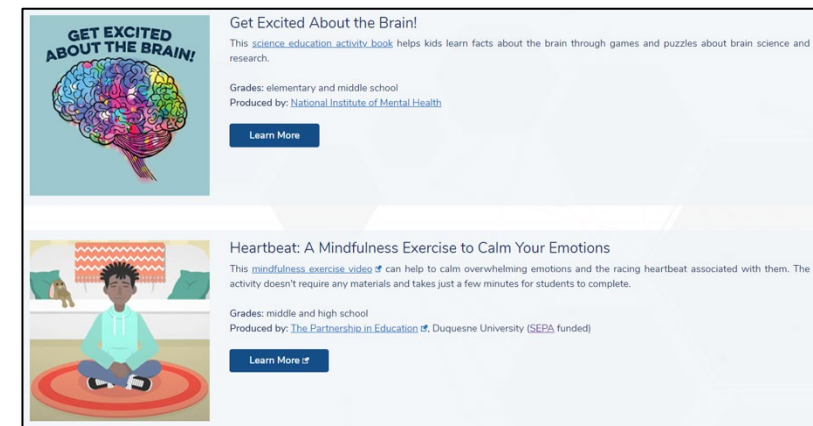


Both lectures will stream via
NIH Videocast: videocast.nih.gov



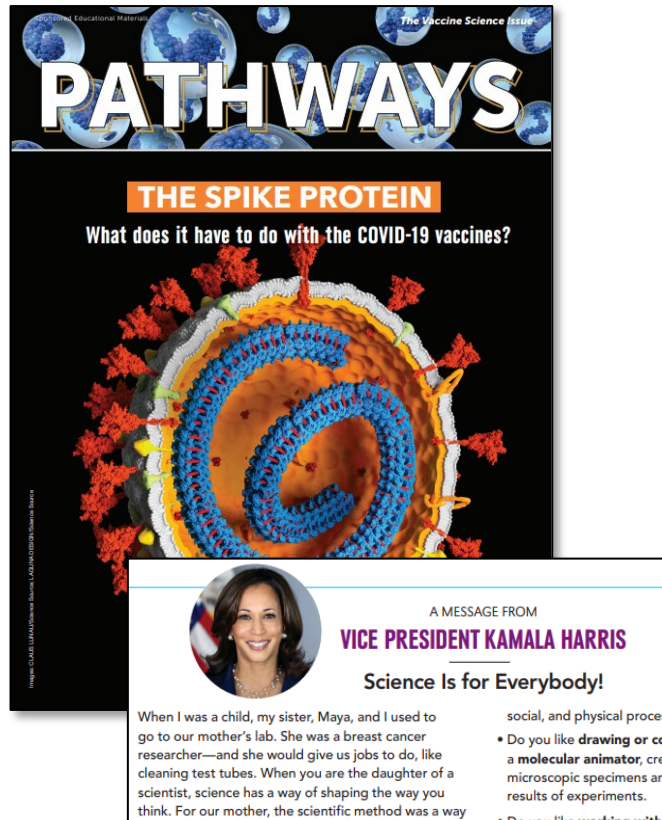
STEM Teaching Resources Portal

- NIH-wide collection of free, easy-to-access materials educators can use to engage K–12 students in science
- Launched in April; managed by NIGMS (along with new NIH STEM coordinating committee)
- Features educational materials from across NIH, as well as many SEPA-funded resources
- Featured in the National Science Teaching Association newsletter (235,000+ subscribers)
- Shared on social media by a variety of stakeholder groups outside of NIH
- See more: science.education.nih.gov

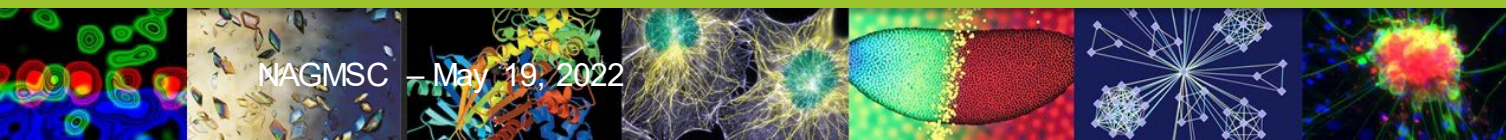


NIGMS Pathways

Vaccine science issue published in April!

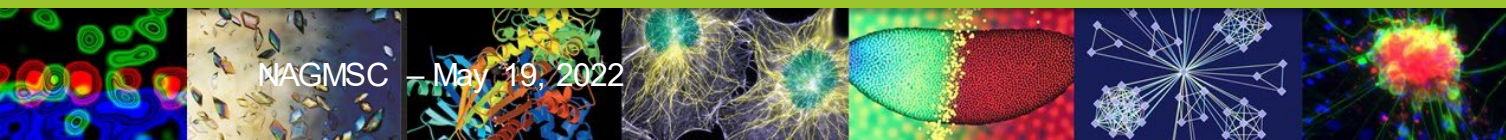


- In partnership with the Office of the Vice President
- Reached an estimated 2.5 million middle and high school students and 19,000 teachers across all 50 states
- Includes online activities featuring NIGMS-funded scientists and research, a *Kahoot!* vaccine science quiz, and lesson plans that map to curricular standards
- See more: scholastic.com/pathways



UNITE Initiative: Expansion of Science Education Partnership Awards (SEPA) Program

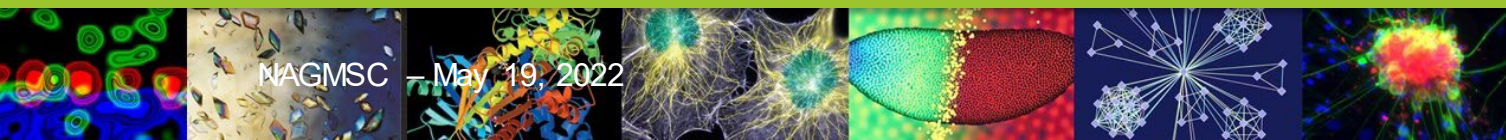
- NOT-HG-22-017: Participation of Additional NIH Institutes and Centers in SEPA
- Sixteen NIH Institutes and Centers (ICs) have Joined NIGMS to fund SEPA awards
- All applications will be submitted to NIGMS. Participating ICs may select applications they are interested in funding after review
- SEPA awardees funded by all ICs will participate in program-wide activities led by NIGMS
- Goal is to fund more SEPA grants
- We want to see **MORE** SEPA applications!



NAGMSC – May 19, 2022

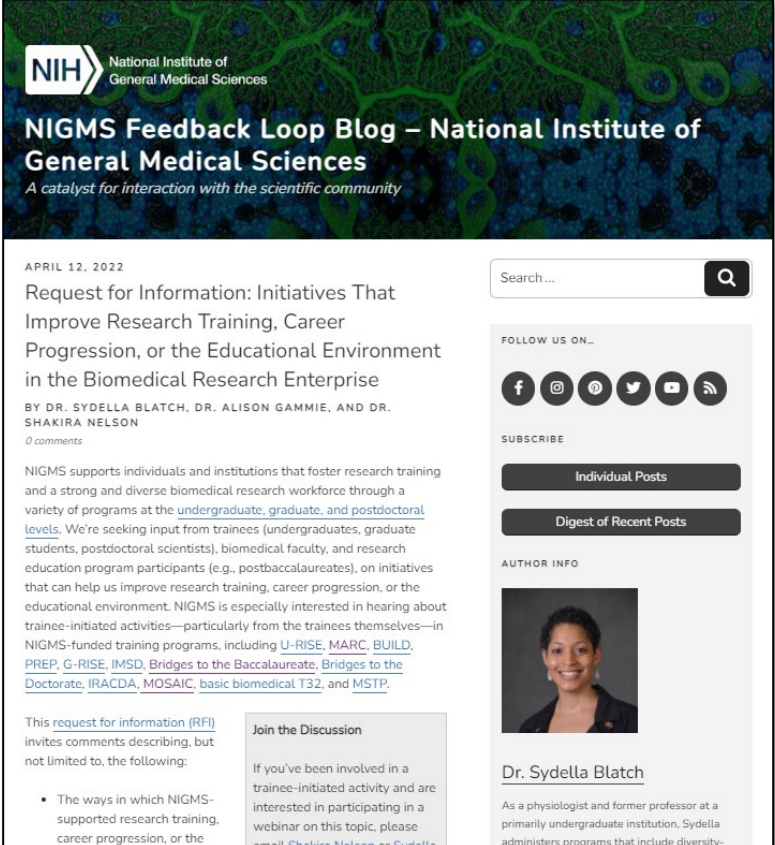
MOSAIC Scholars Updates

- Maximizing Opportunities for Scientific and Academic Independent Careers (MOSAIC) program has welcomed 12 scholars so far in 2022
- Goal is to enhance diversity of faculty at research-intensive positions
- 23 NIH institutes, centers and offices now participate in MOSAIC
- K99 applications due three times per year (February, June, October)
- Learn more: go.usa.gov/xuR35

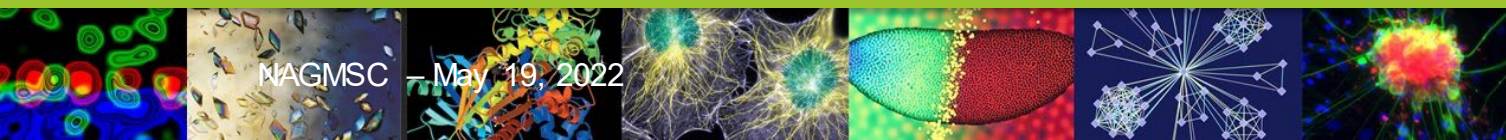


Request for Information

- Seeking input from students and trainees on how to improve research training, career progression, and the educational environment
- Especially interested in hearing from those in NIGMS-funded training programs
- Comment deadline is May 28; learn more by visiting the *Feedback Loop* blog post: go.usa.gov/xugc7

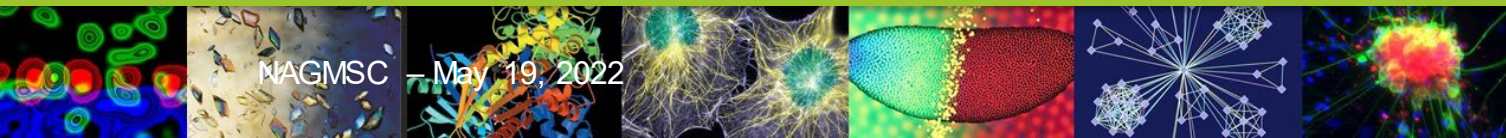
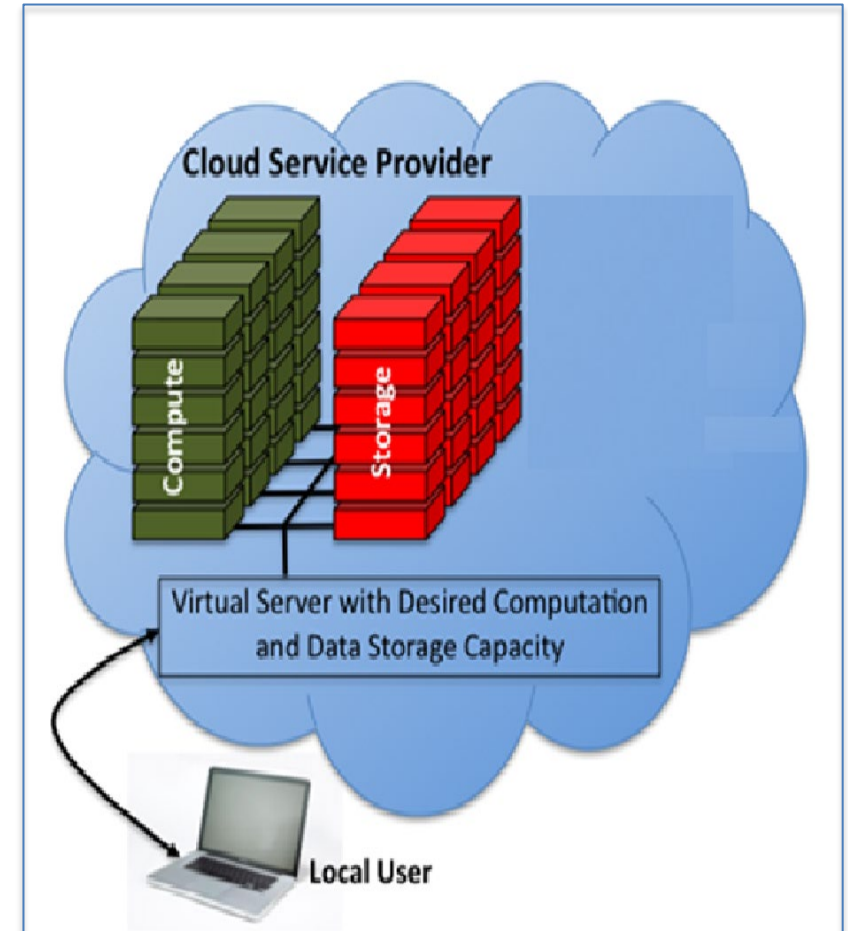


The screenshot shows a blog post from the National Institute of General Medical Sciences (NIGMS) Feedback Loop. The post is dated April 12, 2022, and is titled "Request for Information: Initiatives That Improve Research Training, Career Progression, or the Educational Environment in the Biomedical Research Enterprise". It is authored by Dr. Sydella Blatch, Dr. Alison Gammie, and Dr. Shakira Nelson. The post discusses NIGMS's support for research training and workforce development through various programs at different levels (undergraduate, graduate, postdoctoral). It seeks input from trainees, students, postdoctoral scientists, and faculty. A "Join the Discussion" section is visible, inviting comments describing research training, career progression, or educational environment initiatives. The author's photo and name, Dr. Sydella Blatch, are also shown.



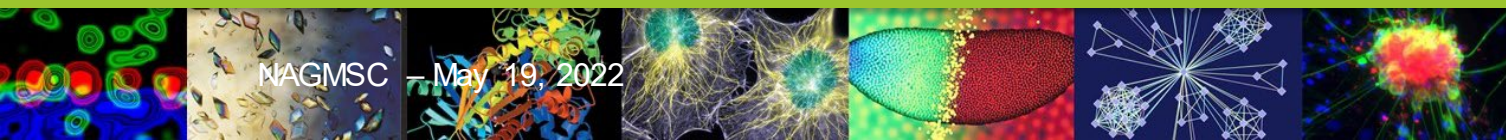
Cloud-Computing Could Democratize Data Science

- NIGMS supports capacity building and training at many under-resourced institutions
 - ~400 institutions in the 24 IDeA states
 - ~100 Minority Serving Institutions
- The cloud can allow access to high-performance computing, advanced data science tools (e.g., AI, ML, etc.), and Big Data for researchers and students at any institution

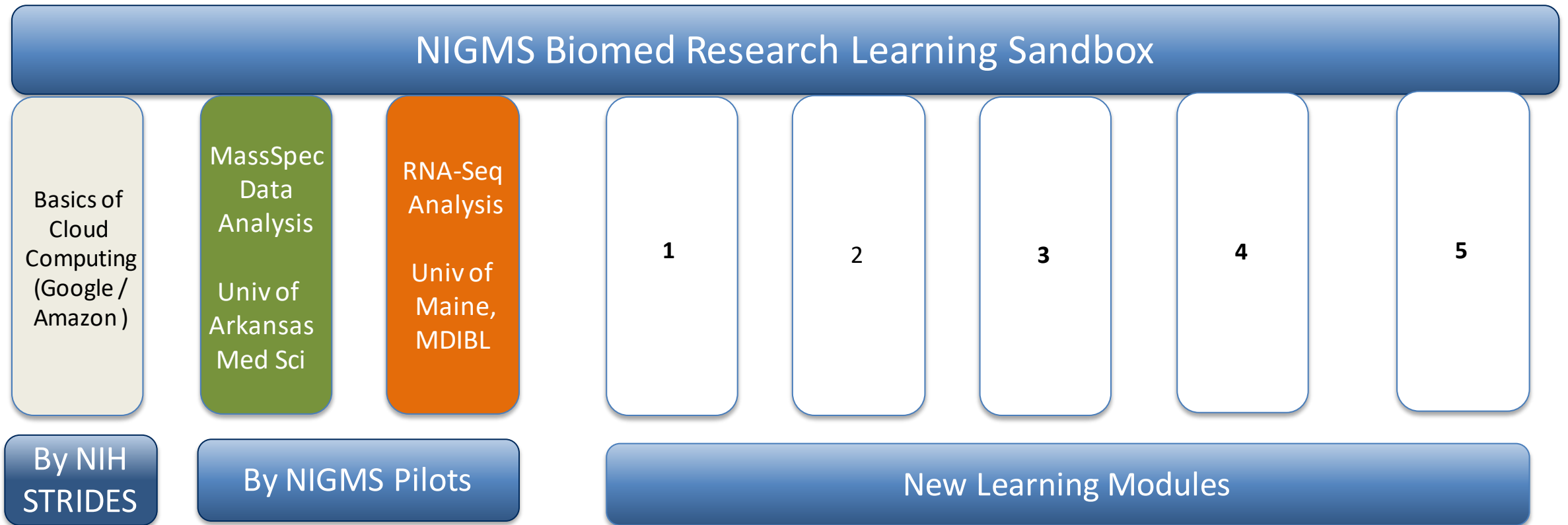


Cloud Computing RFI and Workshop

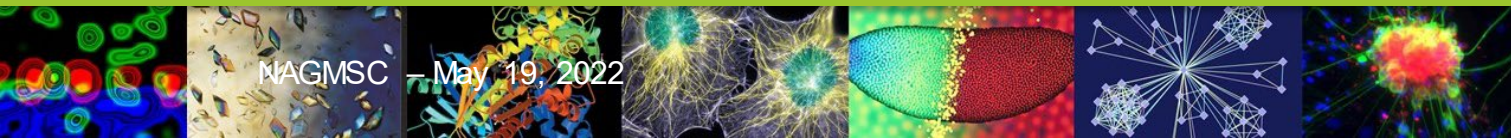
- Collaboration with NIH Office of Data Science Strategy and NIMHD
- RFI - Seek input on current and future needs and utilization of cloud computing from institutions within **IDeA-eligible states**, **RCMIs**, and **MSIs**.
 - Released: July 8, 2021
 - Response period: July 8-September 30, 2021
- NIH Workshop on Broadening Cloud Computing Usage in Biomedical Research (Sept 13 – 14, 2021)
- **Clear need: More training opportunities**



An NIGMS Cloud “Sandbox” with Multiple Learning Modules

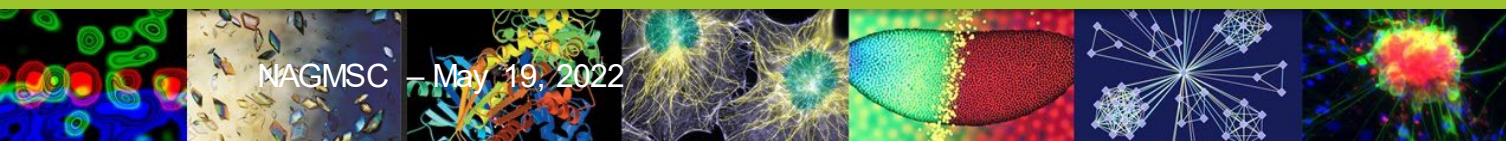


Work in Progress: 1. Funding 10 investigator teams to build additional learning modules
2. Developing a platform to deploy the Sandbox



Ten Additional Modules to Be Built in 2022

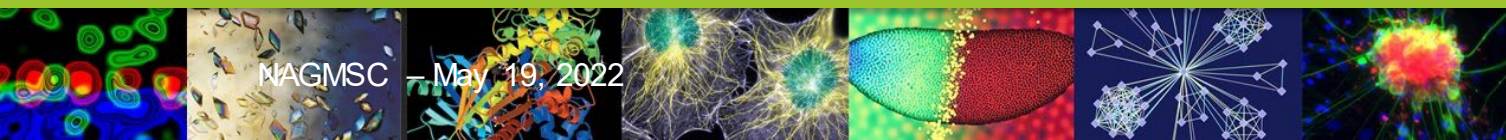
Topic	Project Lead(s)	Applicant
Fundamentals of Bioinformatics (Configuration, data manipulation, Genome Assembly)	Shannon Soucy	NH-INBRE
DNA Methylation Sequencing Data Analysis (Sequence processing and analysis)	Yujia Qin, Youping Deng	HI-INBRE
Consensus Pathway Analysis (High throughput data processing, differential gene expression, Gene set enrichment, consensus analysis and visualization)	Tin Nguyen, Julia Petereit	NV-INBRE
Assay for Transposase Accessible Chromatin (ATAC-seq) to identify open/accessible regions of the genome	Babu Guda, Jordan Rowley	NE-INBRE
AI/ML (Python/Pytorch, BigData, Deep Learning, Hadoop and Map Reduce, Image analysis)	Justin Zhan, Kyle Quinn,	AR-INBRE
Biofilm-Microbiome Composition [16S and Metagenomics], Diversity, and Function	Etienne Zohim, Carol Lushbough	SD-INBRE
Data Science for biology (Introduction to R and R Studio, creating plots, statistical model)	Pleuni Pennings, Megumi Fuse	SFSU
Transcriptome (QC, preprocessing, and Normalization, Assembly, Annotation, Differential expression analysis)	Joel Graber, Christian Wilson, Nathaniel Maki	ME-INBRE
Biomarker Discovery from Proteomics, metabolomics, and transcriptome data	Christopher Hemme	RI-INBRE
Integrating multi-omics (transcriptome, epigenetics and proteomics datasets)	Sandeep Singhal	ND-INBRE



MIRAs vs. R01s: Take Aways from February Meeting

- EI and ex-ESI MIRA renewals and conversions have higher award rates than R01 renewals
- Both R01 and MIRA renewals received budget increases
 - ex-ESI and lower budget MIRA renewals received the largest increases
- R01 to MIRA conversions overall received significant budget increases
 - PIs with R01s <\$250k in direct costs were brought up to \$250k
 - PIs with large budgets (>\$400k) were generally cut by ~12%

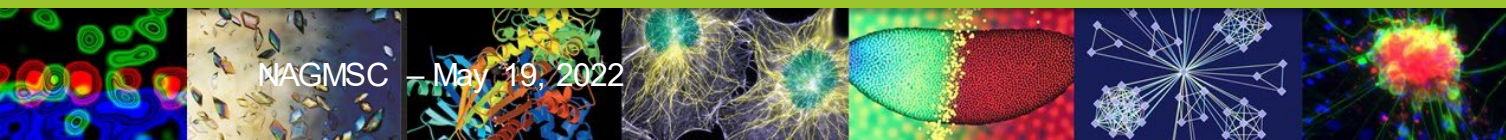
<https://loop.nigms.nih.gov/2022/02/mira-renewals-award-rates-and-budget-changes/>



Some Additional Questions About MIRA

- Are PIs still applying for MIRAs?
 - Strategic Goal: $\geq 60\%$ of R01-equivalent pool will be MIRAs by 2025
- What are the demographics of MIRA PIs?
- Do the restrictions of MIRA make PIs more likely to apply for additional funding from other NIH Institutes and Centers (ICs)?
- How does the productivity and scientific importance of MIRA PIs' research compare to similar R01-funded PIs?

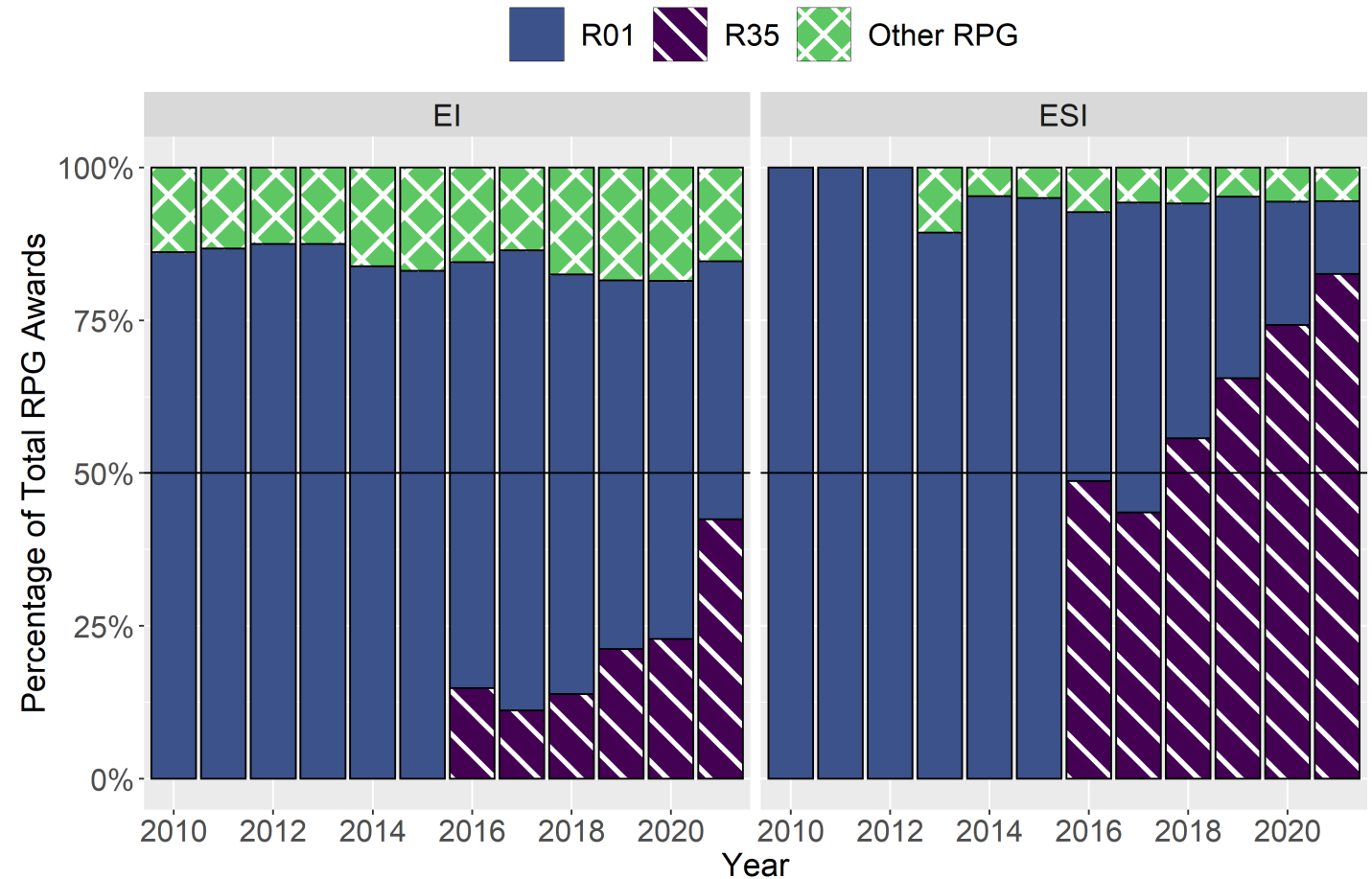
Analysis: Travis Dorsey



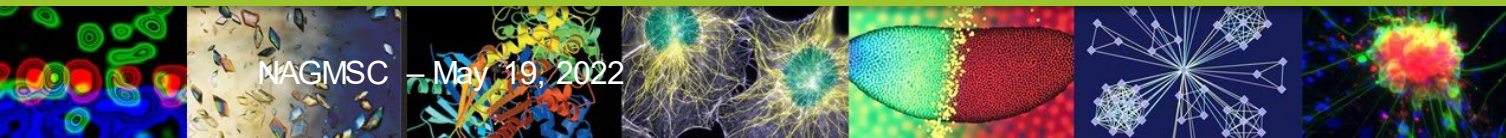
Interest in MIRA

- MIRA has become an increasingly large component of the NIGMS portfolio, and interest in the program continues to be high, especially among ESIs.
- More than half of the competing ESI RPG awards in each year are now MIRAs.

Competing NIGMS RPG Awards by Activity Code



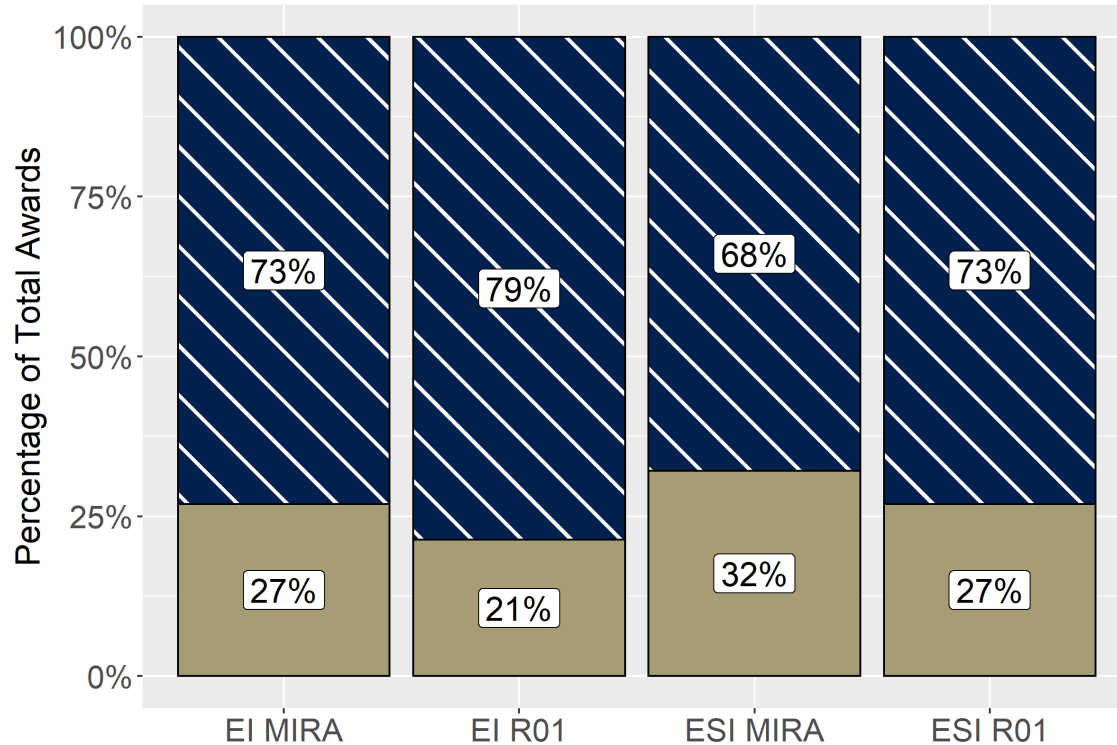
For more information, read our Feedback Loop post: <https://loop.nigms.nih.gov/2022/04/application-and-funding-trends-in-fiscal-year-2021/>



MIRA Demographics

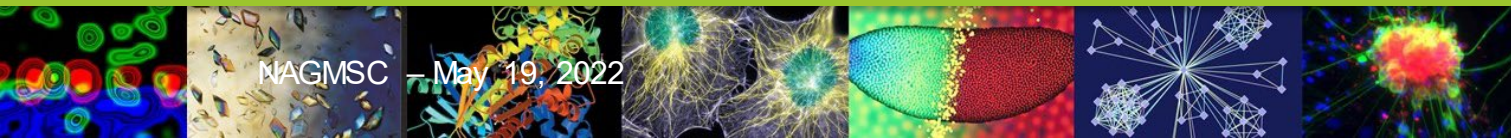
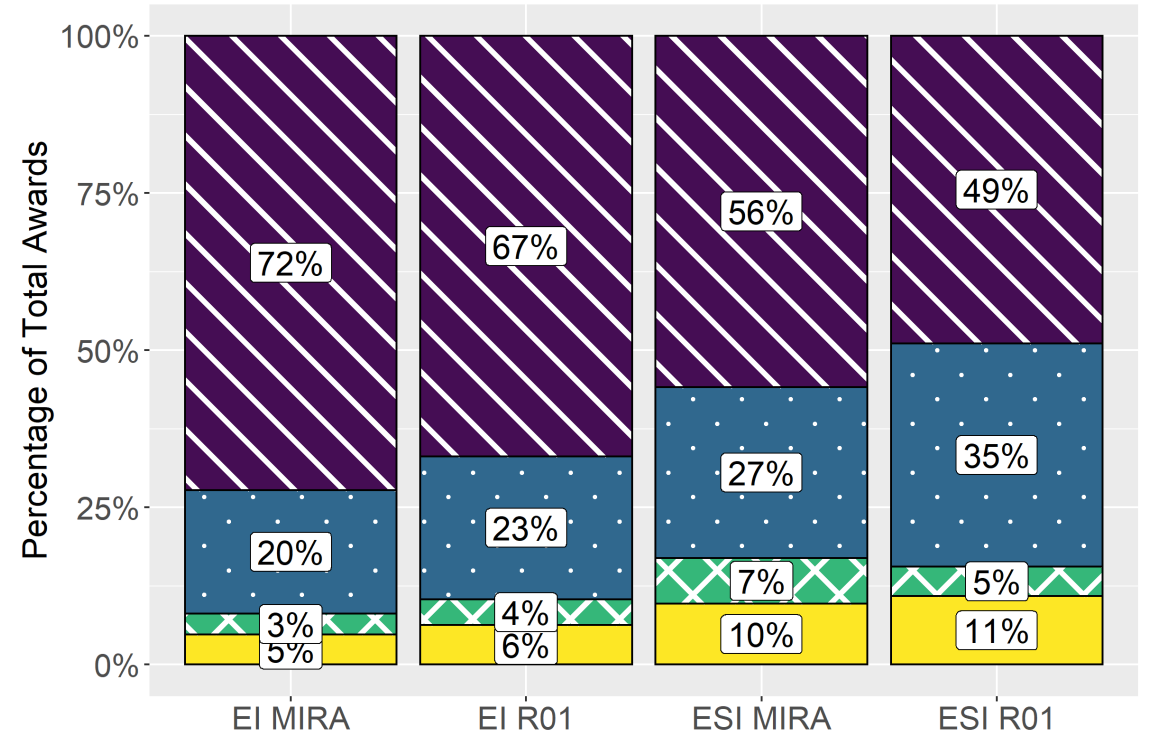
Gender Breakdown of MIRA and R01 Awards
Excludes Unknown/Withheld

Men Women



UR Status Breakdown of MIRA and R01 Awards

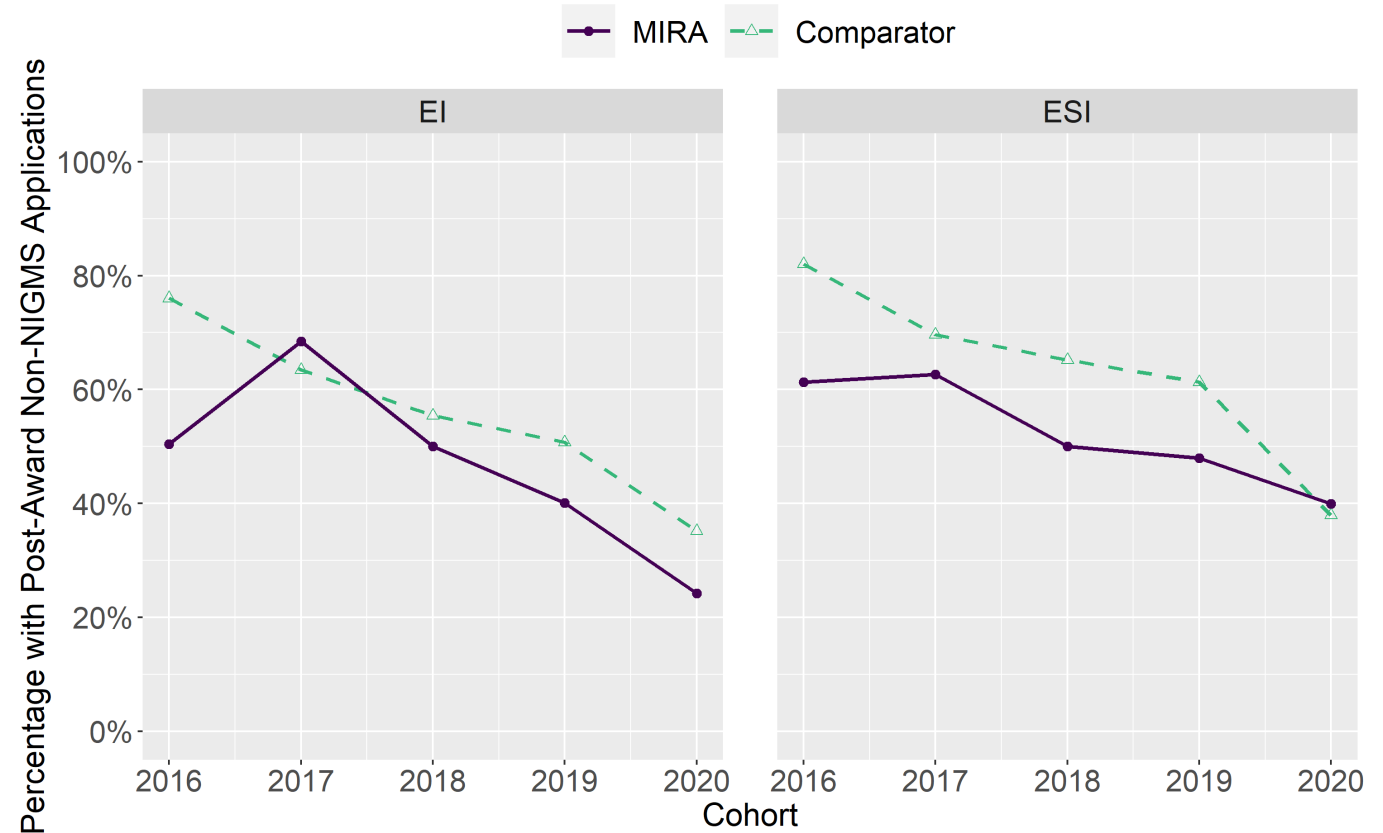
White Hispanic or Black
Asian Other



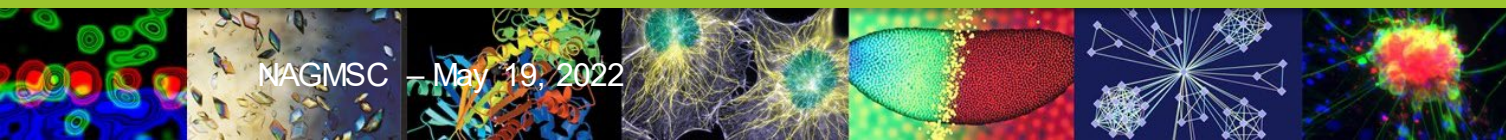
Subsequent Applications to Other NIH ICs

- MIRA investigators submit post-award competing applications to other NIH ICs less often than do NIGMS R01 investigators

Percentage of PIs with Post-Award Applications
Type 1/2 Applications; Includes RPG and Research Center Grants

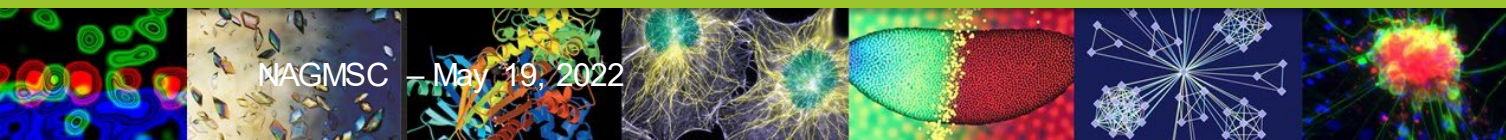
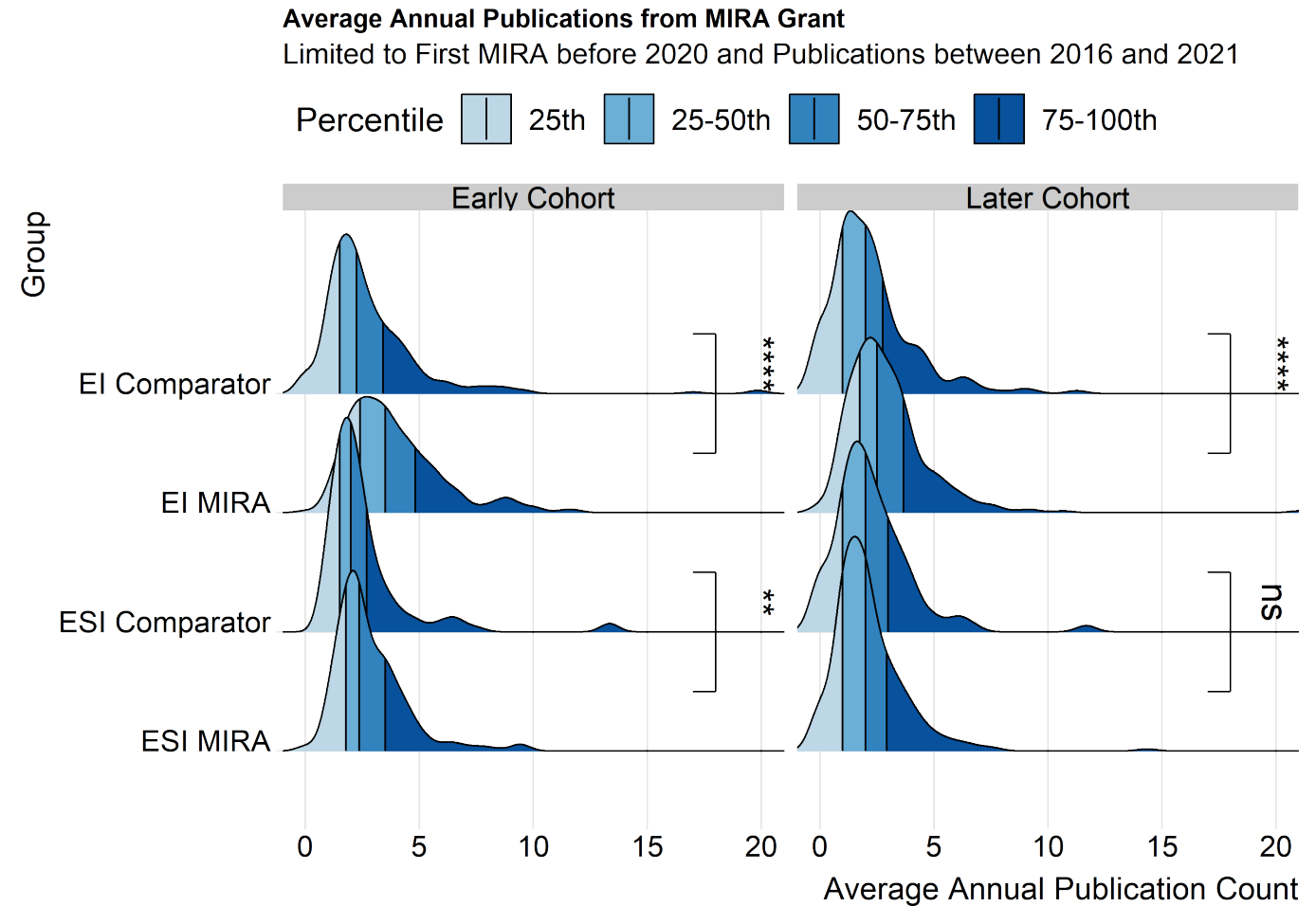


For more information, read our Feedback Loop post: <https://loop.nigms.nih.gov/2022/03/do-mira-investigators-apply-for-more-grants-from-other-nih-institutes-and-centers-than-r01-investigators/>



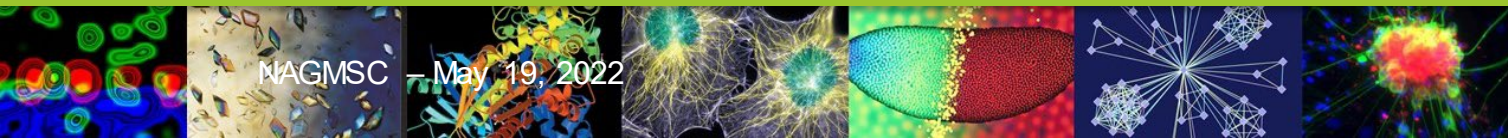
Publications and Citations

- More average annual publications from EI MIRA and Early Cohort ESI MIRA investigators than NIGMS R01 Comparators
- Similar trends seen in Citations and Field-Normalized Citations



Key Findings

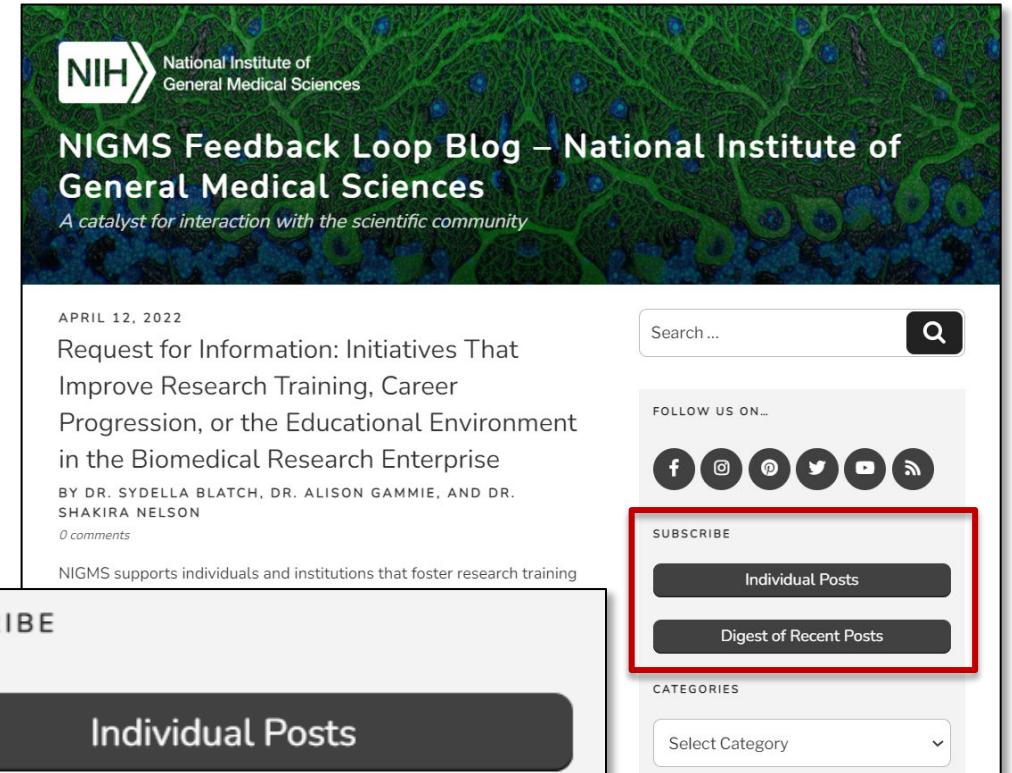
- MIRA has become an increasingly large component of the NIGMS portfolio, and interest in the program continues to be high, especially among ESIs
- ESI MIRA PIs are more diverse than EI MIRA PIs, but still well below the level for Ph.D. graduates in the life sciences
- MIRA investigators have submitted fewer subsequent applications to other NIH institutes and centers than NIGMS R01 investigators
- EI MIRA investigators have slightly higher productivity and citations than comparable EI R01 investigators




Subscribe to NIGMS' *Feedback Loop* Blog

- *Feedback Loop* is primarily for current NIGMS grantees, applicants, and others in the scientific community
- Provides the latest on NIGMS funding opportunities, meetings, resources, and other useful information
- Two subscription options: receive posts as they happen or in digest format

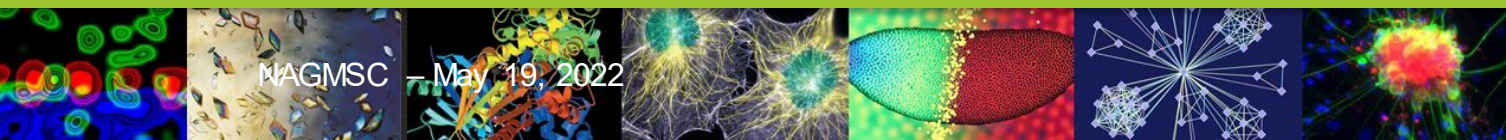
loop.nigms.nih.gov



The screenshot shows the NIGMS Feedback Loop Blog interface. At the top, the NIH logo and "National Institute of General Medical Sciences" are displayed. The main heading reads "NIGMS Feedback Loop Blog – National Institute of General Medical Sciences" with the tagline "A catalyst for interaction with the scientific community". Below this, a post from April 12, 2022, is featured, titled "Request for Information: Initiatives That Improve Research Training, Career Progression, or the Educational Environment in the Biomedical Research Enterprise" by Dr. Sydella Blatch, Dr. Alison Gammie, and Dr. Shakira Nelson. To the right of the post is a search bar and social media icons for Facebook, Instagram, Pinterest, Twitter, YouTube, and RSS. Below the social media icons is a "SUBSCRIBE" section with two buttons: "Individual Posts" and "Digest of Recent Posts", which are highlighted with a red border. At the bottom right, there is a "CATEGORIES" section with a "Select Category" dropdown menu.



A close-up view of the "SUBSCRIBE" section, showing two dark grey buttons with white text: "Individual Posts" and "Digest of Recent Posts".



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- NIGMS Blogs

- *Feedback Loop*: loop.nigms.nih.gov
- *Biomedical Beat*: biobeat.nigms.nih.gov

