

Decadal Survey of Ocean Sciences for NSF Committee Meeting
Panel Discussion: A Future Equitable Ocean Sciences
February 15, 2024

Systemic racial disparities in funding rates at the National Science Foundation

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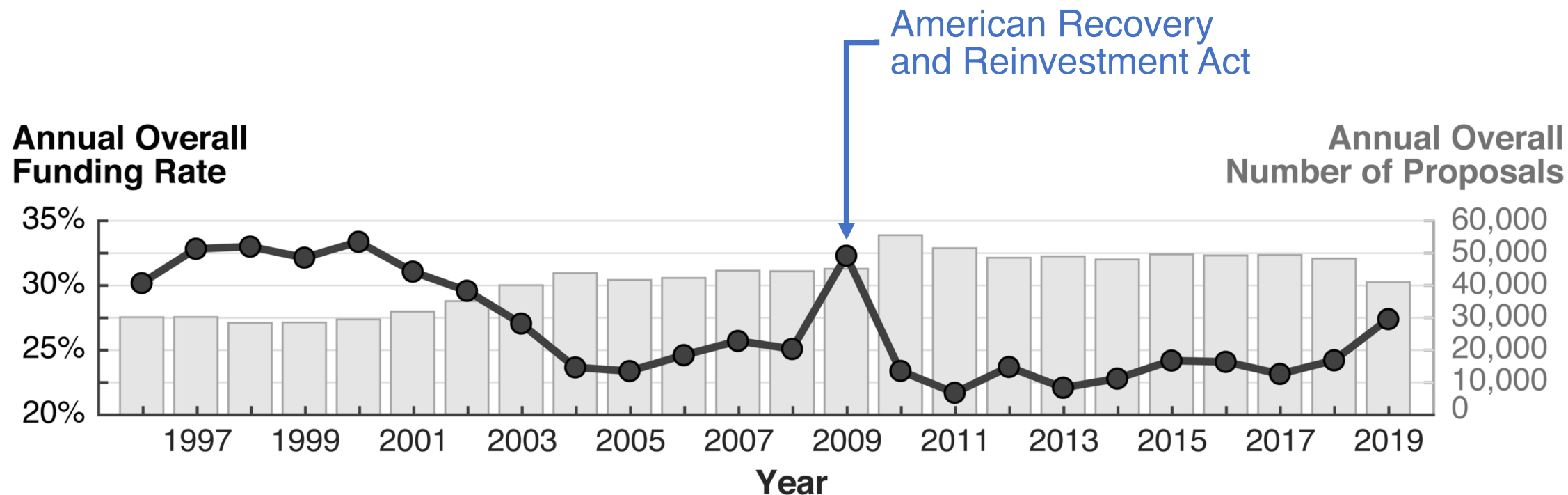


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NSF receives tens of thousands of proposals each year.

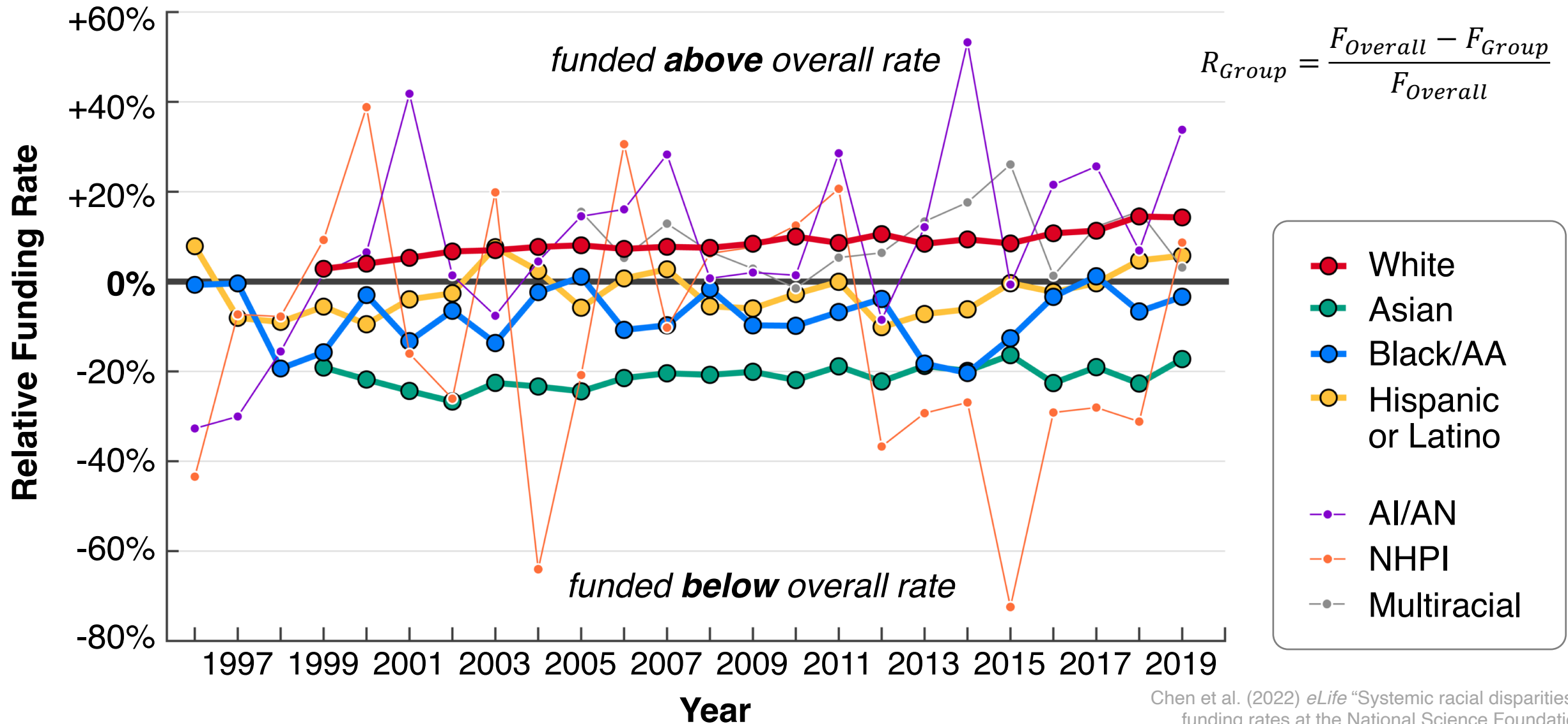
NSF cannot fund them all.

Overall funding rates have fluctuated between 22% and 34%.



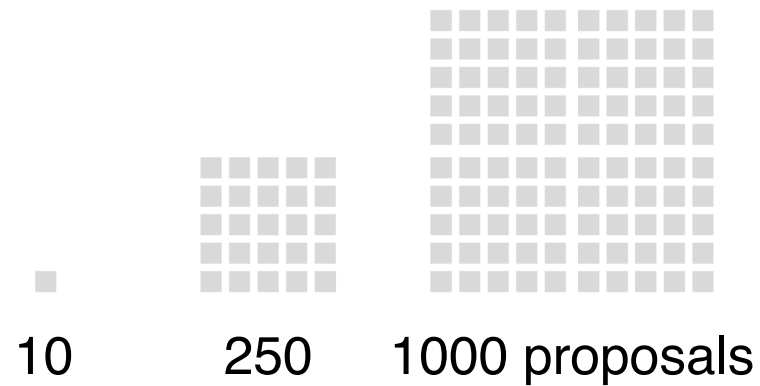
Overall, proposals by **white PIs** have been consistently funded at **above** overall rates.

Relative funding rates for white PIs have been *increasing*.

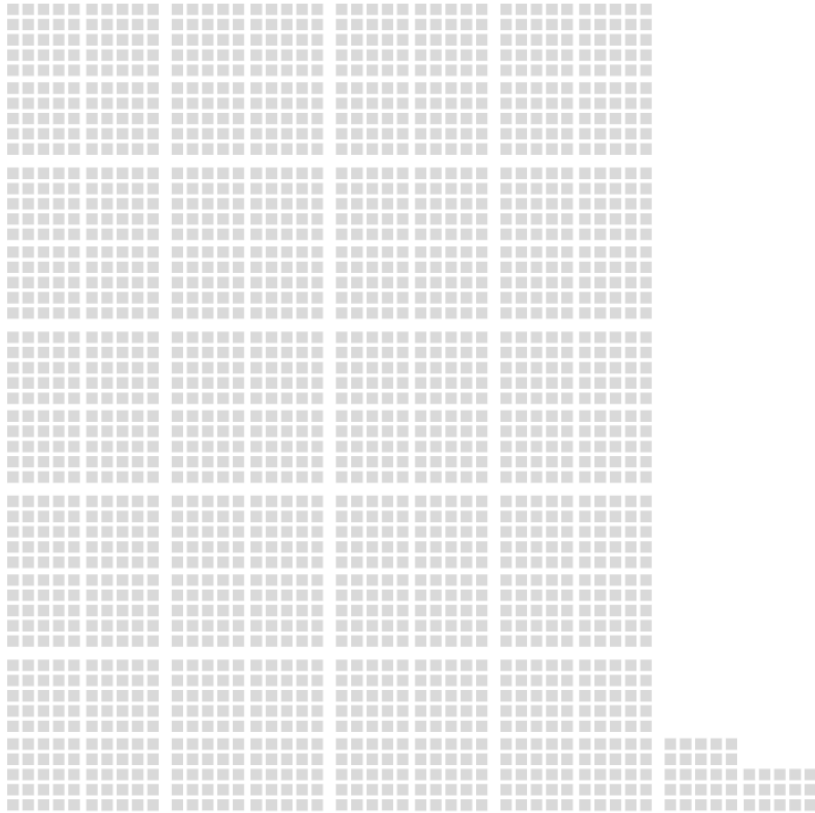


Funding Outcomes in 2019 by PI Race and Ethnicity

Let each box represent **10 proposals**.

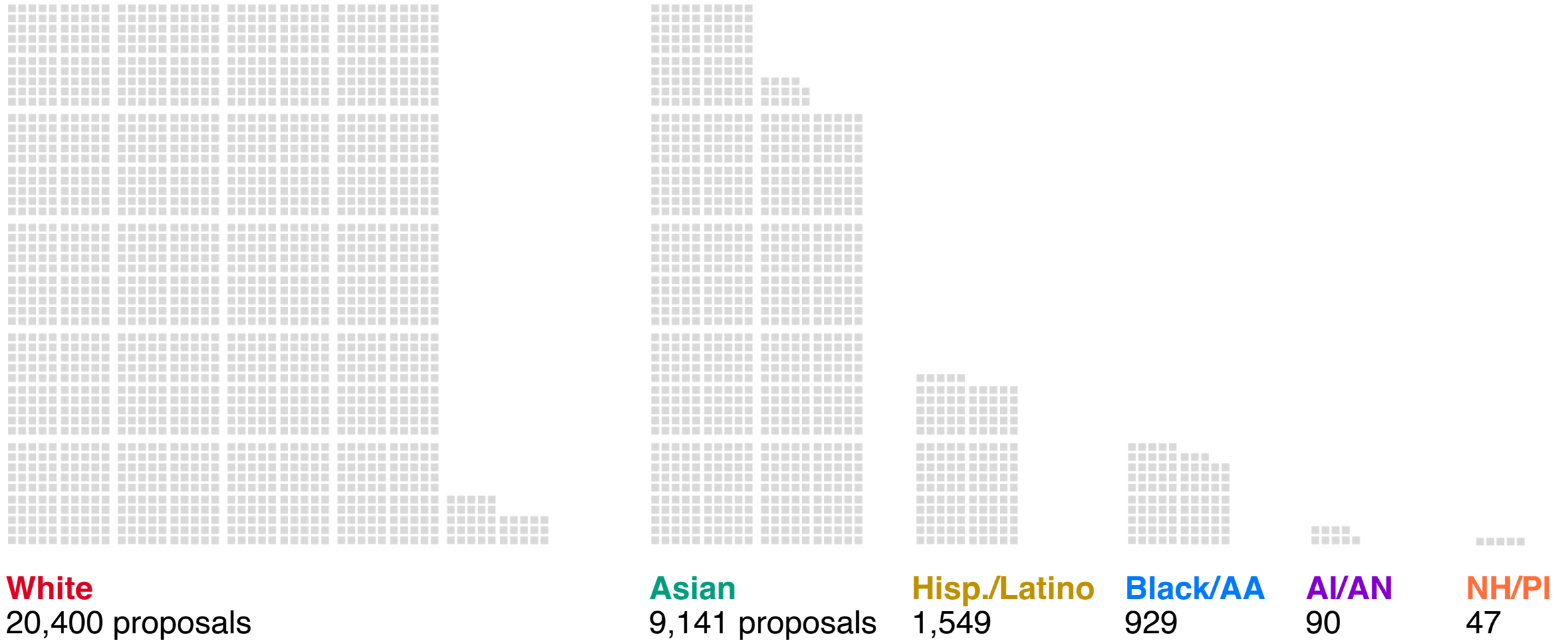


Funding Outcomes in 2019 by PI Race and Ethnicity

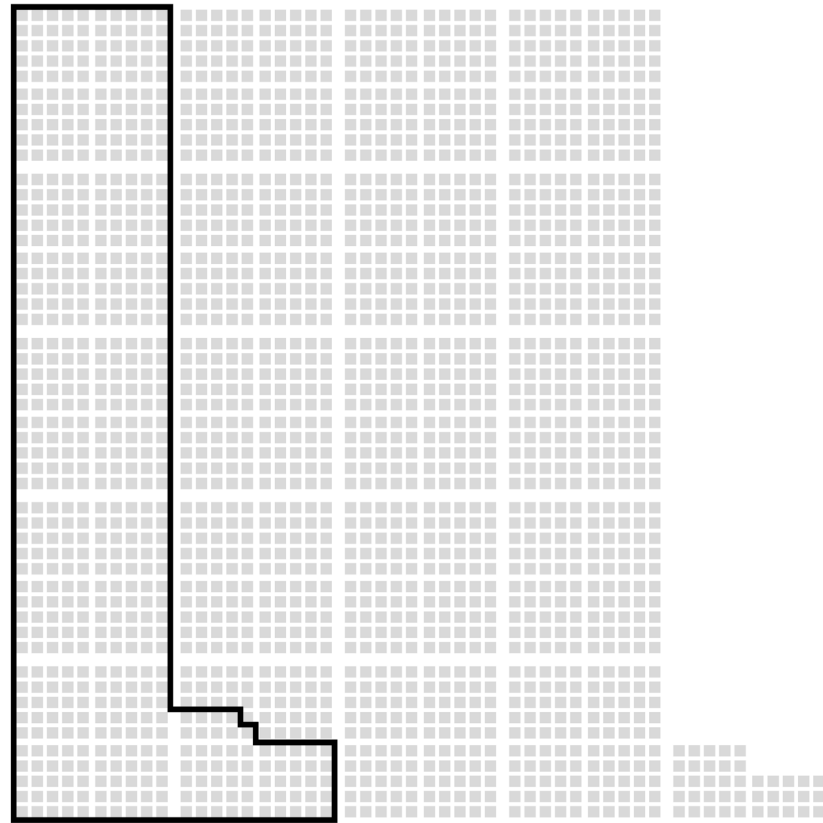


White
20,400 proposals

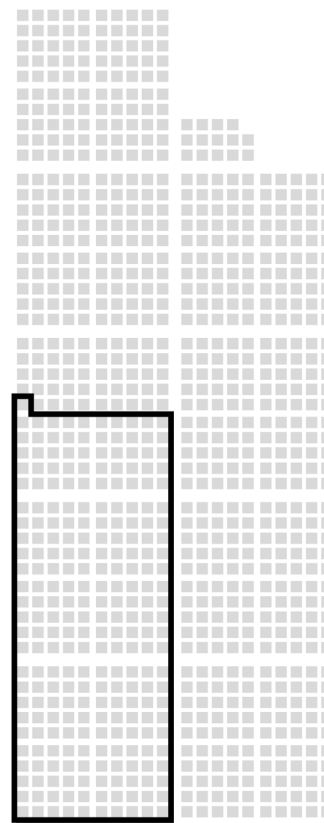
Funding Outcomes in 2019 by PI Race and Ethnicity



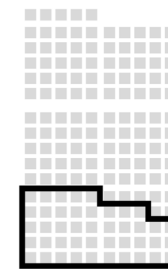
Funding Outcomes in 2019 by PI Race and Ethnicity



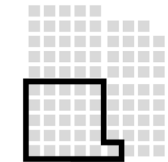
White
20,400 proposals



Asian
9,141 proposals



Hisp./Latino
1,549



Black/AA
929



AI/AN
90

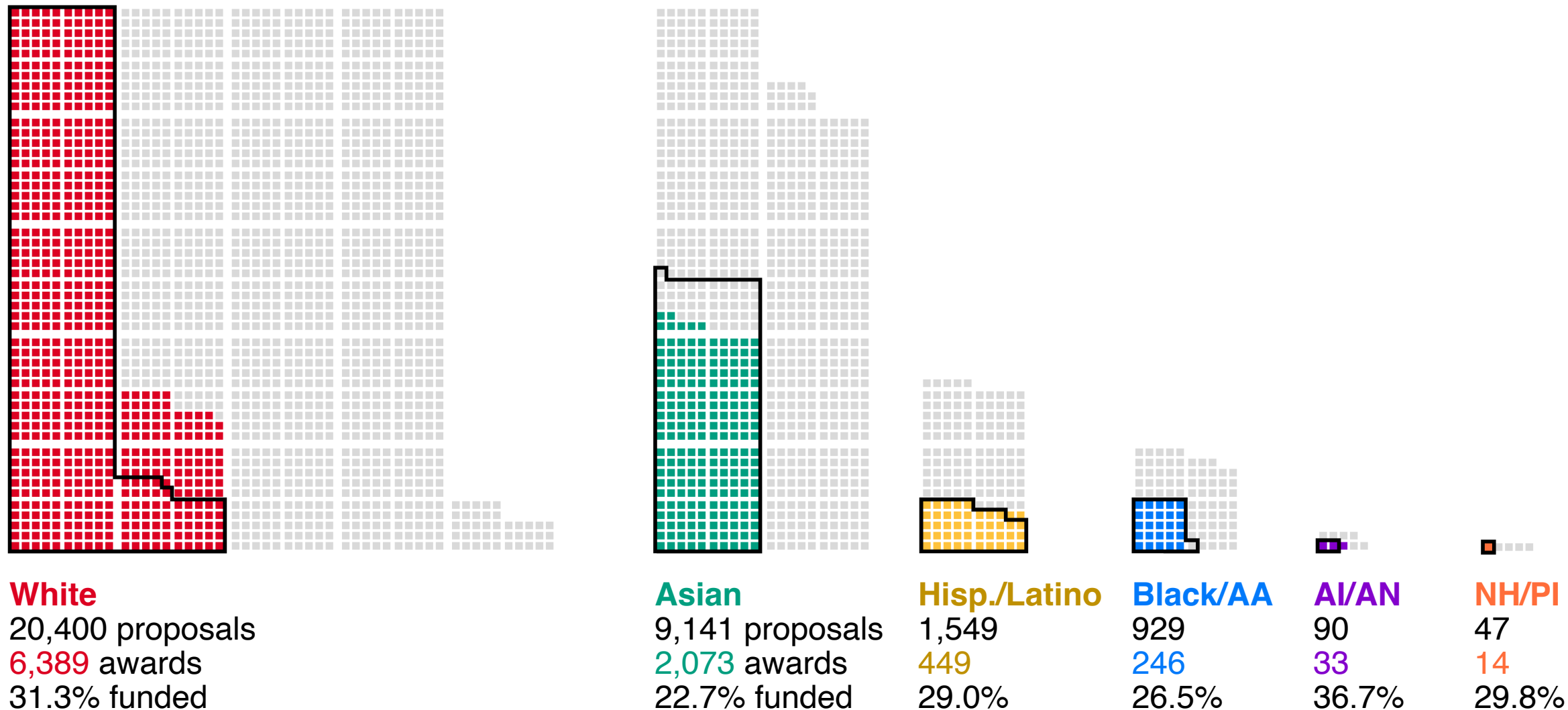


NH/PI
47

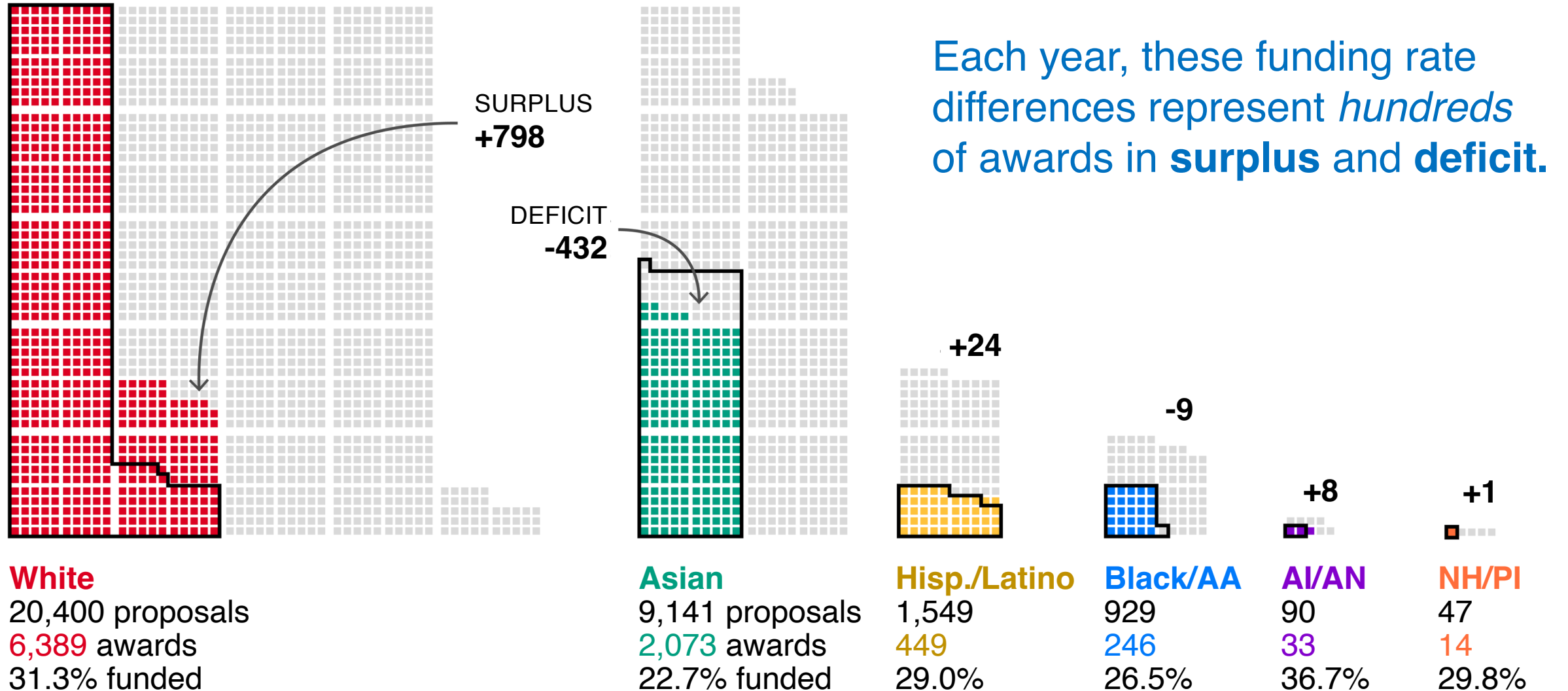
The overall funding rate in 2019
was **27.4%**.

If each group were funded at
the same rate, we'd expect
these many awards per group.

Funding Outcomes in 2019 by PI Race and Ethnicity

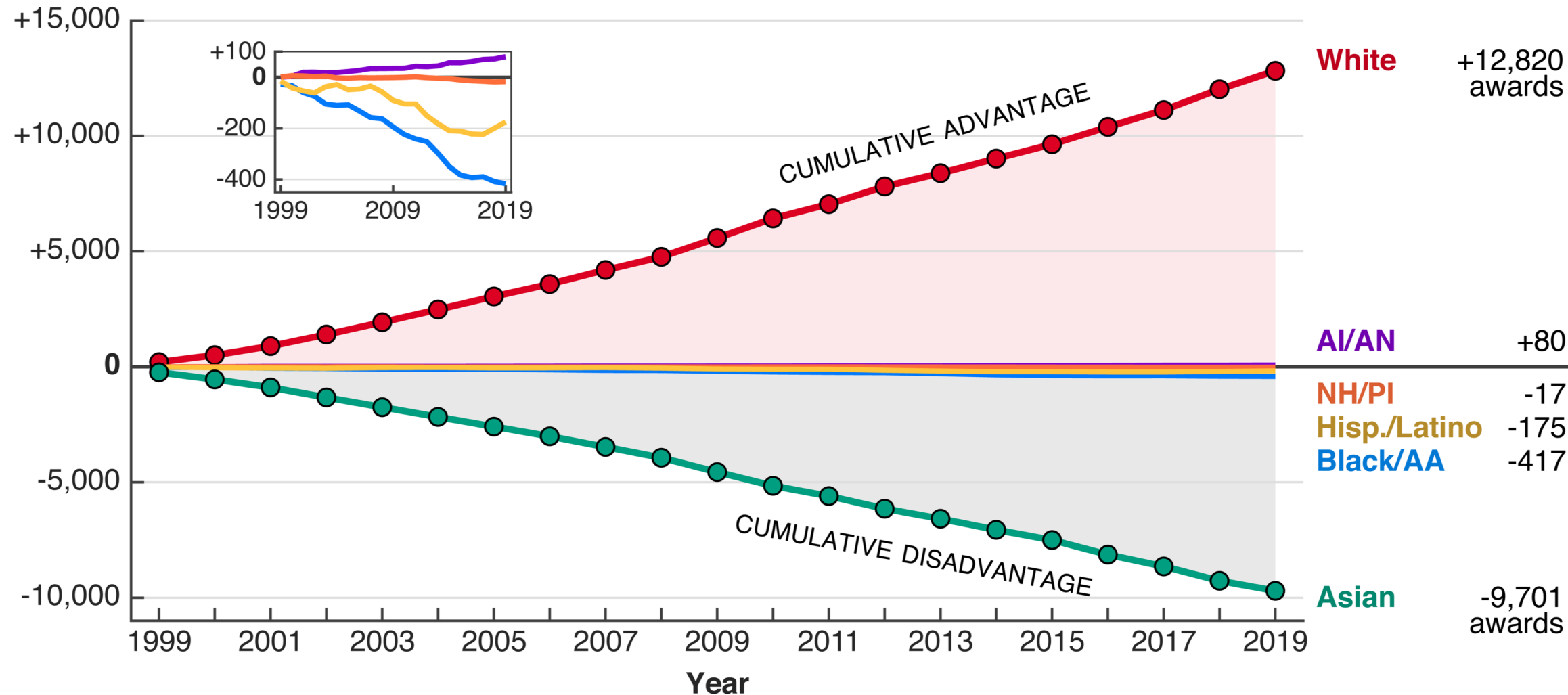


Funding Outcomes in 2019 by PI Race and Ethnicity



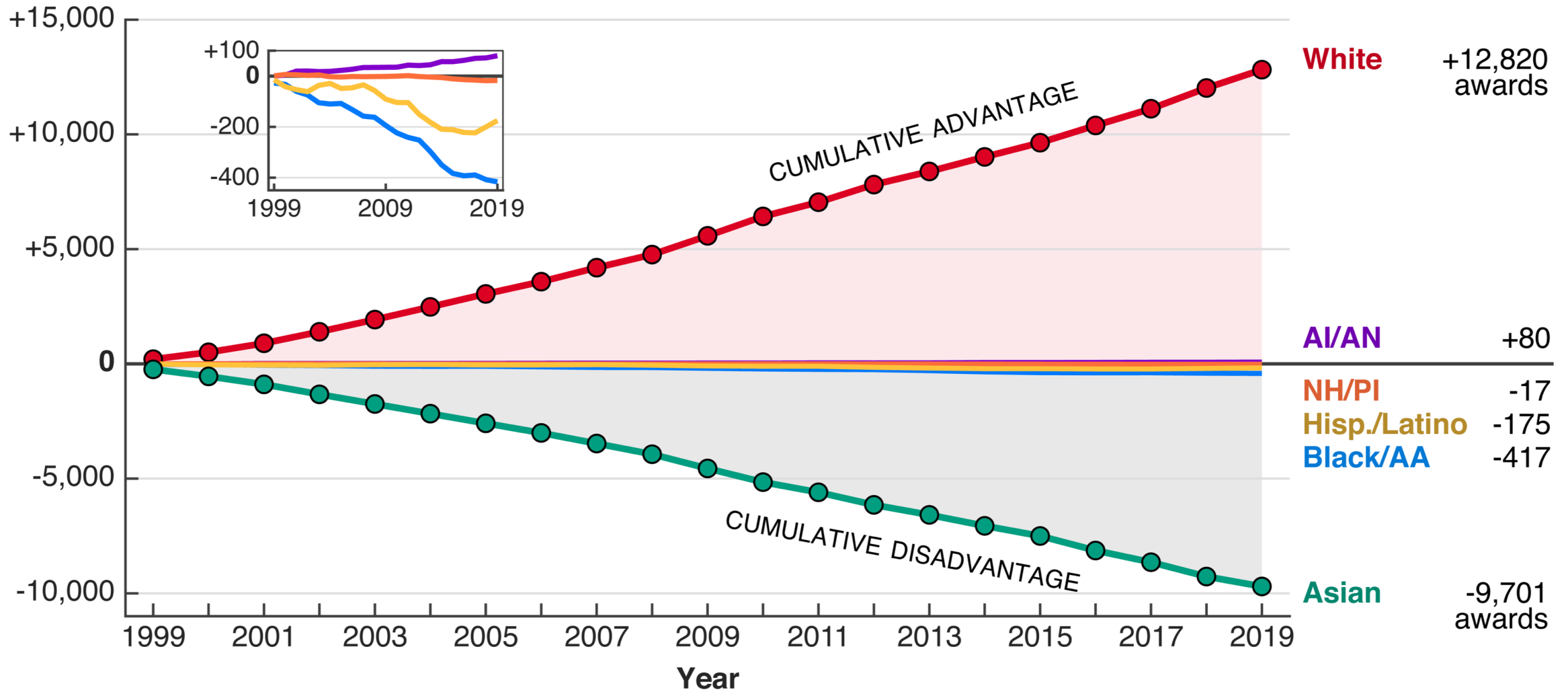
These racial funding disparities create **cumulative advantages** and **disadvantages** that shape STEM.

Cumulative Award Surplus or Deficit



These cumulative trends also impact our body of knowledge.

Cumulative Award Surplus or Deficit



Racial funding disparities have also been reported at the **NIH, NASA**, in the **UK**, and at **philanthropic funders**, indicating that **these patterns are widespread**.

SCIENCE ADVANCES | RESEARCH ARTICLE

Topic choice contributes to the lower rate of NIH awards to African-American/black scientists

Travis A. Hoppe^{1,2}, Aviva Litovitz^{1,2}, Kristine A. Willis^{3*}, Rebecca A. Meseroll^{1,2}, Matthew J. Perkins^{1,2}, B. Ian Hutchins^{1,2}, Alison F. Davis⁴, Michael S. Lauer⁵, Hannah A. Valentine⁴, James M. Anderson², George M. Santangelo^{1,2†}



Associations of topic-specific peer review outcomes and institute and center award rates with funding disparities at the National Institutes of Health

Michael S Lauer^{1*}, Jamie Doyle², Joy Wang³, Deepshikha Roychowdhury³

minority health

community-oriented
disease prevention

racial health disparities

Topics that Black PIs more commonly proposed were **assigned to underfunded, lower priority institutes and centers with lower funding rates.**

These cumulative trends also impact our body of scientific knowledge.

In the absence of inequalities,


our body of knowledge would more closely reflect the spectrum of topics **relevant to all of society**.

Topic choices are skewed away from minority health to African-American/black scientists

Racial funding disparities **jeopardize** the integrity of research knowledge as a public good for all.

Travis A. Hoppe^{1,2}, Aviva Litovitz^{1,2}, Kristine A. Wilms^{3*}, Rebecca A. Meseroll^{1,2},
Matthias J. H. van den Brink^{1,2}, Hannah A. Valentine¹, James M. Anderson², George M. Santangelo¹

community-oriented disease prevention
racial health disparities

 Eliminating inequalities in STEM and academia will require a reorganization of what causes inequality in the first place:

unequal access to social prestige, insider knowledge, and material resources.

Michael S Lauer^{1*}, Jamie Doyle², Joy Wang³, Deepshikha Roychowdhury³

Topics that Black PIs more commonly proposed were assigned to institutes and centers that are underfunded and have lower funding rates.