

Widening Pathways to and through STEM Graduate Education

Tyler Hallmark, Ph.D.

@Hallmark2032

Program Associate, Higher Education

www.TylerHallmark.com



ALFRED P. SLOAN
FOUNDATION

OXIDE National Diversity Equity Workshop
August 2, 2022

Outline

1. Overview of the Sloan Foundation
2. Insight into our Higher Education Program
3. Highlights from our Signature Initiatives
4. Takeaways for Faculty and Department Chairs



About the Sloan Foundation



The mission of the Sloan Foundation is to make the world a better place by advancing the frontiers of knowledge.

We pledge to pursue that mission in ways that make the institutions of scientific endeavor more diverse, more equitable, and more inclusive to all.



Sloan Grant Programs

▪ RESEARCH

- Economic Institutions, Behavior & Performance
- Energy & Environment
- Matter-to-Life
- Tabletop Particle Physics
- Sloan Digital Sky Survey
- Sloan Research Fellowships

▪ TECHNOLOGY

- Better Software for Science
- Data & Computational Research
- Scholarly Communication
- Exploratory Grantmaking in Technology

▪ PUBLIC UNDERSTANDING

- Books
- Film
- Radio
- Television
- Theater
- New Media

▪ HIGHER EDUCATION

- Diversity, Equity & Inclusion in STEM Higher Education

▪ LOCAL

- The NYC Program



Higher Education Program



Commissioned Landscape Scans

Assessing the Landscape for Diversity, Equity, and Inclusion Efforts in U.S. STEM Graduate Education



Investments in Diversity, Equity, and Inclusion within STEM Higher Education Pathways



Private Philanthropic Investments in STEM Higher Ed

 **\$2,146,060,802**

That's a lot of money

 **2,330 grant-makers**

Investing in STEM higher education initiatives

 **10,565 grants**

Demonstrating potential for impact



But When You Look Closer...

 **\$906,657,000 to 10 universities**

That's 44% of total funds

 **\$123,873,970 for DEI**

Just 5.8% of total grantmaking

 **203 DEI funders**

Just 8.7% of funded initiatives for groups underrepresented in STEM



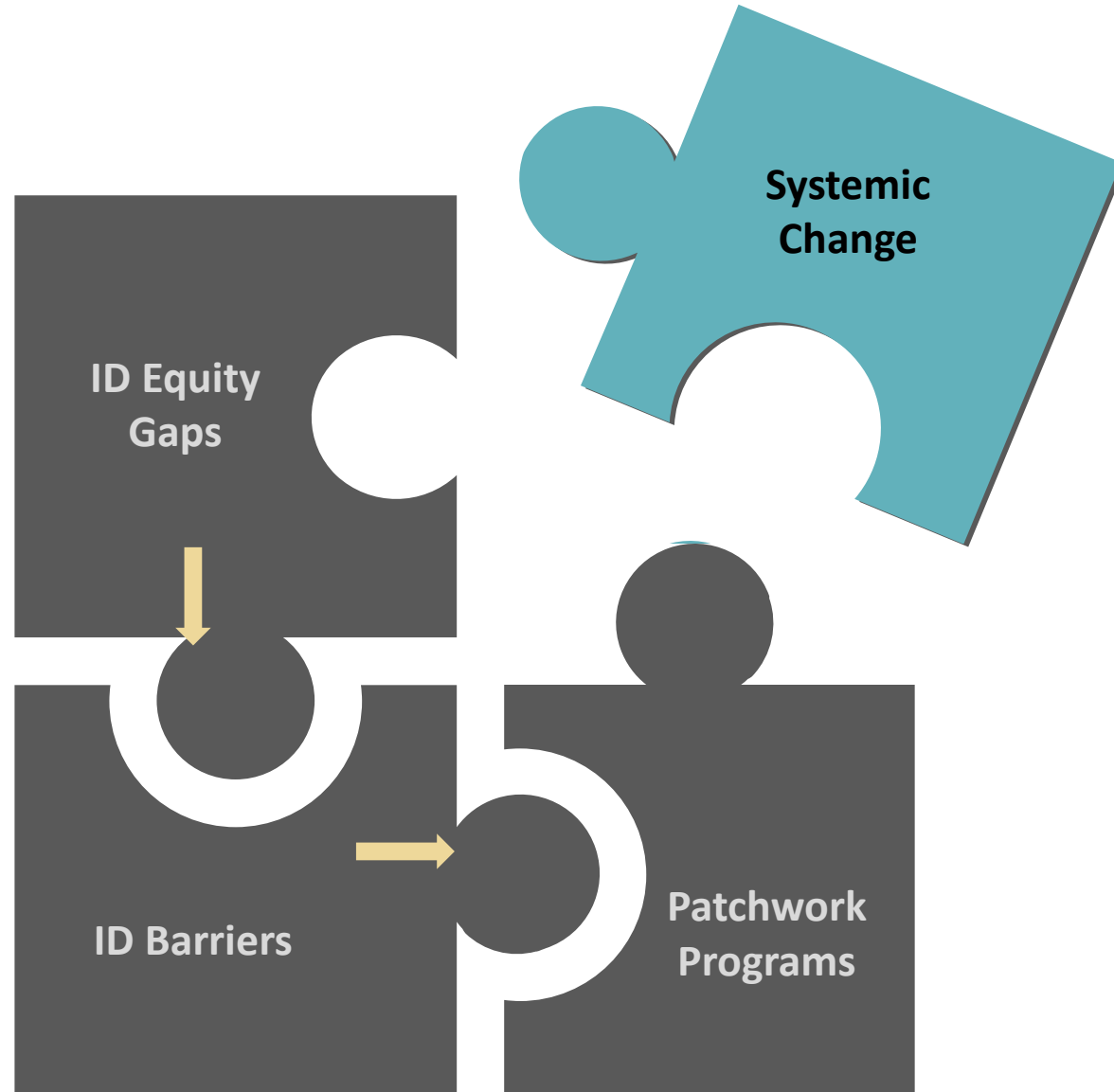
Commissioned Landscape Scans

Assessing the Landscape for Diversity, Equity, and Inclusion Efforts in U.S. STEM Graduate Education



Investments in Diversity, Equity, and Inclusion within STEM Higher Education Pathways





Strategic Priorities

1. Invest in widening pathways to graduate education
2. Empower universities to transform graduate education
3. Support innovative efforts to increase the number of women and Black, Indigenous, and Latina/o individuals in the STEM professoriate
4. Pursue systemic change
5. Examine our own grantmaking practices
6. Coordinate and collaborate with others



University Centers of Exemplary Mentoring



University Centers of Exemplary Mentoring



Cornell University



DUKE
THE GRADUATE SCHOOL



ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN



**Massachusetts
Institute of
Technology**

UC San Diego
GRADUATE DIVISION



PennState

USF UNIVERSITY OF
SOUTH FLORIDA



Sloan Indigenous Graduate Partnership



Sloan Indigenous Graduate Partnership



Equitable Pathways



Value of Minority Serving Institutions

- **Our country's MSIs**—of which there are seven types—not only enroll over one-third of the nation's undergraduates, they produce one-fifth of the nation's STEM bachelor's degrees.
- Moreover, some MSIs are already well-known as “baccalaureate origin” institutions—colleges and universities who send their graduates on to complete STEM doctoral degrees. For example, **nearly a quarter of Black STEM doctoral degree holders** between 2015 and 2019 earned their bachelor's degree from a Historically Black College or University (HBCU).



Our 2021 Call

- 127 submissions from institutional partnerships across the nation
 - 74 were led by MSIs
 - 38 were led by PWIs
 - 15 were led by other organizations
- 20 grants given
 - 17 were led by MSIs
 - 1 was led by a PWI
 - 2 were led by other organizations
- Grant amounts range from \$75k to \$500k, in categories that reflect planning, seed, and implementation stages.



Improving MSI Pathways to STEM Graduate Education through Grantmaking:

Lessons for the Field

By Lorelle L. Espinosa, Tyler Hallmark,
and Kaylan S. Baxter



Lorelle Espinosa, PhD, is the Program Director of Higher Education at the Alfred P. Sloan Foundation, where she is responsible for developing and implementing evidence-based strategic priorities for the foundation's grantmaking to effectively advance diversity, equity, and inclusion in STEM higher education.



Tyler Hallmark, PhD, is the Program Associate of Higher Education at the Alfred P. Sloan Foundation, where he helps oversee the foundation's grantmaking to effectively advance diversity, equity, and inclusion in STEM higher education and manages the Creating Equitable Pathways to STEM Graduate Education grant portfolio.



Kaylan Baxter is a Doctoral Candidate in Urban Education Policy and Research Assistant in the Pullias Center for Higher Education at the University of Southern California. Baxter studies approaches to postsecondary accountability and data usage, examining their implications for the opportunities, experiences, and outcomes of racially minoritized students.

In Short

- One of the most promising ways to widen pathways to STEM graduate education is within reach: creating and strengthening partnerships between minority-serving institutions and the nation's master's and doctoral STEM programs.
- The most effective partnerships are those that educate their communities along the way, including engaging STEM faculty and departmental leadership.
- Faculty-to-faculty relationships are necessary for systemic change to occur, as evidenced by multiple change models.
- Innovation, like everything in higher education, is context dependent, necessitating a rethink about what innovation is and where and how it occurs.



Takeaways



For Faculty and Department Chairs

- Recognize who you stand to learn from – and cultivate mutually beneficial partnerships.
- Acknowledge that diversity, equity, and inclusion is a continual process, not simply a destination.
- Rethink how you evaluate your progress.
- Appreciate that sometimes change starts small.





ALFRED P. SLOAN
FOUNDATION

Contact

hallmark@sloan.org

@Hallmark2032