

# Towards a Fully Inclusive Mathematics Profession

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Report of

## The Task Force on Understanding and Documenting the Historical Role of the AMS in Racial Discrimination

March 22, 2021

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### Members of the Task Force:

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# Preface

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## The Experience of William Claytor

*“Claytor wrote a very fine thesis... In many ways I think that it is perhaps the best that I have ever had done under my direction.”*

—J. R. Kline



Raymond Louis Wilder Papers, Archives of American Mathematics, e\_math\_02076, The Dolph Briscoe Center for American History, The University of Texas at Austin

William W. Schieffelin Claytor was a mathematician of great promise. After receiving both his bachelor’s and master’s degrees from Howard University, Claytor went on to earn his PhD at the University of Pennsylvania in 1933 in point-set topology under the direction of J. R. Kline (who would later become AMS Secretary).<sup>1</sup> Kline lauded Claytor’s thesis to his own PhD advisor R. L. Moore as “perhaps the best” he had ever directed. William Claytor was also African American, only the 3rd to receive a math PhD. His first paper appeared in the *Annals of Mathematics* in 1934.<sup>2</sup> After getting his PhD, Claytor taught at West Virginia State College,<sup>3</sup> but being unable to do research there, he sought research-oriented positions to fulfill his potential, which others also saw in him.<sup>4</sup> In 1936, Claytor took a postdoctoral position at the University of Michigan to work with Raymond Wilder (who would later become AMS President). Wilder testified that Claytor’s work “attracted considerable attention throughout the topological community” and called him “one of the most promising” young

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<sup>1</sup> Claytor’s advisor at Howard University was Dudley Woodward who earned his PhD in 1928 at the University of Pennsylvania, also under the direction of J. R. Kline.

<sup>2</sup> Schieffelin Claytor, “[Topological immersion of Peanian continua in a spherical surface](#),” *Ann. of Math.* Second Series, **35**(4), Oct. 1934, 809–835.

<sup>3</sup> Notably, NASA mathematician Katherine Johnson, who was a student at West Virginia State College, credits Claytor for preparing her to be a research mathematician. See <https://www.nasa.gov/audience/foreducators/a-lifetime-of-stem.html>.

<sup>4</sup> Much more detail about Claytor’s attempts to find a research-oriented position, and many other biographical details recounted in this Preface, can be found in Karen Hunger Parshall, “[Mathematics and the politics of race: The case of William Claytor \(PhD, University of Pennsylvania, 1933\)](#),” *The American Mathematical Monthly*, **123**(3), March 2016, 214–240.

mathematicians in his field. Wilder even cited the opportunity to work with Claytor as an influence in his decision to stay at Michigan when Wilder was courted by another university that would not have welcomed Black scholars. William Claytor was a talented and committed researcher and a rising star in topology.

Claytor's passion for research in mathematics was squelched by racist attitudes that restricted opportunities and impeded the full participation of Black mathematicians in the math community. A striking documented example occurred at the AMS meeting in December 1936, co-hosted by Duke University and UNC-Chapel Hill. The research Claytor presented there was praised by Solomon Lefschetz as the "best of the session" and was later published in the *Annals of Mathematics*, his second paper in that journal.<sup>5</sup> Yet Claytor was not allowed to stay at the conference hotel because he was Black. After his death, Claytor's wife Dr. Mae Belle Pullins Claytor, recounted the impact this had on him:

*I am sorry about being late with this but it is just difficult for me to write about Bill. I am still at the point where I do not like to go back and think. In order to get much of this material, I had to go to what I call our memory books and looking at pictures and sort of reliving Bill; it just hurts a bit too much. I hope this is O.K. There is so much I just cannot put on paper. Even writing about Bill and his presentation at the Math Society, I thought about the days Bill used to tell me how owing to the Black-White mess, he had to stay at a private home when the others were at the hotel where the Association met. Over the years when the color-line became less, he never would attend any more meetings. Kline used to come to see us periodically and try to get Bill to go with him but I guess the hurt went too deeply with him. After he left, I found old papers and letters he had when Kline was trying to get him in Princeton as a Fellow and whew, again it was the color mess. At Princeton, the administration said the students might object to a "culud" person which was a laugh, they would never have known it.*

William Claytor encountered several incidents like these in his early professional life, which included being barred from faculty positions at several research universities and institutes for which he was qualified. His friend, Walter Talbot, the 4th African American PhD in mathematics, said that "[Claytor's] spirit was broken by discrimination."<sup>6</sup>

Patterns of exclusion have real psychological impact. They are remembered by their victims (and by others around them) and they desensitize others to the real impact of these actions. They are traumatic. It is not enough to say that Claytor fully participated in an AMS meeting by simply presenting a talk. Much of the mathematical enterprise advances within supportive social webs of mathematicians, facilitated by meetings of a professional society like the AMS. To not be able to stay at conference hotels sent explicit messages of exclusion, as well as barred Claytor from the informal interactions that are critical parts of professional activity. Even Kline was not successful in helping one of his most promising students recover from those wounds.

<sup>5</sup>Schieffelin Claytor, "[Peanian continua not imbeddable in a spherical surface](#)," *Ann. of Math.* Second Series, **38**(3), Jul. 1937, 631–646.

<sup>6</sup>These letters appear in Lee Lorch, "[The painful path towards inclusiveness](#)," in *A Century of Mathematical Meetings*, Bettye Anne Case (ed.), American Mathematical Society, Providence, RI, 1996, pp. 83–101.

Claytor's story is heartbreaking, because any instance of racism against a Black mathematician is an affront to the values reflected in the AMS Mission Statement that pledges to "advance the status of the profession of mathematics, encouraging and facilitating **full participation of all individuals.**" Multiple instances of racism, accumulating over time, can break one's spirit and induce trauma that can be debilitating. Although Claytor spent many productive years as a faculty member at Howard University, he did not continue to publish research after his two *Annals* papers. Because of racism, William Claytor was not able to fully participate in a research career for which he showed great potential. What research results might he have discovered had he continued? What friendships and collaborations would have been sparked and enriched by fellowship with him? His exit from research made mathematics poorer.<sup>7</sup>

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<sup>7</sup>A number of recollections about Claytor can be found in James A. Donaldson, "Black Americans in mathematics," in *A Century of Mathematics in America Part III*, P. Duren (ed.), American Mathematical Society, Providence, RI, 1989, pp. 454–456.

# Executive Summary

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## Findings

- Racism is a concern of many mathematicians and leaders of the Society, and the AMS has a role in addressing racism in the profession.
- The effects of blatant discrimination in the mathematics community (and in the AMS) since its inception continue to have repercussions today in the development of Black mathematicians, the visibility and perceptions of their work, and the lack of recognition that further hinders their professional advancement.
- The AMS has missed several opportunities to improve the professional climate for mathematicians of color.
- Black mathematicians suffer from a lack of professional respect and endure microaggressions, even today.
- There is a profound lack of trust from Black mathematicians that the AMS represents them, speaks to them, hears them, and includes them in its decision making.
- Historically Black Colleges and Universities have an outsized influence on the production and the support of Black mathematicians, and providing outstanding models of successful mentoring.
- The history of the AMS has shown that sustained attention to problems has resulted in positive outcomes. Implementing sustainable change is challenging and requires intentionality and continual vigilance.

## Recommendations

### *Governance-Related Recommendations*

1. Establish a Vice President for Equity, Diversity, and Inclusion.
2. Create a high-level staff position on Equity, Diversity, and Inclusion, with an Office/Division of Minority Affairs under its purview.
3. Reform election procedures.
4. Reform appointment procedures.

### *Program-Related Recommendations*

5. Develop and implement an engagement plan to welcome the participation of Black mathematicians in the AMS.
6. Create and support programs to further the career development of mathematicians of color.
7. Include equity, diversity, and inclusion in the AMS's professional development offerings.
8. Publicize the expertise of mathematicians of color.

### *Accountability-Related Recommendations*

9. Request that the AMS provide annual updates on the status of these report recommendations.
10. Accept responsibility for not fulfilling the AMS's own commitment to increasing the participation of mathematicians of color in the profession, including Black mathematicians.

# Chapter 1

## Charge, Findings, and Recommendations

*“When people talk about inclusion at a conference, it is kind of late. A math career is years in the making.”*

—from a Task Force interview  
with a Black mathematician

This report rests on a simple idea: that both the community of professional mathematicians and mathematics itself thrive when all can fully participate. This idea is present in the AMS Mission Statement, which states that one way the AMS furthers the interests of mathematical research and scholarship is to “advance the status of the profession of mathematics, encouraging and facilitating full participation of all individuals.” In other words, the AMS mission affirms that the *full participation of all individuals advances the profession in research and scholarship*. So it is in our collective best interest to see that all who desire to pursue mathematics have equitable opportunities to do so.

The AMS has not always lived up to this ideal. Black mathematicians, and other mathematicians of color, have not been afforded the freedom to fully participate as scholars in our profession because of racial discrimination. Throughout our history as a Society, and despite our repeated assurances of support, we have not accorded members of our own community basic professional respect, leaving them lasting personal and professional wounds. The story of William Claytor illustrates the depth of those wounds.

Over the years, the AMS has made progress towards full participation by all, but the work has been slow. We hope the work of this Task Force, together with past and current initiatives developed by the Society, will lead to sustained action towards this ideal. We hope that all members of the Society will read this report in a spirit of self-reflection, discuss its findings with colleagues, and collectively determine how each of us can be part of the solution. There have been explicit racist incidents in the history of AMS that are not easy to read. There have also been practices throughout AMS history that have had discriminatory impact, if not discriminatory intent. We ask you to reflect on these, not as an attempt to penalize any one individual or tear down an organization that is important to our profession, but rather as an effort to position the American Mathematical Society to achieve its highest ideals by building a community in which all who love mathematics are fully included, and to further the AMS leadership role in the mathematics profession.

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## Task Force Charge

In June 2020, in the midst of a national reckoning on issues of race, the American Mathematical Society President Jill Pipher established the [AMS Task Force on Understanding and Documenting the Historical Role of the AMS in Racial Discrimination](#) (henceforth, referred to as the Task Force) to listen to the mathematics community, especially African American mathematicians, about their experiences with racial discrimination in the mathematics community. Specifically we were asked:

*(1) To help the mathematical community understand the historical role of the AMS in racial discrimination; (2) To consider and recommend actions addressing the impact of such discrimination to the AMS Council and Board of Trustees. To support these goals, the Task Force will gather information and resources; produce a report, and any other learning resources, for wide dissemination; and advise the Council on how to accept responsibility for the actions of the Society.*

We focused on the experiences of Black mathematicians in this report because President Pipher asked us to make that our focus. We agreed it was appropriate because of the current national conversation as well as our nation’s history of discrimination against African Americans. By focusing in depth on one segment of our population, we expect to uncover solutions that work for others.

This Task Force was co-chaired by Kasso A. Okoudjou and Francis Su. Its members include Tasha R. Inniss, W. J. “Jim” Lewis, Irina Mitrea, Adriana Salerno, and Dylan Thurston. Michael Barany served as a consultant on historical matters. Abbe Herzig and Andrea Williams provided tireless support from the AMS office. We thank Chris Stevens, Karen Mollohan, and all the other AMS staff who supported our work. We are grateful to all the mathematicians who took the time to share their experiences with us, sometimes at the cost of revisiting personal trauma.

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## Racism

For the purposes of our report, we focused on racial discrimination that has occurred due to policies, practices, and actions by the AMS within the mathematical sciences community. In referring to racism or racial discrimination, we were concerned with impact, rather than intent. Note that *policies, practices, and actions can be racist—even if unintended—when they create or sustain racial inequity between groups and result in barriers that impact the full participation of all mathematicians.*<sup>8</sup> The term systemic racism is often used to refer to embedded policies and practices that produce racial discrimination. Part of the work of the Task Force was to reflect on the possible racist impact of the AMS policies and practices.

For instance, when the AMS held meetings at segregated institutions in the Deep South in the 1950s, many Black mathematicians were unable to participate fully. This was a practice that had a racist impact, even if the organizers were just following the accepted policies for hosting meetings. The failure of the AMS to account for and respond to the disparate effects of segregation, even after mathematicians raised objections to the AMS and called for change, makes these policies racist even if they don’t mention race.

For a second example, consider a Policy Z that says the winners of prestigious Award Y should be exactly the set of people who have been granted Honor X. If the selection process for Honor X is

racially biased, then Policy Z would be an example of systemic racism, because Policy Z propagates the bias in the selection for Y. This scenario could have described the initial seeding of Fellows in the AMS Fellows Program had there not also existed an additional selection method. See Chapter 6 where we describe the seeding of AMS Fellows in more detail. Systemic racism can often be an unintended byproduct of policies that have not been carefully vetted.

Thus, in investigating the historical role of the AMS in racial discrimination, we considered not just segregation-era incidents with their explicit racist intent, but AMS policies, practices, and actions throughout its history. Our report does not address acts of racism by individuals within the mathematical community, which have been and continue to be a barrier to the participation and success of mathematicians of color; many, in our interviews, expressed the hurt and the damage caused by such individual actions. We chose to focus on systemic change within the AMS since only this could produce a lasting change in culture within the profession.

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## Assumptions

In accordance with the AMS Mission Statement,<sup>9</sup> we proceeded based on the following assumptions.

**The mathematical community is a group of people united by a love of mathematics.** Therefore, serving the mathematics community (as the AMS aspires to do in its mission statement) means supporting people, not just advancing mathematics research. Indeed, one of the pillars of the AMS mission is to “advance the status of the profession of mathematics, encouraging and facilitating full participation of all individuals.” We do not believe advancing high-quality research is antithetical to pursuing the overall health of the profession and the people in it—in fact they are intimately connected.<sup>10</sup> Furthermore, we interpret the AMS Mission Statement as welcoming all mathematicians, independent of whether they contribute to research and scholarship in research-intensive academic institutions, teaching-focused ones, or in business, industry, and government. Therefore, the AMS should continue its commitment to supporting people.

**AMS members aspire to be a community that respects, supports, and values the full participation of every mathematician.** We assume the best of our colleagues—that AMS members desire for more people to participate in mathematics at all levels, including in research, and that excellent work should be recognized, no matter who does it. We hope that AMS members understand that the inclusion of previously marginalized groups does not lead to the new marginalization of others.

**Full participation of every mathematician benefits everyone in the mathematics profession.** Mathematics research and mathematical practices are strengthened when more people are contributing their insights and expertise. Full participation also leads to a thriving, healthy community of scholars who value each other.

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<sup>8</sup>This definition of racism is an adaptation of one by Ibram X. Kendi’s in *How to be an Antiracist*. Our Task Force considered others, such as one by Ijeoma Oluo in *So You Want To Talk About Race*, which defines racism as “a prejudice against someone, based on race, when those prejudices are reinforced by systems of power,” but our definition keeps the focus on racist structures rather than racist individuals.

<sup>9</sup>The AMS Mission Statement says:

The AMS, founded in 1888 to further the interests of mathematical research and scholarship, serves the national and international community through its publications, meetings, advocacy and other programs, which:

- promote mathematical research, its communication and uses,
- encourage and promote the transmission of mathematical understanding and skills,
- support mathematical education at all levels,
- advance the status of the profession of mathematics, encouraging and facilitating full participation of all individuals,
- foster an awareness and appreciation of mathematics and its connections to other disciplines and everyday life.

<sup>10</sup>The 1999 AMS report *Towards Excellence: Leading a Mathematics Department in the 21st Century* clearly tied the health of the research programs in doctoral-granting mathematics departments to its ability to fulfill other aspects of the missions of the department and its institution. See Chapter 8.

**Mathematicians of color are not a monolithic group, but share some commonalities of experience.**

We use the term “mathematicians of color” to refer to mathematicians who are not white. Of most relevance to our work are those who are members of historically underrepresented groups in mathematics in the United States, such as Black (African American), Indigenous, and Latinx mathematicians.<sup>11</sup> It is important to note that Black mathematicians are also not monolithic but a highly diverse group. The experiences of Black mathematicians can illuminate the experiences of other underrepresented and underserved groups. We believe that addressing the climate for Black mathematicians will improve the climate for other mathematicians of color and all mathematicians for that matter, as well as serve as a model to address the full participation of mathematicians who are marginalized, such as LGBTQ people and people with disabilities.

**The AMS should lead the mathematics community in changing professional practices to support mathematicians of color.**

As the oldest society for mathematicians in the United States (founded in 1888), the AMS is one of the largest and most well-resourced professional organizations in mathematics, with many influential members. Therefore, the AMS should lead in advocating for just and equitable practices and a healthy climate where full participation is possible for every mathematician, and not just rely on other organizations to do this work.

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## Methodology

The Task Force convened for the first time on July 1, 2020, through a Zoom call. The timeframe for our work was short (3–6 months), so we sought to write a focused report rather than a comprehensive one, as there was not time to follow all leads. Moreover, access to several resources was constrained due to the SARS CoV-2 (COVID-19) pandemic. As mentioned earlier, we focused on the experiences of Black (African American) mathematicians, although much of what we found applies more generally to mathematicians of color. We studied Council and Committee minutes and historical records, where available. We conducted interviews with thirty mathematicians, the AMS staff, and historians of mathematics. We have kept their identities anonymous; however, every interview was attended by at least two members of the Task Force. Extensive notes were taken, and video was recorded if interviewees agreed. We sought broader input using questionnaires to various communities, including HBCU faculty, the AMS Governance (Council and Board of Trustees), and Project NExT Fellows (as a proxy for the next generation of math faculty). A large number of responses also came through a form on the Task Force website.

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## The 1996 Report by the Task Force on Participation

In the process of our work, we became aware of a similar task force—the AMS Task Force on Participation for Underrepresented Minorities in Mathematics—that was created in 1995 and whose charge was similar to ours. (See the Appendix.) In fact, some of the recommendations we were prepared to make were already part of the conclusion of this task force in their Final Report in April 1996. (For brevity’s sake, we shall henceforth refer to this task force and its report as the *1996 Task Force* and the *1996 Task Force Report*.) This 1996 Task Force not only identified aspects of the persistent racism

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<sup>11</sup> According to the NSF, women, persons with disabilities, and underrepresented minority groups—Blacks or African Americans, Hispanics or Latinos, and American Indians or Alaska Natives—are underrepresented in science and engineering. See <https://nces.nsf.gov/pubs/nsf19304/digest/introduction>.

in the mathematics profession 25 years ago, but also issued the following recommendations to address it:

1. Establish an AMS Office of Minority Affairs.
2. Collect, analyze, and disseminate information regarding minority participation.
3. Develop a summer graduate preparation program for minorities.
4. Hold meetings at minority institutions.
5. Maintain a minority speakers list.
6. Appoint minorities to committees and nominate for elections.
7. Extend resolutions on women to minorities.

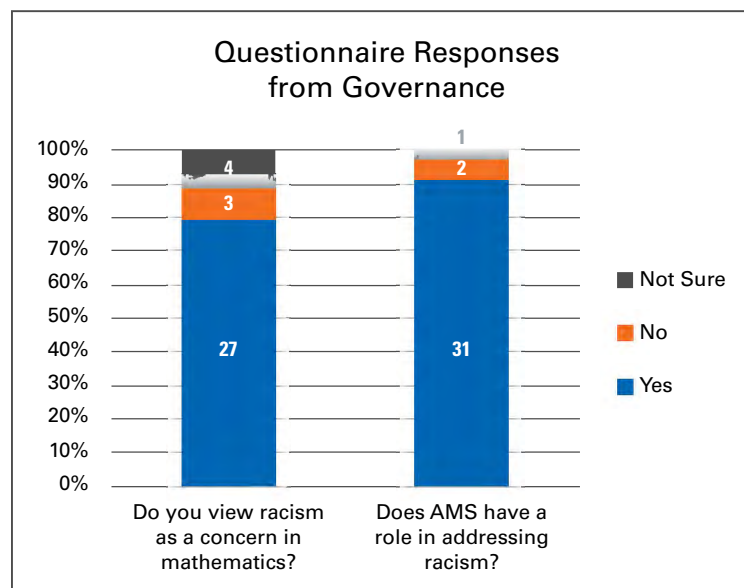
As we describe in Chapter 8, what's been accomplished with these recommendations is minimal, although it wasn't for lack of trying—there was certainly interest in and earnest effort expended to implement at least some of these recommendations. It should not be surprising, then, that the recommendations we will make are natural extensions or updated versions of many of these. Our recommendations come with the understanding that an action plan needs to be developed to avoid the fate of the 1996 Task Force recommendations. We recommend that AMS governance develop an action plan and timeline within the first year after the release of this report.

## Main Findings

We summarize here the main findings from our work that comprised interviews, questionnaires, and a review of the AMS Council minutes and historical records. We elaborate on these findings in more detail in the later chapters of this report; one chapter per finding.

### Racism is a concern of many mathematicians and leaders of the Society, and the AMS has a role in addressing racism in the profession.

Nearly all of the mathematicians whom we interviewed agreed that racism is a problem that the AMS should address. Similarly, in a questionnaire we sent to early-career mathematicians in Project



NExT, 75% of respondents said that racism is a concern in mathematics, and an even larger fraction (86%) of respondents said that the AMS has a role in addressing racism in the profession. (We were interested in hearing from early-career mathematicians, as they are the future of our profession.) We also sent the questionnaire to the 51 members of AMS Governance (Council + Board of Trustees). Similar fractions of Governance respondents (79% on the first question and 91% on the second) affirmed these statements as well.

We give more details about the questionnaires in Chapter 2.

Taken together, these data suggest that there will be broad support for the AMS leadership to act in this important area.

The Task Force received feedback from some who say the AMS should not wade into “political” issues—that trying to address such complicated matters is a subjective exercise and a diversion from the AMS’s main concern: advancing mathematical research. However, the AMS Mission Statement displays as a clear goal the “full participation of all individuals” and racism is opposed to that goal. It makes sense, therefore, for the AMS to fulfill its mission by mitigating racism where it exists, regardless of whether or not those actions are deemed political.

Moreover, it is impossible to dissociate the lives and living conditions of mathematicians from their professional lives. For this reason, the AMS cannot avoid taking positions on issues deemed political (and even if it takes no position, that, in itself, is also a position). As we describe in detail later, the positions taken by the Society with regards to: moving meetings due to political considerations (Spring 1969, JMM 1995), canceling its reciprocity agreement with South Africa (1974), advocating for mathematicians persecuted in the McCarthy era, deploring Soviet discrimination of Jews (1979), issuing frequent statements for the human rights of persecuted foreign mathematicians via the AMS Committee on Human Rights of Mathematicians, and requesting more federal funds for research are a small sample of situations that could be labeled “political” and for which the AMS took positions. For details, see Chapter 2. Therefore, it is appropriate during this time of national reflection about racism in the United States that the Society should reflect on its own policies, practices, and actions and enact change in order to make the mathematics profession more welcoming.

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**The effects of blatant discrimination in the mathematics community (and in the AMS) since its inception continue to have repercussions today in the development of Black mathematicians, the visibility and perceptions of their work, and the lack of recognition that further hinders their professional advancement.**

Serious incidents of outright discrimination can be found in historical records prior to 1970 that discouraged Black mathematicians from full participation in the mathematics community and at AMS events. For example, Black mathematicians were de facto prevented from participating in AMS meetings in the South even after the official end of segregation: they were given separate accommodations and prevented or discouraged from attending social events.<sup>12</sup> Historical records show that sometimes, to “technically” meet the Society’s 1951 non-discrimination motion, organizers would not hold formal social events at AMS meetings but rather hold informal ones instead, which Blacks were discouraged from attending.<sup>13</sup> Additionally, Black mathematicians were implicitly or even explicitly barred from faculty positions due to their race.<sup>14</sup> This discrimination impeded their research, the visibility of their work, and their ability to connect with other scholars, and even their productivity in having to deal with barriers that other mathematicians didn’t face. These effects compound over time, as a false perception that Black mathematicians are less capable takes hold, and as the development of new Black mathematicians is hindered because of the lack of visibility of Black mathematicians before them. The result is that Black mathematicians’ research is less visible, and they get fewer invitations to speak and fewer nominations for awards or for leadership. For example, of the 2,225 Invited Speakers at AMS meetings from 1967 to 2019, only 14 could be directly identified

<sup>12</sup>See Jesse Kass, “James L. Solomon and the end of segregation at the University of South Carolina,” *Notices of the American Mathematical Society*, 67(2), 2020, 192–200.

<sup>13</sup>See Lorch, “The painful path to inclusiveness.”

<sup>14</sup>See Parshall, “Mathematics and the politics of race.”

as Black and, of these, only two have given AMS Invited Addresses at the JMM (and these were joint MAA-AMS Invited Addresses).<sup>15</sup> The lack of recognition hinders the professional advancement of Black mathematicians. This begins with the difficulty of getting hired or promoted at research universities, which is in general outside AMS's control. However, to get hired, promoted, and tenured, one typically needs the external recognition that comes with papers published, talks presented, national service to the profession, and awards. These are all things which the AMS (and its members who comprise its selection committees) directly control. See Chapter 3 for more details.

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### The AMS has missed several opportunities to improve the professional climate for mathematicians of color.

AMS Council minutes reveal many examples of hesitancy by leadership to address racism or underrepresentation. For example, we describe in Chapter 3 the response of the AMS to a request to amend its bylaws to offer "explicit and effective protection of the rights of all members to participate fully freely and equally" in its affairs without regard to race.<sup>16</sup> See also the response of the Society to a request to the Council by Lee Lorch, Mary Gray, and Anatole Beck regarding meetings at hotels "where facilities are administered or designated in such a fashion as to suggest discrimination." These examples are just two among many issues Lee Lorch brought up with regard to discrimination and representation, many of which were not adopted. There were also instances where the AMS did not advocate for racial and gender diversity when it had an opportunity to do so. There were instances the AMS endorsed or established good policies that were not followed. Most notably, the 1996 Task Force on Participation had several recommendations that were not implemented. We describe all these examples in detail in Chapter 4.

The effort of the AMS to increase the participation of women in the 1970s and 1980s has produced results, though there is always an opportunity to do more. An inspection of Council minutes indicates active engagement between the AMS with the Association for Women in Mathematics (AWM) at the time. An opportunity for the AMS to demonstrate intentional support for the progress of mathematicians of color, that hasn't happened in the past, is through the active engagement with the National Association of Mathematicians (NAM).

Finally, many of our Black colleagues we interviewed were quick to separate the AMS as an organization from those on the staff at the Society, who were most of the time praised for their efforts over the years to improve the climate for mathematicians of color. However, bringing about sustainable change in an organization involves changing the embedded structures that can lead to inequities and differences of opportunity. Addressing systemic racism is not a personal attack on any one person or group of people. Rather, it is an effort to align our organizational structures with our ideals, and it requires vigilance to maintain an inclusive posture so that structures do not get in the way of our ideals.

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### Black mathematicians suffer from a lack of professional respect and endure microaggressions, even today.

We spoke to several Black mathematicians who reported commonly experiencing microaggressions at AMS meetings: such as other mathematicians mistaking them for the hotel staff, ignoring them in conversation, or asking them more aggressive questions in their presentations. These are painful

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<sup>15</sup>MAA stands for the Mathematical Association of America. JMM stands for the Joint Mathematics Meetings, which have historically been co-sponsored by the MAA and the AMS.

<sup>16</sup>Lee Lorch, "Discriminatory practices," *Science*, New Series, **114**(2954), Aug. 10, 1951, 16–162.

episodes, akin to continual bullying and belittling. We cite several examples in Chapter 5, including one that appears in AMS Council minutes.

Many Black mathematicians describe wanting to be recognized for their research, not just their diversity work. Very few Black mathematicians are visible, and the ones that are are tapped to do many different things. While we no longer live in a segregated era (in theory), there are still many barriers to Black mathematicians being included and respected. If anything, the examples here skew towards the experiences of those who were successful at becoming mathematicians despite the challenges—there remain many who have left the profession that we did not interview.

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### There is a profound lack of trust from Black mathematicians that the AMS represents them, speaks to them, hears them, and includes them in its decision making.

In interviews, several expressed skepticism of the AMS's desire to be inclusive of all mathematicians. Many felt that the recent controversy over an editorial in the *Notices* showed insensitivity to issues of inclusion and representation. Furthermore, years of marginalization contribute to Black mathematicians feeling a profound disconnect with the AMS while seeking support through other organizations. Black mathematicians do not see themselves represented in leadership or in invited addresses at meetings, are not represented on important committees, and do not feel they have been invited to the table in important decisions. The creation of NAM is a direct result of this lack of trust. However, our Task Force meeting with NAM's board of directors gave us hope that through true cooperation we could build a more inclusive mathematics community. See Chapter 6 for more details.

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### Historically Black Colleges and Universities have an outsized influence on the production and the support of Black mathematicians, and provide outstanding models of successful mentoring.

Historically Black Colleges and Universities (HBCUs) have an outsized influence on the professional development of Black mathematicians, and, more generally, Black students who pursue and earn doctoral degrees in STEM. For instance, in 2001–2009, HBCUs produced 46% of all African Americans receiving bachelor's degrees in mathematics in the United States,<sup>17</sup> and the nine undergraduate institutions that produced the most African American graduates who went on to earn PhDs in math and science in 2002–2011 are HBCUs.<sup>18</sup> Moreover, the educational experiences and the mentoring models offered by the HBCUs have been widely recognized, but the Society and the profession at large have not sought to establish meaningful and lasting collaborations with these institutions. See Chapter 7 for more details.

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### The history of the AMS has shown that sustained attention to problems has resulted in positive outcomes. Implementing sustainable change is challenging and requires intentionality and continual vigilance.

Throughout the 1970s to early 1990s, Council minutes show that many within the AMS were calling attention to the importance of increasing the participation of women in mathematics, such as AWM members and a joint AMS-MAA-SIAM committee on women. A 1972 Council resolution affirming equal opportunity for women also instructed the Secretary to call it to the attention of AMS leaders, and it began to be included in various committee charges to remind members of the importance of participation of women. It is in this context that the Introduction of the 1996 Task Force Report started with the following sentences: "As we near the end of the century, the minority mathematics community faces a gloomy picture regarding the participation of minorities in mathematics. In contrast to

the dramatic increases that women have made in obtaining doctorates in mathematics, minorities still lag badly behind and the figures have not improved over the past twenty years.” Consequently, the 1996 Task Force recommended that the AMS “Extend resolutions on women to minorities” in an effort to extend the Society’s focus to minorities. The recent focus of the Society on education issues since the 1990s is another example where sustained efforts to bring these issues to the forefront of its activities have prompted broader participation of members in math education.

We can be encouraged that the Society, beginning in the 1980s, began to recognize the problems of underrepresentation, and slowly, through the efforts of individuals and leaders within the AMS, with the support of AMS staff, more efforts were directed to diversity and inclusion, which we outline in Chapter 8. The 1996 Task Force Report set in motion the creation of an Office of Minority Affairs to be co-managed by the AMS, MAA, and NCTM. We will discuss the AMS efforts to achieve this goal, also in Chapter 8. There may be lessons for us as we embrace this moment where sustained change seems possible, if we proceed with intention and vigilance.

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## Main Recommendations

Based on our findings, we make the following ten recommendations grouped into three categories: Governance-Related Recommendations, Program-Related Recommendations, and Accountability-Related Recommendations. Many of these recommendations propose structural changes; doing so will ensure that good intentions and continued efforts to promote inclusivity are not dependent on any one group of people to keep those efforts going.

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### Governance-Related Recommendations

#### *1. Establish a Vice President for Equity, Diversity, and Inclusion*

The AMS should establish an elected position with a dedicated focus on the priority of equity, diversity, and inclusion (EDI). An elected position that could be redirected towards this end is an AMS vice president. The AMS has three vice presidents (VP), elected for 3-year terms; one VP is elected each year. Currently these vice presidents have indistinguishable roles and no special portfolios. We recommend giving one vice president a priority area of diversity and inclusion (and indeed, each of the other two vice presidents could similarly be given another priority area mentioned in the AMS mission, such as research and education). This vice president would represent members’ interest in EDI, and would be a voice (though hopefully not the only voice) within elected leadership ensuring that EDI initiatives are given sustained attention by the AMS. A vice president for EDI would work closely with appropriate AMS committees and with AMS staff working on EDI (see next item).

#### *2. Create a high-level staff position on Equity, Diversity, and Inclusion, with an Office/Division of Minority Affairs under its purview*

A high-level staff position on EDI would complement the vice-president position on the elected leadership dedicated to EDI. The position should be at the Director level or above. In addition, resources for implementing EDI initiatives with respect to minority participation could be collected in an Office

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<sup>17</sup>E. W. Owens, A. J. Shelton, C. M. Bloom, and J. K. Cavil, “The significance of HBCUs to the production of STEM graduates: Answering the call,” *Educational Foundations*, 26(3), 2012, 33–47.

<sup>18</sup>M. K. Fiegner and S. L. Proudfoot, “Baccalaureate origins of US-trained S&E doctorate recipients,” National Science Foundation, Arlington, VA, 2013. Available at: [www.nsf.gov/statistics/infbrief/nsf13323/nsf13323.pdf](http://www.nsf.gov/statistics/infbrief/nsf13323/nsf13323.pdf). For statistics on 1997–2006, see Erica N. Walker, *Beyond Banneker: Black Mathematicians and the Paths to Excellence*, SUNY Press, 2014, p. 114.

or Division of Minority Affairs. This is a reformulation of one of the 1996 Task Force recommendations, which proposed the establishment of an Office of Minority Affairs. Our recommendation not only addresses issues related to minority participation, but also ensures high-level staff attention to the broader issues of equity, diversity, and inclusion. This director could be charged with: increasing awareness of inequities that may result from AMS actions; integrating EDI throughout the organization by hosting professional development workshops, trainings, or other EDI initiatives; providing guidance on the timing and language of AMS communications related to EDI; and working closely with the Vice President for EDI as well as the new Policy Committee on EDI to fulfill the goals of AMS towards the full inclusion of mathematicians from all backgrounds. The Minority Affairs office could be charged with coordinating actions that enhance the number and representation of underrepresented minorities in the mathematics profession, as well as ensuring that the recommendations of this Task Force are seriously considered. Although the last effort to create such an office fell short (for reasons we describe in Chapter 8), we believe the time is right to establish such an office; the data suggest that the profession, especially the younger generation, is ready to make diversity and inclusion a priority.

### *3. Reform election procedures*

AMS elected officers play an important leadership role in fulfilling the AMS mission. Currently, candidates for elected positions are asked to submit a statement and a biography listing AMS Offices and Committees, five selected publications, five selected addresses, and “additional information.” We recommend a reform of the nomination and election procedures to ensure that voters are able to review a broader set of scholarly mathematical experiences that are important for elected leadership (beyond a focus on lectures and publications). Examples include: leadership in one’s home institution and in offices and committees in other mathematics-focused organizations (e.g., NAM, MAA, AWM, SACNAS); research accomplishments, pedagogical innovations; invited lectures; fostering public appreciation of mathematics; mentoring; community service. Providing more detailed guidance to candidates (beyond “additional information”) will help with consistency of materials submitted. In practice, the candidate statements often vary in their usefulness to voters. We recommend that these statements be required to address aspects of the AMS mission and indicate a vision for how the AMS can achieve aspects of its mission. As one part of providing AMS members with relevant information about candidates for AMS offices, each candidate should be asked to address a set of 3–5 questions that are viewed as most relevant to the AMS. At least for the foreseeable future, one of those questions should address actions the AMS should take related to Equity, Diversity and Inclusion.

### *4. Reform appointment procedures*

Presidents have a big impact on the direction of the AMS because they make appointments to more than one hundred AMS committees, who carry out the bulk of the volunteer work of the organization. Similarly, journal editors have a long-term impact on deciding which research gets visibility in Society publications by appointing their editorial boards. Editorial boards and committees that represent the diversity of the profession (especially selection committees) are important, in part because their composition signals whose work is valued or invited. These boards and committees and their chairs should be diverse in multiple demographic ways, such as by institution type, by geographic location, by race/ethnicity, by gender, by career level.

We recognize that making appointments is a time-consuming process. The intent of reforming the structure of appointment procedures is to remind leaders of the importance and benefit of having

individuals that can contribute a breadth of perspectives/expertise and assist leaders in being intentional about ensuring broad representation when making selections for AMS committees and editorial boards. To help improve the diversity of candidates for these positions:

1. As part of regular practice, the AMS Secretary should remind the President and the Committee on Committees of the importance of assembling diverse committees and committee chairs across multiple criteria, as well as the reasons for doing so.
2. Currently the charges of multiple AMS committees include a reminder of a 1972 AMS Council resolution affirming equal opportunity for women. (See Chapter 8.) We recommend the AMS Council pass an updated, more general resolution about the importance of providing equal opportunities in the AMS from all communities currently underrepresented in mathematics, and instruct the Secretary to include this resolution as well as the AMS Statement on Equity, Diversity and Inclusion<sup>19</sup> with all committee charges and appointment letters.
3. We recommend the AMS help to increase the awareness of implicit biases by incorporating information about it and strategies for avoiding it in decision-making as part of orientation sessions for all AMS committees. In addition, AMS should follow up with a handout about implicit bias to be distributed with committee assignments during the onboarding of all new committee members and chairs.<sup>20</sup>
4. The Council should consider term limits for appointed positions. Healthy turnover allows more opportunities for a larger collection of mathematicians to exercise leadership. This is especially important for editorial boards, because of the length of time people have traditionally served in such roles and the centrality of publications to professional advancement.

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## Program-Related Recommendations

### *5. Develop and implement an engagement plan to welcome the participation of Black mathematicians in the AMS*

To address the lack of trust among Black mathematicians with the AMS, and to affirm the important role played by HBCUs in the profession, we believe that an engagement plan developed around the four themes below should be developed. The premise of these themes is that interaction between the AMS with both NAM and HBCUs would allow key stakeholders to offer perspectives and ideas on how best to make the profession more inclusive to Black mathematicians. Leaders would get to know one another, establish working relationships, discuss progress on these recommendations, and brainstorm ideas for continued intentionality on inclusivity. Furthermore, the AMS should adapt these themes more broadly to further the participation of all underrepresented groups in mathematics. Some possible ideas for engagement include:

- Scheduling regular dialogue between executive leadership of AMS and NAM, inviting the NAM president to the AMS Council meetings as a regular guest, encouraging NAM nominations to AMS committees, joint professional initiatives at JMM.
- Offering joint membership or reduced price membership for NAM members for a period

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<sup>19</sup>[www.ams.org/about-us/governance/policy-statements/statements-equity-diversity-inclusion-0419](http://www.ams.org/about-us/governance/policy-statements/statements-equity-diversity-inclusion-0419)

<sup>20</sup>Implicit bias is unintentional bias. The MAA has an [Avoiding Implicit Bias](#) document that could serve as a model.

of time, offering promotional institutional memberships for some of the PhD-granting institutions, or providing support to establish student chapters.

- Hosting AMS meetings at minority-serving institutions.
- Developing a faculty exchange program to support members to spend time at HBCUs and for HBCU members to spend time at other institutions. For instance, the AMS could raise funds to offer enhanced sabbatical for members.

One recommendation from the 1996 Task Force which does not appear to have been implemented was to hold AMS Sectional Meetings at HBCUs. We like this idea and believe holding AMS Sectional Meetings at HBCUs and other minority-serving institutions, with support provided by the AMS staff for organizing the meetings, would have several benefits: giving mathematicians an opportunity to visit these institutions, giving students of color an opportunity to experience a mathematics conference, and increasing interactions between faculty at these institutions and mathematicians from other types of institutions.

### *6. Create and support programs that further the career development of mathematicians of color*

The AMS should fundraise for, continue to support, and create new professional programs that support mathematicians of color through key transition points in their academic journeys and careers. This could include programs that nurture interest in math among students of color at the K–12 level, programs that increase the retention of students of color in college or graduate school, or programs that support early-career faculty. We recommend that NAM leadership be invited to collaborate in the development of any new programs.

Some may ask why the AMS should be involved in education at the K–12 level. In thinking about these programs, we urge mathematicians to keep in mind systemic racism’s impact on Black students with respect to their K–12 education. Black children often do not have the same opportunities for a quality education, and this reduces their preparation for college, which limits the future pool of potential mathematicians. The AMS can support the educational advancement of Black students and other students of color, even at the K–12 level, either directly or through influence on math faculty involved in K–12 teacher preparation.

We suggest that a prize supporting early-career faculty be named after a Black mathematician (such as William Claytor, seeking the input of stakeholders such as NAM), both as a way to honor that mathematician’s contributions and also as a way for doing reparations for ways the AMS hindered Black mathematicians from full participation in the mathematics community.

### *7. Include equity, diversity, and inclusion in the AMS’s professional development offerings*

The AMS has the potential to influence universities and their faculty to adopt more inclusive practices to support graduate students and faculty members of color. The mathematics community has seen a recent surge in participation in programs that focus on inclusive practices, and this suggests a wide interest if the AMS were to offer this kind of professional development, such as workshops or webinars for members.<sup>21</sup> A more focused training could be offered to AMS elected officials, committee chairs, and departmental leaders (chairs, directors of graduate and undergraduate studies). These offerings would equip them to better handle issues associated with a lack of professional respect towards mathematicians of color. Examples include understanding implicit bias, racially based microaggressions, and case studies helping leaders understand how racism and discrimination may present in common professional situations: classroom dynamics, underrepresentation in advanced

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<sup>21</sup>Some efforts of this nature are already underway; see the end of Chapter 8.

math courses, hiring, tenure and promotion decisions. The Chair's Workshop at JMM is one of the venues this could occur. Similarly, the AMS could also provide such training for organizers and session moderators at AMS meetings, so that questions are asked with respect. The AMS should also establish codes of conduct at every AMS-sponsored conference that participants acknowledge when they register, with a clear mechanism for reporting incidents and responding to infractions.

#### *8. Publicize the expertise of mathematicians of color*

This is similar to a 1996 Task Force Report recommendation to publicize speaker lists. There are several efforts underway by various groups to maintain databases of Latinx, Black, and Indigenous mathematicians.<sup>22</sup> The AMS should find a way to give these lists more prominent publicity. Many institutions want to diversify their colloquium speakers; doing so is a way to bring visibility to the breadth of expertise of mathematicians of color. The AMS might consider ways to financially support (or fundraise for) such efforts. For example, the 1996 Task Force report suggested the AMS could provide limited funds for possible add-on trips, whereby speakers, both minority and non-minority, can present talks at minority-serving institutions in conjunction with scheduled presentations at other institutions. The President, Committee on Committees, and Nominating Committee should be directed to these lists as additional resources for making appointments.

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## Accountability-Related Recommendations

#### *9. Request that the AMS provide annual updates on the status of these report recommendations*

For instance, the AMS Executive Director could coordinate with involved parties to provide, with their annual report to the Council, updates on the status of the recommendations of this report, such as if they are adopted, implemented, or rejected. Such updates would keep AMS members informed about the progress of various initiatives and inform the historical record.

#### *10. Accept responsibility for not fulfilling the AMS's own commitment to increasing the participation of mathematicians of color in the profession, including Black mathematicians*

We recommend that, after reading our full report, the Council consider a resolution that accepts responsibility for not fulfilling its commitment to increasing the participation of mathematicians of color in the profession; e.g., the recommendations of the 1996 Task Force. Specific wording could be worked out by the Council, but components could include:

- Apologizing for the harms done by accommodating racism, especially in regards to exclusion of Black mathematicians from meetings, social functions, and lodging at AMS meetings prior to 1960. These include the compounded effects of that racism, such as the continued marginalization of Black mathematicians and their scholarly work through lack of visibility and recognition that the AMS can provide.
- Affirming that many AMS members and staff over the years have been working towards full participation of all, and that structural changes in policies and practices are needed to sustain progress towards that goal.

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<sup>22</sup>Such as these websites: [Mathematically Gifted and Black](#), [Lathisms](#), [Indigenous Mathematicians](#), and the [Mathematicians of the African Diaspora](#), a recently updated website begun by Scott Williams.

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## Accessing History

There is one final suggestion we make, which may not rise to the same level of priority as the others since it is not directly related to our charge, but it seemed relevant. We suggest that the AMS digitize its archives as a resource for mathematics historians.

Given our Task Force's limited time frame, our work was greatly aided by having text files of AMS Council Minutes since 1974 that were readily searchable, as well as past issues of the *Notices* that we could find online. However, to dig deeper, we had to locate records that are out of public view by asking AMS staff to find certain paper items (sometimes in boxes in offices), and by relying on the published work and private communications of math historians who, before the pandemic, had accessed the physical records contained in the AMS archives at Brown University.

Because racism or discriminatory practices affect which stories and perspectives get a public airing and how they are framed, the history of advocacy by and for mathematicians of color and of the AMS's mixed responses to this advocacy is often hidden away in records out of public view. On many timely issues from the past, public communications from the AMS give a narrow and distorted view of voluminous collections of letters, petitions, reports, and other documents that shed light on the historical recognition of racism in the Society and of efforts to respond to it. Our Task Force benefited from the insights mathematics historians have developed by reexamining just a fraction of the AMS archives in light of new considerations.

Digitizing these archives, as other organizations (e.g., the London Mathematical Society) have done, is an efficient and cost-effective way to significantly expand the number and diversity of historians able to develop the kinds of analyses that equip the AMS to learn vital lessons from its history, as well as highlight effective actions and positive contributions that the AMS has made. After having only scratched the surface in looking at Council minutes, we are convinced more can be learned from AMS history.

# Chapter 2

## The Role of the AMS

*“The AMS has a huge influence on the culture of mathematics in the US. It gives many of the biggest awards, invites speakers for the big talks at the JMM and Sectional Meetings, and gives guidance on successful teaching, mentoring, and hiring. That puts it in a strong position to address racism.”*

—a new faculty member and Project NExT Fellow

*Finding: Racism is a concern of many mathematicians and leaders of the Society, and the AMS has a role in addressing racism in the profession.*

Addressing issues of race is a hard task, partly because it deals with questions of fairness, identity, and the dignity of the individual. Some may ask why a society of professional mathematicians should tackle a problem that seems to be “political” and non-mathematical.<sup>23</sup> Others may question whether mathematicians believe racism is a problem in mathematics. In this chapter we share what many current mathematicians—including mathematicians of color and leaders of the Society—believe the role of the AMS should be, and follow with what we learned about how the AMS has handled political questions in the past.

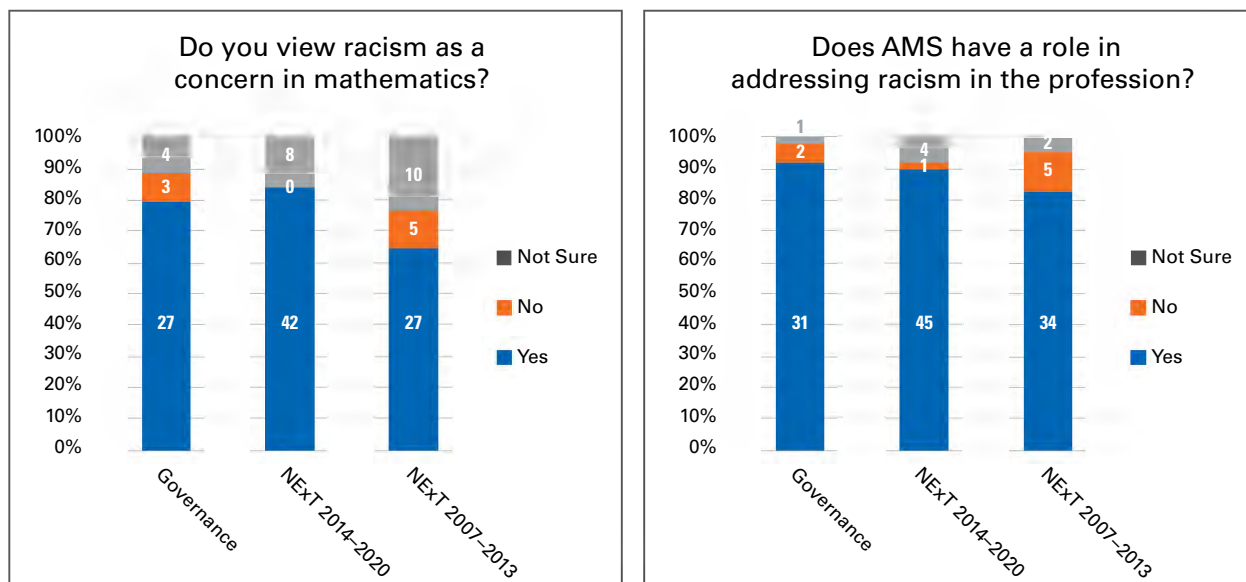
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### Survey Responses

Project NExT is a professional development program of the Mathematical Association of America (MAA) for new faculty members in mathematics departments across the United States. Every year, the AMS contributes support to the program to fund six program fellowships. Since this program was a readily accessible group of new faculty, we sent a survey to 1,050 Project NExT Fellows from the last 14 annual cohorts (2007–2020). There were 92 responses (a 9% response rate). They represent the newer generation of mathematicians, the future of our profession and of the AMS.

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<sup>23</sup>An excellent exploration of the role professional societies play in tackling issues around race may be found in: Vernon R. Morris and Talitha Washington, “The role of professional societies in STEM diversity,” *Journal of the National Technical Association*, **87**(1), 2017, 22–31. Talitha Washington is a former AMS Council member.



We asked: “Do you view racism as a concern in mathematics?” Three-quarters of respondents said yes to the first question, 19% were unsure, and just 6% said no. The question “Does AMS have a role in addressing racism in the profession?” was answered in the affirmative by 87% of respondents.

The cohorts 2014–2020 roughly correspond to current assistant professors and 2007–2013 are mostly current associate professors. Looking at just the assistant professors (50 responses of 560 in these cohorts), the responses reflect a greater concern about racism and the AMS’s role in addressing it—with five out of six respondents viewing racism as a concern in mathematics, and with no respondent denying it.

AMS Governance (Council + Board of Trustees) was asked the same two questions. The response rate was quite high: exactly two-thirds of leadership responded (34 of 51 members), with 27 respondents (about 80%) saying racism was a concern and 31 respondents (about 90%) saying AMS had a role to address it. Because of the high response rate, we know that a majority of Governance (at least 27 members of 51) believes racism is a concern in mathematics.

Perhaps unsurprisingly, the Black mathematicians and other mathematicians of color we interviewed universally agreed that racism is an issue that AMS should address.

## Political Questions

The Task Force received feedback from some who say the AMS should not wade into “political” issues—that trying to address such complicated matters is a diversion from the AMS’s main concern of advancing mathematical research.

This is not a new sentiment. For a very long time, the AMS has wrestled with whether and how to get involved in questions that may be seen as political.<sup>24</sup> Indeed, former AMS President Marshall Stone argued in a 1951 committee report about such a matter that the AMS should weigh in because

<sup>24</sup>Examples of such wrestling can be found in Everett M. Pitcher, “Political and social questions,” in *A History of the Second Fifty Years, American Mathematical Society, 1939–1958*, American Mathematical Society, Providence, RI, 1988, pp. 397–305, and Allyn Jackson, “Celebrating the 100th Annual Meeting of the AMS,” in *A Century of Mathematical Meetings*, Bettye Anne Case (ed.), American Mathematical Society, Providence, RI, 1996, p. 15.

“the social transformations taking place in our times tend to integrate the professional activities of mathematicians ever more closely” with systems “entrusted to politicians and administrators.” Soon thereafter, the AMS Secretary convened a Committee on Controversial Questions to try to provide a mechanism for handling political challenges, and one of the members of this committee suggested the AMS start “a small periodical in which can be placed all information for members which lacks a permanent character or value” and which “could solve some of our present difficulties... communicating with the membership on questions of current interest.” The *AMS Notices* came into being a few years later with just such a vision.<sup>25</sup> The *Notices* has remained a place for the membership to discuss questions of current interest, some of which are controversial (see Chapter 6).

The Society has, at times, declined to weigh in on matters it deemed political. In 1969, in response to a set of resolutions introduced by Ed Dubinsky taking positions against classified research, against the use of mathematics in war, for the study of student-faculty tension in higher education, for a more open editorial policy in the *Notices*, and for the “consideration of the problem of Black and Third World mathematicians,” the AMS Council offered its own resolution (“Resolution B”) which it viewed as contradictory to the Dubinsky resolutions, stating that “the Society shall not attempt to speak with one voice for the membership on political and social issues not of direct professional concern.” It brought the Dubinsky resolutions and Resolution B to the membership for a vote and urged voting for Resolution B and against the others. Resolution B passed and the Dubinsky resolutions failed. (For more on this incident, see Chapter 4 on Missed Opportunities.)

Even so, from reviewing Council minutes and historical accounts, it is evident that the AMS has often taken positions in political matters, sometimes after vigorous debate, because such political questions affect the professional lives of mathematicians. There are numerous examples, and we list a few notable ones:

- In the 1930s, the AMS joined a large number of scientific organizations in responding to Nazism and related developments, including sometimes-controversial efforts to resettle refugee mathematicians<sup>26</sup> as well as to answer questions about how to react to mathematical institutions under fascist control or influence.<sup>27</sup> At the time, to the extent these debates concerned Jewish mathematicians, they were understood to be related to race and racism.
- In the lead up to the 1950 ICM in Cambridge, MA, its organizing committee and the AMS had to navigate issues related to the US Government’s anticommunist efforts. In particular, they had difficulty in ensuring that foreign attendees could obtain visas to enter the US, ultimately failing to facilitate attendance for some with Communist political histories and all from Communist countries, and barely winning last-minute permission for other high-profile cases including Laurent Schwartz (a Fields Medalist) and Jacques Hadamard (an honorary president of the 1950 ICM and leading elder figure of French mathematics), both of whom had involvement in Communist politics in France.<sup>28</sup>

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<sup>25</sup>Details can be found in Michael J. Barany, “All of these political questions’: Anticommunism, racism, and the origin of the *Notices of the American Mathematical Society*,” *Journal of Humanistic Mathematics*, 10(2), July 2020, 527–538.

<sup>26</sup>Nathan Reingold, “Refugee mathematicians in the United States of America, 1933–1941: Reception and reaction,” *Annals of Science*, 38(3), 1981, 313–338, and Reinhard Siegmund-Schultze, *Mathematicians Fleeing from Nazi Germany: Individual Fates and Global Impact*, Princeton, 2009.

<sup>27</sup>See AMS Records Box 26 for the vigorous debate over whether to join in 1937 celebrations of Göttingen University’s bicentennial, as well as extensive records across multiple parts of the AMS archives (and beyond) of the AMS decision to launch Mathematical Reviews as a response to concerns over Nazi influence on the *Zentralblatt für Mathematik*. On the latter, see Reinhard Siegmund-Schultze, “‘Scientific control’ in mathematical reviewing and German-U.S.-American relations between the two World Wars,” *Historia Mathematica*, 21(3), 1994, 306–329.

<sup>28</sup>Michael J. Barany, “All of these political questions.”

- A 1951 review by Marshall Stone of recent AMS political interventions<sup>29</sup> identified a number of high profile examples, including: the formation of the Policy Committee (forerunner to today's Joint Policy Board for Mathematics<sup>30</sup>), the AMS's 1948 support for Edward U. Condon during his investigation by the House Un-American Activities Committee, involvement in training and placement of mathematics teachers during World War II, and AMS interest in public funding for mathematics.
- Lee Lorch noted in 1969 that the AMS "has taken a position on the draft, a political issue, as it affects the careers of potential mathematicians."<sup>31</sup>
- The AMS Council, under pressure from members at its January 1969 business meeting, moved its Spring 1969 meeting away from Chicago in protest over police use of tear gas and beatings of Vietnam War demonstrators (which included some mathematicians).<sup>32</sup> It moved the meeting to Cincinnati.<sup>33</sup>
- At its January 1974 meeting, after lively discussion, the Council canceled the reciprocity agreement it had established with the South African Mathematical Society. As noted by James Donaldson, chair of the Department of Mathematics at Howard University and later a Council member, its apartheid stance meant that Black members of the AMS in South Africa could not avail themselves of the privileges of membership in that Society.<sup>34</sup>
- The AMS is often asked to advocate for the human rights of persecuted foreign mathematicians who have been arrested, imprisoned, or otherwise are in some kind of immediate danger. The volume of such requests compelled the AMS to establish a Committee on Human Rights in 1976 to draft statements for approval by the Council to be made in the name of the Society. Such actions may be found in abundance throughout the AMS Council Minutes.
- In August 1979, after receiving reports that the Russian journal *Mat. Sbornik* discriminates against Jewish authors as evidenced by a "very sharp decline in the number of articles by Jewish authors in the past three years,"<sup>35</sup> the Council approved a resolution deploring this state of affairs and seeking clarification from the Soviet Academy of Science. Receiving no response, a resolution urging the AMS to drop the translation of that journal was introduced in the Business meeting of August 1980, but that failed. However, in May 1981, the Council approved a broader motion dissociating itself from discriminatory practices in the USSR.<sup>36</sup> It stated:

*The Council of the AMS, having heard reports on the discrimination in granting science degrees in mathematics in the USSR, on unfair conduct of admissions examinations in several Universities in the USSR, on discriminatory editorial policies of some Soviet mathematical journals, and on the practice of the Soviet national Committee of denying many invited speakers the possibility of attending scientific meetings or to invited visitor the possibility of coming to host Institutions, and having taken into account that such practices are based on*

<sup>29</sup>AMS Records, Box 36, folder 12.

<sup>30</sup>See Michael J. Barany, "The World War II origins of mathematics awareness," *Notices of the American Mathematical Society*, 64(4), 2017, 363–367.

<sup>31</sup>Lee Lorch, "The painful path towards inclusiveness," Attachment 5, p. 98.

<sup>32</sup>The American Physical Society (APS) recently adopted a policy on meetings that will take into account local police conduct; see <https://www.aps.org/publications/apsnews/202011/police-conduct.cfm>.

<sup>33</sup>Lee Lorch, "The painful path towards inclusiveness," p. 88.

<sup>34</sup>Lee Lorch, "The painful path towards inclusiveness," p. 89.

<sup>35</sup>See data in the January 1981 *Notices*, p. 8. <https://www.ams.org/journals/notices/198101/198101FullIssue.pdf>.

<sup>36</sup><https://www.ams.org/about-us/governance/council/council-minutes0581>

*criteria other than scientific, has concluded that it must disassociate itself from such practices and has decided to appeal to mathematicians not to support such practices.*

*The Council recommends sending invitations to visit the USA or to attend meetings to outstanding Soviet mathematicians even if the past record shows that chances of their coming are poor. In these ways American mathematicians can show that they are not indifferent to the fate of Soviet mathematics.*

- In August 1982, the Council approved a resolution calling for a Presidential Pardon for Chandler Davis, who was convicted of contempt of Congress in the 1950s for his refusal to answer questions about his political affiliations.<sup>37</sup>
- In August 1990, the Council adopted the following resolution on behalf of Lee Lorch and Chandler Davis, who were fired from their institutions in 1949 and 1954 for their political beliefs:

*The Council of the American Mathematical Society notes with pleasure the action by the City University of New York recognizing the achievements and distinction of its former faculty member, Lee Lorch, by its award to him of an honorary degree. By this action, the University has acknowledged the injustice of its treatment of Lorch in firing him for political reasons in 1949. The Council suggests to The University of Michigan that it acknowledge the injustice of its treatment of Chandler Davis and his dismissal in 1954. The damage done to Professors Davis and Lorch and others like them cannot be undone, but formal recognition of these past injustices will help to strengthen freedom of inquiry in our academic institutions.*

- In January 1993, the AMS Council approved a resolution to move the 1995 Joint Mathematics Meetings away from Colorado because the state adopted an amendment to the state constitution that removed the inclusion of sexual orientation as a protected class in state and municipal antidiscrimination clauses. The Council resolution states quite clearly that the Colorado action was “wrong” and its rationale for moving was that “the AMS has the duty to protect all participants at their meetings from possible discrimination.”<sup>38</sup>
- During the early 1990s, the AMS took stances and initiated actions to support mathematicians from the former Soviet Union. These resulted in a huge financial cost for the Society due to the loss of Russian translation journals to the London Mathematical Society.

These are examples of issues that could be classified as political and non-mathematical that the Society has engaged in over the decades. At their core, these issues prove that mathematics cannot be done in the vacuum and that mathematicians live in a social and political world. As members of a professional society we will be called upon to take stands in these kinds of issues and cannot simply hide behind the rationalism of the profession and refuse to act. Acting on behalf of our members does not turn the AMS into a political organization; rather, it is the duty of a professional organization to address issues its members or aspiring members face in order to advance their participation in the profession. Finally, we also note that the AMS has an Office of Government Affairs in Washington, DC, whose primary purpose is to engage in the political arena.

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<sup>37</sup><https://www.ams.org/about-us/governance/council/council-minutes0882>

<sup>38</sup><https://www.ams.org/about-us/governance/council/council-minutes0193.pdf>

# Chapter 3

## Blatant Discrimination

*“To omit the formal social activities at meetings where the question of race is a problem is simply the price which may temporarily have to be paid if we are to avoid both discrimination and the consequences of racial prejudice.”*

—from a report found in the “Discrimination 1952” folder in the AMS archives<sup>39</sup>

*Finding: The effects of blatant discrimination in the mathematics community (and in the AMS) since its inception continue to have repercussions today in the development of Black mathematicians, the visibility and perceptions of their work, and the lack of recognition that further hinders their professional advancement.*

In researching the AMS’s role in racial discrimination in the past, we looked at historical records, minutes from AMS Council meetings, publications by math historians, and resources compiled by others. In this chapter we focus on blatant discrimination that Black mathematicians faced in the time period prior to 1960 and the examples we cite involve the AMS.

Since not every incident is documented, these must be understood as snapshots, the tip of the iceberg of stories undocumented and untold. We cannot attempt to give an exhaustive account, as many incidents of racial discrimination happen outside public view; rather we attempt to reveal representative patterns of discrimination, in order to shed light on the kinds of barriers that mathematicians of color have faced in the AMS community over the years. The nature of these barriers changes over time, but all have a common theme: they work against the full participation of all individuals. Readers are encouraged to reflect on how repeated incidents like these might have inhibited one’s mathematical productivity if one doesn’t leave the profession altogether.

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<sup>39</sup>Source is a report (unsigned—presumably sent as an attachment to a letter) in Box 37, folder 19, Records of the American Mathematical Society Ms. 75.6, John Hay Library, Brown University, Providence, RI.

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## Accommodation and Limited Action

Most of the examples we have prior to 1960 involve discrimination at segregated institutions. We have already recounted the experiences of William Claytor in the Preface; recall from his well-documented story that he was deeply discouraged by the racism he encountered at meetings, including one in 1936 that was hosted by the AMS. His spirit was “broken by discrimination.”

What’s notable in many of these examples is how the AMS responded with what historian Michael Barany describes as “accommodation and limited action.”<sup>40</sup> There was often a reluctance to act—in- stead, the AMS would accommodate the local customs—and when action took place, it was often limited.

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## The Experience of J. Ernest Wilkins, Jr.

Lee Lorch, the department chair of Fisk University, who served on the AMS Council twice and was a vocal supporter of minority mathematicians, documented several examples of discriminatory practices at meetings in the 1940s and 1950s, and pushed both the AMS and the MAA to take a public stand against discrimination.<sup>41</sup>

For instance, J. Ernest Wilkins, Jr. was a distinguished mathematician who published dozens of papers in pure and applied mathematics as well as nuclear physics, and was elected to the National Academy of Engineering. Lorch described Wilkins’ dismay at an invitation he received to an AMS meeting at the University of Georgia in the 1940s:

*In 1947 Wilkins was a few years past the PhD he had earned at the University of Chicago slightly before his nineteenth birthday. He received a letter from the AMS Associate Secretary for that region urging him to come and saying that very satisfactory arrangements had been made with which they were sure he’d be pleased: they had found a “nice colored family” with whom he could stay and where he would take his meals! The hospitality of the University of Georgia (and of the AMS) was not for him. This is why the meeting there was totally white.<sup>42</sup>*

Note that Wilkins was segregated in both lodging and meals. He was deprived of the full experience of participation at a scientific meeting, where informal interactions are so essential.

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## Limited Action: Obtaining “Assurances” of Non-Discrimination

In 1951, after three African American mathematicians at Fisk University were denied attendance to a conference banquet at an MAA meeting, the Fisk University mathematics department (with chair Lee Lorch) requested that the MAA and the AMS insert into its bylaws “explicit and effective protection of the rights of all members to participate fully freely and equally” in its affairs without regard to race.

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<sup>40</sup>Michael J. Barany, “[All of these political questions.](#)”

<sup>41</sup>Lee Lorch, “[The painful path towards inclusiveness.](#)”

<sup>42</sup>Lee Lorch, “[The painful path towards inclusiveness.](#)”

The AMS responded not by modifying its bylaws, but by passing a non-discriminatory motion that directed the AMS Secretary

*to obtain, as a condition of holding a meeting, assurances that at any event scheduled in the program there will be no discrimination as to race, color, religion, or nationality, and that when accommodations and other facilities are provided these shall be provided to all attending the meeting.*<sup>43</sup>

This weaker response did not satisfy Lorch, who published the Fisk letter in *Science* in 1951 to call the greater scientific community to end the discriminatory practices at meetings.<sup>44</sup>

Indeed, as subsequent examples show, the “assurances” to be obtained by the AMS Secretary had limited impact, if they were obtained at all.

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## Avoiding Discrimination at Social Events (by not having them)

Even after the Council’s non-discrimination motion of 1951, the AMS continued to have meetings where discrimination took place. Often, these were at segregated institutions, but not always.

For instance, there were at least ten AMS meetings between 1951 and 1960 that were held at segregated institutions: Tulane University in 1951, Auburn University in 1951, North Carolina State University in 1952, Wofford College in 1953, University of Alabama in 1954, Rice University in 1955, the University of Miami in 1957, Duke University in 1958, Wake Forest University in 1959, and Vanderbilt University in 1960. Additionally, whites and African Americans were offered separate hotel accommodations at a 1956 meeting at the University of Kentucky (which was not segregated).<sup>45</sup>

At such meetings, local organizing committees often decided the solution to avoid discriminatory events or lodging was to not hold events or list lodging for patrons of color! This latter fact is not evident from the AMS Council minutes but from digging through records in the AMS archives at Brown University. Historian Michael Barany writes about what he learned from reading letters in the Records of the AMS, including a series of folders titled “Discrimination”:

*As Alabama Polytechnic Institute (the forerunner of Auburn University) prepared to host an AMS meeting, they elected not to hold an official banquet, but also not to list any housing or dining facilities that would accommodate patrons of color. The one Black mathematician who attended drove twenty miles each way so he could sleep at home, and was told he could “technically” attend the “Social Hour” held in lieu of an official banquet but “probably would not want to do so.”*

*Another letter in the “Discrimination” folder urged that entertainment at meetings be free to follow “the social customs and wishes” of the host, unsubtly endorsing de facto segregation. A subsequent report*

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<sup>43</sup>See page 235 of Karen Hunger Parshall, [“Mathematics and the politics of race.”](#)

<sup>44</sup>Lee Lorch, [“Discriminatory practices.”](#)

<sup>45</sup>Jesse Kass, [“James L. Solomon and the end of segregation at the University of South Carolina.”](#)

*lamented that “to omit the formal social activities at meetings where the question of race is a problem is simply the price which may temporarily have to be paid” to continue to hold meetings in the South and to technically avoid hosting discriminatory events. As [the AMS Secretary] summarized in a January letter in the “Discrimination 1952” folder, “Few, if any, on the Council wished to crusade against discrimination, but practically everyone felt that the proper thing to do would be to sacrifice the social functions when necessary.”*

It appears that the AMS Council was reluctant to upset the social order. The Council action in favor of “assurances” rather than a non-discrimination mandate represented “an attitude toward accommodation and limited action”

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## The Experience of David Blackwell

David Blackwell was a former AMS Vice President and famous statistician who spent his career at Howard University and UC-Berkeley. He was also the first Black member of the National Academy of Sciences, and the first Black member of the AMS Council. Blackwell also experienced discrimination at AMS meetings. He describes one such incident:<sup>46</sup>

*...there was a meeting of the American Mathematical Society somewhere in Virginia, and I and two white mathematicians drove from Washington, DC down to the meeting. And I was not allowed to stay in the dormitory where the other mathematicians were staying, and where the meetings were to be held, I think. So, I simply turned around and drove back to Washington, DC, and missed that meeting... there may have been other incidents like that. Maybe two or three. I remember some correspondence I had with the secretary of the American Math Society over such incidents.*

One exchange of correspondence that survives today in the AMS archives concerns a discriminatory incident Blackwell experienced at another AMS meeting in North Carolina. Historian Michael Barany writes about finding that letter of Blackwell’s in a folder labeled “Discrimination 1952.”<sup>47</sup> The AMS Secretary used the titles of such folders to categorize and collect correspondence related to a particular topic. Barany describes other letters in that folder:

*In November [of 1952], a North Carolina mathematician wrote urgently [to the AMS Secretary] to tell his side of a story of denied accommodation “in case a protest is registered,” as indeed one was by Howard University’s David Blackwell a few days later, alleging racial discrimination. [The AMS Secretary] replied to Blackwell that the North Carolina meeting had technically met the AMS’s standards for non-discrimination, to which Blackwell responded “since discriminatory housing arrangements are compatible with the present requirements, a stronger statement is needed.”*

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<sup>46</sup>David Blackwell, *An Oral History with David Blackwell*, conducted by Nadine Wilmot in 2002 and 2003, Regional Oral History Office, The Bancroft Library, University of California, Berkeley, 2003, pp. 12–13. Also at: <https://sites.tufts.edu/histmath/files/2015/11/blackwell.pdf>.

<sup>47</sup>Michael J. Barany, “All of these political questions.”

Notice that the AMS looking the other way because the North Carolina meeting had “technically” met the AMS’s standards for non-discrimination, while still discriminating, was an accommodation to the local organizers, but an affront to Black mathematicians. Blackwell’s high mathematical reputation helped bring such incidents to light and made it hard to ignore that Black mathematicians across the country faced discriminatory conditions that impaired their work as mathematicians.

We describe another incident involving Blackwell and the 1950 International Congress of Mathematicians in Chapter 4.

## Discrimination on Display

In spite of the non-discrimination motion the AMS Council passed in 1951 (described above), at the AMS Meeting at Duke University in 1958, organizers offered separate hotel accommodations to African American participants.<sup>48</sup> You can, in fact, see it on display in the *AMS Notices*.

The *Notices* records this fact by listing a “(colored)” option: the Biltmore Hotel, which, in fact, touted itself at the time as “America’s Finest Colored Hotel.”

It is unclear how the *Notices* advertisement could meet the AMS’s standards for non-discrimination as set out by its 1951 motion, unless separate accommodations was viewed as “technically” satisfying “when accommodations and other facilities are provided these shall be provided to all attending the meeting.”

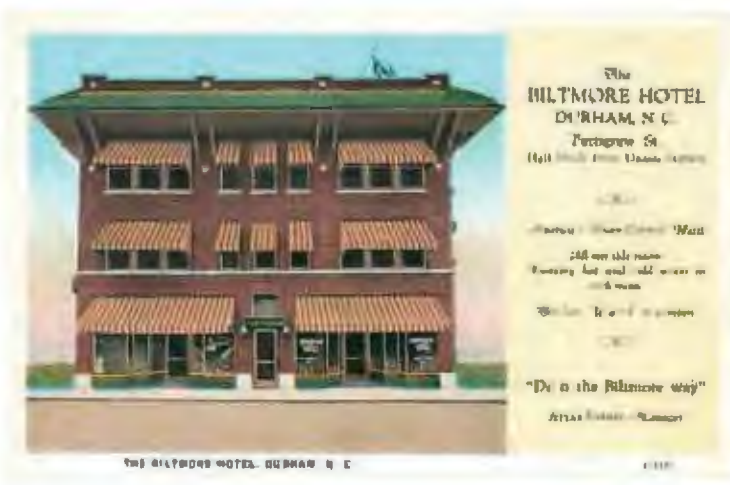
## Discrimination in the AMS Library

Meetings were not the only AMS resources impacted by segregation. In 1951, the AMS sold its library to a segregated institution, making those

November 14. Reservations for rooms should be made directly with the chosen hotel or motel. (Downtown Durham is approximately 3 miles from the West Campus of Duke University.) Bus service is available between downtown Durham and West Campus. Ample parking space is available near the Physics Building. Minimum rates are listed below for conveniently located hotels and motels:

	Single	Double
Washington Duke Hotel Corcoran and Chapel Hill Sts., Durham	\$4.50	\$ 8.25
Biltmore Hotel (colored) 332 East Pettigrew, Durham	3.00	4.00
Eden Rock Motel, 3 miles South of Durham on Highways 15A and 501 (3 1/2 miles from the Physics Building)	---	10.00
Homestead Motel, 2 miles south of Durham on Highways 15A and 501 (3 miles from Physics Building)	7.00	8.00

1958 Duke Meeting announcement in the *AMS Notices* <sup>49</sup>



Biltmore Hotel postcard from the era.<sup>50</sup>

<sup>48</sup>Jesse Kass, “James L. Solomon and the end of segregation at the University of South Carolina.”

<sup>49</sup>*AMS Notices*, October 1958, 528, <https://www.ams.org/journals/notices/195810/195810FullIssue.pdf>.

<sup>50</sup>See this Americana antique for sale on eBay: <https://www.ebay.com/itm/Biltmore-Hotel-Colored-DURHAM-North-Carolina-Black-Americana-Antique-1920s-/324006888401>. Image: <https://i.ebayimg.com/images/g/zxoAAOSwz5pd30FB/s-11600.jpg>

resources inaccessible to Black mathematicians, since African Americans were not allowed to use the university library. Lorch writes:

*The University of Georgia figures again in this same period in another example of AMS insensitivity to its Black constituency. In 1951 the AMS sold its library to the University of Georgia, which was the highest of six bidders. A careful search of AMS records does not disclose any assurances given—or even sought—that all AMS members, regardless of race, would be able to use it. This was at a time of intense segregation mandated by Georgia state law. (At the other four US institutions bidding, access would not have been a problem.)*

As Lorch notes, other options were available to the AMS. The University of Georgia remained segregated until 1961.

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## The Repercussions of Racial Discrimination

Most of the examples above involved discrimination at AMS conferences. That discrimination created barriers to the full participation of Black mathematicians, because it impeded their research, the visibility of their work, and their ability to connect with other scholars. These had downstream effects as we discuss below. There are many other ways in which racial discrimination can impact Black participation in mathematics, not all of which impugn AMS practices, but which do suggest ways the AMS could act to alleviate racism's impact.

Racial discrimination impacts what kind of educational opportunities a person has. For example, racist “redlining” policies (a form of lending discrimination) prior to 1968 contributed to impoverishing communities of color as well as their local schools through the lowering of property values. Black and brown kids living in poor neighborhoods with underresourced schools were more likely to get a poor math education and less likely to become mathematicians.

Farther along the career trajectory is the hiring process, which has historically been fraught with racism. There is plenty of historical evidence that Black mathematicians were implicitly or even explicitly barred from faculty positions in the segregated era (Claytor is just one example). The AMS plays an important role in facilitating faculty hiring through its employment services, so it is important for the AMS to have good policies in this area.

Thus the collective weight of the explicit and often implicit discriminatory policies and actions on Black mathematicians—across their professional lives—has the effect of impeding their early education, their entry to the profession, their reception into the profession, their research, their visibility, their ability to see the work of other Black scholars before them, and even their productivity. As William Claytor's example shows, the emotional impact of racism can impact one's ability to continue to produce high-quality research.

The effects of racism reach far into the future, compounding over time. Shunning Black mathematicians from AMS events in the 1950s—the loss of visibility, the lack of welcome, and the resulting lack of representation of Black mathematicians—discouraged others from following them down this path. Preventing a Black family from getting a home loan in the 1950s meant that they might pass on less generational wealth to their kids and grandkids, repeating a cycle of poverty and a poor math

education for another generation. Denying a Black mathematician a faculty position in the 1950s due to outright discrimination also denied the next 40 years of students at that school an opportunity to see Black excellence in mathematics. Thus the very small number of Black students doing math in 1960 matured into an even smaller number of Black mathematicians in 1990. The Black students of 1990 who attended AMS events and realized no Black mathematician had ever spoken at the Joint Mathematics Meetings up to that point (see Chapter 5) may have wondered what that signified, and left the profession. They would have been mathematicians in 2020. This is a loss the mathematics community continues to suffer today. The pernicious effects of racism reverberate for generations.

Persistent underrepresentation breeds a false perception that Black mathematicians are less capable. Black mathematicians face frequent microaggressions—verbal slights, usually unintentional, that question their ability or belonging in the profession—and a lack of professional respect. We show their impact on today’s mathematicians in Chapter 5. They are passed over for speaking opportunities, leadership positions, and awards. We give many examples in Chapter 6.

Moreover, the lack of representation, visibility, and recognition and the inattention of professional societies to address it<sup>51</sup> hinders the professional advancement of Black mathematicians. To get hired, promoted, and tenured, one typically needs the external recognition that comes with papers published, talks presented, national service to the profession, and awards. These are all things which the AMS (and its members who comprise its selection committees) directly control. To profess “color-blindness” to issues of race is to miss opportunities to welcome mathematicians of color into a community that has historically excluded them.

Said one mathematician we interviewed: “We underestimate how social mathematics is. There’s a perception that decisions are made on merit. It has a lot to do with who was at the last conference, or names you saw attached to a paper.”

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<sup>51</sup>See Vernon R. Morris and Talitha Washington, “The role of professional societies in STEM diversity.” For an examination of the Mathematical Association of America’s relationship with African Americans see Asamoah Nkwanta and Janet E. Barber, “African-American mathematicians and the Mathematical Association of America,” MAA Centennial, Historical Articles (July 2015), [https://www.maa.org/sites/default/files/pdf/centennial/African\\_Americans.pdf](https://www.maa.org/sites/default/files/pdf/centennial/African_Americans.pdf).

# Chapter 4

## Missed Opportunities

*“Few, if any, on the Council wished to crusade against discrimination, but practically everyone felt that the proper thing to do would be to sacrifice the social functions when necessary.”*

—AMS Secretary, 1952<sup>52</sup>

*Finding: The AMS has missed several opportunities to improve the professional climate for mathematicians of color.*

In this chapter, we describe several instances where AMS officers had an opportunity to improve the professional climate for mathematicians of color, but did not take them. Just like the examples in the prior chapter, the examples of this chapter are documented instances of the AMS exhibiting a posture of accommodation—not being willing to take a stand—either against discrimination, or for actions to improve the climate for mathematicians of color.

Pointing these out does not nullify the good progress that the AMS has made over the years (much of which we describe in Chapter 8). Rather, understanding such instances help us understand why progress has been slow, how even well-meaning people can hinder progress, and they shine a light on our responses to the current moment to prevent us from making similar errors now or in the future.

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### Declining to Participate in a Study on Minority Participation

In 1950, the Committee on Education, Training, and Research on Race Relations at the University of Chicago sent a questionnaire to all national professional associations to obtain information about the participation of minority groups “who on account of race, creed, or national origin are sometimes deprived of equal opportunities and privileges open to others, such as Negroes, Jews, Catholics, Japanese Americans, and Mexican Americans.” The AMS Secretary declined to fill out the

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<sup>52</sup>Letter of E. G. Begle to W. M. Whyburn, 23 Jan 1952, AMS Records, Box 37, folder 48, Brown University, Providence, RI.

questionnaire, asserting that the AMS “has never had or even considered the qualification of race, creed, or national origin in the matter of eligibility of membership” and that the AMS “is a purely scientific society, and we have always insisted that no matter where our meetings are held, they must be open to all of our members.”<sup>53</sup>

As discussed in the last chapter, this “openness” did not include welcoming Black mathematicians to social events or common accommodations with other AMS members. By not participating in this study, the AMS missed an opportunity to do a self-examination that could have informed future practices to make the AMS more inclusive of minority groups.

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## Speaker Possibilities for the 1950 ICM in the United States

In preparation for the 1950 International Congress of Mathematicians (ICM) to be held in the United States, a correspondence between the organizers (many who were current or recent officers of the AMS) raised the possibility of inviting David Blackwell<sup>54</sup> of Howard University, a prominent statistician and African American, as an Hour Speaker. G. C. Evans put forward a list of potential candidates, all “of significant caliber,” and suggested speakers might be chosen on the basis of their recent work and ability to give a talk of general mathematical interest, with a hope that some of the talks should “have an influence on mathematics of the future.” He then notes “special situations”; one of which is that “Blackwell, of Howard University, is a negro. His reputation as an investigator of mathematical statistics is very high. Should we take a special interest in his case?” The response by T. H. Hildebrandt was dismissive:

*“I do not think color of skin should make any difference in the selection of a speaker. If a negro is of caliber better than a white man being considered for the same opportunity, then the negro should be preferred. If not, no preference should be accorded the negro as a result of the color of his skin.”<sup>55</sup>*

Given that all the candidates on Evans’ list were outstanding and in many different fields, it would seem hard to justify that anyone is “of caliber better” than any other. Evans was now proposing other criteria for narrowing the selection among comparably qualified candidates. By not ultimately selecting Blackwell, they missed an opportunity to give visibility to an outstanding US mathematician who would be the first African American invited speaker at an ICM.<sup>56</sup>

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## The 1969 Dubinsky Resolutions

In 1969, a group of mathematicians asked the AMS Council to study why there were so few mathematicians of color, and the AMS refused.

That period was marked by great social upheaval: the civil rights movement of the 1960s brought many issues of racism to public consciousness and there was concern over the Vietnam war. At the January Business Meeting, Ed Dubinsky, representing a group of mathematicians known as the Mathematics Action Group, brought five resolutions related to social issues as they impinged on

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<sup>53</sup>Letter of J. R. Kline to Louis Wirth, 27 May 1950, AMS Records, Box 37, folder 3.

<sup>54</sup>David Blackwell’s experience of discrimination was described in Chapter 3.

<sup>55</sup>Evans, 28 Feb 1949, and Hildebrandt, 5 Mar 1949, Box 16, folder 3, Records of the Department of Mathematics (UAV 561.8), Harvard University Archives, Cambridge, MA.

<sup>56</sup>Four years later, Blackwell was invited to speak at the 1954 ICM in Amsterdam.

mathematics.<sup>57</sup> The first four took positions against classified research, against the use of mathematics in war, for the study of student-faculty tension in higher education, and for a more open editorial policy in the *Notices*. The fifth was this:

*5. Whereas the shortage of mathematicians in North American Universities is different and greater among black and brown Americans than among whites, and whereas this situation is not improving, be it resolved that the AMS appoint a committee of black and third world mathematicians to study this problem and other problems concerning black and third world mathematicians, and report their conclusions and recommendations to the Society.*

In April 1969, the Council voted 29–1 to dissociate itself from these five resolutions and introduce a separate resolution (Resolution “B”):

*B. Whereas the American Mathematical Society encourages all persons interested in mathematical research to be members and whereas these members hold a wide variety of political and social views and have been welcomed to membership without regard to these views, resolved that the Society shall not attempt to speak with one voice for the membership on political and social issues not of direct professional concern and shall adhere closely to the purpose stated in its Articles of Incorporation of “furtherance of the interests of mathematical scholarship and research.”*

The AMS Council regarded Resolution B as contradictory to the five resolutions, and put them to the membership for a vote, with a recommendation that members vote for Resolution B and against all the others “as a consequence of the position taken by the Council in Resolution B.” There was no opportunity for discussion in a Business Meeting or through letters to the *Notices*. The membership defeated the five resolutions and approved Resolution B.<sup>58</sup>

In a time of social upheaval on race, the AMS missed an opportunity to study the reasons for the shortage of black and brown mathematicians, which is of “direct professional concern” and related to “furtherance of the interests of mathematical scholarship and research.”

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## Hosting Meetings at Discriminatory Hotels

In 1974, the AMS Council considered a resolution introduced by Lee Lorch, Mary Gray, and Anatole Beck that would forbid the AMS from hosting meetings at hotels “where facilities are administered or designated in such a fashion as to suggest discrimination.” The issue had arisen because the New York Biltmore Hotel, where the AMS regularly held meetings, had a restaurant/bar with signs over both entrances titled “Men’s Bar” (that had maintained a males-only policy until just before this, in 1970).<sup>59</sup> In a letter to the Council (attached to the Council minutes), Beck said this:

*It is difficult for any of us to take sufficiently seriously those things which are offensive to others. Thus, while only the most dedicated*

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<sup>57</sup>These events are described in Lee Lorch, “The painful path towards inclusiveness,” and also in related Council Minutes.

<sup>58</sup>See: *AMS Notices*, August 1969, 752. <https://www.ams.org/journals/notices/196908/196908FullIssue.pdf>.

<sup>59</sup>The discussion was about the “Men’s Grill” though the minutes note that signs actually say “Men’s Bar.”

*feminists are at present objecting to items like the “Men’s Grill,” they are not, in essence, different from signs saying “Whites only.” To educate our sensitivities in this matter, let us assume that we had been meeting in a hotel which had a prominent sign, say on a toilet, saying “Whites only.” Surely it would not be sufficient answer to an objection based on a sense of insult to say that Blacks were now permitted to use that toilet.*

Rather than address this motion, the Council passed a substitute resolution offered by President-Elect Lipman Bers, that would instead instruct the Secretary to write to the manager of the Biltmore Hotel about this issue. The ensuing Council discussion established that the letter not be worded as an ultimatum.<sup>60</sup> By avoiding the Council motion and not issuing an ultimatum to the Biltmore, the AMS missed an opportunity to take a clear stance. Readers may wish to compare this to the accommodating stance that the AMS took regarding segregated hotels only 15 years before this (see Chapter 3).

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## Allowing Discriminatory Ads

In April 1975,<sup>61</sup> the chair of the Joint Committee on Employment Opportunities asked the Council to consider replacing the “Title VII” statement that appears in the AMS publication Employment Information for Mathematicians (EIM) with a “Nondiscrimination” statement. The Title VII statement refers to the US Civil Rights act of 1964, and the statement indicates that all advertising institutions have agreed that they will abide by Title VII which prohibits discrimination in several categories including race. It includes this sentence:

*All institutions listing positions in this publication have signed a statement indicating that they abide with the spirit of this law whether or not they are legally bound to do so.*

The chair expressed concern that this “represented a restriction on the right of access to job information for our applicants” given that some foreign institutions resented being asked to sign. The proposed replacement was a Nondiscrimination statement that allowed foreign institutions to avoid agreeing to abide by Title VII and removed the restriction that US institutions sign a statement, leaving it up to applicants to figure out what conditions apply:

*All US listings are accepted with the understanding that the employer complies with federal requirements. Applicants should be aware that institutions outside the US may not be legally bound to conform to these or similar requirements. Applicants are advised to inform themselves of conditions that may exist at the institutions to which they apply.*

The AMS Council discussed this question and eventually decided that advertisers would be asked to be presented with a statement that they could either sign or refuse:

*Employment at (institution) is offered without discrimination on the basis of race, color, religion, sex or national origin.*

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<sup>60</sup> See <https://www.nytimes.com/1977/07/01/archives/its-all-over-for-the-biltmore-bar.html> and <https://www.nytimes.com/1979/04/15/archives/biltmore-closes-cafe-fanny-mens-bar-successor-the-name-was-changed.html>

<sup>61</sup> See October 1974 Council Minutes, at [www.ams.org/about-us/governance/council/council-minutes1074](http://www.ams.org/about-us/governance/council/council-minutes1074).

The Council also approved having the front material in EIM state that each advertiser has signed or declined the statement, with lists of the signers and of the decliners. In the midst of these actions, there was a motion (by Lee Lorch) that non-signers not be allowed to list positions, and that motion failed to pass.

The net effect of the change from the original procedures was that the AMS could now accept advertisements from discriminatory institutions. A more forceful approach would have explicitly barred job advertisements from institutions with discriminatory practices.

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## Representation on the Committee on Committees

In August 1975,<sup>62</sup> the ad hoc Committee on Committees proposed a standing Committee on Committees to advise the President on committee appointments. In its approved form the proposal stated that

*In an advisory capacity, it should try both to achieve fair representation on committees by geographical area, mathematical interest, age groups, type of institution, and professional level, as well as to include representatives of members of the Society most likely to be affected by each committee's actions.*

This statement makes clear that the AMS recognizes the importance of “fair representation”: it is well known that diverse representation on selection committees leads to knowledge of wider networks of potential candidates. However, what is notably absent from this call to fair representation is any interest in racial or gender representation on this important committee, which would help the President accomplish racial and gender representation on a large number of other committees.

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## Representation on the US National Committee

In 1981 and 1982, the AMS Council declined several times to urge better representation of women and minorities on the US National Committee, which represents the National Academy of Sciences in the International Mathematical Union (IMU). In August 1981, Lee Lorch proposed the following resolution, but the Council did not accept it for the agenda:<sup>63</sup>

*Whereas it has come to our attention that the US National Committee on Mathematics is composed solely of white males, we request the Committee on Women and the Committee on Disadvantage[d] Groups to consider the situation, and to make their respective recommendations to the January 1982 Council meeting as to what representations, if any, either or both of these Committees suggest that the Council should make in this connection.*

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<sup>62</sup>[www.ams.org/about-us/governance/council/council-minutes0875](http://www.ams.org/about-us/governance/council/council-minutes0875)

<sup>63</sup>See amendment to the Aug 81 Council minutes in the Jan 82 minutes: [www.ams.org/about-us/governance/council/council-minutes0182](http://www.ams.org/about-us/governance/council/council-minutes0182).

At the January 1982 Council meeting, Lorch offered another resolution, this time requesting the AMS President convey a Council opinion to broaden its composition:<sup>64</sup>

*The Council requests the AMS President to write to the agency or agencies appointing members to the US National Committee for Mathematics directing attention to the fact that this Committee is composed exclusively of white males and conveying the view of the Council that the composition should be broadened by the prompt addition of female and minority members. A copy of this letter shall be sent to the USNCM and published in the NOTICES.*

This resolution was defeated. Immediately afterwards, the Association for Women in Mathematics also requested that the AMS Council request better representation on the US National Committee:

*The Business Meeting of the Association for Women in Mathematics has passed the following resolution, which was communicated by its President, Bhama Srinivasan.*

*AWM wishes to memorialize the AMS Council and the Joint Committee on Women to approach and request the National Academy to change the composition of the US National Committee so that it is not restricted to white males, as it is now and has been in the past.*

But the President ruled the issue out of order as having been settled in the previous motion.<sup>65</sup> It appears that neither the President nor the Council was open to publicly making a stand to increase diversity on the US National Committee.

The incidents described in this chapter are accounts of missed opportunities from historical records. They are not the only missed opportunities, however. Some of the recommendations from the 1996 Task Force report remain unfulfilled, which we describe in Chapter 8. And as we describe in the next chapters, much work remains to be done to improve the current climate for mathematicians of color.

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<sup>64</sup>See the Jan 82 minutes, at [www.ams.org/about-us/governance/council/council-minutes0182](http://www.ams.org/about-us/governance/council/council-minutes0182).

<sup>65</sup>Clarified in the Council minutes of Mar 82: [www.ams.org/about-us/governance/council/council-minutes0382](http://www.ams.org/about-us/governance/council/council-minutes0382).

# Chapter 5

## The Lack of Professional Respect

*“For a long time Mathematics has been viewed as the summit of intellectual achievement while Black people have been classified at the bottom of the intelligence spectrum. Thus ‘Black mathematician’ is a term that many can not comprehend.”*

—from a Task Force interview  
with a Black mathematician

*Finding: Black mathematicians suffer from a lack of professional respect, even today.*

A major theme in the 30 interviews we conducted is the lack of professional respect shown towards Black mathematicians. The quote above captures a sentiment expressed by many: that incidents often arise when people express disbelief or surprise at Black accomplishment in mathematical endeavors. Many of the examples cited were ones that a white mathematician would likely never encounter at conferences—like being mistaken for the “help” or hotel staff, or having one’s badge checked to see if you belonged at that conference.

These kinds of slights are called *microaggressions*: small verbal or behavioral slights that can be insulting in light of one’s identity in a stereotyped group. The person who issues the insult is often unaware that they are doing it if they are reacting to an unconscious stereotype. Regardless of intent, if the stereotype is about Black mathematicians, the impact is racist. Even though each incident may seem insignificant by itself, the adage applies: “a ton of feathers is still a ton.” Black mathematicians report commonly experiencing microaggressions at AMS meetings. These are painful episodes, akin to continual bullying and belittling.

An instance of a microaggression against Black mathematicians appears in the Council minutes from March 1982.<sup>66</sup> In the debate about a motion that the Nominating Committee be “instructed to search diligently for members of the black community to serve on the Council,” the minutes show

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<sup>66</sup>Item 4.4 in March 1982 minutes: [www.ams.org/about-us/governance/council/council-minutes0382](http://www.ams.org/about-us/governance/council/council-minutes0382).

that someone initiated discussion about whether the motion should say “qualified members”. Such language only seems warranted to add if the implicit starting assumption is that Black nominees would not be qualified. According to the minutes, another person pointed out that such language was unnecessary:

*The motion was not amended to say “qualified members,” possibly because of the expressed sentiment that the Nominating Committee would not knowingly advance an unqualified candidate for any post.*

The addition of such language would have been insulting to Black mathematicians, because such language was not applied to other candidates—for instance, the existing charge to the Nominating Committee makes no mention of advancing “qualified” nominees.<sup>67</sup> While it may seem like a small insult, having one’s credentials questioned is a rather typical microaggression that African Americans face.

In this chapter, we display some of the ways in which a lack of professional respect for our Black colleagues plays out through microaggressions or other kinds of actions by highlighting quotes from our interviews and questionnaires. They come from both Black and non-Black colleagues. We will let the quotes mostly speak for themselves, but the types of experiences include: facing suspicion at meetings, others being surprised at Black excellence, enduring aggressive questioning, an unwelcome meeting climate, being unknown, being ignored, being spoken for, being a token, feeling unsafe, dealing with lack of cultural competency, and being valued only for diversity while not being recognized for one’s research.

We have anonymized all quotations and edited them slightly for clarity. Not all of them take place at AMS events, but they do have importance for us to consider because AMS actions can help change the culture of the wider math community so that our Black colleagues are given the respect they are due.

*“[People] lack awareness of the experiences of Black mathematicians... you can only not believe it’s happening because you don’t hear that it’s happening.”*

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## Having One’s Achievements Challenged

Several microaggressions against Black mathematicians occur because people have a hard time believing a Black person could be a mathematician, or be a good mathematician. So one’s credentials as a mathematician get challenged. For instance, being suspicious of a Black person at an AMS meeting is a common microaggression.

*“Then [in the 1940’s] and now Black mathematicians are stopped to show their badges at the JMM.”*

*“I have heard from Black mathematician friends that they have experienced unacceptable discrimination at the JMM. One friend was invited to be a panelist on a panel for department chairs. When she arrived to the panel, one of the people running the event told her it was*

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<sup>67</sup><https://www.ams.org/about-us/governance/committees/nomcom-charge.pdf>

*a private event and questioned her right to be there, assuming she was a non-mathematician who had wandered into the convention center. Fortunately, [X] was there and recognized the Black mathematician, welcoming her to the event. Nonetheless, the experience had a profoundly negative impact on my friend. She vows not to attend the JMM in the future."*

*"At conferences, [I've] been mistaken for hotel or conference staff instead of a conference attendee/participant (even when I'm wearing the same badge!)"*

Black colleagues report feeling that they face more aggressive questioning than others when giving talks.

*"I have seen it happen—more than have it happen to me—but people can ask very argumentative questions, or ask questions that are 'I think you're wrong,' but in nicer language. I feel like they happen far more frequently to women and people of color. But good moderators will stop this. They will notice something like this is happening and cut it off, so you're not sweating in front of the room, trying not to get kicked out of the conference."*

The overall climate at meetings was a frequent point of concern.

*"I hate those conferences a whole lot. Do not feel like the crowd takes efforts to be inclusive, especially the more senior people. I often go and take breaks because people do explicit things that make me feel uncomfortable. I get more questions there. Even my questions get questioned, letting me know that that was not a good thing to ask. People will ignore me until they find out my advisor is someone they know about, because up until that point they didn't think I was a grad student, they thought I was just someone wandering around the conference. I can't pinpoint if that's race or gender, but probably a terrible combination of both."*

*"I feel so uncomfortable, I don't want to go to research sessions in my area."*

Another common experience our Black colleagues face is when others seem astonished at Black excellence.

On describing their job ambitions to other mathematicians, one Black colleague got this response: *"do you know how smart you have to be to work at [school X]?"* (As it turns out, this Black colleague did eventually get hired at school X.)

*"Being treated with respect, I think, is the ultimate goal. By respect and estimation, I do not mean a false sense of politeness, which is often intended to conceal negative attitudes toward Black and other minority faculty members. I mean respect as a human and a professional, capable of both mistakes and excellence (just like white facul-*

ty). *The fight for social justice is a fight that aims to recognize every human being's individuality. This means one mistake should not be grounds for dismissal, and similarly, an act of excellence should not be viewed as remarkable or surprising.*"

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## Being Undervalued or Invisible

Black mathematicians also frequently report feeling undervalued or invisible.

*"I've had awkward experiences with AMS meetings... I've never felt welcome. Why not? Little things: people not talking to me, not asking me questions, no recognition that I was there."*

*"AMS does not appear to know or be aware of the breadth of mathematicians of color and their expertise."*

*"I've worked in departments where white people failed to speak to me and intentionally left my name off presentations."*

*"A lot of these were much older white men that ignored me, and would cut in at conversations where I was talking to other people and not speak to me."*

Another described another form of being ignored: being spoken for without being consulted.

*"I have had white women feel as though they needed to speak on my behalf. I viewed this as a microaggression because decisions were made on my behalf that I did not or would not agree with."*

Being tokenized is a form of being undervalued, and it happens when people appear to pay lip service to diversity goals.

*"[I was] 'invited' to give a job talk to a department where once I arrived, no one in said department knew why I was there; I could tell it was simply so that the department could say that they considered a minority candidate."*

A concern that several expressed was the feeling of being only valued for diversity work and not being recognized for their research accomplishments. People of color frequently get invited to speak about diversity but not about their research.

*"The value of people of color is related to diversity work—never mathematical context. I've never been invited to give a talk in a scientific context—messaging implies not a good mathematician—but the professional track tells me otherwise. I'm proud of my scholarly work, people value it, but AMS doesn't seem to."*

The work of Black mathematicians being undervalued is evident in the selection of AMS Fellows. The AMS Fellows Program was created in 2011, to honor mathematicians "distinguished for their contributions to the profession," and "not only the extraordinary but also the excellent" who would be the "public face" of excellence in mathematics.<sup>68</sup> By design, the initial class of Fellows in 2013

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<sup>68</sup>"Fellows of the AMS: Inaugural class," *AMS Notices*, May 2013, 631–632. See <https://www.ams.org/profession/ams-fellows/rnoti-p631.pdf>.

was to be seeded with mathematicians who had already won other recognition (AMS or ICM Invited Speaker, AMS research award, 1,170 eligible), along with a set of 50 other names to be selected by a committee for their “contributions beyond research.” Given that invited AMS and ICM speakers have been almost exclusively chosen on the basis of their research, this initial class presented a “public face of excellence” in mathematics that is overwhelmingly weighted towards research, and not as well-rounded in activity as the five pillars of the AMS Mission Statement, which highlight research, transmission of mathematical understanding, mathematics education, encouraging the full participation of all individuals, and fostering an appreciation of mathematics. With only 455 Fellows chosen since 2013, there has not yet been enough opportunity to address this imbalance. We only identified 11 out of 1,580 AMS Fellows who are Black (eight in the inaugural class, and three since then).<sup>69</sup> Moreover, we have indicated elsewhere in this report the historical scarcity of AMS Invited Speakers who were Black (14 of 2,225 between 1967–2019, and only 10 of those before 2013; see Chapter 6), and as well as the outstanding role that Black mathematicians play in mentoring and facilitating the full participation of all (see Chapter 7). The AMS Fellows program seeding did not identify excellence in a spectrum of activities valued by the AMS Mission Statement, and in so doing, missed the contributions of mathematicians of color both in research and in contributions beyond research.

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## Dealing with Disrespect

Experiences of being disrespected leave imprints. They can take an emotional toll, as the following quote indicates.

*“At a conference I was in a big session, where people were talking and sharing out. I wondered ‘why do I feel tired?’ And then someone later said, as a compliment, ‘I like how you keep talking when they cut you off.’ I was physically tired and didn’t know why. It was a conference for women and in that room I was Black, more than a woman. Having people like that is helpful—when they point out what is really happening. I can sometimes feel it physically but don’t always recognize the wrongdoings in the social interactions—like an abused child.”*

Several alluded to feeling unsafe in unwelcoming environments and described strategies they employ to alleviate those feelings.

*“I only applied to 32 positions out of graduate schools, instead of the 60 that people in the years before me applied to, because there are so many schools that I ruled out. There are lots of women of color I know who have been in institutions who let me know not to go there, saying things like ‘Do not come here if you want to be happy for the next two years of your life’ or ‘Don’t come to this postdoc’ or ‘You can come here, it would be really nice, but there are these 4 men who talk over me in meetings all the time.’ Of course gender and race really blend in this conversation.”*

*“In going on interviews, I turned down at least one position because I didn’t meet any people of color during my visit. ... I brought it up*

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<sup>69</sup>Idris Assani, Sylvia Bozeman, Wilfrid Gangbo, Fern Hunt, Daniel Krashen, Aderemi Kuku, William Massey, Arlie Petters, Donald Richards, Talitha Washington, Floyd Williams.

*during my visit, because I was worried about what would happen if someone started hanging nooses or something. They didn't seem to think it was a problem. I am excited about the job I am at [school X], because I met people of color when I came here and they had statistics ready for me when I showed up and had an action plan. ... Racism shaped my whole approach to the job market."*

One described how at special sessions she looks for organizers she knows to be safe:

*"I look at organizers to find rooms I'll be comfortable in so that I'll have energy for rooms where I am not comfortable."*

Another mathematician reported choosing conferences/subfields based on how much respect they felt would be afforded. Some conferences were known to be better than others.

Several of our Black colleagues talked about the importance of a mathematician having cultural competency.

*"Research? Teaching? We need to spend time talking about social, cultural competence."*

*"Even if representation increases, the environment must be one where there is cultural competency and we feel welcome... we want to enter that space as a colleague among peers."*

The wide range of examples cited from our interviews and questionnaires demonstrate that dealing with disrespect is, sadly, a common experience that our Black colleagues have had to endure.<sup>70</sup>

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<sup>70</sup>To further understand the experiences of Black mathematicians, we recommend reading Erica Walker, *Beyond Banneker*.

# Chapter 6

## A Lack of Trust

*“I hope your work results in something, but I’m conditioned to believe it won’t.”*

—a Black mathematician,  
speaking of the work of the Task Force

*Finding: There is a profound lack of trust from Black mathematicians that the AMS represents them, speaks to them, hears them, and includes them in its decision making.*

Black mathematicians expressed a variety of sentiments with the Task Force regarding their relationship with the AMS, but many involve a lack of trust in the AMS. This trust gap stems, in part, from not believing that the AMS is or wants to be inclusive or representative. In this chapter we try to unpack what this looks like by summarizing or quoting from our conversations with Black mathematicians. Quotes are either from interview notes or from answers to the questionnaires we sent out, and they have been edited slightly for clarity and anonymity.

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### The Trust Gap

A constant theme that emerged is that many of these colleagues we spoke with do not consider the AMS as their primary professional organization. They don’t feel connected to the AMS, even when they are members, and sentiments vary between indifference and exasperation:

*“I don’t view AMS as doing anything for me, not that they haven’t done stuff for me, but the AMS doesn’t come to my mind for support or resources.”*

*“Is [my AMS membership] lapsed? Not sure. ...My experience with AMS is limited. Been on committees here and there.”*

*“AMS is content to allow the other organizations to handle these issues [people of color, diversity work, teaching]... Why isn't AMS doing this? AMS farms out quite a bit of the 'otherness,' so people who feel othered seek other communities.”*

*“Does the leadership of AMS truly understand that black mathematicians want nothing to do with AMS?... AMS has to do something drastic to get Black mathematicians to trust the organization... a joint address [with NAM at JMM] is not going to solve the problem.”*

Interestingly, while several senior/emeritus Black colleagues have lifetime membership in the AMS, several early-career Black colleagues are not members, questioning why they should join an organization they don't feel connected to. An organization that many Black mathematicians trust is NAM (the National Association of Mathematicians)<sup>71</sup> and many frame their participation in the AMS in terms of their relationship to NAM. For example, several Black mathematicians told us they attend the JMM only because they wanted to attend NAM's events.

*“I was introduced to NAM through a mentor, I was introduced to JMM because I wanted to be part of the professional community. NAM is part of JMM but NAM is not part of JMM. ... I didn't feel that NAM was viewed as a professional organization filled with brilliant mathematicians.”*

The question of what the AMS values became a central topic in these interviews and in answers to the questionnaires. A common perception is that the AMS focuses mostly on R1 universities. As a result, accomplishments other than research are usually not as valued, even though they should be celebrated. One colleague pointed out that if the AMS values more than just research (as the AMS Mission Statement affirms), it is impossible to tell from the main speaker stage at JMM. They noted that major addresses on issues such as education, diversity, and inclusion are usually not elevated to the same level as addresses focused on research. More generally, in the following quotes you can hear the trust gap stemming from this perceived or real difference of what the Society values—questioning whether the AMS has been “honest” about it.

*“AMS has always had an ethos of being most representative of elitism. ...We have to be honest about what we value and how our programs represent those values. The relationship between [AMS and NAM] has been cooperative, but people who enter the profession do get messages about what the organizations value.”*

*“When I go to the AMS website, when I look at the word counts, I see what's important to the AMS.”*

*“I hope the AMS will be welcoming to ALL, even those who, maybe, publish their thesis and nothing else... My observation, that sometimes AMS comes across as the 'organization for those mathematicians who do good research,' and I wish that could change.”*

*“[Professional] Societies have to focus on all the things members care about. Well African-Americans do research! We can find lots of people doing research that are comparable to leaders in AMS.”*

<sup>71</sup>NAM's two-fold mission is: promoting excellence in the mathematical sciences and promoting the mathematical development of all underrepresented minorities. See <https://www.nam-math.org>.

The gap between what an organization says it values and what happens in practice leads to distrust if members cannot see how the organization is working to address it. For some, there's a dissonance between hearing the desire of the AMS to seek "full participation of all" but not seeing the Society recognize the work of Black mathematicians, either in research or in other scholarly endeavors. Consider what our colleagues in our questionnaire to Project NExT said, when asked to name mathematicians of color who have not received the recognition they deserved.<sup>72</sup> Among the most frequent responses we received were ones like this: "Quite frankly, the fact that I cannot list any off the top of my head indicates a larger issue at hand." There are many ways to read this answer, but in any case, it demonstrates the lack of visibility of mathematicians of color, and gives the perception of their non-existence. The response also points out to a possible solution: that the AMS lives by its stated mission and what it values. As we have mentioned, who is selected by the AMS to receive its prizes and what those prizes represent are powerful symbols of the profession, and when part of the profession not only feels excluded and in fact has been excluded for decades it creates the vacuum of trust that takes only concrete actions to rebuild.

Other responses to the question include elevating some platforms highlighting the work of mathematicians of color, e.g., organizations such as NAM and the Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS), and websites such as Mathematically Gifted and Black, Mathematicians of the African Diaspora, Lathisms, and Indigenous Mathematicians.

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## The Lack of Trust in an Inclusive AMS

Several colleagues of color also expressed skepticism of the AMS's desire to be inclusive of all mathematicians; in particular, they pointed to a disconnect between the AMS's stated goals and intentional actions towards those goals. One person said, in speaking of a kind of subtle racism that persists today:

*"It goes away when you are intentional about doing things differently. If things were balanced by doing nothing, we wouldn't have imbalance."*

A colleague, responding to a questionnaire we sent to HBCUs, said this:

*".. while [the AMS is] not intentionally encouraging such behavior, they have been in denial of [racism's] existence, wanting to think that we as mathematicians are above such mindsets. By not addressing the matter, this (by definition) enables those with these mindsets to persist, thinking that they are in the right to do so."*

Another one adds:

*".. it's disheartening to think that it took the harsh events from earlier this year to provoke AMS (and other mathematical science organizations, for that matter) to finally recognize the depth and vastness of this problem. I hope they further recognize that collecting this data means nothing if the AMS won't actually take deliberate steps to try and address and resolve such issues."*

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<sup>72</sup>For some history about women and minorities in mathematics, see Patricia C. Kenschaft, *Change is Possible: Stories of Women and Minorities in Mathematics*, American Mathematical Society, Providence, RI, 2005.

The importance of being intentional about inclusion came through in a number of interviews. One said that faculty in his department argue that “these issues are not our concern (as mathematicians),” i.e., that a department’s work should be focused on teaching math and doing research. He added that if the AMS strongly advocates that these issues are our concern, then many mathematicians could be won over to that viewpoint, but without AMS leadership, well-meaning faculty have to fight battles one at a time in departments.

The trust gap between many mathematicians of color and the AMS has made discussion about controversial topics more difficult. Many attribute this continued lack of trust to the perceived insensitivity in the voices the AMS elevates through its publications and awards. For example, a third of the responses that the Task Force received through its webpage and multiple interviewees mentioned an opinion piece on diversity statements recently published in the *Notices*.<sup>73</sup> Many mathematicians we talked to wondered whether the AMS and its leadership are committed to addressing the lack of diversity in the profession.

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## The Lack of Trust in a Fully Representative AMS

The gap in trust of Black mathematicians toward the AMS together with their skepticism about the Society’s efforts to be inclusive lead many to doubt that it wants to be representative of all mathematicians. In particular, Black mathematicians do not see themselves represented in leadership or in invited addresses at meetings, are not represented on important committees, and do not feel they have been given a seat at the table in important decisions. This quote best captures what that sentiment is:

*“Lack of representation [in governance, on committees, as award recipients, or as invited lecturers] affects us the most.”*

Below, we focus on two issues that came up from our interviews and questionnaires, and that exemplify the lack of representation within the Society that our Black colleagues expressed.

First, to illustrate the lack of visibility of Black mathematicians’ research, we refer to some data from the Committee on Meetings and Conferences cataloging the list of all 2,225 Invited Speakers at AMS meetings from 1967 to 2019, and note that only 0.6% could be directly identified as Black. If we restrict our attention to JMM speakers, only about 0.4% could be identified as Black (and these were joint MAA-AMS Invited Addresses, which highlights the fact that all of the Black mathematicians who gave Invited Addresses at JMM in recent years—and there are several—have been invited by MAA).<sup>74</sup> The number of Black mathematicians during this period is not readily available, but according to AMS Annual Survey data in this time period, between 1% (in the 1970s) and 3% (in the 2010s) of all PhD’s in mathematics have been awarded to Black mathematicians. Black mathematicians have also not been well represented in AMS elected leadership, which includes the Council, its Executive Board, or its Board of Trustees. We only identified seven Council members in AMS digital records from 1974 onward.<sup>75</sup>

<sup>73</sup>As of this writing, the trust gap between the AMS and the African American community has deepened after the new AMS fellowship to support the work of mid-career Black mathematicians (see Recommendation 6) was announced with a placeholder name. Plans to give the fellowship a name and prestige on par with other AMS fellowships were underway but not complete at the time. The hasty rollout of the fellowship revealed a blind spot of the AMS leadership to the lack of respect implied by this action. The AMS now recognizes the insensitivity of this action and is in the process of working with the community to determine an appropriate name.

<sup>74</sup>MAA stands for the Mathematical Association of America. The exit of the MAA from JMM in 2022 will be quite noticeable in this regard, unless the AMS changes its speaker selection practices.

<sup>75</sup>Albert Bharucha-Reid, Sylvia Bozeman, James Donaldson, William Massey, Kasso Okoudjou, Talitha Washington, and J. Ernest Wilkins served as Council members since 1974. Blackwell was vice president in 1968–71 and served on the Council in the 1950s. Duane Cooper was recently elected.

To further elaborate, the work of inviting speakers to AMS Sectional Meetings is fulfilled by the Section Program Committees (Eastern, Central, Western, and Southeastern). The charge<sup>76</sup> of these standing committees lacks concrete instructions on how to seek a diverse set of speakers beyond gender. In the words of a colleague who served on one of these committees:

*“I do not remember a set of directions to the committee on how to select the AMS speakers, especially to avoid different kinds of selection biases. There were significant problems with the process. The AMS [associate] secretary for the region had a vote. As this is a long term position, it seems to me that ex officio would be a much better designation. Committee members made a list of possible speakers, and then the process continued by votes by email. There was no discussion of the relative strengths or weaknesses of the proposed speakers.”*

It is important to point out that this lack of speaking opportunities for mathematicians of color in general, and for Black mathematicians in particular, is not just a problem for the Society, but for the profession at large. Being selected to give a major talk at an AMS meeting means that one must have had some visibility which frequently comes from having spoken at various institutions, especially the institutions of the AMS committee members that select speakers. A casual glance at the past committee members of such committees reveals they are overwhelmingly from R1 institutions. One can argue that the lack of Black speakers at AMS meetings is correlated to them not being hired and/or invited to give high profile talks/lectures at R1 departments across the country. The causation probably runs in both directions. The AMS could of course set the example, as illustrated by the following quote:

*“The AMS should be highlighting mathematicians of color, but most importantly, their research. When mathematicians of color are displayed, it is often on posters with other mathematicians of color, usually because they are mathematicians of color. While that is important, it still sends the message that these mathematicians are featured because of their color, instead of the research or teaching they do. On the other hand, when feature articles are written about mathematicians and their accomplishments, it is often a white or Asian person featured. This sends the message that while mathematicians of color exist, it’s really the white or Asian mathematicians that are doing the noteworthy work. In order to be seen as legitimate practitioners of the field and peers of their white and Asian counterparts, mathematicians of color should have their mathematical accomplishments highlighted and celebrated by the AMS (and other mathematical publications) for its own sake, instead of merely because they are people of color.”*

*“The AMS should recognize and promote a wider variety of mathematical work. The AMS should train departments on best practices to hire, mentor, and promote BIPOC mathematicians.”<sup>77</sup>*

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<sup>76</sup><https://www.ams.org/about-us/governance/committees/central-charge.pdf>

<sup>77</sup>BIPOC is an acronym referring to Black, Indigenous, and Persons of Color.

Nonetheless, it seems that the role of individual mathematics departments is important in resolving these issues and others that we will highlight below. Inviting Black colleagues to give departmental seminars, colloquia, and other lectures will make them more visible.

The second focal point we would like to highlight is that the lack of representation of Black mathematicians in the profession also extends to other key areas such as editorial boards and key committees, including award and policy committees. This low representation on the editorial boards of the AMS publications is also present in many of the major journals of the profession and thus cannot be viewed as solely an AMS problem. Nonetheless, given that the AMS is a preeminent mathematical society and not just a publisher, it should lead by example and aspire to have the editorial boards of its publications reflect its membership.

We should also point out that the lack of diversity in the governance structure of the society should be addressed, and the recent trends of involving more Black mathematicians in governance should be accelerated.

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## The Need to Build Trust Anew

In the previous sections, we illustrated how the issue of representation is one of the key drivers of the trust gap between Black mathematicians and the AMS. The creation in 1969 of NAM (National Association of Mathematicians)<sup>78</sup> is a direct result of this absence of representation, and the culmination of earlier efforts by African American mathematicians to seek full participation in professional societies.<sup>79</sup> A NAM leader attributed NAM's creation to a critical mass of Black mathematicians who decided if they cannot get major organizations like the AMS and the MAA to pursue inclusiveness, diversity, and the advancement of underrepresented minorities in the profession, they would form a group to pursue this agenda. However, NAM kept the door open for cooperation by intentionally aligning its two main events to be held in conjunction with the JMM (soon to be run solely by the AMS) and MathFest (now run by MAA). Moreover, NAM was intentional about structuring the composition of its board of directors to include representation from a majority-serving institution, and it has bestowed recognition on many White mathematicians who have advocated and worked for the increase of participation of Blacks in the mathematical sciences. Such actions suggest a possible roadmap for the AMS to follow in working with NAM, by seeking to be more representative and by recognizing the work of inclusion. Our Task Force meeting with NAM's board of directors gave us hope that through true cooperation we could build a more inclusive mathematics community. However, that meeting and many of the interviews we conducted also serve as a reminder that while the AMS was timid in its efforts to make the profession more inclusive, others have, for years, done the heavy lifting. Thus, the AMS must also acknowledge these works, try to build on them, and not reinvent the wheel. In this regard, NAM must become an important partner for the Society. Going forward, such a partnership should value NAM's expertise in important matters while not stretching NAM's resources as a smaller society and not relying on NAM to continue to do the work of inclusion that AMS must do.

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<sup>78</sup>Johnny L. Houston, *The History of the National Association of Mathematicians (NAM): The First Thirty (30) Years, 1969–1999*, National Association of Mathematicians, Inc., 2000.

<sup>79</sup>Rogers J. Newman, "A century of progress: African American participation in professional mathematical meetings," in *A Century of Mathematical Meetings*, Bettye Anne Case (ed.), American Mathematical Society, Providence, RI, 1996.

# Chapter 7

## The Impact and Influence of HBCUs

*“The spaces that are intentional are critical. The spaces where I get to identify as a mathematician are the spaces of Black mathematicians. I don’t have to worry about being asked to make copies. These are really vital spaces. White people are in spaces where they get to be a mathematician all the time. For us, [such intentional spaces] are a space where we get to thrive the most. We should not diminish these opportunities.”*

—from a Task Force interview  
with a Black mathematician

*Finding: Historically Black Colleges and Universities have an outsized influence on the production and the support of Black mathematicians, and provide outstanding models of successful mentoring.*

Historically Black Colleges and Universities (HBCUs)<sup>80</sup> have had an enormous influence on the careers of African American mathematicians. Some of the more well-known private HBCUs are Howard University, Spelman College, and Morehouse College but there are more than 100 public and private HBCUs throughout the United States. If you chat with a large number of Black mathematicians (as our Task Force has), you’d find that a large number are connected in some way with HBCUs. Consider, for instance, that six of nine Black mathematicians who have been AMS Council members<sup>81</sup> were either educated by or taught at HBCUs (or both).

These connections are not just anecdotal. In 2001–2009, HBCUs produced 46% of all African Americans receiving bachelor degrees in mathematics in the United States (2,568 out of 5,557 during that nine year period).<sup>82</sup> This is remarkable, because HBCUs represent only 3% of the nation’s institutions of higher education and enroll just 9% of all African American college students.<sup>83</sup>

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<sup>80</sup>According to the Higher Education Act of 1965, accredited institutions are defined as HBCUs if they were established prior to 1964 with the principal mission to educate Black Americans.

<sup>81</sup>David Blackwell, Albert Bharucha-Reid, Sylvia Bozeman, Duane Cooper, James Donaldson, William Massey, Kasso Okoudjou, Talitha Washington, and J. Ernest Wilkins served (or will serve) as Council members.

<sup>82</sup>E. W. Owens, A. J. Shelton, C. M. Bloom, and J. K. Cavil, “The significance of HBCUs to the production of STEM graduates: Answering the call.”

<sup>83</sup>See <https://nces.ed.gov/fastfacts/display.asp?id=667>.

Although we don't have comparable data for PhDs in mathematics, data from NSF does track science and engineering PhDs (which include math PhDs). This data indicates that in each of the years 2002–2011, between 24% and 30% of all African American science and engineering PhD recipients earned their bachelor's degrees at HBCUs, and the top nine undergraduate institutions producing African American PhD recipients in those years were HBCUs.<sup>84</sup> Thus we see the strong influence of HBCU's on PhD production in science and engineering overall.<sup>85</sup>

In this chapter, we will discuss the reasons for this success, and suggest ways that the AMS can support and partner with HBCUs to increase the participation of African Americans in the profession.

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## Holistic Development and Mentoring

Research suggests that the success of HBCUs can be attributed to the training and holistic development of students, including the implementation of many high-impact practices such as undergraduate research.<sup>86</sup> At HBCUs, students are afforded the opportunity to focus on their academic training, be part of a community of scholars that have similar ethnic backgrounds, and receive mentoring from dedicated faculty. HBCUs are places that empower students without the obstacles suggested by the following questionnaire response we received:

*"Some people look at minorities and that's all they see. At best they see someone that they want to 'help' and other times they see someone that got there because of affirmative action and sometimes resent [them]. I think that the most destructive forces are the microaggressions minorities experience. A researcher needs to feel confident to produce research. I feel that when minorities have to put up with microaggressions they might doubt themselves and experience loss of confidence. Is there a way to empower minorities to keep doing research despite sometimes lacking confidence?"*

In HBCU settings, students do not face the same level of microaggressions and racism that they may encounter at other types of institutions (predominantly white institutions and R1 universities). They are not noticed for being Black, but for being mathematics students.

One research study described the close, family-like relationships between faculty and students as well as the development of strong student networks at HBCUs, and found that the "social and cultural capital afforded to Black mathematicians who attended HBCUs has a significant impact on the development of strong mathematics identities and contributes to their professional socialization as mathematicians."<sup>87</sup>

Faculty at HBCUs also have high expectations for their students and push them to reach their highest potential as scholars. The mentoring that students receive at HBCUs includes preparing them for the challenges they may face when they enter doctoral programs at other institutions. It is at HBCUs where students' confidence is built along with a strong foundation in mathematics. An MAA-NAM

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<sup>84</sup>M. K. Fiegenger and S. L. Proudfoot, "Baccalaureate origins of US-trained S&E doctorate recipients." Available at: <https://www.nsf.gov/statistics/infbrief/nsf13323/nsf13323.pdf>.

<sup>85</sup>See also R. Upton and C. Tanenbaum, *The Role of Historically Black Colleges and Universities as Pathway Providers: Institutional Pathways to the STEM PhD among Black Students*, American Institutes for Research, Washington, DC, 2014.

<sup>86</sup>F. Carter-Johnson, T. Inniss, and M. Lee, "HBCUs' relevance in diversifying the STEM workforce," *Diverse Issues in Higher Education*, **35**(2), 2018, 32.

<sup>87</sup>V. Borum, A. A. Hilton, and E. Walker, "The role of Black colleges in the development of mathematicians," *Journal of Research Initiatives*, **2**(1), 2016, 6.

survey found that minority students credited undergraduate professors as the people most “instrumental in pursuit of your goals,” and in a survey of Black graduate students at the University of Maryland, most indicated that their undergraduate professors were a significant influence on their decisions to pursue doctoral degrees in mathematics.<sup>88</sup> This is especially true for Black students from HBCUs, who are not only groomed and prepared to get mathematics PhDs, but also to become college professors to continue the circle of mentorship and development of Black students in mathematics. Mentorship plays an even more critical role for Black women mathematicians, who have the additional challenge of facing the perception that “women do not or cannot do math”

The number of Black women earning math PhDs is about half as many as Black men.<sup>89</sup> While this is the case, HBCUs such as Spelman College not only provide rigorous academic training, they have faculty who could serve as role models and mentor the next generation of Black women in the mathematical sciences. Influential Black women faculty from Spelman College that spent decades preparing Black women who pursued and earned advanced degrees in the mathematical sciences are Etta Zuber Falconer, Gladys Glass, Nagambal Shah, and Sylvia Bozeman. HBCUs have been particularly successful because of a “rigorous curriculum, nurturing environment with high expectations, mentors, research experiences, and preparation to handle non-academic issues.”<sup>90</sup>

Such strategies have resulted in the persistence of their graduates to earn doctoral degrees in the mathematical sciences. Between 1998 and 2018 more than 20% (more than 45% since 2015) of all African American women graduating with doctorates in mathematics were alumnae of the EDGE program (Enhancing Diversity in Graduate Education). The EDGE program is a very effective mentoring program created by Drs. Sylvia Bozeman of Spelman College and Rhonda Hughes of Bryn Mawr College in 1998. To date, more than 280 women have participated in EDGE’s summer program, and 89 alumnae have successfully completed math PhDs.

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## Replicating HBCU success elsewhere

Programs wishing to attract and support Black students in mathematics would do well to learn from the success of HBCUs. Many successful programs that have graduated a significant number of African American PhD students share similarities with the holistic approach of HBCU environments: a belief that every PhD student can succeed, the establishment of a strong community, the presence of committed mentors, the intentionality of developing spaces where Black students had the safety to develop as mathematicians, and the importance of belonging.<sup>91</sup>

For instance, the University of Maryland was home to a large number of Black students pursuing doctoral degrees in mathematics during the mid to late 1990s. This was due to the intentional work of Dr. Raymond Johnson who served as chair from 1991–1996. Johnson sought to form a supportive community for Black students that would help to mitigate some of the pressures and stresses associated with graduate work in mathematics. They formed study groups, celebrated each other’s successes and accomplishments, and shared information that was beneficial for their studies and professional development. We note also there were a number of Black women at that time who

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<sup>88</sup>Duane A. Cooper, “Recommendations for increasing the participation and success of Blacks in graduate mathematics study,” *Notices of the AMS*, 51(5), 2004, 538–543.

<sup>89</sup>Over the last 5 years, see <https://ncesdata.nsf.gov/builder/sed>.

<sup>90</sup>T. R. Inniss, Vignette 6.1, “Importance of HBCUs in the development and nurturing of African American women mathematicians,” in *Advancing Women in Science: An International Perspective*, Springer, Cham, 2015, p. 191.

<sup>91</sup>See, for instance, A. H. Herzig, “Becoming mathematicians: Women and students of color choosing and leaving doctoral mathematics,” *Review of Educational Research*, 74(2), 2004, 171–214.

were pursuing advanced degrees in mathematics at Maryland, a majority of whom graduated from HBCUs. These include Clark Atlanta University, Dillard University, Florida A&M University, Howard University, Morgan State University, Spelman College, and Xavier University of Louisiana.

One may find other notable programs that have positively impacted the participation of Black and minority groups in the mathematical sciences among the winners of the AMS award called Programs That Make A Difference, which honors programs that have had replicable success at addressing underrepresentation (see Chapter 8 to learn more about the award). Some of these programs have also led to the increase of doctoral recipients among underrepresented groups in the profession.

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## Lessons for AMS Members

AMS members would benefit by learning from HBCUs and their faculty about successful mentoring. To that end, we encourage the AMS to find ways to increase interactions between faculty at HBCUs and faculty at other types of institutions, such as supporting faculty exchange programs or hosting AMS meetings at HBCUs (see Chapter 1). An important aspect of this interaction is openness to engaging with and learning more about HBCUs, rather than just a reverse expectation. One HBCU faculty member we interviewed remarked that graduate school directors often say to him: “Why don’t you send me students?” He usually responds to point out the imbalance of the situation: “I can’t recruit your students! You have to mix with us! You have to select them and recruit them. I can’t do it.” If graduate programs want to attract Black students to apply, they can’t expect it to just happen without doing the cultural work to visit HBCUs and seek to learn what they know about how to cultivate Black mathematicians.<sup>92</sup> We repeat here the remarkable statistic from the start of this chapter that nearly half of all African Americans earning undergraduate math degrees obtain them at HBCU’s. The AMS should find ways to recognize and support the work of HBCU’s.

One opportunity to observe first hand the scholarly achievements of students from HBCUs and actively recruit for graduate programs is at the annual Undergraduate MathFest hosted by the National Association of Mathematicians (NAM) normally held at HBCUs. The faculty at HBCUs and NAM have been at the forefront of introducing many generations of Black students to the profession. During an interview, one colleague stated:

*“As [a] student at [an] HBCU, I was introduced to NAM, and I felt that was a family. I was entering a profession that would provide safe space for me. I could be a mathematician and be black, girl, woman, and none would be in conflict.”*

The NAM conference also allows for interested faculty and graduate directors to interact with HBCU faculty, who are effective at mentoring Black undergraduate students and encouraging them to pursue advanced degrees in the mathematical sciences.

Mentoring is a professional activity that reaps huge rewards for the profession in bringing more talent to our scholarly endeavors through the “full participation of all,” a goal mentioned in the AMS Mission Statement. But the AMS implicitly sends different messages through the selection of who it honors with awards and invited lectures and the kind of work that is honored. Faculty who wish

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<sup>92</sup>See also Duane A. Cooper, “Recommendations for increasing the participation and success of Blacks in graduate mathematics study,” and Etta Z. Falconer, “The challenge of diversity,” in *African Americans in Mathematics*, DIMACS Series in Discrete Mathematics and Theoretical Computer Science, Nathaniel Dean (ed.), vol. 34, American Mathematical Society, Providence, RI, 1996, pp. 169–182.

to mentor often have to choose between things that are valued more by the profession (such as research) and the mentoring that their students and early-career colleagues need. Unfortunately, neither tenure and promotion policies, nor criteria for other honors, such as to be invited to deliver keynote addresses, place a high value on mentoring students of color, even if the mentoring in research resulted in an increased number of students who earn doctoral degrees in the mathematical sciences. In fact, it seems that many of the professional activities that one could classify broadly as mentoring, including broadening participation in mathematics, have not been recognized by the AMS as important to the extent that research activities are. One response to the questionnaire we sent to AMS Governance (Board+Council) put it this way:

*“The culture of AMS feels very elitist, perhaps because the culture of research tends to look down on other aspects of the profession (teaching, mentoring) as unimportant.”*

However, it is notable that the Society has notably broadened its focus to include all aspects of the profession in recent years (a trend we describe in Chapter 8).

# Chapter 8

## Progress by the AMS

*“The Council of AMS views the underrepresentation in mathematics of members of disadvantaged groups as a serious problem for American science. The maintenance of eminence in science requires that all scientific talent be nurtured, developed, and fully utilized wherever such talent is found.”*

—AMS Council statement, May 1981

*Finding: The history of the AMS has shown that sustained attention to problems has resulted in positive outcomes. Implementing sustainable change is challenging and requires intentionality and continual vigilance.*

Beginning in the 1980s, the AMS Council minutes display a growing recognition of issues faced by mathematicians of color. The AMS Council statement of May 1981 (above) is the first clear example we could find of the Society taking a position lamenting the racial disparities among those who participate in mathematics. Council minutes from that point onward reflect the Society’s evolving awareness of its responsibility to address racial disparities among those who participate in mathematics. The revised AMS Mission Statement in 1991 made “full participation of all” a goal of the Society.

Even so, progress has been uneven. One person we interviewed said that the AMS had historically been more focused on improving gender diversity than racial diversity. And gender diversity was indeed an area where the profession showed marked progress up through the 1990s. The 1996 Task Force report noted that the percentage of US citizens receiving PhD’s that were women was 13% in 1977 but increased to 28% by 1993. That report also noted in that same time period the percentage (and in fact, raw numbers) of underrepresented minorities earning PhD’s had not increased at all.

Within the Society, gender diversity did increase within AMS leadership and on committees, and part of that can be attributed to procedural changes. The following resolution, adopted by the AMS Council in January 1972 advocating equal opportunity for women, now appears in the charge to the

Committee on Committees and was distributed regularly to leaders and selection committees:

*The American Mathematical Society will work actively for equal opportunities for women in the following areas:*

- A. Employment at all levels: this will include the search for a recruitment of qualified women.*
- B. Advancement and tenure in academic positions.*
- C. Admissions to graduate schools.*
- D. Graduate and postdoctoral fellowships and assistantships.*
- E. Membership on advisory boards and panels; and*
- F. The Society will include more women on*
  - 1. Society programs and panels, including invited speakers and section chairmen.*
  - 2. Society committees and governing boards.*

Regular reminders of this nature provide a sustained mechanism to help committees be more conscious about representation when making important decisions about appointments. More generally, they encourage institutions of higher education to be more mindful of their hiring and promotion practices.

Since the 1990s, the AMS has also increased its focus on education, an area that was not a primary focus in the 1980s. The AMS strategic planning of 1991 (described later) elevated math education as a role that the AMS should be involved in to fulfill its mission, and the AMS has shown much progress in this area, most recently through the creation of the AMS Education Department in 2019. The Education Department is housed in the AMS Office of Government Relations, with a dual mission to influence education policy at the Federal level and to create programs and other resources for the math community related to education. A priority of the Education Department in both of these areas is improving access to and quality of postsecondary education for all students, particularly those historically underserved by our education structures. We can hope that “full participation by all,” which also made its appearance in the mission statement in 1991, can be sustained as well.

In this chapter, we outline some of the progress that the AMS has made in becoming a more inclusive Society by changing its policies and practices to direct sustained attention to “full participation by all.”

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## Advocating for Underrepresented Groups

Recall that the Council in 1969 defeated the Dubinsky resolutions (see Chapter 4 on Missed Opportunities), one of which called for establishing a committee to study why “the shortage of mathematicians in North American Universities is different and greater among black and brown Americans than among whites.”

Despite the defeat of that resolution, at some point after that, the Committee on Opportunities in Mathematics for Disadvantaged Groups was formed, with a similar focus. It is unclear when this Committee was formed; our Task Force only had access to Council minutes from 1974 onward. The first mention of this Committee we could find was in the January 1978 Council minutes. The Council considered a report from this committee in August 1981, at that time chaired by James Donaldson (a long-time member and leader in NAM and AMS), that recommended the Council adopt the

statement quoted at the beginning of this chapter. The Council obliged, and voted to approve the statement. It also agreed without formal motion to disseminate information about programs for members of disadvantaged groups, with AMS staff assistance and publication in the *Notices* as a possible vehicle.

The approval of this statement is the Council's acknowledgment that the long-term viability of mathematics rests on the community being inclusive and supportive of all.

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## Change to the AMS Mission

In August 1991, as a result of a strategic planning process, a Strategic Planning Task Force developed a new mission statement. The old one, which had been in place since 1923, said:

*The particular business and objects of the Society are the furtherance of the interests of mathematical scholarship and research.*

One goal of strategic planning, in the words of Executive Director William Jaco, was to "interpret" and "clarify" the Society's purpose of furthering mathematical scholarship and research.<sup>93</sup> The new mission statement was therefore intended as "clarification" of the old one.<sup>94</sup> It says:

*The AMS, founded in 1888 to further the interests of mathematical research and scholarship, serves the national and international community through its publications, meetings, advocacy and other programs, which*

- *promote mathematical research, its communication and uses,*
- *encourage and promote the transmission of mathematical understanding and skills,*
- *support mathematical education at all levels,*
- *advance the status of the profession of mathematics, encouraging and facilitating full participation of all individuals,*
- *foster an awareness and appreciation of mathematics and its connections to other disciplines and everyday life.*

The new mission statement makes clear the Society's role in five areas, including both math education and "facilitating the full participation of all individuals." Notably, these were areas that the Society had not considered priorities in the past.

The new mission statement was endorsed by the Executive Committee and Board of Trustees, and adopted by the Council. In addition, the report of the Strategic Planning Task Force laid out several goals for the Society, one of which was to "Enhance the participation of underrepresented groups in disciplines with a strong mathematical component. Promote the involvement of the diverse membership in the development and delivery of AMS programs and services." The Executive Committee and Board of Trustees approved the strategic plan in May 1991.

The new mission statement, as well as the associated strategic planning goal, makes clear that the full participation of underrepresented groups became a goal of the AMS in 1991. Our review of Council minutes noted that from this point onward, there was much more attention to these issues

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<sup>93</sup>William Jaco, "Planning report," *Notices of the AMS*, 38(6), 1991, 538.

<sup>94</sup>See the Report of the Strategic Planning Task Force in *Notices of the AMS*, 38(6), 1991, 577.

than there had been in the past. Certainly the new mission statement and goals played a role. For instance, a 1992 Committee on Science Policy report, whose purpose was the development of a science policy strategy consistent with the Society's new mission and goals, recommended, as highest priorities, increasing opportunities in mathematics for members of underrepresented groups and for handicapped mathematicians.<sup>95</sup>

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## Policies on Representation among Speakers

The August 1993 Council minutes reflect that at some point before this, the Society had established a policy on representation of women and minority speakers, because it wanted to extend this policy to meetings co-hosted by other organizations (especially foreign institutions). It adopted this resolution:

*The Society has the policy that women and minority mathematicians be appropriately represented among invited speakers at its meetings. Clearly this objective should also be pursued at meetings held jointly with other organizations. The Secretary is instructed in particular to communicate it to program committees of meetings held jointly with mathematical societies of other countries.*

It is unclear when this policy might have been established, since we could not find it in Council minutes before 1993.

The AMS Council reaffirmed its stance on seeking diversity among speakers in January 2008 and again in April 2012, both times at the request of the Committee on Meetings and Conferences (CoMC). In 2008, the CoMC recommended a "Statement on Diversity" encouraging organizers of meetings and conferences to "seek participants and speakers from groups underrepresented in mathematics." Then in 2012, the Council formally approved a statement "How to choose AMS Invited Addresses" that would be transmitted to AMS program committees. The version CoMC forwarded for consideration included this statement:

*The list of all plenary speakers should represent the full diversity of mathematics, in terms of fields, career stages, and membership in underrepresented groups.*

However, after Council discussion, the wording was abbreviated to the more ambiguous statement appearing in the approved version:

*The choice of all invited speakers should seek to represent the full diversity of mathematics.*

Council minutes do not reveal the rationale for the change, but the instruction is weaker, because it leaves to the reader to decide what "full diversity" is referring to.

Such policies were important acknowledgments by the Society that active reminders are necessary for women and minorities to be appropriately represented among speakers. However, they are apparently not sufficient, because they have not resulted in meaningful representation for Black mathematicians, and other mathematicians of color.

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<sup>95</sup>1992 Committee on Science Policy Report.

For instance, AMS records reveal that very few Black mathematicians have been AMS Invited Speakers at Sectional Meetings or at the Joint Mathematics Meetings (JMM). From 1967–2019, only 14 of 2,225 AMS Invited Addresses at JMM or Sectional Meetings were given by African Americans. If one considers only JMM, the 500 or so Invited Addresses from 1967–2019 contain just two African Americans: J. Ernest Wilkins in 1992 and Donald Richards in 2017. In both instances they were Joint AMS-MAA Invited Addresses.<sup>96</sup>

One of the lessons to be learned here is the importance of defining the kinds of diversity that are important to the organization, because leaving it undefined allows people to see only the kind of diversity that is important to them.

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## The 1996 Task Force Report: What's Been Accomplished

Appointed by AMS President Cathleen Morawetz, the 1996 Task Force on Participation for Underrepresented Minorities in Mathematics was an outgrowth of the strategic planning that the AMS did in 1991. The 1996 Task Force, as we shall call it, was charged to “examine an appropriate role for the AMS in addressing issues associated with increasing the participation of members of underrepresented minorities in mathematics, including identification and encouragement of talented students to pursue (graduate) study in mathematics, fuller participation in all activities and special initiatives of the Society, and access to all modes of communication.”

As noted earlier, the 1996 Report from the Task Force on Participation for Underrepresented Minorities in Mathematics had seven recommendations:

1. Establish an AMS Office of Minority Affairs.
2. Collect, analyze, disseminate information regarding minority participation.
3. Develop a summer graduate preparation program for minorities.
4. Hold meetings at minority institutions.
5. Maintain a minority speakers list.
6. Appoint minorities to committees and nominate for elections.
7. Extend resolutions on women to minorities.

We looked through the AMS archives, reached out to some of the living members of the 1996 Task Force, and spoke with some AMS staff members at the time to see what actions if any have resulted from these recommendations. We learned that there were earnest efforts to implement them, but some of the efforts fizzled. Understanding those reasons may help us avoid similar mistakes in the future.

- Of plans for the Office of Minority Affairs: according to a knowledgeable source, there was genuine interest to do it. MAA and NCTM wanted to join the creation of such an office, so it would be a joint effort. This group solicited feedback and involvement from several other organizations and planning went on for about a year, but according to one source, “the idea began to grow, mature, become unwieldy, and then fall over under its own weight. Eventually, everybody walked away... the AMS was worried about how much they would be criticized by the other two organizations if they now went back and created their own program. So people lost interest.” Another source described how

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<sup>96</sup>From data collected by AMS for the CoMC agenda, February 2020.

negotiations fell through—some due to wrestling with cost sharing, some due to questions about who would run the office.

- On collecting data: it appears some of the goals for this recommendation were implemented by Jim Maxwell through the AMS Annual Survey<sup>97</sup> whose results are published each year in the *Notices*. A scan through past Annual Surveys suggests that around that time, the Surveys started collecting and publishing data on the race/ethnicity of recent PhDs.
- On the development of a summer graduate preparation program: the AMS put up money to support the program for a year, and also supported writing a proposal to NSF to fund the program. However, efforts died after it didn't get funded.
- On hosting meetings at minority institutions: since 1996 there have been no AMS Sectional Meetings at HBCUs, though there was one at Howard University in 1993, which preceded this report.<sup>98</sup>
- On maintaining a minority speakers list: possibly the Committee on Meetings and Conferences worked on it, but it is unclear if anything came of it.
- On appointing minorities to committees and nominating for elections: election slates have varied in diversity over the years. They have been largely dependent on the nominating committee, who is largely dependent on the President who selects the slate of candidates for the nominating committee.
- On extending resolutions on women to minorities: it is unclear whether this has ever happened, since we found no evidence in Council records. However, it seems unlikely in light of the fact that the current charge to the Committee on Committees reminds members of an AMS resolution of 1972 to provide equal opportunity to women, but it does not do anything similar for minorities. It is also important to note that any measures that improved conditions for women largely did so for white women only. In that respect, any future attempts from the AMS to extend these resolutions to minorities should consider intersectional contexts (which we acknowledge were not widely understood at the time of the previous task force).<sup>99</sup>

While some of these items were attempted, with the exception of some data collection, those attempts were not successful. The Task Force urges the AMS Council to make tangible progress towards implementing its recommendations.

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## Towards Excellence

In 1999, the AMS report *Towards Excellence: Leading a Mathematics Department in the 21st Century*<sup>100</sup> tied the success of mathematics departments in fulfilling its research mission to its success in meeting institutional goals, including the success of women and underrepresented minorities. The report was written by research mathematicians to address critical issues facing doctoral-granting

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<sup>97</sup><https://www.ams.org/annual-survey>

<sup>98</sup>See list at [www.ams.org/meetings/sectional/sectional\\_past.html](http://www.ams.org/meetings/sectional/sectional_past.html).

<sup>99</sup>Intersectionality, a term coined by Kimberlé Crenshaw, is the concept that when people belong to more than one marginalized identity (for example, in our context, Black women) they are vulnerable to more forms of exclusion, and are therefore exposed to more harm. In Task Force interviews, we heard from one successful Black woman mathematician who explained it in this way: "When I was in [my primarily white institution for graduate school] I knew I was Black, when I was at [the HBCU where I was a faculty member] I knew I was a woman." See Kimberlé Williams Crenshaw, "Mapping the margins: Intersectionality, identity politics, and violence against women of color," in *The Public Nature of Private Violence*, Martha Albertson Fineman and Rixanne Mykitiuk (eds.), Routledge, New York, 1994, pp. 93–118.

<sup>100</sup><http://www.ams.org/profession/leaders/workshops/towardsexcellence>

departments. Its primary conclusion was this:

*To ensure their institution's commitment to excellence in mathematics research, doctoral departments must pursue excellence in their instructional programs.*

It argued that benefits will accrue to a department's research programs by taking seriously its instructional mission. As departments meet the needs of their institutions, they will secure resources from their institutions to support the health of their departments. To secure those resources, it concluded: "Departments must invest effort into understanding their university's mission and priorities and then positioning themselves to meet those priorities." It pointed out that "Issues of diversity are increasingly important to universities and to the profession." And it stated:

*We cannot argue the centrality of mathematics on campus without recognizing that historically mathematics has played a gatekeeper role, disproportionately restricting access of women and minorities to careers in mathematics, science, and engineering. This is a situation we must change. Mathematics departments have much to gain if they assume a leadership role in creating opportunities for women and minorities at every level, from outreach programs that seek to strengthen our public school system to hiring practices in our departments.*

A chapter of the report contained a number of examples where mathematics departments at research universities have taken a lead in creating an inclusive environment for women and underrepresented minorities.

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## Mathematics Programs That Make a Difference

The AMS has also used the visibility given by annual awards to provide sustained attention on programs that support the participation of underrepresented groups.

In 2005, the Committee on the Profession established an annual award to highlight effective programs that address underrepresentation and can be replicated. The "Mathematics Programs that Make a Difference" award recognizes programs that "aim to bring more persons from underrepresented backgrounds into some portion of the pipeline beginning at the undergraduate level and leading to advanced degrees in mathematics and professional success, or retain them once in the pipeline; have achieved documentable success in doing so; and are replicable models."<sup>101</sup>

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## Employment Listing Policy Change

Employment advertisements also provide a regular opportunity for the Society to remind employers and applicants of AMS values.

In 2008, in response to complaints about employment ads that contained potentially discriminating restrictions, the Committee on the Profession recommended, and the Council approved, a change to the Employment Advertisement Policy that appears with AMS employment listings. It now includes

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<sup>101</sup>See [www.ams.org/prizes-awards/pabrowse.cgi?parent\\_id=31](http://www.ams.org/prizes-awards/pabrowse.cgi?parent_id=31) for past winners.

this reminder:

*Despite increasing participation at many levels, low rates of retention and promotion of women and underrepresented minorities remain a serious concern, particularly at doctoral granting institutions. Therefore, AMS members, both individual and institutional, are urged to examine frequently their policies and procedures to see in what ways they may facilitate careers in mathematics research for women and underrepresented minorities.*

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## Policy Committee on Equity, Diversity, and Inclusion

In 2018, the Committee on the Profession (CoProf) voted to recommend that the Council create an AMS Committee on Diversity and Inclusion, subsuming the existing Committee on Women in Mathematics, effective as soon as possible, with the eventual goal of considering whether this committee should be a policy committee. In 2019, CoProf unanimously passed a motion to recommend to the Council that such a policy committee be established. This recommendation led to the Council creating a Policy Committee on Equity, Diversity, and Inclusion (CoEDI) in January 2020. The charge of CoEDI is:

- Monitor and provide advice about the Society's collection and dissemination of data relevant to Equity, Diversity, and Inclusion (EDI) concerns. The data should be used by the committee in benchmarking and in formulating goals. Dissemination should include periodic reports published in the *Notices*.
- Recommend and provide advice about self-assessment tools.
- Identify and develop programs to build diversity within the profession. Identify and organize activities to promote awareness of and education about EDI issues, such as panels or special sessions at JMM.
- Ensure that EDI issues are considered systemically throughout the AMS; identify processes that support this, such as appropriate mechanisms for interacting with other committees on issues related to diversity.
- Review the committee's charge after five years and recommend any necessary changes.

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## Recent Efforts

The AMS has recently made a number of intentional efforts to address race and racism in the mathematics community. For instance, in the past year:

1. The AMS has made several intentional hires to support our overall commitment in diversity, including:
  - Director of Education with a research background examining the climate in graduate programs for underrepresented students, particularly students of color (2019).
  - Talent Acquisition & Development Specialist with a background of successfully finding applicants for positions that will diversify our workforce.
  - Associate Executive Director of Meetings and Professional Services with HBCU experience and a stated commitment to diversity.

2. The AMS Council created a Policy Committee on Equity, Diversity, and Inclusion.
3. The AMS participated in #ShutDownSTEM, allowing staff to pause their daily work in support of the Black community and to reflect on the role of racism in our community.
4. The AMS Council, speaking on behalf of the AMS, issued a Statement of Support for and Solidarity with the Black Community.
5. The AMS has actively worked with mathematicians of color to support broader discussion of issues of race and racism, through a new webinar platform:
  - *Documenting the History of Black Mathematicians* showcased a relaunch of the Mathematicians of the African Diaspora website on October 9, 2020.
  - *Advocating for Students of Color in Your Classroom, Department, Institution, and the Profession: There's More You Can Do* was a 4-part webinar series with approximately 300 participants from September through December.
  - *Moving Mathematics Forward: Twenty Years Since the Historic Graduation of Drs. Inniss, Scott, and Weems* was co-sponsored with the National Association of Mathematicians on December 21, 2020.
6. The AMS Equity, Diversity, and Inclusion webpage has been substantially expanded, with resources for mathematicians of color and for others who wish to be allies and advocates.
7. Recent issues of the *Notices* have featured articles written by a diverse (in terms of race, gender, field, career level) group of mathematicians.
8. The AMS has supported two conferences dedicated to diversity and inclusion, both organized by mathematicians in the community.
  - *paraDIGMS: Diversity in Graduate Mathematical Sciences* is a new AMS initiative to build a community of practice among graduate program leaders to provide professional development for individual graduate program leaders and to energize systemic change in graduate education by enacting policies and practices that provide equitable opportunities for students.
  - *Online Undergraduate Resource Fair for the Advancement in Academia of Marginalized Mathematicians (OURFA<sup>2</sup>M<sup>2</sup>)* was an online resource fair for undergraduate students in math, especially directed at underrepresented and marginalized groups interested in an academia-focused career.
9. The AMS Board of Trustees has committed to several fundraising efforts:
  - The Board of Trustees created and the Council approved a quasi-endowment (a portion of the AMS endowment designated for a specific purpose) to fund a new \$50,000/year fellowship for Black mathematicians to start in 2021.
  - The Board of Trustees established a new fund in our endowment, temporarily called the 2020 Fund, specifically to support equity, diversity, and inclusion, recognizing that the only way to change systemic issues is to invest in the long term because a true commitment to this takes time. Each member of the Board of Trustees made a donation to kick-start the 2020 Fund and it will be a fundraising priority going forward.
10. The AMS President created this *Task Force on Understanding and Documenting the Historic Role of the AMS in Racial Discrimination*.

## The Future of the AMS: The Next Generation

*“AMS has made major strides in being more inclusive in the last 40 years. It needs to continue those efforts. Early-career mathematicians see less of a need to join an organization. Much of the diversity of the math community is in that group of mathematicians. They need to be encouraged to become involved and help shape AMS’ future.”*

—questionnaire response from  
a member of AMS Governance

As the examples in this and prior chapters show, the posture of the American Mathematical Society in working towards “full participation of all” has notably shifted, largely since 1981 and especially since the AMS mission was revised in 1991 to include it and many other goals as worthy endeavors for the AMS. It certainly has come a long way from the blatant racism that the AMS accommodated in the segregated era, but the legacy of that era lives with us in the practices of our profession and the way we treat our Black colleagues.

Progress by the AMS over the years has been slow and uneven, but what’s required now is sustained attention by AMS leadership to become a more inclusive Society. Many in the AMS leadership and in the rising generation of mathematicians, who believe that racism is a concern, are eager to try. For this reason, we issue recommendations that you may find in Chapter 1 of this report.

We close with a quote from the 1996 Task Force report, which we echo as our own hope as well:

*“There was a strong sentiment that the results of the work of the Task Force should not be another report that would be placed on a shelf somewhere, but rather that an action plan be initiated as a consequence of the Task Force’s efforts that would result in ongoing mechanisms that would address issues related to the involvement of underrepresented minorities in the mathematics community.”*

—from the 1996 Task Force Report

# Appendix

## The 1996 Final Report of the AMS Task Force on Participation for Underrepresented Minorities in Mathematics

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American Mathematical Society  
**Final Report of the AMS Task Force on  
Participation for Underrepresented Minorities  
in Mathematics**

April 1996

### **CHARGE:**

The following charge for the AMS Task Force on Participation for Underrepresented Minorities was taken from the AMS 1993 Operating Plan, Strategy E.1.1:

The Task Force on Participation for Underrepresented Minorities will examine an appropriate role for the AMS in addressing issues associated with increasing the participation of members of underrepresented minorities in mathematics, including identification and encouragement of talented students to pursue (graduate) study in mathematics, fuller participation in all activities and special initiatives of the Society, and access to all modes of communication.

### **TASK FORCE:**

James C. Turner, Jr., Florida A&M University, Chair  
Richard J. Griego, Northern Arizona University, Vice-Chair  
Efraim P. Armendariz, University of Texas at Austin  
Rodrigo Banelos, Purdue University  
Leonard Haff, University of California, San Diego  
Fern Y. Hunt, National Institute of Standards and Technology  
Raymond L. Johnson, University of Maryland  
Genevieve M. Knight, Coppin State College  
William A. Massey, AT&T Bell Labs  
William A. Thurston, Mathematical Sciences Research Institute  
Philip Uri Treisman, University of Texas at Austin  
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Diane Mack

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## INTRODUCTION:

As we near the end of the century, the minority mathematics community faces a gloomy picture regarding the participation of minorities in mathematics. In contrast to the dramatic increases that women have made in obtaining doctorates in mathematics, minorities still lag badly behind and the figures have not improved over the past twenty years. For example, 87 or 12.6% of the 689 U.S. citizens receiving the Ph.D. in 1977 were women (the total number of doctorates was 914), while the figures for 1993 were 145 women of 526 U.S. citizens (out of a total of 1202 doctorates) for a percentage of 27.6%. Thus, the percentage of U.S. women doctorates more than doubled over the period from 1977 to 1993. Turning to minorities (U.S. citizens only), the number of Ph.D.'s awarded in 1977 were as follows: African Americans - 9, Hispanic Americans - 4, Native Americans - 4. In 1993, the figures were: African Americans - 7, Hispanic Americans - 4, and Native Americans - 0. Sadly, the numbers are small and much the same. Given that these three minority groups comprise some 20% of the U.S. population, one can see the extent of the underrepresentation among doctorate holders in mathematics of these population groups.

Social and political attitudes are hardening nationwide with respect to special efforts to provide greater social, economic and political benefits to minorities. The climate that gave rise to the great strides in civil rights in the three decades beginning in the 1960's seems to have soured and the reservoir of the nation's goodwill appears to be near exhaustion.

The recent Supreme Court decision against certain aspects of affirmative action programs is just the beginning of other expected legal rollbacks of programs established as a result of the Civil Rights Movement.

Yet, if affirmative action programs are ended and if minority group set-asides and scholarships are eliminated, the social problems due to the gross disparities that exist between the African, Hispanic and Native American communities and the rest of America will still persist and some argue that the problems will get much worse.

This grim picture has been made bleaker by cutbacks in support for higher education in the nation. We are thus experiencing another cycle of job scarcity in the mathematics market. The severe competition for jobs is exacerbated by the large numbers of non-U.S. citizens receiving Ph.D.'s and then staying in our country. Currently, about 60% of the some 1200 doctorates awarded annually in mathematics are earned by non-U.S. citizens or non-permanent residents and more than half end up staying in the United States. The specific impact of non-U.S. citizens on underrepresented minority groups is subject to a variety of opinions and interpretations.

It is in the face of these concerns and challenges that the AMS Task Force on Participation for Underrepresented Minorities in Mathematics was formed. The Task Force approaches its job knowing full well that the things AMS can do are quite limited and that it is at the level of individual colleges and universities and individual departments and faculty members that responsibilities and actions will ultimately reside. Nevertheless, the Task Force makes some recommendations and suggests prescriptions for AMS to pursue in the hopes that we as a community can address the problems that concern us.

**RECOMMENDATIONS:**

On May 13, 1995, and October 15, 1995, the Task Force on Participation for Underrepresented Minorities in Mathematics held its first and second meetings in Chicago, Illinois. Cathleen Morawetz, President of the AMS, and selected members of the AMS staff were present at each meeting. In addition, a small number of interested observers were invited from the mathematics and physics communities and these colleagues also offered their observations.

From these two meetings came several recommendations for action:

\* **Establishment of AMS Office of Minority Affairs**

Establishing an AMS office of minority affairs is the primary recommendation of the Task Force. The Task Force suggests that this office have a director and be housed within the AMS Washington office. The minority office should be charged with carrying out actions which will enhance the number and representation of minorities in the profession of mathematics.

It is recommended that the office of minority affairs divide its time among program development (60%), information collection and dissemination (30%), and other activities (10%). Immediate concerns include transition from undergraduate to graduate student, continuing professional development of minority faculty, and collection and analysis of data concerning minority mathematicians. The office should be a catalyst for the mathematical and scientific communities and for professional organizations.

The operations of the office of minority affairs should be overseen either (1) by a special standing committee on minority participation yet to be established, or (2) by the Subcommittee on Minorities of the AMS Committee on the Profession (CoPROF). If option (1) is taken, then the CoPROF subcommittee should be disbanded.

The Task Force realizes that the key factor in the success of the office of minority affairs is, of course, the individual who serves as director. The director is in such a visible position, and so representative of some constituencies, that the AMS is well-advised to position the oversight committee in a strong, visible role so that the director can share the role of communicator and spokesperson. The successful candidate should be a minority mathematician with project administration experience, politically and culturally sensitive, and viable in the historically black colleges and universities and minority institution community. The position should be filled, especially initially, with a long-term commitment.

\* **Collection, Analysis and Dissemination of Information.**

The abysmally low production of minority Ph.D.'s in mathematics is a major problem. Recognizing that the numbers are unacceptably low, members of the Task Force point out that a significant number of mathematically capable students go into mathematics-based fields such as the sciences and engineering (and even medical and business schools). Thus, it is felt that there is a need to do an analysis of the participation of minorities in other associated fields in order to obtain a clearer picture of minority involvement in mathematics (broadly defined). In addition, it is noted

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that the numbers of students who stop at the bachelor's and master's levels should also be analyzed; just because a student does not end up with a doctorate should not mean that he or she is not a member of the mathematical community. Indeed, minority teachers in the public schools and community colleges are an important part of the equation.

Indeed, the collection of good data is paramount. A mechanism that can generate and analyze data regarding the participation of minorities in mathematics and mathematics-related fields on an ongoing basis should be established. Furthermore, once these analyses are completed the results, along with implications, should be communicated to the community at large. More generally, there is an acute need for the generation and dissemination of information about problems and trends, job openings and candidates, and current successful programs dealing with minorities.

\* **Graduate Preparation Program.**

The Task Force recommends that AMS join selected institutions in establishing a summer program for preparing minority undergraduate students for graduate school. It is envisioned that this program would encompass two summers and would be held at one or two sites. Institutions or sets of institutions would make proposals to the AMS. Student admission to the program would be handled by a selection committee.

Such programs should involve faculty from minority institutions, as well as faculty from graduate programs, run for two consecutive summers, and include follow-up activities during the academic year.

First Summer:

A program of a minimum of six weeks in the summer between junior and senior year, to include courses needed in preparation for graduate study.

Second Summer:

Students linked to a research project or involved in an internship.

\* **Meetings at Minority Institutions.**

The Task Force suggest that AMS seek to hold sectional meetings at Historically Black Colleges and Universities (HBCU's) and other Minority Institutions (MI's). Given the small number of minority mathematicians, the greater is the need to expose minority students to experiences at meetings and conferences, in hopes of having a positive effect on retaining more of these students in the mathematics pipeline. Such meetings also have the benefit of connecting minority departments with a larger mathematical community.

\* **Minority Speakers List.**

The Task Force suggests that AMS establish and disseminate a list of minority mathematicians available to present colloquium talks. AMS should provide limited funds for possible add-on trips, whereby speakers, both minority and non-minority, can present talks at minority institutions in conjunction with their scheduled presentations at non-minority colleges and universities. In

general, there was recognition that mathematicians at smaller institutions were in danger of becoming isolated and rendered obsolete. Efforts should be made to support these faculty members and include them in activities that can aid them in maintaining their professional viability.

**\* Minorities on Committees and in Elections.**

Recognizing the efforts by the AMS to add minority members to committees, the Task Force recommends that these efforts be not only continued but also enhanced. The Task Force recommends that minorities be placed on ballots in AMS elections.

**\* Extension of Resolutions on Women to Minorities.**

The Task Force recommends that AMS extend to minorities any and all relevant existing resolutions on the participation of women in mathematics.

A special concern was expressed that the problems of Native Americans not be submerged under those of the much larger groups of African Americans and Hispanic Americans.

**CONCLUSION:**

There is wide agreement among Task Force members that departments need to recognize and reward participation of faculty members in activities that are related to the goal of improving minority participation in mathematics. In view of the current attacks on affirmative action, it is felt that this point needs to be re-emphasized. AMS should also make clear its support of efforts to include minorities in the mathematical life of the United States, and there is a strong feeling that such explicitly stated support by AMS and its leadership would have strong symbolic, as well as substantive, importance.

There is strong sentiment that the results of the work of the Task Force should not be another report that will be placed on a shelf somewhere, but rather that an action plan be initiated as a consequence of the Task Force's efforts that will result in ongoing mechanisms that address issues relating to the involvement of underrepresented minorities in the mathematics community.

It is felt that AMS should work in close conjunction with MAA and other professional societies in addressing the issues surrounding the participation of underrepresented minorities in mathematics.