

Black Scientists Are Not the Door to Diversity

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■ THE UPROAR OF 2020, AN INTRODUCTION

The tumultuous times throughout 2020 and 2021 opened many individuals' eyes to the continuous suffering that the minority community, especially Black Americans within the United States, face daily. The coronavirus pandemic (COVID-19) plagued the world, which opened a door for physical isolation, online community engagement, and a point of connection with social movements. Because of George Floyd's murder and his words echoing "I can't breathe", the "world" was forced to recognize the murder of a Black man. With the black community and the world still in an uproar, the murder of Breonna Taylor emphasized the systematic racism and prejudices that often lead to the death of black people by the systems that are in place to protect us. Thus, many institutions and companies felt pressured to ensure solidarity and began short-armed efforts to initiate change based on ideas of diversity, equity, and inclusion (DEI). These universities and companies' newly found efforts to bring awareness to racism and diversify their communities were all but new to the minority community. Universities' focuses were built on finally realizing the apparent racism, discrimination, and systematic oppression Black Americans were facing in 2020 despite hundreds of years of evidence/history showing that black folks have been oppressed since the United States was merely 13 colonies. Many universities, colleges, and companies quickly became aware of the racism and lack of diversity that continue to persist within their communities; yet, these issues were not novel concepts for minorities living and interacting in these spaces daily. Ultimately, this change brought on the always there but invisible superheroes of academia and research—black trainees and faculty.

■ A GRADUATE STUDENT PERSPECTIVE

Many individuals consider graduate school one of the most mentally and physically strenuous times of their lives. Although each graduate school's curriculum and environment differ, the foundation for pursuing a Master's degree or Doctorate of Philosophy has become standardized across institutions. Whether seeking a Master's or Ph.D. degree, the initial two years of most programs consist of completing the required coursework, ideally being completed within the first two years of the program. Upon completing coursework, individuals begin to develop their thesis prospectus or their qualifying exams for doctoral students. Qualifying exams differ across institutions, but for all, they bring months of mental and physical stress until the day a person is promoted to candidacy. In addition to completing the required coursework and preparing for the crucial final exams, graduate students are

expected to be conducting research within the lab. Whether it be hands-on laboratory experience or writing a literature review to craft a manuscript or proposal, doctoral students are expected to conduct their research to prepare for their dissertation along with additional projects for the PI/mentor, writing manuscripts, writing/submitted fellowship applications, attending conferences, serving in leadership capacities, and preparing to defend their dissertation. All the aforementioned graduate student requirements are to be completed while networking and crafting a plan for the next phase of their education, whether that be a postdoctoral position in academia or industry or a fellowship in science communication or science policy. For many, the expectations of graduate school are the duties mentioned above; however, for minorities, specifically Black graduate trainees, our responsibilities are often divided between graduate education and being the "Black face of the department".

■ THE ADDITIONS OF BEING A MINORITY GRADUATE STUDENT

For minorities, particularly Black graduate trainees, our graduate student duties are often divided between the aforementioned educational expectations and being the department's "Black face". We, as a collective, are burdened with the responsibility of being the "Harriet Tubman" of black science to usher other diverse trainees through the doors of the department or discipline. On the requesting side of our door-to-diversity is a lack of support, genuine efforts, and gains, along with the lack of understanding that each request comes at a personal sacrifice for a black scientist to bottle up his/her emotions and attempt to promote an inequitable environment. In addition, the constant expectation of educating nonminority colleagues about the experiences that minorities in the field face daily often outweighs the concern for effective graduate training. The weight of this expectation continues as a dialogue between faculty and students with the constant question of "How do we do a better job of promoting DEI and recruiting minorities?"

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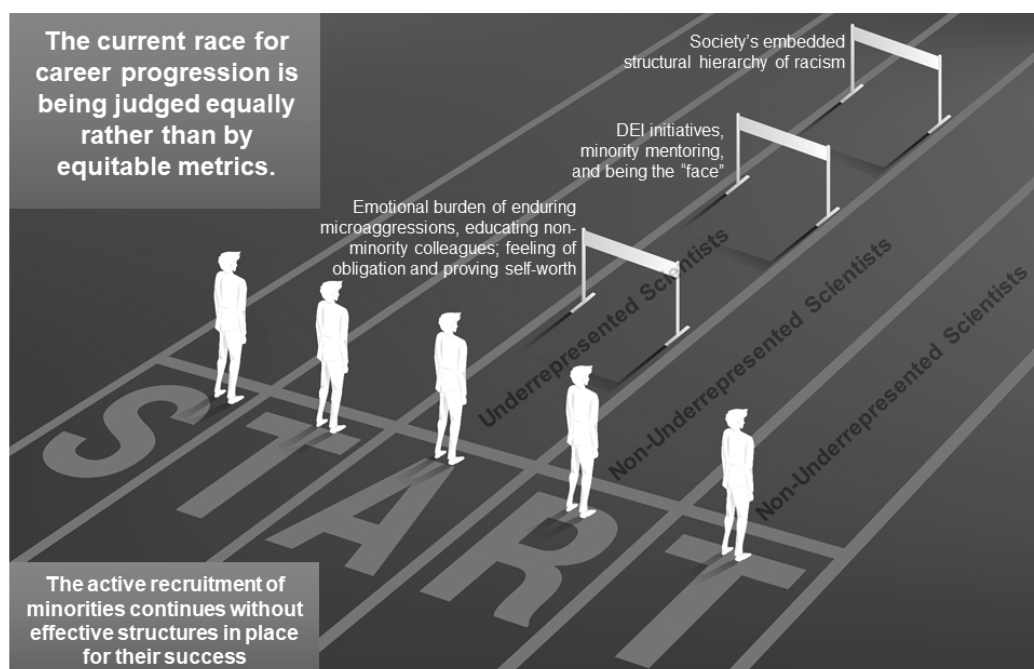


Figure 1. The race to tenure and promotion between underrepresented and non-underrepresented scientists.

■ ARE BLACK STUDENTS THE BENEFICIARIES TO DEI WORK?

The willful ignorance and lack of self-interrogation of the majority come at a cost to black students who are continuously requested to serve as the “Black face” of the institution. With the sudden rise in DEI efforts, the majority (often white male scientists) need to learn to effectively equate their efforts with those who benefit from their committees, recruitment, and implemented programs. Is it the first-generation black student whom his peers unintentionally shun? Is it the black student who feels that no one in an entire department or school understands what it means to be a black scientist? Is it the black student who must silently, but productively, spend 40+ hours a week watching George Floyd’s murder go viral while his murderer was on trial with the possibility of being found not guilty just as so many before him? Is it the black bisexual male who is afraid to express himself for fear of being judged and persecuted through his education? Is it black students who feel that they must be the best to receive 30% of what their white counterparts would receive following their degree completion? Is it aspiring black scientists whose conscience weighs on them for not speaking up for themselves when they are microaggressed daily?

The issues remain at the forefront of the black scientists’ minds but are not even a passing thought for the majority when seeking our help to benefit us. Simply put, when you are a part of the majority, why would you think about the minority? In other words, put a single white person in a room with nine black people and see them sweat. The uncomfortableness and hyperawareness will be visible the same way it is seen when a black person enters a store late at night with a cap on or when white women switch sidewalks to avoid walking past a black man. The tremendous disservice to all black trainees and scientists is asking, “How can I help or what can I do to make it better?” when Google is a finger-tap away. *We, the black folks, do not have all the answers, nor do we want to carry the burden of being expected to know the answers. Self-*

evaluation and interrogation are the best tools to fight white supremacy and racist/prejudiced ideologies for which the United States, including the realm of science, is built upon.

■ THE FEELING OF OBLIGATION AND PROVING SELF-WORTH

The additional efforts to promote minorities and DEI in science come at the request of leaders and ourselves to overcompensate for being a minority. This theme transcends race/ethnicities to gender and career levels. Women and early career-scientists in academia are constantly overextended as they attempt to prove to not only themselves but their peers that they are adequate. This proof usually comes with serving in a multitude of capacities both willingly and by request. At some point in history, black people were told they had to work twice as hard to get half of what a white person gets. This mindset is ingrained in us as children, and it is what differentiates individuals who are considered exceptional. This mindset is emphasized for individuals who are first-generation college students or come from low-income backgrounds. Working twice as hard is engrained in science between graduate students seeking a high-level postdoctoral position, postdocs seeking academic or industrial jobs and funding, and early career faculty seeking tenure. The previous standards are for men; however, extra and extended efforts can quadruple in size for others. The outcomes are not equally correlated for women, minorities, disabled individuals, or those marginalized communities/disadvantaged backgrounds.

Our lives and careers are built on comparisons, just as data analysis. Ironically, all scientists seek significance in their data. Still, many find it challenging to realize the significant differences in the foundational upbringing of minorities and the blatant differences they experience within their careers (Figure 1). Black scientists’ overextendedness does not always come with a request, but their consciousness is often weighed by isolation which comes with not wanting others to feel isolated in the scientific community. These feelings of isolation



Figure 2. Additional services of Black scientists that are uncompensated and do not enhance career trajectory.

often foster additional time commitments overlooked by those judging scientists based on their merit. Additional time commitments are usually mentoring the younger generation of minority students, being featured in articles about their journeys, serving as an advisor for minority organizations, starting organizations and groups for minorities in STEM, and actively recruiting and promoting graduate education regardless of their tireless efforts that are coming uncompensated. Overall, the double-edged sword of being requested and unconditionally overextending oneself should always be considered by the “majority” when asking or offering the “minority” an opportunity. This editorial is the prime example of a Black scientist who is willingly offering his time to bring awareness to the continuous avenues of service we are asked and volunteered to be a part of; however, the irony comes with the question, “If not a minority to bring awareness to issues about minorities, then who else can attest to our perspective?”

■ BEING A SCIENTIST AND BEING A “BLACK SCIENTIST”

The job duties of research scientists at most institutions broadly consist of research, teaching, and service. The goal of many scientists is to receive tenure; however, the political and strategic planning it takes often comes at a cost to either one of the “requirements” to receive this promotion. The typical jobs of research scientists who are professors in addition to the additional capacities that Black scientists serve in are described in Figure 2. Oddly enough, when black faculty are put into these positions to receive tenure, there are several other capacities in which they are serving outside their regular duties

listed above that are often not quantified and taken into consideration, thus, the imbalance in the current system (Figure 2).

The black experience as a professor and scientist is deep-rooted in being overworked and overextended. Their black excellence often goes unnoticed and is not accounted for when they are attempting to climb the ranks of academia and within science (Figure 1). Many of them often suffer from balancing the duties of being an academic scientist plus being a “black scientist” and “black professor” because they indeed are different avenues. They are fostered by the continued access by their white counterparts and their hopefulness to use their career to make it easier for the next generation of black scientists. Simply put, the metrics for success in the classroom, research, tenure, grant awards, and manuscript acceptance are part of a faulty system. This system relies on hierarchies and metrics based on equal playing grounds and foundations that are wholly unorthodox. And ultimately, for each system with its own diversity, EQUITY, and inclusion committee or office, they should be dismantled because the current and ongoing system of establishing a successful career as a research scientist is built from inequity, and that biasedness is emphasized for minorities. The recent case (May 2021) of Nikole Hannah-Jones, winner of the Peabody, Polk, and Pulitzer Prizes and MacArthur Foundation “Genius” Grant and conceiver of the 1619 Project, only emphasizes that point that possessing some of the highest accolades when being considered for academic tenure does not play a factor when **being Black and/or disruptive to the status quo**.

■ BLACKNESS AS A STEPPING STONE AND THE REAL-WORLD PERSPECTIVE

Some would say each United States sector is controlled by the same type of people: heterosexual white men. While this is not entirely accurate, each industry is built on hierarchies that incorporated racist and discriminatory ideologies. These hierarchies usually rely on Black people being the lower portion. For example, in science, Asian individuals are stereotyped as being more intelligent and have populated the STEM community so much that they are not considered minorities. Hence, Asians are not considered minorities within STEM and are associated with positive stereotypes, but to the outside world they are still minorities and have several derogatory stereotypes associated with them that significantly increased in 2020 and 2021. Both Asian and Black Americans experience racism in and outside the scientific community. It became evident just how rapidly anti-hate crime legislation could be passed in the US in response to the murders of eight Asian Americans in Atlanta, Georgia, in March of this year. Political support must be equally swift and meaningful in prevention of future violence and injustices faced by Black Americans who have waited over 400 years for some accountability. For example, it took 65 years after the lynching of Emmett Till for Congress to pass a bill making lynching a hate crime. Another example is after decades of the Ku Klux Klan (KKK) existence, after countless black children have been killed and businesses and places of worship have been burned, white nationalists groups are finally considered domestic terrorist groups. The idea of domestic terrorism and the structural hierarchy of racism was obvious when insurrectionists stormed the capital without so much as tasers to stop them. The other side of the country shows that playing with a toy gun (Tamir Rice), having a hood and a pack of skittles (Trayvon Martin), writing a check (George Floyd), reaching for your wallet (Amadou Diallo), receiving a ticket (Sandra Bland), or even sleeping in your own home (Breonna Taylor) can get you killed as a black person by law enforcement.

When we leave our laboratories, the world only sees us as a black person “**verbing**”. *Our dual consciousness of ourselves in our career and the world is a constant worry that our white peers rarely consider when judging our merit.* The goal of black scientists is never to translate and articulate our social awareness of the ongoing issues of the black community into a “properly worded email” so we can receive minuscule acknowledgments and concerns of our peers for a day. The thousands of emails sent in “solidarity” throughout departments immediately following George Floyd’s murder and the Minneapolis riots and the around-the-world protests were a fleeting, short-armed effort. This is evident in the year following when those same departments and institutions did not send emails or concerns or stances in solidarity when the media brought attention to other wrongful Black killings or when George Floyd’s murderer, Derek Chauvin, was found guilty. The transparency of that single “solidarity” email band-aid is in full view. As a black scientist, these problems are our everyday lives, and it is mentally exhausting when we are expected to understand why the majority does not cater to minority suffering.

■ BLACK STORIES AS TOKENS AND SPOTLIGHTS

As one of the few in the discipline, our stories of blackness are often used as tools to promote diversity. But the ultimate

question remains: Is this promoting diversity or exploitation as a ploy to enroll minorities in a system that is not built for them? Even if these articles, videos, and website features allow us to expose our blackness, who is it genuinely helping, and what is it changing? Offering a photoshoot, a newspaper article, or a special edition feature cultures the continuous cycle of the black auction they used during slavery to showcase talents for bidding. So to each leader at an institution, ask yourself, when you all reach out to a black scientist for a feature of their work and their journey, who will it benefit? Is it the institution that distantly looks like a diverse community, who promotes inclusion and who promotes equitable opportunities? Or is it the black faculty members who will contemplate their scientific merit because they are a trophy or a racial quota for their institution? Or is it the black undergraduate or graduate students or black post-docs who feel that they have to say “yes” because it is the only way to get their name out there as young scientists? Or do all black scientists say “yes” out of fear of creating enemies who can halt or deter their careers? The showcase of our stories as a people deserves more than a 3 minute video, a thousand words, or a shiny spotlight edition but proper compensation from our institutions that favor us so well.

When aiming to promote diversity and incorporate it into your companies, programs, departments, and institutions, several essential concerns and questions should be contemplated before diversifying that environment. Of those most important, when minorities are recruited to the majority’s domain, has that environment been created for them to be successful, and is that environment maintained? So, when sitting at the table discussing DEI and minority student recruitment, here are several questions that the leader should consider to ask of that room:

- Is the DEI leader a minority?
- Can everyone document the number of Black trainees currently in the department, school, company, etc.?
- How many Black students have each of you taught, and where are they now?
- Have you ever been to a minority organization meeting on campus? Can you name 5 of them?
- Have you ever been to a Black professional group meeting or discussion at a conference?
- Are you comfortable in a room full of Black people?
- Can you name five black scientists from your field?
- When we send out job applications, can you forward that message to five black scientists?
- Do you teach your children about racism and their privileges (especially if they are not Black)?
- Have you ever asked or expected a Black person to teach you about racism?
- Have you ever asked any of your older family members who lived through the Civil Rights Movement and the 1960s/1970s their opinions?
- Do you think untenured professors should be or have you asked untenured professors to be silent and “sit at the kids’ table” until they receive tenure?
- Can you name five times that you have experienced racism or been microaggressed in a professional setting?
- Do you blame the lack of minorities on the applicant pool? Or do you self-reflect on why there are not many, if any, Black people being hired instead?

- Do you expect Black students, employees, and faculty to succeed without changing the requirements of success?
- Do you think all Black people have the same experiences and foundations?

Your answers to the above questions will determine if you need to self-reflect and if your company, department, program, or institution is genuinely working toward diversity, equity, and inclusion.

■ MAKING THE SYSTEM BETTER: A CONCLUSION AND GUIDE FOR THE FUTURE

Black people are taught that to change the system; we have to become a part of the system. However, intentional barriers prohibit minorities from even attempting to shift the direction of the system's current path. The permanence of this inequitable system endures as minorities are continuously recruited to hostile environments with no metrics and guaranteed programs and initiatives that foster their success. Even in the settings where the majority are creating DEI committees to initiate change, minorities are (or at least appear to be) recruited as tools and checked boxes rather than as people with valuable opinions and insights. Yet their experiences and their stories and their opinions are fuel to feed open-armed efforts to increase diversity in communities that actively incorporate systems that keep minorities bound to the lowest position and minimize their daily actions and duties.

Making the system better or more accessible or more diverse for black scientists is an ongoing epidemic in companies and institutions. But ultimately, how can the system change in a professional setting when employment is guaranteed for those who are not attempting to change and cater to the minority and disadvantaged? The old and the new committees, groups, and initiatives based on DEI work must create a new way to recognize, compensate, and celebrate "true DEI progress" that is often built on the backs of black scientists. Just like other scientists, Black scientists want the typical accolades that are measured; however, they are often overlooked and go unnoticed because they are preoccupied attempting to make the world more accessible and equitable for people who look like them. So to those judging based on standardized criteria, ask yourself, is this genuinely a representation of science? In our labs, we control variables, run outlier analysis, and exclude subjects based on a selection criterion. On the other hand, black scientists' differences seem to be included when their accomplishments are graded inherently creating a biased and negative outcome. The true difference is made by those who express and seek out uncomfortableness, especially regarding "taboo" topics like race, racism, and prejudices in STEM. The simplest way to start is to show your environment the additional duties that your black scientists have taken on while continuing the typical responsibilities of their colleagues. Then, compensate black scientists for every DEI initiative you ask them to promote, aid, or consult. Next, change the metrics to be *equitable and not equal*. And finally, accept and highlight and consider the determination and strength that it takes to be a black scientist being judged by white metrics and continually losing the race (Figure 1).

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Notes

Views expressed in this editorial are those of the author and not necessarily the views of the ACS.

This article is the sole opinion of one black male scientist who is a current graduate student who incorporated other scientists' opinions/experiences through an interview process to inform the scientific community of the ongoing epidemic of black scientists being overworked and overextended with a lack of compensation and metrics to quantify their work. This editorial was written in a relatively simplistic form to avoid reference conflict and overinterpretation and to remove the "hard science" from an ongoing relatively simple issue with simple solutions if chosen to be implemented. The basis of the problems continues, and this editorial was written to directly disclose the ongoing issues of a system that actively recruits minorities without the effective structures in place for their success.