Subtle Barriers Are Still Systemic Barriers: Experiences of Black Researchers in Energy-Related Fields

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Abstract

Despite earning the highest academic credentials, Black researchers in energy-related fields continue to face systemic barriers that impede their professional advancement. This article draws on interviews with 19 Black researchers and 9 non-Black researchers at comparable institutions to examine the nature and scope of these barriers. Findings reveal that subtle but pervasive forms of discrimination, including exclusion from professional networks, lack of mentorship, and diminished recognition, operate across institutional settings, from Historically Black Colleges and Universities (HBCUs) to Research 1 universities. Black female researchers face additional, intersecting layers of marginalization. We argue that a degree in higher education, even at the doctoral level, is insufficient to overcome structural inequities embedded in academic research environments. Targeted, systemic interventions are needed to address these entrenched disparities.

Keywords: *Black researchers, systemic racism, higher education, energy research, HBCUs, mentorship, professional networks, equity, intersectionality*

Introduction

A college degree, and more so a doctoral degree, has long been considered the most reliable pathway to upward social and professional mobility in the United States. Yet an emerging body of research challenges this assumption, particularly for Black academics. Even those who attain the highest levels of education, such as PhDs, encounter formidable barriers in their post-doctoral careers. This article focuses specifically on Black researchers working in energy-related fields, broadly defined to include engineering, physics, and chemistry, to examine what those barriers look like in practice.

Drawing on qualitative interviews conducted as part of a broader study, we explore the structural and interpersonal dimensions of inequity that Black researchers navigate. Rather than generalizing across all academic disciplines, we narrow our scope to energy research, where the professional norms, funding landscapes, and institutional cultures have their own distinct characteristics. Our findings reveal a consistent pattern: subtle forms of discrimination accumulate into systemic disadvantage.

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Methods

This study is grounded in qualitative, interview-based research. We conducted in-depth interviews with 19 Black PhD researchers in energy-related fields at academic institutions across the United States. To provide a comparative perspective, we also interviewed 9 non-Black PhD researchers at the same institutions or in the same regional contexts. All participants were faculty members working in areas related to engineering, physics, or chemistry, fields broadly situated within the energy research landscape.

Participants were recruited through purposive sampling to ensure representation across institutional types, career stages, and geographic regions. Interviews were semi-structured, allowing researchers to share their lived experiences in their own words. Data was analyzed thematically, with a focus on patterns related to professional recognition, funding access, mentorship, and network inclusion. This article presents selected findings; a more comprehensive analysis is available in our accompanying whitepaper, Advancing Equity in Energy Research.

Findings

Barriers at Historically Black Colleges and Universities (HBCUs)

Black researchers who begin or advance their careers at HBCUs encounter a distinct set of institutional constraints. While HBCUs provide culturally affirming environments and play a vital role in Black academic life, systemic underfunding creates serious research impediments. These challenges range from inadequate laboratory equipment and limited faculty startup packages to insufficient administrative support for grant writing and management.

Beyond resource constraints, HBCU-affiliated researchers reported experiencing stigma in federal grant processes. One researcher recounted a reviewer's dismissal: "I don't think this [HBCU] has the proposed research capabilities." Such responses reflect assumptions about institutional legitimacy that disadvantage HBCU researchers regardless of the scientific merit of their proposals.

Exclusion from Networks at Research-Intensive Universities

Black researchers at Research I (predominantly white) institutions face a different but equally consequential set of challenges. In these settings, research funding frequently flows through established informal networks, concentrated among faculty who have built long-standing relationships within the university. New faculty members who lack visible connections or shared backgrounds are often excluded from these networks, limiting their access to collaborative opportunities, grant partnerships, and internal advocacy.

This exclusion extends to mentorship. Black researchers reported significant difficulty in identifying mentors within their own departments or institutions who shared their background or understood their professional challenges. Many ultimately cultivated mentoring relationships with colleagues at other universities, a workaround that, while effective, places additional burdens on Black researchers to build support structures that their non-Black peers receive as a matter of course.

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Subtle Discrimination and Lack of Professional Recognition

A recurring theme across interviews was the experience of being rendered invisible or illegitimate as a professional. In one example, a tenured associate professor in his forties was mistaken for a graduate student within his own engineering building. Other interviewees were told they were "lucky" to be hired, a comment framed as collegial but implying their position was the result of a diversity initiative rather than merit.

One interviewee described a particularly painful dynamic: "I voiced [an opinion] in a faculty meeting and faced an immediate disagreement. Later in the meeting, someone else [a white colleague] said exactly the same thing, and people agreed." This erasure of Black researchers' intellectual contributions was reported across multiple institutions and career stages. Multiple interviewees described having to work "twice as hard" to be seen as equally competent, a burden well-documented in research on racial bias in professional environments.

Intersectional Barriers Facing Black Women

Black female faculty members navigate compounding barriers rooted in both race and gender. Several interviewees described the challenge of operating within entrenched "old boys club" cultures at the department level and at academic conferences. Retention emerged as a particular concern: one researcher reported that in her office, where all other colleagues were male, she was openly told, "Women don't stay in this office, and we don't know why." Such statements, even when not intended as hostile, signal an unwelcoming environment and normalize the departure of women from these spaces.

Hidden Knowledge and the Limits of Formal Mentorship

Academic career development depends heavily on what researchers call "hidden knowledge", tacit understanding about which publication venues carry the most weight, which grants are most competitive, how to network with federal program officers, and how to build a visible professional profile. This knowledge is typically transmitted through department-level mentorship programs. But when Black faculty cannot find mentors of similar background within their department or institution, this informal knowledge transfer breaks down.

The Black researchers in our study developed alternative strategies, including building cross-institutional mentoring networks, but these strategies required significant additional effort. Their ability to succeed despite these barriers reflects individual resilience, but it should not obscure the systemic nature of what they face. As our findings make clear, the barriers are not personal failings but structural features of academic research environments.

Conclusion

This study demonstrates that obtaining a doctoral degree does not insulate Black researchers from systemic inequity. Subtle, often unacknowledged forms of discrimination, exclusion from networks, diminished professional recognition, lack of mentorship, and institutional underfunding, operate cumulatively to disadvantage Black

faculty at every career stage and institutional type. Black women face additional intersectional barriers that further constrain their professional trajectories.

These findings carry clear implications for institutions, funding agencies, and professional associations in the energy research sector. Diversity initiatives that focus on recruitment without addressing the underlying structural conditions of academic environments are insufficient. What is needed are sustained, systemic interventions: equitable funding mechanisms for HBCU researchers, formal sponsorship programs, transparent grant review processes, and institutional accountability for the retention and advancement of Black faculty.

The researchers we interviewed are among the most credentialed professionals in their fields. The fact that they continue to face these barriers is not an anomaly, it is the product of entrenched institutional structures. Addressing these structures is not merely a matter of fairness; it is essential to the integrity and vitality of the broader research enterprise.

References

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