Systemic racism in higher education

The nexus of Black Lives Matter protests and a pandemic that disproportionately kills Black and Brown people (*1*) highlights the need to end systemic racism, including in science, technology, engineering, and mathematics (STEM), where diversity has not meaningfully changed for decades (*2*). If we decry structural racism but return to the behaviors and processes that led us to this moment, this inexcusable stagnation will continue. We urge the Academy to combat systemic racism in STEM and catalyze transformational change.

Everyone in academia must acknowledge the role that universities—faculty, staff, and students—play in perpetuating structural racism by subjecting students of color to unwelcoming academic cultures (*3*). Universities are not level playing fields where all students have an equal opportunity to participate and succeed. The misuse of standardized tests, like the GRE, excludes students who could have otherwise succeeded (*4*). Once admitted, Black, Indigenous, and people of color (BIPOC) face challenges when transitioning to college life (*5*) and are more likely to be nontraditional students. Innovative pedagogies (*6*) and programs (*7*) can overcome these challenges, including inequities in K–12 education, but are not yet widely employed throughout higher education. Reducing structural racism in higher education will require evidence-based, institution-wide approaches that focus on achieving equity in student learning. If we abandon the perception of "fixed" student ability, more BIPOC students will succeed (*8*).

Academic culture also fails BIPOC faculty, who receive fewer federal grants due to systemic bias (*9*) and topic area (*10*). BIPOC faculty are most likely to devote time to activities promoting diversity, which are devalued by tenure committees and promotion review boards (*11*). BIPOC faculty are further disadvantaged in tenure decisions through cultural taxation of unequal service and mentoring demands. Given these burdens, BIPOC faculty cannot be expected to be the agents of change. Instead, nonmarginalized faculty, the most empowered to make change, should exercise that power by joining BIPOC faculty in prioritizing recruiting, supporting, and championing diversity. Catalyzing this culture shift in the Academy, however, will require making tenure dependent not only on excellence in research, teaching, and service, but also meaningful contributions to promote equity and inclusion.

The false dichotomy of "Excellence or diversity" must end. Diversity results in better, more impactful and more innovative science (*12*), and it is essential to building novel solutions to challenges facing marginalized and nonmarginalized communities. Making STEM equitable and inclusive requires actively combating racism and bias. Every scientist should commit to reporting unfair practices to prevent the normalization of discriminatory behavior. All faculty should examine their courses for performance disparities based on ethnicity and gender, ask whether departmental and lab demographics reflect society at large, and work to remedy disparities. Breaking down the barriers of systemic racism in STEM and achieving the promise of diversity, equity, and inclusion in STEM requires unwavering dedication and real work. It is time to make the commitment to be an agent of change.

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REFERENCES AND NOTES

1. K. Bobbins-Domingo, *Anns Int. Med,* **73**, 233-234
2. R. E. Bernard, E. H. G. Cooperdock, *Nat. Geosci.* **11**, 292 (2018).
3. M. Ong, C. Wright, L. L. Espinosa, G. Orfield, *Harvard Educ. Rev.* **81**, 172 (2011).
4. C. Miller, K. Stassun, *Nature* **510**, 303 (2014).
5. S. D. Museus, S. J. Quaye, *Rev. High. Educ.* **33**, 67 (2009).
6. E. J. Theobald *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* **117**, 6476 (2020).
7. B. Toven-Lindsey, M. Levis-Fitzgerald, P. H. Barber, T. Hasson, Increasing Persistence in Undergraduate Science Majors: A Model for Institutional Support of Underrepresented Students. *CBE–Life Sci. Educ.* **14**, 1 (2015).
8. E. A. Canning, K. Muenks, D. J. Green, M. C. Murphy, *Sci. Adv.* **5**, eaau4734 (2019).
9. E. A. Erosheva *et al.*, NIH peer review: Criterion scores completely account for racial disparities in overall impact scores. *Science Advances* **6**, eaaz4868 (2020).
10. T. A. Hoppe *et al.*, *Sci. Adv.* **5**, eaaw7238 (2019).
11. W. R. Brown-Gaude, *J. Social Work Educ.* **45**, 336 (2009).
12. B. Hofstra *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* **117**, 9284 (2020).

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