Nos. 20-1199, 21-707

In the Supreme Court of the United States

STUDENTS FOR FAIR ADMISSIONS, INC., PETITIONER

v.

PRESIDENT AND FELLOWS OF HARVARD COLLEGE

STUDENTS FOR FAIR ADMISSIONS, INC., PETITIONER

v.

UNIVERSITY OF NORTH CAROLINA, ET AL.

ON WRITS OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FIRST AND FOURTH CIRCUITS

BRIEF FOR MASSACHUSETTS INSTITUTE OF TECHNOLOGY, STANFORD UNIVERSITY, INTERNATIONAL BUSINESS MACHINES CORP., AND AERIS COMMUNICATIONS, INC. AS AMICI CURIAE IN SUPPORT OF RESPONDENTS

DEBRA L. ZUMWALT
STANFORD UNIVERSITY
Building 170, 3rd Floor
Stanford, CA 94305

MARK C. DIVINCENZO
DAHLIA FETOUH
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
77 Massachusetts Avenue
Cambridge, MA 02139

MICHELLE H. BROWDY
IBM
1 New Orchard Road
Armonk, NY 10504

CRYSTAL RIGGINS
AERIS COMMUNICATIONS, INC.
2099 Gateway Place
Suite 600
San Jose, CA 95118

DOUGLAS HALLWARD-DRIEMEIER
Counsel of Record
ROPES & GRAY LLP
2099 Pennsylvania Avenue, NW
Washington, DC 20006
(202) 508-4600
Douglas.Hallward-Driemeier@ropesgray.com

WILLIAM T. DAVISON
ROPES & GRAY LLP
Prudential Tower
800 Boylston Street
Boston, MA 02199

HELIN AZIZOGLU
ROPES & GRAY LLP
1211 Avenue of the Americas
New York, NY 10036

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INTEREST OF AMICI CURIAE[1]

Amici are two national institutions of higher education and leaders in the fields of science, technology, en-

[1] Both parties have filed blanket consent to the filing of amicus curiae briefs. No counsel for any party authored this brief in whole or in part, and no person or entity, other than amicus curiae or its

gineering, and mathematics (STEM), and two corporations operating on the cutting edge of several STEM disciplines. These parties submit this brief to address (1) the vital role that diversity, including racial diversity, plays in achieving the educational missions of institutions of higher education for all students, with particular focus on STEM fields; (2) the importance of diversity to our nation's success in the global STEM economy; and (3) why consideration of race as one among many factors in the admission of students to selective STEM degree programs is essential to achieve these critical educational goals.

A. MIT

The Massachusetts Institute of Technology (MIT) was founded in 1861 by natural scientist William Barton Rogers as a new kind of independent educational institution capable of addressing rapid advances in science and technology in an increasingly industrialized America. Rogers, who pioneered the development of the teaching laboratory, believed that professional competence is best fostered by coupling teaching and research and focusing attention on real-world problems. He envisioned an institution that would foster "the intelligent guidance of enterprise and labor, * * * step by step, with the advances of scientific and practical discovery." Comm. of Associated Insts. of Sci. & Arts, *Objects and Plan of an Institution of Technology* 5 (2d ed. 1861). In keeping with Rogers' vision, MIT remains committed to bringing "knowledge to bear on the world's great challenges." Mass. Inst. of Tech., MIT Policies, 1.1 Mission

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counsel, made a monetary contribution intended to fund the preparation or submission of this brief.

and Objectives (2007). As part of its mission, "MIT is dedicated to providing its students with an education that combines rigorous academic study and the excitement of discovery with the support and intellectual stimulation of a diverse campus community," and seeks to "develop in each member of the MIT community the ability and passion to work wisely, creatively, and effectively for the betterment of humankind." Mass. Inst. of Tech., Mission Statement, https://web.mit.edu/about/mission-statement/. Across its many laboratories, scientific and experiential initiatives, and partnerships, MIT has "proven the power of focusing brilliant, interdisciplinary teams on deeply difficult problems." Rafael Reif, Office of the President, MIT, Inaugural Address (Sept. 21, 2012), https://president.mit.edu/speeches-writing/inaugural-address.

Today, MIT enrolls nearly 12,000 undergraduate and graduate students, in 32 academic departments within five schools and one College, with over 60 additional interdepartmental programs, laboratories, and centers whose work extends beyond traditional departmental boundaries. Though the university is widely known for its strength in science, technology, and engineering, MIT also offers world-renowned degrees in the humanities, social sciences, arts, business, urban planning, architecture, and many other fields. MIT strives to educate the whole student—recognizing that the intersection of multiple disciplines leads to innovation, creativity, and discovery. MIT's undergraduate admissions process is highly competitive, and MIT receives applications from many more qualified students than it can accommodate. For the class of 2026, MIT was able to admit 1,337, or just 3.96%, of the 33,767 candidates who applied. From the many applicants who are assessed as

qualified for admission to MIT, MIT therefore seeks to identify individuals with creative talent, resiliency, and high motivation, whose achievements indicate that they not only will succeed at MIT, but will also "add to a vibrant campus community and * * * become the leaders and innovators of our global society." Mass. Inst. of Tech., MIT Admissions, Mission Statement, https://mitadmissions.org/about/about-mit-admissions/.

In making undergraduate admissions decisions, MIT does not and cannot rely on grades and test scores alone. Mass. Inst. of Tech., MIT Admissions, What We Look For, https://mitadmissions.org/apply/process/what-we-look-for/. Indeed, MIT regularly denies admission to individuals with very high grades and scores in considering the sum total of all distinctive qualities sought in its students. In selecting the students who will be offered admission, MIT does not use any quotas or targets, and does not engage in racial or ethnic balancing. Instead, MIT considers *all* aspects of each candidate's background, including racial and ethnic factors (on a non-determinative basis) among many other factors both qualitative and quantitative. This individual, holistic and contextualized assessment of each applicant has proven to be the most effective way to discern an applicant's talent and potential.

MIT believes that the enrollment of a diverse student body is essential to its educational mission. That mission is to serve the nation and prepare its graduates to address challenges in a diverse world that is increasingly driven by STEM—creative fields that require effective collaboration among individuals of many races, national origins and backgrounds. As MIT's faculty committee on undergraduate admissions concluded:

> the experience of working with a diverse set of peers at MIT prepares our students to work effectively in the world outside MIT: it opens their minds and attunes them both to the variety of strengths and the variety of concerns of others. * * * It is through this experience of the richness and diversity of interests, strengths, viewpoints, and concerns of their fellow students that our students become open-minded intellectuals and innovators, primed to pursue the MIT mission of the betterment of humankind.

Mass. Inst. of Tech., MIT Policies, Diversity Statement, https://mitadmissions.org/policies/#diversity.

B. Stanford

The Leland Stanford Junior University was founded in 1891 by Leland and Jane Stanford, in memory of their son. In the words of Jane Stanford, the moving spirit of the founders was the "love of humanity and a desire to render the greatest possible service to mankind."[2] The founders conceived that "[t]he public at large, and not alone the comparatively few students who can attend the University, are the chief and ultimate beneficiaries of the foundation." The University's "chief object" was "the instruction of students with a view to producing leaders and educators in every field of science and industry." Consistent with that purpose, since its inception in

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[2] The quotations in this paragraph are from a 1902 speech by Jane Stanford, quoted in Gerhard Casper, *Statement on Affirmative Action at Stanford University* (Oct. 4, 1995), https://web.stanford.edu/dept/pres-provost/president/speeches/951004affaction.html.

1891 Stanford adopted inclusive admissions policies, including the admission of women, and, for many years, a policy of charging no tuition, to "keep[] open an avenue whereby the deserving and exceptional may rise through their own efforts from the lowest to the highest station in life."

Today, Stanford enrolls nearly 17,000 students between the undergraduate, graduate and professional schools, who study in virtually all areas of the liberal arts and sciences. In 2021, over 50% of Stanford degrees (both undergraduate and graduate) were awarded in the fields of engineering, earth sciences, medicine, and the natural sciences. Stanford Univ., Institutional Research and Decision Support, Degrees Conferred, https://irds.stanford.edu/data-findings/degrees-conferred.

Admission to Stanford, which receives over 100,000 applications each year for its undergraduate and graduate programs collectively, is highly competitive. Stanford Univ., Admission Overview (2021), https://admission.stanford.edu/apply/overview/statistics.html. Only students who are well-qualified for the challenges of its curriculum are admitted. In selecting among an overabundance of well-qualified candidates, Stanford engages in a highly individualized and subjective process that strives to consider each candidate as a complete person. It uses no quotas, targets, or determinative numerical thresholds of any kind, and does not engage in racial balancing. In considering the full range of each candidate's background and accomplishments, Stanford is strongly of the view that race should no more be entirely ignored than regarded as dispositive. This factor, among numerous others and viewed in the context of the entire appli-

cation, may sometimes shed light on the critical questions of a candidate's ability to deal with adversity and make the most of the opportunities that the University offers. Sometimes, too, it may bear on what the candidate will bring to the educational experience of others in the academic community. In addition, Stanford remains highly attentive, as it has been for more than a century, to the roles that its graduates will play in the world. For many reasons, Stanford's mission of pursuing "the betterment of mankind" demands that it reach out to train leaders from all backgrounds, and this is equally true in STEM fields.

C. IBM

IBM has been a leader in computing and STEM since its founding in 1911. Today, IBM is a leader in the world's ongoing digital transformation—the era of hybrid cloud and artificial intelligence (AI). Previously, IBM laid the groundwork for computer science with its punch card tabulating machines. As some additional examples of technological innovation, IBM develops advanced computing for scientific research, such as the 200-petaflop Summit supercomputer built for Oak Ridge National Laboratory. IBM co-created the COVID-19 High Performance Computing Consortium. IBM is a leading provider of open source and open hybrid cloud architectures, which allow clients to securely develop and deploy their applications on private and public clouds, innovating from anywhere. IBM is a lead developer of mainframe systems, which are used by large companies, governments, and organizations for critical computing work, such as storing massive amounts of data and processing billions of calculations and transac-

tions in real time. In 2016, IBM pioneered quantum computing by putting the first quantum computer on the cloud, and it continues as a leader in this field today. And for twenty-nine consecutive years, IBM has been granted more US patents than anyone else.

With over 100 years of experience behind it, IBM knows that its current innovations are the collaborative efforts of a diverse and inclusive team of people and partners. There are nearly 282,000 IBM employees operating in more than 175 countries. Through its IBM Research division, over 3,000 scientists and engineers continuously advance the frontiers of science and computing. Six IBM Research employees have been awarded Nobel Prizes.

IBM's worldwide, diverse and collaborative culture is part and parcel of its thought leadership. The most difficult technical and computing problems are best solved by evaluating them from multiple perspectives. And those different perspectives come from a diverse workforce. The diversity of people, cultures, thoughts, and ideas within the STEM workforce is essential to IBM's business—indeed, to its ability to deliver innovative, superior technologies worldwide.

This is not a statement of fad or fashion. In 1953, IBM's then-President, Thomas Watson, Jr., sent a letter to all IBM employees, emphasizing IBM's need for a diverse workforce. IBM100, *Building an Equal Opportunity Workforce* (Mar. 29, 2011), https://www.ibm.com/ibm/history/ibm100/us/en/icons/equalworkforce. Today, IBM's commitment to diversity includes closing the skill and opportunity gaps caused by inconsistent exposures to STEM education—gaps that have led to underrepresentation of underrepresented minority (URM)

employees in the STEM professions. In 2020, IBM committed an investment of $100 million in assets, technology, and resources to historically Black colleges and universities (HBCUs)—integrating access to IBM Skills Academy, coursework, instructor training, and curriculum reviews. IBM also partners with more than 20 HBCUs to establish cybersecurity leadership centers to build a more diverse United States cyber workforce. Through IBM's career-building programs and more than 170 new academic and industry partnerships, IBM is committed to providing 30 million people globally by 2030 with digital skills and training. And IBM is investing $250 million by 2025 in apprenticeship programs that target skilled workers in underserved communities, which offer alternative paths to in-demand skills and technology industry jobs.

IBM depends on its educational outreach efforts and the efforts of universities like Respondents to admit and train a diverse student body. IBM's need for diversity thus provides it a tremendous interest in this case: without a STEM workforce defined by both excellence and diversity, innovation will suffer.

D. Aeris

Aeris Communications, a private technology company, has been a global leader in Internet of Things (IoT) connectivity solutions since 1992. Since then, Aeris has helped enterprises worldwide create and sell internet-connected products and solutions. Today, Aeris delivers the industry's most intelligent IoT network and provides its customers with robust security, insights, and support. Aeris offers end-to-end telematic solutions and multi-technology and multi-network global connectivity solutions that cover all forms of cellular connectivity and

non-cellular technologies. Devices that connect to the Aeris network around the world are varied, including, for example, vehicle and asset tracking, security and alarm reporting, and equipment monitoring and control devices.

Aeris' success is built upon the achievements of its employees and customers. Its diverse workforce has been and continues to be Aeris' strategic business advantage that is responsible for its creative innovations that respond to its customers' needs around the world. With team members in the United States, United Kingdom, India, Japan, Indonesia, Nigeria, and the United Arab Emirates, Aeris' employees reflect the global nature of its operations.

Aeris' commitment to diversity and inclusion is not a recent endeavor. Rather, it is a long-standing and intentional effort and directive, which is implemented through practices embedded in its core business operations. Aeris' diverse workforce is also the foundation upon which Aeris creates positive social impact and connects communities. Through programs as well as partnerships with social entrepreneurs and others, Aeris utilizes its proprietary technology to help those who might not have systemic access to influence innovative technology.

SUMMARY OF THE ARGUMENT

Amici write jointly to underscore the importance of diversity not just within higher education or the corporate world at large, but in the particular cross-section of academia and industry within the intensely collaborative, and increasingly global, STEM industries. While

the benefits of a diverse student body are widely observable, they are all the more salient and compelling in STEM, which has historically been marked by greater limitations in diversity than most fields of study.

The academic literature and experiences of Amici jointly underscore the absolute necessity of diversity in STEM educational programs and the national STEM workforce, on which the United States' economy and role in the global advancement of science and technology depend. Not only does diversity promote better outcomes for students in STEM, it contributes to better science. As such, American businesses at the forefront of innovation in STEM depend on the availability of a diverse cross-section of talented graduates from the nation's most rigorous and elite institutions.

MIT and Stanford's academic judgments as to the composition of their student bodies are entitled to judicial deference. MIT and Stanford, like Respondents, continue to observe that holistic, race-conscious admissions processes remain essential to achieve the benefits of student body diversity, particularly in STEM programs—and no race-neutral alternative currently provides a workable means of achieving this critical objective. Amici therefore urge this Court to reaffirm the longstanding principle that the consideration of race as a non-determinative factor in a flexible and individualized admissions process is a narrowly-tailored means of achieving Amici's compelling interest in realizing the benefits of diversity in higher education.

ARGUMENT

I. THE EDUCATIONAL BENEFITS OF STUDENT BODY DIVERSITY ARE COMPELLING, PARTICULARLY WITHIN THE STUDIES OF SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS

Amici share the perspective of other public and private colleges and universities, as well as leaders in the technology industry, regarding the continued importance of diversity in higher education. Brown Univ. et al. Amici Br.; Leading Science and Technology Businesses Amici Br. Amici file this brief separately in order to emphasize that diversity is particularly critical in STEM fields and to the creation of a pipeline of diverse STEM talent to fuel future innovation in technology and invigorate the national economy. To be sure, diversity is important in all facets of higher education and business. However, there remain additional, research-supported and industry-specific reasons that underscore the vital importance of diversity in STEM.

A. The evidence supporting the importance of diversity in academia applies to STEM fields

As other amici have acknowledged, diversity is critical to the achievement of the academic missions of many institutions of higher education. Brown Univ. et al. Amici Br. 4. Expanding upon the Court's opinion in *Regents of the University of California* v. *Bakke*, 438 U.S. 265 (1978), this Court held in *Grutter* v. *Bollinger* that universities have a "compelling interest in attaining a diverse student body." 539 U.S. 306, 328 (2003). More recently, the Court reaffirmed the myriad reasons underlying the vital importance of a diverse student body in

upholding the University of Texas's race-conscious admissions framework in 2016, recognizing that a diverse student body "provide[s] an academic environment that offers a robust exchange of ideas, exposure to differing cultures, preparation for the challenges of an increasingly diverse workforce, and acquisition of competencies required of future leaders." *Fisher* v. *University of Texas at Austin*, 579 U.S. 365, 381 (2016) (*Fisher II*) (citation omitted). Stated differently, diversity in the academic community contributes to the stimulation of critical thinking, the promotion of cross-racial understanding, enhancement of students' abilities to communicate effectively across racial boundaries, and the breaking down of racial stereotypes. *Ibid.*; *Grutter*, 539 U.S. at 330.

Research supports this observation: engagement with students from a broad cross-section of races and backgrounds has been shown to reduce implicit bias and challenge racial categorizations in a social setting. Jay J. Van Bavel & William A. Cunningham, *Self-Categorization with a Novel Mixed-Race Group Moderates Automatic Social and Racial Biases*, 35 Personality & Soc. Psych. Bulletin 321, 322 (2009); see also Jiali Luo & David Jamieson-Drake, *A Retrospective Assessment of the Educational Benefits of Interaction Across Racial Boundaries*, 50 J. Coll. Student Dev. 67, 67-85 (2009). These benefits cannot be replicated by workshops or courses on diversity, which do not provide real-life opportunities to interact with peers of varying backgrounds. Nicholas A. Bowman, *College Diversity Experiences and Cognitive Development: A Meta-Analysis*, 80 Rev. Educ. Rsch. 4 (2010). Indeed, this educational approach is reflected in MIT's motto, *Mens et Manus*

(Mind and Hand), which promotes engaging students directly in the process of innovation for practical application through hands-on work, often carried out in groups. Finally, students themselves echo this observation: almost three-quarters of students who enrolled at MIT during the 2021-22 academic year indicated that cultural diversity was an important reason they chose MIT, and more than 10% provided that it was crucial to their decision.

MIT and Stanford students have illustrated the special contribution of racial and ethnic diversity to the development of knowledge. For example, a Black MIT graduate student conducted pioneering research on algorithmic bias after she "discovered that the facial recognition program she was using couldn't recognize her," and worked only "if she wore a white mask." Mark Gartsbeyn, *'Coded Bias': Film Features MIT Researcher Who Found Racial and Gender Bias in Facial Recognition Programs*, Boston.com (Mar. 22, 2021), https://www.boston.com/culture/movies/2021/03/22/coded-bias-film-features-mit-researcher-who-found-racial-and-gender-bias-in-facial-recognition-programs. Prompted by this discovery, she partnered with a Stanford graduate student to investigate several commercial facial-recognition systems and ultimately co-authored a highly influential study on the issue. *Ibid.*; Larry Hardesty, *Study Finds Gender and Skin-Type Bias in Commercial Artificial-Intelligence Systems*, MIT News (Feb. 11, 2018), https://news.mit.edu/2018/study-finds-gender-skin-type-bias-artificial-intelligence-systems-0212.

The value of diversity is plainly observable across all educational disciplines, and its importance is no less

critical in STEM fields. Accordingly, and consistent with the Court's decisions in *Bakke*, *Grutter*, and *Fisher II*, MIT and Stanford, as leading global research-intensive universities, consider a diverse student body to be a critical facet of the education provided to their students, which meaningfully bolsters all students' academic experience.

B. Diversity is especially essential to innovation and progress in STEM fields

1. *Collaboration among diverse groups remains vital to progress in STEM academic programs and professions*

STEM industries are fields marked both by globalization and increasingly international collaboration. Since the Court's decision in *Grutter*, the United States has become more racially diverse, and STEM fields have become increasingly globalized. Nat'l Research Council, Nat'l Academy Press, Strategic Engagement in Global S&T: Opportunities for Defense Research 7 (2014). Globalization follows from the fact that STEM excellence knows no borders, race, gender, or socioeconomic status. Future innovators can start from the humblest beginnings—they need only a pathway to STEM education and motivation to learn. As such, the National Science Foundation's strategic objectives for 2022 to 2026 include "grow[ing] a diverse STEM workforce to advance the progress of science and technology." Nat'l Sci. Found., 2022-2026 Strategic Plan 28 (2022). The advancement of these industries would not be possible but for the ability of their practitioners and leaders to overcome racial, ethnic, cultural, and other boundaries.

STEM fields, at their core, rely on the innovation and creativity of future industry leaders. Increased global collaboration in these fields, therefore, reflects the reality that innovation is best achieved by bringing together a multitude of educational, cultural, and social backgrounds. Research continues to illustrate that diversity promotes better science. In fact, teams comprised of diverse collaborators work together more effectively, and generate more innovative results and ideas, than comparatively homogenous teams—even homogenous teams with *greater* ability on an individual basis. Lu Hong & Scott E. Page, *Groups of Diverse Problem Solvers Can Outperform Groups of High-Ability Problem Solvers*, 101 Proc. Nat'l Acad. Sci. 16385, 16389 (2004); see also Andreas Hundschell et al., *The Effects of Diversity on Creativity: A Literature Review and Synthesis*, Applied Psych. 1-37 (2021), https://doi.org/10.1111/apps.12365.

The benefits of diverse environments accrue to nonminority graduates in other contexts as well. For example, one study analyzing the impact of white individuals' exposure to racial diversity during college on their post-college workforce competencies found a significant positive relationship between the degree of racial diversity at the subjects' alma maters, and their leadership skills (including the ability to discuss and negotiate controversial issues). Uma M. Jayakumar, *Can Higher Education Meet the Needs of an Increasingly Diverse and Global Society: Campus Diversity and Cross-Cultural Workforce Competencies*, 78 Harv. Educ. Rev. 615, 615 (2008).

IBM's experience is consistent with this empirical consensus, and IBM accordingly recognizes that a di-

verse group of employees is better equipped to bring different perspectives and more "unique cognitive attributes" to the table, which stimulates "creativity and innovation." IBM, *Achieving Competitive Advantage Through D&I* 24, https://www.ibm.com/downloads/cas/DDOMJLXJ. For these reasons, both IBM and Aeris promote the diversification of collaborative teams within their employee bases as a competitive priority.

2. *Diversity within STEM fields is vital to the advancement of economic growth in the United States*

STEM industries continue to be vitally important to the development of economic growth on local, national, and global scales. In the face of rapid technological advances across virtually every professional industry, the need for domestic institutions of higher education to train and develop creative thought leaders in these fields is more critical than ever. Both IBM and Aeris require highly skilled employees in STEM fields to fuel innovation and compete globally.

While the United States historically enjoyed a role at the forefront of industry and academic advances in STEM, the tide is shifting. As other countries continue to bolster investments in research and development (R&D), the United States' share of global R&D initiatives in science and engineering has declined in recent years. Nat'l Sci. Bd., Science and Engineering Indicators 2022 15 (2022). The experience of the last few decades makes clear that only a highly-educated workforce, comprised of workers with the ability to work effectively across racial, ethnic, and national boundaries, will be equipped to maintain the United States' place at the forefront of global innovation in STEM.

Moreover, demographic trends indicate that the need for diversity in STEM fields will only increase in the future. As the National Science Foundation has observed, the United States' "global competitiveness depends critically on the readiness of the nation's STEM workforce, but millions of talented individuals are missing from that workforce." 2022-2026 Strategic Plan, at 29. In 2019, the Black, Hispanic and Native American or Alaska Native populations collectively represented 30% of the employed population in the United States. Science and Engineering Indicators 2022, at 12. However, these populations remained underrepresented in the STEM workforce in the same year, comprising only 23% of STEM employees. *Ibid.* This trend is consistent with parallel underrepresentation among STEM workers with a bachelor's degree or higher. *Ibid.*

Demographic projections underscore the importance of diversity in STEM academic programs and the resultant workforce, as the growth of Black and Latinx populations, in particular, continues to outpace that of non-minority populations. Jonathan Vespa et al., *Demographic Turning Points for the United States: Population Projections for 2020 to 2060*, at 6-7, U.S. Census Bureau (2020). As representation of Black, Latinx, and Indigenous populations continues to increase in the United States, it is critical that STEM fields accelerate toward true diversity in the American workforce to harness the abilities of all groups within our society such that industry leaders have access to a sufficiently large and talented pool of American candidates.

If the United States is not able to match the rapid advancements in STEM innovation, its share in these

fields will continue to decline. Currently, India and China lead globally in awards of science and engineering bachelor degrees or their equivalents, with the United States trailing behind. Science and Engineering Indicators 2022, at 12. And although the United States has historically been a leader in awarding science and engineering doctorate degrees, China surpassed the United States in awards of doctorate degrees in natural sciences and engineering beginning in 2007. *Ibid.* As such, the continued promotion of a growing STEM workforce equipped to meet the needs of an ever-evolving world is critical to maintain the United States' position in the global economy.

3. *American businesses at the cutting edge of advancements in STEM depend on the availability of a diverse pool of qualified graduates of elite institutions in these disciplines*

MIT and Stanford's ability to graduate a diverse group in STEM fields is, in turn, critical to the cutting edge companies in which many of those graduates will serve. Employers in these industries increasingly seek diverse, STEM-educated candidates with the capability of excelling in the collaborative atmosphere that is the modern STEM workforce. Accordingly, these businesses place a great deal of reliance on university Amici and other highly selective academic institutions to supply qualified graduates with the skills needed to excel in STEM. Indeed, institutions like MIT and Stanford produce graduates who make significant contributions to the national and global economy, including in STEM, collectively founding thousands of companies that employ millions of Americans. See, *e.g.*, Edward B. Roberts et

al., *Entrepreneurship and Innovation at MIT: Continuing Global Growth and Impact* (2015), http://web.mit.edu/innovate/entrepreneurship2015.pdf; Charles E. Eesley & William F. Miller, *Impact: Stanford University's Economic Impact Via Innovation and Entrepreneurship, Foundations and Trends in Entrepreneurship* (2018).

By way of example, the longstanding experience of Amicus IBM has been that the recruitment of a diverse workforce is paramount to its strength and success. As such, diversity and inclusion is critical to IBM's core strategy, as it has found that "[c]reating and nurturing an inclusive culture enables [IBM] to attract and retain the brightest and best diverse talent." IBM, *Achieving Competitive Advantage Through D&I* 7, https://www.ibm.com/downloads/cas/DDOMJLXJ. As a business at the vanguard of STEM disciplines, IBM recognizes that a diverse group of employees is better equipped to bring more "unique cognitive attributes" to the table, which stimulates "creativity and innovation." *Id.* at 24. This increased creativity and innovation can serve to "enhance organizational performance" and achieve superior business results. *Ibid.*; see also Hong & Page, at 16389.

Both IBM and Aeris therefore invest in training and other programs to reduce the opportunity gaps in the STEM workforce. This alone, however, is not enough to improve diversity outcomes and stimulate innovation in these fields. Rather, IBM and Aeris, like other STEM employers, depend on their ability to attract a diverse pool of applicants. They therefore depend on universities and colleges to admit and educate a diverse pool of STEM students from which they can recruit. If univer-

sity Amici and other leading STEM educational institutions cannot themselves enroll and graduate a diverse student body, then employers like IBM and Aeris will almost certainly fail in their own diversity goals. IBM and Aeris, therefore, support the continued utilization of holistic and flexible race-conscious admissions policies employed by university Amici and their peers to meet the demands of STEM employers for a diverse applicant pool. Without those diversity efforts, the United States will fall behind.

II. As Private Institutions Of Higher Learning, MIT And Stanford's Concerns Regarding Their Educational Missions Are Entitled To Significant Deference

MIT and Stanford share the fundamental objectives of shaping their students into future citizens and leaders of an ever-evolving world. Indeed, MIT's mission is to "advance knowledge and educate students in science, technology, and other areas of scholarship that will best serve the nation and the world in the 21st century." MIT Policies. The Stanford School of Engineering's mission is to "seek solutions to important global problems and educate leaders who will improve the world through the power of engineering principles, techniques and systems."[3]

Many decades of collective experience have taught MIT and Stanford that the achievement of these ambitious objectives requires more than the recruitment and

[3] Stanford Univ., Engineering: About, https://engineering.stanford.edu/about. Stanford's seven schools each have a distinct mission statement.

admission of candidates capable of excelling in their rigorous programs. Indeed, to meet the needs of the "nation and the world in the 21st century," or to solve "important global problems" in STEM, MIT and Stanford must have the ability to compose a diverse body of students able to understand the needs of the communities and nation they will later serve. This Court has for decades recognized the important role that diversity can play in the advancement of an academic institution's objective of training leaders for an increasingly diverse society. In *Bakke*, Justice Powell acknowledged that "the nation's future depends upon leaders trained through wide exposure to the ideas and mores of students as diverse as this Nation of many peoples." 438 U.S. at 313 (citation omitted). The Court affirmed this principle in *Grutter*. See 539 U.S. at 332.

Therefore, a university's judgment that the achievement of an appropriately diverse student body is paramount to its mission is entitled to significant respect. The Court has repeatedly acknowledged the "considerable deference" to which universities are entitled in defining "intangible characteristics, like student body diversity, that are central to its identity and educational mission." *Fisher II*, 579 U.S. at 388. See also *Fisher* v. *University of Tex. at Austin*, 570 U.S. 297, 311 (2013) (*Fisher I*) ("*Grutter* calls for deference to the University's conclusion, based on its experience and expertise, that a diverse student body would serve its educational goals." (citation omitted)).

While there are constitutional guardrails that govern this process at public institutions, see, *e.g.*, *Grutter*, 539 U.S. at 329-330, *Gratz* v. *Bollinger*, 539 U.S. 244, 271

(2003), this Court has consistently recognized that mandating particular criteria or admissions methodologies would impinge upon the appropriate deference to which Respondents and university Amici are entitled. Indeed, admissions decisions reflect educational judgments core to the principles of academic freedom, which "long has been viewed as a special concern of the First Amendment." *Bakke*, 438 U.S. at 312. These educational decisions are fundamental to "the expansive freedoms of speech and thought associated with the university environment." *Grutter*, 539 U.S. at 329. As *Bakke* and *Grutter* reflect, these values of academic freedom apply at both public and private universities, and courts should respect "the importance of avoiding second-guessing of legitimate academic judgments." *University of Pa.* v. *EEOC*, 493 U.S. 182, 199 (1990).

This respect for First Amendment interests is especially compelling for Amici and other private universities, such as Respondent Harvard, who are not directly constrained by any constitutional proscriptions. Any statutory restrictions on their ability to consider race as one factor in admissions to fulfill their academic missions must necessarily be construed in light of the private universities' First Amendment rights, and Congress's presumed respect for those rights. Prior judicial treatment of the Civil Rights Act as applied to private universities has given proper consideration to those institutions' First Amendment rights and has shielded them from judicial intrusion into "academic decisionmaking," including as such decisions relate to the selection of students or faculty. See *University of Pa.*, 493 U.S. at 199; see also *Villanueva* v. *Wellesley College*, 930 F.2d 124, 129 (1st Cir. 1991); *Lovelace* v. *Southeastern Mass. Univ.*, 793 F.2d 419, 426 (1st Cir. 1986).

Congress has given no hint that it regards the exceptionally limited use of race in admissions programs like Amici's, in furtherance of their First Amendment protected academic priorities, as in conflict with its legislative prerogatives, including under Title VI. This Court has repeatedly recognized, since *Bakke* in 1978, see, *e.g.*, 438 U.S. at 284-287 (Powell, J.); *id.* at 328-240 (Brennan, J., concurring in the judgment in part and dissenting in part), through *Grutter* in 2003, to *Fisher II*, 579 U.S. at 376-377, in 2016, that "[t]he * * * educational judgment that such diversity is essential to its educational mission [is a] complex educational judgment[] in an area that lies primarily within the expertise of the university." *Grutter*, 539 U.S. at 328. Throughout the 45 years since *Bakke*, Congress has never revisited Title VI to place further restrictions on private universities' ability to consider race in their admissions processes. In these circumstances, "*stare decisis* carries enhanced force"; if those decisions were wrong, then "critics" like petitioner "can take their objections across the street, and Congress can correct any mistake it sees." *Kimble* v. *Marvel Ent., LLC*, 576 U.S. 446, 456 (2015) (citing *Patterson* v. *McLean Credit Union*, 491 U.S. 164-173 (1989)).

Petitioner asks this Court to circumvent the normal legislative process, and by judicial declaration set aside decades of binding precedent, thereby intruding into university Amici's core academic decisions. A total prohibition on the consideration of race as part of the admissions process would be a dramatic upheaval of academic freedom in this country—nullifying MIT and Stanford's right to make basic academic judgments that are entitled to constitutional protection.

III. Race-Conscious, Holistic Selection Processes Are Essential To Achieve Diversity In STEM Programs At Selective Colleges And Universities, And To Create A Pipeline Of Diverse Talent In STEM

A. Highly selective universities, such as MIT and Stanford, consider race as one of many factors in reviewing each applicant in their admissions processes

For decades, MIT and Stanford and their peer institutions have observed that effective admissions policies must look beyond quantitative criteria, such as standardized test scores or grade point averages, as standalone thresholds for admission. While quantifiable criteria are factors in the process, they alone are insufficient to evaluate the breadth of qualities that MIT and Stanford seek in their undergraduate student body, including qualities relating to student interests, activities, and life experiences.

University Amici have spent considerable effort to ensure that their admissions programs follow this Court's longstanding and consistent precedent. Amici's admissions policies do not employ quotas in making admissions decisions, nor do they in any way "insulate" particular categories of applicants from competition with other applicants. *Grutter*, 539 U.S. at 334. Rather, Amici account for race as "one factor among many" in the assessment of individuals and development of an incoming class from among an over-abundance of qualified candidates. *Id.* at 340. Amici's admissions programs are "flexible enough to ensure that each applicant is evalu-

ated as an individual and not in a way that makes an applicant's race or ethnicity the defining feature of his or her application." *Id.* at 337.

MIT, for example, undertakes a holistic review of each individual candidate looking for a match between the applicant and the Institute, including, among other things, alignment with MIT's mission, a collaborative and cooperative spirit, initiative, risk-taking, hands-on creativity, intensity, curiosity, and excitement. Mass. Inst. of Tech., MIT Admissions, What We Look For, https://mitadmissions.org/apply/process/what-we-look-for/. As part of that analysis, MIT takes into account "many different factors that have shaped a student's experience, including their racial, ethnic, social, economic, and educational context." Mass. Inst. of Tech., MIT Admissions, Policies, Diversity, https://mitadmissions.org/policies/#diversity.

Likewise, as part of its holistic admissions process, Stanford considers "each piece" in a candidate's application as "part of an integrated and comprehensive whole," and "[n]o portion of the application is considered without the rest of the application." Stanford Univ., Undergraduate Admission, Admission Overview, https://admission.stanford.edu/apply/overview/index.html. While the "primary criterion" for admission to the University is "academic excellence," Stanford also considers "unique circumstances" such as an applicant's "background, educational pathway, and work and family responsibilities" in order to facilitate a contextualized review. *Ibid.*

B. No race-neutral alternative exists which is a workable means of achieving Amici's goals of fostering diversity

As MIT and Stanford's peer universities have noted, facially race-neutral approaches to admissions at their institutions do not currently provide a "workable means" for higher educational institutions to attain the "benefits of diversity" that they seek. *Fisher II*, 579 U.S. at 385. Brown Univ. et al. Amici Br. 19-26. As this Court recognized in *Grutter*, "race-neutral" or "race-blind" means of devising admissions policies may be unworkable where they "preclude the university from conducting the individualized assessments necessary to assemble a student body that is * * * diverse along all the qualities valued by the university." 539 U.S. at 340.

For this reason, simply relying on socio-economic factors as petitioners propose has been shown to be insufficient. Although socio-economic factors are considered in the holistic admissions process and help to foster diversity among certain important dimensions, they would not achieve the compelling interest Amici have in achieving a *racially* diverse student body, including in STEM disciplines. See Martha Minow, *After* Brown*: What Would Martin Luther King Say?*, 12 Lewis & Clark L. Rev. 599, 636 & n.192 (2008) (collecting studies showing that socioeconomic diversity does not serve as a proxy for racial diversity in admissions); Sean F. Reardon et al., *Can Socioeconomic Status Substitute for Race in Affirmative Action College Admissions Policies? Evidence From a Simulation Model*, *in* 37 J. of Policy Analysis & Mgmt. 630 (2018), https://doi.org/10.1002/pam.22056.

Illustratively, since California imposed race-neutral admissions policies in 1997, enrollment rates for underrepresented groups have lagged at the University of California's most selective campuses, and "the overall enrollment figures at UC have not kept pace with the demographic changes in California." President and the Chancellors of the Univ. of Cal. Amici Br. at 22, *Fisher II*. Critically, "much of [the] decline" in the likelihood of URM students receiving a graduate degree as a result of California's Proposition 209 occurred "in STEM fields." Zachary Bleemer, *Affirmative Action, Mismatch, And Economic Mobility After California's Proposition 209*, at 3, UC Berkeley Ctr. Studies Higher Educ. (2020), https://cshe.berkeley.edu/publications/affirmative-action-mismatch-and-economic-mobility-after-california%E2%80%99s-proposition-209. Diversity along racial dimensions is necessary to achieve certain of the compelling educational objectives this Court has recognized, including encouraging "enhanced classroom dialogue and the lessening of racial isolation and stereotypes." *Fisher I*, 570 U.S. at 308.

Further, race-neutral policies cause harm to the (fewer) admitted students who find themselves underrepresented on campus. Brown Univ. et al. Amici Br. 23-24, (describing university survey showing that "African-American and Latinx students at UC's most selective and least diverse campuses 'report[ed] feeling that students of their race are not respected' at 'substantially higher percentages' than at UC's most diverse campuses."). Stated differently, this racial isolation places URM students at a disadvantage relative to their peers during the course of their matriculation, making academic achievement and its resultant post-graduation benefits more difficult to realize. These obstacles, in

turn, deprive corporate and industry leaders of a fulsome cross-section of talented candidates entering the workforce.

This experience is only heightened in STEM fields, which have long been recognized as rife with problems of racial stereotyping and tokenism. Indeed, students from underrepresented racial backgrounds in STEM consistently report "chilly and hostile climates at * * * four-year institutions and that those environments can be associated with feelings of discouragement." Am. Educ. Rsch. Assoc. et al. Amici Br. at 22, *Fisher II*. Indeed, a recent study comparing the experiences of students and faculty in STEM disciplines at a "predominantly White institution" (PWI) and an HBCU found that minority students' perspective of the lack of diversity at the PWI related to "a perception that the institution was not supportive of Students of Color in the STEM discipline." Rachelle Winkle-Wagner & Dorian L. McCoy, *Feeling like an "Alien" or "Family"? Comparing Students and Faculty Experiences of Diversity in STEM Disciplines at a PWI and an HBCU*, 21 Race Ethnicity & Educ. 593, 598 (2018). At the HBCU, conversely, the researchers observed the opposite phenomenon—because students viewed the broader university climate as welcoming to individuals of all backgrounds, they felt both included and supported in their STEM courses. *Ibid.*

Other post-*Grutter* studies confirm the negative effects of "stereotype threat," which is associated with the fear that one's performance on a test, project or other task could confirm a negative stereotype about their race. Christine R. Logel et al., *Unleashing Latent Abil-*

ity: Implications of Stereotype Threat for College Admissions, 47 Educ. Psych. 42 (2012); Gregory M. Walton & Steven J. Spencer, *Latent Ability: Grades and Test Scores Systematically Underestimate the Intellectual Ability of Negatively Stereotyped Students*, 20 Psych. Sci. 1132 (2009). These fears and sentiments, common in atmospheres of racial isolation, can create profound anxiety for students from underrepresented backgrounds—and can contribute to diminished academic performance, particularly in rigorous fields of study. This, too, is pervasive in STEM fields, and has been associated with scientific disidentification in undergraduate minority science students and a resultant decline in persistence toward STEM careers. Anna Woodcock et al., *The Consequences of Chronic Stereotype Threat: Domain Disidentification and Abandonment*, 103 J. Personality & Soc. Psych. 635 (2012).

For these reasons, race-neutral alternatives to MIT and Stanford's carefully crafted admissions policies are currently inadequate to address Amici's compelling interest in enrolling a diverse student body.

C. Currently underrepresented groups would be even more underrepresented in STEM if race could not be considered in the admissions process

MIT and Stanford employ admissions processes that identify a set of highly qualified and capable applicants, admitting a subset of this group after conducting a holistic evaluation of each individual applicant, with the goal of creating a class that will best support their educational aims. As part of this evaluation, MIT and Stanford consider race, along with many other factors. Were university Amici constrained from doing so, they would be

severely impaired in their ability to identify the most promising candidates available, and enroll a diverse student body.

Science, engineering, and similar academic programs are demanding at the university level, and require—in addition to significant preparation in advanced mathematics and science classes—an educational atmosphere that encourages ambitious professional aspirations. Unfortunately, URM students remain vulnerable to educational opportunity gaps relative to their peers at the pre-college level. In 2018, STEM teachers with less than three years of experience were more prevalent at schools with "high-minority * * * populations." Science and Engineering Indicators 2022, at 5.

This relative lack of qualified teachers paralleled the under-performance of mathematics standardized testing scores for Black, Hispanic, Native Hawaiian or Pacific Islander, and American Indian and Alaska Native students, which "persistently lag behind the scores of their White and Asian peers." Science and Engineering Indicators 2022, at 5. In 2019, these racial groups yielded scores in fourth-grade mathematics that were 1-25 points lower than the scores of white students; by eighth grade, this gap widened to 24-32 points. *Ibid.* The underrepresentation of Black, Latinx, and Indigenous Americans in the STEM workforce also provides fewer opportunities for mentorship and encouragement to students to pursue these fields, further exacerbating the effect of the opportunity gap.

Finally, quantifiable indicia of student standardized test performance at the high school level reflects this opportunity gap. College Board, 2021 SAT Suite of Assessments Annual Report. Ultimately, all of these factors

result in fewer students from underrepresented backgrounds even applying to schools like MIT and Stanford compared to their proportion in the population. This is why IBM continues to invest so heavily in building skills for the future, through 170 partnerships with academic and industry partners, and investment of $100 million in assets, technology, and resources for HBCUs. And it is why MIT and Stanford offer K-12 programs designed to encourage promising students from disadvantaged backgrounds to pursue STEM. Ultimately, if MIT and Stanford could not consider an applicant's race when weighing the applicant's experiences, this would result in the denial of talented prospective scientists and engineers with exceptional promise, and would exacerbate the existing underrepresentation of marginalized groups in these fields even further.

D. The use of race as one of many factors in a flexible, holistic admissions process has been successful at increasing diversity in STEM programs and industries

MIT and Stanford have observed that the employment of holistic, race-conscious admissions policies has resulted in gradual improvements in diversity outcomes on campus, including in STEM programs. Similar (albeit modest) gains have been observed in the post-graduate STEM workforce, where the percentage of Black Americans with a bachelor's degree or higher increased from 6.0 to 7.1% between 2010 and 2019, with Hispanic Americans increasing from 5.5 to 7.7% of the workforce in the same period. Science and Engineering Indicators 2022, at 12.

On the other hand, studies of the impact of affirmative action bans in Texas, California, Florida, and Washington illustrate that the greatest resultant declines in graduate student enrollment among URM students occurred in engineering and the natural sciences—fields where advanced graduate degrees are prerequisites for high-level research positions. Liliana M. Garces, *Understanding the Impact of Affirmative Action Bans in Different Graduate Fields of Study*, 50 Am. Educ. Rsch. J. 251, 256 (2013). Accordingly, the positive impact of race-conscious admissions policies is clear and demonstrable.

MIT and Stanford have continued to observe the benefits that accrue to *all* students who are admitted to their highly selective programs by way of Amici's existing admissions policies. Indeed, underrepresentation of Black and Latinx students has been shown to result in academic impediments across the student body, while exposure to diversity has been shown to foster students' "pluralistic orientation," a measurement of students' ability to "engage in cooperative behaviors, manage controversial issues, and develop a high regard for others' perspectives, beliefs, and backgrounds." Mark E. Engberg & Sylvia Hurtado, *Developing Pluralistic Skills and Dispositions in College: Examining Racial/Ethnic Group Differences*, 82 J. Higher Educ. 416, 417 (2011).

Moreover, students (including URM students) from selective schools such as MIT and Stanford graduate at very high rates relative to national university graduation averages.[4] MIT and Stanford graduates tend to

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[4] Data reflecting six-year graduation rates is collected by the Integrated Postsecondary Education Data System (IPEDS), operated by the U.S. Department of Education. See U.S. Dep't of Educ.,

have very high success rates in finding suitable employment in STEM industries, and are exposed to a growing number of professional opportunities after graduation. Science and Engineering Indicators 2022, at 10-11. Likely for these reasons, Amici continue to observe that candidates, including candidates from underrepresented backgrounds, are much more likely to choose to attend a highly selective school over a less selective school when afforded the choice.

The gradual nature of these incremental improvements underscores the need to continue implementing race-conscious, holistic admissions programs. Achieving university Amici's educational missions in these vitally important fields of study—including with respect to Amici's recognized compelling interest in enrolling a diverse student cohort and in educating a diverse cadre of future leaders in STEM fields—is simply impossible without some consideration of race as part of the admissions process. And without that consideration, American businesses risk a shortfall of talented, innovative employees equipped to compete in the global market.

Nat'l Ctr. for Educ. Stat., IPEDS, Massachusetts Institute of Technology, *6-Year Graduation Rate By Race/Ethnicity for Students Pursuing Bachelor's Degrees*; U.S. Dep't of Educ., Nat'l Ctr. for Educ. Stat., IPEDS, Stanford University, *6-Year Graduation Rate By Race/Ethnicity for Students Pursuing Bachelor's Degrees*; U.S. Dep't of Educ., Nat'l Ctr. for Educ. Stat., IPEDS, *Graduation Rates Component* (Winter 2019-20) (provisional data).

CONCLUSION

For the foregoing reasons, the judgments of the courts of appeals should be affirmed.

Respectfully submitted,

DOUGLAS HALLWARD-DRIEMEIER
WILLIAM T. DAVISON
HELIN AZIZOGLU
ROPES & GRAY LLP

DEBRA L. ZUMWALT
STANFORD UNIVERSITY

MARK C. DIVINCENZO
DAHLIA FETOUH
MASSACHUSETTS INSTITUTE
OF TECHNOLOGY

MICHELLE H. BROWDY
IBM

CRYSTAL RIGGINS
AERIS COMMUNICATIONS

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