

# **Advancing a Respectful and Caring Community**

**Learning by Doing at MIT**

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## EXECUTIVE SUMMARY

In his inaugural address, President L. Rafael Reif stated, “I will lead MIT to continue to make significant contributions in the area of race and diversity, equity and inclusion.” He added, “In terms of creating a true culture of inclusion, MIT remains a work in progress, but I believe we have the power to lead the way. My dream is that by the time MIT selects its 18th president, our diversity will no longer need to be a matter of presidential declarations, because it will be a welcome, obvious reality and a vital source of MIT’s creative strength.”

In 2013 I was appointed the first institute community and equity officer (ICEO) at MIT, a position supporting President Reif’s goals of enhancing the experience of MIT community members and helping them to leverage the power of diversity. During the past 18 months I have heard from hundreds of community members—students, staff, postdocs, faculty, alumni, retirees, family members, and others—who embrace this call and seek to evolve or shift the culture so as to more effectively advance a respectful and caring community that is far more than the sum of its parts. The people of MIT strongly desire the fulfillment of the concluding sentence of the MIT mission statement, “We seek to develop in each member of the MIT community the ability and passion to work wisely, creatively, and effectively for the betterment of humankind.”

Shifting a culture requires that it first be understood. I undertook a study of MIT culture using the approach developed by Professor Edgar Schein of the Sloan School of Management for application in the business world. The cultural analysis was easily adapted to a university setting.

The outcome of this year-long study is a detailed investigation of MIT community and culture: what makes MIT special, which elements of the culture support the MIT mission, what factors limit our success, and recommendations for improvement. It is not a traditional plan for diversity and inclusion, which would focus on demographic composition and climate. The scope is broader because MIT’s interests are broader. This report focuses on community and culture. Diversity, equity, and inclusion emerge as key parts of the MIT culture and not only as enablers of our mission.

This report has three specific goals. The first is to develop a plan for the MIT community to deepen the sense of inclusion based on shared values and to help community members benefit from diversity. The second is to present specific achievable goals for advancing community and equity along with means for assessing progress toward these goals. The third is to define the role of the ICEO.

The title of the report is “Advancing a Respectful and Caring Community: Learning by Doing at MIT.” It could have been subtitled, Preparing for the 22nd Century. I cannot predict what technology or pedagogy will most benefit MIT in 85 years, but I am confident that those universities that empower all of their community members to feel respected and supported, so that the greatest possible diversity of talent and perspectives is available for problem solving,

will thrive. Until we can embrace our diversity, exercise empathy, and advance caring and respect, we will never achieve our full potential as individuals or as an Institute.

Most MIT reports present ideas to change the world. This one presents ideas to change MIT. Because we cannot effectively change what we do not understand, the first half of this report is an exploration of MIT community and cultures. In Section 1, these concepts are developed in detail, giving perspectives from many different positions in the community. MIT's core values are examined early on because they shape the culture. A long list of **core values** is discussed in Section 2:

- Learning by doing
- Meritocracy, at its best
- Equity and inclusion
- Excellence
- Collaborative problem solving
- Innovation and entrepreneurship
- Diversity of thought, experience, ability, background, and perspective
- Humility
- Integrity
- Openness
- Service

A useful exercise for the reader is to select three top values at MIT, from this list or elsewhere, and compare your list with other people's lists. This comparison itself will reveal substantial diversity of thought from which we can learn and benefit as a community.

After an exploration of the culture and core values, ICEO mission and vision statements are constructed in Section 3:

**Mission:** *The ICEO mission is to advance a respectful and caring community that embraces diversity and empowers everyone to learn and do their best at MIT.*

**Vision:** *MIT will be famous for community, diversity, empowerment, and respect.*

Section 3 concludes with the first major recommendation of the report, which builds on the key role of values in shaping culture and experience:

**Create an MIT Compact:** *Assemble a representative working group to write a brief statement of what we aspire to as a community and what we expect of one another as MIT community members.*

This recommendation builds on the tradition of the Hacking Code of Ethics prominently displayed in the Charles M. Vest Student Street of Building 32 (the Stata Center). Calls for similar statements were discussed in 2014 by the Graduate Student Council, the Committee on Graduate Programs, and the Working Group on Support Staff Issues. Moreover, many universities and corporations have adopted similar approaches to introduce new community members to their organizational culture and norms.

Indeed, one might conclude that MIT already informs community members about institutional values and expectations through its mission statement and its Policies and Procedures and the Mind and Hand Book (these documents apply primarily to employees and students, respectively). However, these documents differ greatly in spirit and content from the proposed Compact. The MIT mission statement describes our institutional goals. Policies and Procedures and the Mind and Hand Book are each a lengthy set of rules. The MIT Compact will be a brief, positive statement of how institutional values enable the MIT mission. It is not a replacement for rules and regulations, but a guide for how to succeed in working with others at MIT. In the spirit of meritocracy and inclusion, I do not present a draft Compact but instead mention in Section 3 some examples and recommend a broadly inclusive process for its construction.

The remainder of the report is a summary of what MIT has already done to advance the ICEO mission and vision, what impediments exist, and what steps can be taken to overcome these impediments.

The history of past efforts to shift the culture can help inform successful future strategies. Sections 4 and 5 summarize 70 years of studies and efforts to advance a respectful and caring community at MIT. In many ways, this report is an extension of the 1998 Report of the Task Force on Student Life and Learning, which emphasized the importance of community alongside teaching and research. MIT's long history of helping community members to manage conflict, of fostering equity and integrity, of embracing diversity, and of practicing "learning by doing good" are reviewed in these central sections as precursors of the current effort.

One difference with the past is today's much greater access to data and analysis methods. Section 6 presents quantitative survey data and qualitative data from interviews that show improving overall satisfaction over the last decade, with some concerns of lower satisfaction for lesbian, bisexual, gay, transgender, and queer (LGBTQ) students and underrepresented minority (Black, Hispanic, and Native American) faculty and undergraduate students. MIT's Quality of Life Survey data are used to construct quantitative measures of community (the local work unit or supervisor creates a "collegial and supportive environment") and equity ("faculty members treat me fairly" or the local work unit's procedures are "fair and equitable to all"). Two-dimensional distributions of these quantities, shown in Figures 4a and b, 5a and b, and 6, show that students generally regard MIT as fair, with some variation in their feelings of how collegial and supportive it is. Faculty, staff, and postdocs have a much broader range of opinions about fairness and collegiality, with significant variation across work units. This variation exceeds differences arising from gender, race/ethnicity, sexual orientation, or national origin. Quotes from community members suggest that much of this variation arises from the supervisor-supervisee relationship, which can cause distress when expectations are unclear or conflicting, or abrasive conduct is present.

Survey data presented in Section 6 show that MIT community members feel high stress, especially undergraduates, faculty, and graduate students, and women compared with men (Figures 7 and 8). Women at all levels are more likely than men to report being frequently overwhelmed at MIT, even though their overall satisfaction is not less than that of men (Figure 3). The pace and pressure of academic life provide the main source of stress for all students, but international students experience significant additional stress owing to immigration matters. Some stress can be good in energizing people to achieve, but stress becomes harmful when it leads to inappropriate self-doubt or paralysis. This has consequences for equity across gender because female students are more likely than males to underestimate their ability to succeed (Sections 1 and 6) and to experience Impostor Syndrome, which is the feeling that one does not belong and will be revealed to be a fraud, when in fact one is fully capable and deserving. Section 6 concludes with a discussion of micro-aggressions, that is, small acts of bigotry.

Section 7 begins by listing five challenges to the ICEO mission and vision:

- Unconscious bias and micro-inequities
- Discrimination and harassment based on race, gender, sexual orientation, etc.
- Abrasive conduct
- Sexual assault
- Excessive stress

Unconscious bias is the automatic reliance on a stereotype while making judgments or decisions. It is an unavoidable aspect of our humanity. Micro-inequities are small slights against people who are different from oneself, often unintentional and arising from unconscious bias. Discrimination and harassment are deliberate, not unconscious. Abrasive conduct is interpersonal behavior, not necessarily discriminatory, that causes emotional distress in others sufficient to disrupt their functioning. Excessive stress can both arise from and exacerbate any of the other challenges.

These five factors are not specific to students or faculty. They impact all groups. They represent impediments to MIT achieving its full potential. For some people, they are the bane of community and equity at MIT. Therefore, effort is made in the remainder of the report to analyze these factors and to propose remedies to alleviate them.

Section 7 follows with a set of major recommendations (C2 through C6 in Table 1) intended to minimize these five challenges and to empower community members by making *learning by doing* a universal element of the MIT experience and a key symbol of what it means to be at MIT, not only for students, but for everyone.

Recommendation C2 will launch a campaign to educate all community members in the use of bystander intervention techniques and micro-affirmations (the opposite of micro-inequities, these are small positive acts of encouragement and support) to reduce micro-inequities, micro-aggressions, and all forms of misconduct. The campaign will use orientation programs for all new community members (including a new MITx course, Introduction to the MIT Community), facilitated conversations about community standards in each work unit for

faculty and supervisory staff, leadership and conflict management workshops, and a bystander intervention video competition.

Recommendation C3 will review, streamline, and update MIT's policies and complaint-handling procedures, including Policies and Procedures, the Personnel Policy Manual, and the Mind and Hand Book. Statistics on formal complaints should be reported annually to the president. All departments and interdisciplinary centers should have faculty trained in conflict management available as informal internal mediators. The existing graduate student mediation program should be extended to include postdocs. MIT should appoint a complaint investigator to handle harassment cases similar to the Title IX investigator.

Recommendation C4 will organize a "business plan" competition for projects that strengthen the MIT community. As with the \$100K Competition, it will offer engagement opportunities with community stakeholders, mentoring, and prizes. This will bring the opportunity of social intrapreneurship (Section 5) to staff, postdocs, students, and faculty, with projects that support the ICEO mission. As with other business plan competitions, teams would pitch a plan to judges, and winning teams would receive mentoring and funding to develop their project.

Recommendation C5 would grant all full-time staff (including research staff and postdocs) an average of two hours per week for professional development and/or community service. This would begin as a one-year randomized trial involving administrative and support staff. Employee time used in this way should be paid. Postdocs, as trainees, should all receive time for professional development.

Recommendation C6 would create a Mentoring Resource Center to provide information, training, and support of mentoring across all sectors of the community, including an online mentoring portal and a blended matching process. The Mentoring Resource Center will have an online and physical presence and will create training modules on MITx. It would begin as a one-year randomized trial involving administrative and support staff.

Section 8 analyzes demographic data to quantify the diversity of our community and to identify challenges that limit our ability to leverage the power of diversity. The most significant challenge demonstrated with data is the relative lack of underrepresented-minority postdocs, research staff, academic staff, and technical staff—that is, a deficit of minority non-faculty PhDs relative to minority faculty. Significant progress has been made in increasing the underrepresented-minority fraction of graduate students and faculty, as called for in a 2004 faculty resolution. Analysis of recruiting and hiring patterns shows that across all schools, proactive recruiting efforts such as encouraging applications from promising minorities have been efficient, in that the proportion of underrepresented-minority faculty hired exceeds the proportion in the applicant pool. By contrast, the proportion of women faculty hired is less than that in the applicant pool of several of MIT's five schools for the five-year period 2009–2013 ( $P < 1$  in Table 7). Finally, the annual AAUP survey of faculty salaries shows that MIT is unique among its peers in having equal average salaries for female and male full professors. These findings motivate three recommendations: E1, E2, and E3.

The full summary set of major recommendations is given in Table 1.

**Table 1. Major recommendations for advancing a respectful and caring community at MIT**

Priority	Community	Equity	Structural
First	<p>C1: Create an MIT Compact</p> <p>C2: Launch an education campaign, employing bystander videos and leadership workshops</p> <p>C3: Policies and complaint-handling procedures</p>	<p>E5: Educate all community members about unconscious bias</p> <p>E4: Implement recommendations of existing faculty equity reports</p>	<p>S1: Create and use a Community and Equity Dashboard</p> <p>S2: Join the Leading for Change Higher Education Diversity Consortium</p>
Second	<p>C5: Implement a paid “Time for Learning and Doing” during work hours program</p> <p>C6: Establish a Mentoring Resource Center</p>	<p>E8: Enhance the MIT MLK programs</p> <p>E6: Consider appointing a faculty recruitment concierge</p> <p>E2: Collect applicant-pool data for all academic and research hires</p>	<p>S3: Appoint Equity Committees</p>
Third	<p>C4: Organize an annual Community and Equity Challenge competition</p>	<p>E1: Increase the URM percentage of non-faculty academics</p> <p>E3: Review salary equity for postdocs and all employee categories</p> <p>E7: Connect the STEM pipeline at MIT</p>	

Recommendation E1 calls for an increase of the underrepresented-minority fraction of postdocs, research staff, academic staff, and Lincoln Laboratory technical staff to match the faculty by 2025, with annual reporting of progress. This will likely require applying similar practices used with faculty searches, e.g., unconscious-bias training and review of search procedures.

Recommendation E2 calls for collection of applicant-pool data for all hires of postdocs, research staff, academic staff, and Lincoln Laboratory technical staff, in addition to faculty, graduate students, and other staff categories. The applicant pool for women and minorities in each category indicated should be compared with the relevant PhD fractions in each discipline, which are available to department heads from the Office of Institutional Research. Targeted recruitment efforts should be made to increase the pipeline ratio for underrepresented groups. When job searches cannot be conducted—for example, when hosting a postdoc with an external fellowship—if the repeated outcome is a set of appointments with much less diversity than exists in the national pool in the field, the reasons need to be understood and any biases corrected.

Recommendation E3 calls for the vice president for human resources to review equity of salaries and other resources for postdocs and all employee categories on the basis of gender, race/ethnicity, LBGTQ (lesbian, bisexual, gay, transgender, or queer or other non-heterosexual) identity, nationality, and ability/disability. A pilot study should first be undertaken for academic or research staff using the four paired groups shown in Figure 3 of Section 6, e.g.,

female–male, before expanding to additional employee categories. Differences for the paired groups should also be analyzed for hours worked, employee benefits, rewards and recognitions, office and lab space, leadership positions, committee service, and speaking opportunities such as representation at MIT conferences, colloquia, and seminars.

Section 9 posits that to achieve the benefits of diversity, MIT must increase the representation of underrepresented groups. This calls for several steps that have been identified in previous reports. In particular, it presents five recommendations.

Recommendation E4 calls for deans and department heads to review and implement the recommendations of existing faculty equity reports. These reports made a number of important recommendations that require continued effort, including:

- Strengthen efforts to recruit, mentor, promote, and retain women and minority faculty
- Increase the diversity of MIT graduate student and faculty populations
- Train all search committees about unconscious bias and steps to overcome it
- Appoint women and minorities to leadership positions
- Monitor equity of salaries, recognition and resources, and service commitments
- Take steps to end marginalization and strengthen the culture of inclusion
- Address quality-of-life concerns, including work/family integration
- Implement mechanisms to monitor success and ensure accountability

To support monitoring and accountability, the provost should review progress toward the goals of the faculty equity reports every five years, starting in 2015.

Recommendation E5 seeks to educate all community members about unconscious bias, even beyond the recommendations of previous faculty equity reports. The reason for calling on everyone to learn about this is that new research findings show that faculty of both genders tend to disfavor female applicants who are equally strong as male applicants, and students in an online subject give lower course evaluations to female-named instructors than to the same instructor with a male name (references are given in Section 9). Departments should use search procedures that correct unconscious bias. MIT should recruit a social scientist to implement training programs. MIT should educate its community about unconscious bias as thoroughly as Google and the University of Wisconsin-Madison have educated their employees.

Recommendation E6 suggests considering the appointment of a faculty recruitment concierge to assist department heads and deans with retention and recruitment of dual career couples.

Recommendation E7 calls for connecting the STEM pipeline at MIT, starting with existing K–12 efforts, to help us reduce the underrepresentation of women and minorities. This has been mentioned in previous reports, but we are now better prepared to do it, as discussed in Section 9.

Recommendation E8 calls for increasing faculty awareness of and participation in the MLK programs (annual Leadership Awards, MLK celebration, 17.922 MLK Design Seminar, MLK

Inspired Art and Performance Contest, MLK Visiting Professors and Scholars Program). In addition, it calls for a three-year pilot MLK postdoctoral fellowship program.

Section 10 provides a perspective on the ICEO role and presents a final set of structural recommendations, which facilitate the other recommendations.

Recommendation S1 asks the Office of Institutional Research to create and periodically update a Community and Equity (CE) Dashboard displaying the types of demographic and climate data presented in this report, and any other data that may be helpful in assessing progress toward the goals of this report. There should be a public MIT-wide version of this dashboard, and a private version for each department or other work unit. The CE Dashboard will extend MIT's leadership and openness into the realm of quantifying the culture and diversity of our community.

Recommendation S2 calls for MIT to join the Leading for Change Higher Education Diversity Consortium, a statewide group of colleges and universities that agrees to share the kinds of data that will be included in the CE Dashboard. In addition, consortium members share best practices in promoting equity and inclusion. Consortium membership aligns well with our efforts to “advance a respectful and caring community that embraces diversity and empowers everyone to learn and do their best.” Joining the consortium will help us learn from promising practices at colleges not normally considered our peers, and will help other campuses adopt our successful innovations in equity and inclusion.

Recommendation S3 would appoint a series of Equity Committees to help carry out this report's recommendations E1 through E8. There will be one Equity Committee for each of the five schools, and in addition one each for the deans for undergraduate education, graduate education, student life, and digital learning; the vice presidents for research, resource development, human resources, information systems and technology, and finance; and the directors of the MIT Libraries and Lincoln Laboratory. The Equity Committee Chairs will work with the ICEO and others to uniformly implement the equity recommendations of Sections 8 and 9.

Section 10 prioritizes all major recommendations, discusses some implementation issues, and discusses some requirements for organizational change to succeed, in the context of the MIT Compact. The ability to establish trust and respect within a representative task force will be critical to the success of this effort. The Task Force on the MIT Compact will be the proving ground of the whole framework by empowering itself as a body that learns and does its best. Section 10 concludes with a view forward to a future where MIT has created a culture so distinct from the surrounding society that we must teach every new generation of students not only new ways of thinking, but new ways of learning, doing, and being.

The main body of the report is followed by two appendices. Appendix 1 gives background to the creation of the ICEO role. Appendix 2 collects all of the major recommendations and a corresponding set of minor recommendations.

This report will have succeeded if, in the year 2030, a journalist can write:

During the first three decades of this century, MIT has become the leading institution developing the talent of its community members for the betterment of humankind. Known originally as a foundry of ideas and technology, and later as an incubator of new businesses, MIT is now the premier institution developing and applying talent from all quarters to address the world's great challenges using its famous "learning by doing, with caring and respect" approach to collaborative problem solving by students, postdocs, staff, and faculty. Many universities have adopted their own versions of the MIT Compact as a means to advance their communities in service. Besides brilliance and invention, the words most often used to describe MIT include community, diversity, empowerment, and respect.

## PREFACE

MIT is a dream for millions of children and parents around the world. It is an engine of innovation, an icon of discovery, and a living laboratory of the future. MIT's energy is restless; never fully satisfied, we constantly strive to learn and do more. Sometimes, we—the members of the MIT community—direct our *mens et manus* inward. Before inventing the future, we choose to reinvent ourselves.

In a letter to the MIT community dated April 11, 2013, President Reif wrote:

One of my goals as president is to cultivate a caring community focused on MIT's shared values of excellence, meritocracy, openness, integrity and mutual respect. I also want to help the entire MIT community to draw strength and energy from our extraordinary diversity of experiences and backgrounds.<sup>1</sup>

The position of institute community and equity officer (ICEO) was created in summer 2013 to advance President Reif's vision on a daily basis, in ways that enhance the life and work of MIT faculty, students, postdocs, and all staff. During my first year as ICEO, I have listened to hundreds of members of the MIT community across all sectors and levels—from service workers to senior leaders, from freshmen to alumni of the 1950s, and from all major academic and non-academic units—to gather perspectives on what it means to cultivate a caring community that draws strength and energy from our diversity. This document is my ICEO strategic vision for leveraging the best talents of our community “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.”<sup>2</sup>

This report responds to the charge to the ICEO given by then provost Chris Kaiser (Appendix 1). As requested, this report discusses MIT's shared values; provides a mission statement; provides recommendations for deepening the sense of inclusion of the entire MIT community; describes how efforts to support and enhance faculty diversity can be extended to help all members of the MIT community to appreciate and leverage its diversity of experiences and backgrounds; articulates a set of achievable goals; and presents a set of metrics for assessing progress toward these goals.

The core idea is simpler than it sounds: in the context of its history and culture, this report presents a vision for MIT as a more respectful, caring, and inclusive community, and a set of practical steps to help us advance toward that vision. This is mind and hand at work, with a good measure of heart, too.<sup>3</sup>

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<sup>1</sup> <http://web.mit.edu/newsoffice/2013/letter-on-institute-community-and-equity-officer.html>

<sup>2</sup> <http://web.mit.edu/facts/mission.html>

<sup>3</sup> <https://mit.edu/fnl/vol/164/williams.htm>

I undertook the ICEO role after 27 years on the MIT faculty, including almost six years as head of the Physics Department. My goal as ICEO is to improve the experience and success of everyone in the MIT community. Does this seem far-fetched or impossible? At MIT we embrace great challenges to achieve great rewards, and often we succeed beyond our imagination. This report lays out a systematic analysis of the MIT community and culture and presents recommendations to achieve the goal of improving the experience and success of everyone at MIT.

This report is intended for everyone affiliated with MIT—students, all staff including all researchers and postdocs, contractors, faculty, alumni, retirees, collaborators, visitors, friends, and family members. I hope you will read it, discuss it, and join conversations about how, together, we can strengthen MIT and, by extension, other similar organizations.

This report is neither a traditional strategic plan nor a typical plan for advancing diversity, equity, and inclusion. A different kind of report is needed because MIT chose an innovative approach in creating a new role. Instead of a chief diversity officer or a faculty equity officer, we now have a community and equity officer.

The structure of this report reflects the very combination of introspection and action, of mind and hand, that typifies MIT itself. In broad brush, the first half of the report (Sections 1–5) analyzes the community through its culture, values, and history, while the second half (Sections 6–10) presents data and recommendations for strengthening the community and making it more equitable and just. My hope is that this dual approach will facilitate consensus on what is valuable about MIT and will inspire community members to increase that value.

Although this document is a first-person account, it is shaped by many contributions of ideas, constructive criticism, and dreams for a stronger community. I have benefitted greatly from the advice of more than 100 colleagues, including faculty, staff, postdocs, students, and alumni. To each of you I give heartfelt thanks for the support you have given me in undertaking this journey as a reporter for all of MIT.

In their book *Creating Community on College Campuses*, Irving Spitzberg and Virginia Thorndike capture several themes that underlie this report:

Those who work to strengthen community on American campuses walk hand in hand with paradox. In the face of increasing complexity and diversity, they seek ways to connect individuals to subcommunities and subcommunities to community of the whole. Those aspiring to community have always possessed the ability to see the promise of wholeness in apparent contradiction of competing individual and small-group needs and rights.<sup>4</sup>

Reconciling these apparent contradictions is a worthy goal for any learning community:

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<sup>4</sup> I. J. Spitzberg, Jr. and V. V. Thorndike, *Creating Community on College Campuses* (State University of New York, 1992), p. 145.

We resolve the paradox of individualism and community by strengthening our culture of caring, empathy, and respect—by valuing and supporting individual accomplishments while helping everyone to do their best.<sup>5</sup>

Academic administrators are not the first to notice the dialectic of individualism and collectivism playing out in organizations and societies. The United States has a strong national culture of individualism, expressed, for example, in Ralph Waldo Emerson’s 1888 essay “Self-Reliance.” It is possible to characterize nations and organizations by “cultural dimensions” that quantify key aspects of social behavior; the United States has the strongest degree of individualism and the lowest sense of collectivism among 76 countries in an international survey of IBM employees.<sup>6</sup> Besides the relationship of individuals and groups, the most significant cultural discriminants across nations are social inequality, including relation to authority, gender dynamics, and ways of dealing with conflict.<sup>7</sup> These themes will figure prominently throughout this report.

## 1 MIT COMMUNITY AND CULTURE

MIT is a community of almost 23,000 people in Cambridge, Massachusetts, united by a mission of research, education, and service. In addition, over 3,400 MIT employees work at Lincoln Laboratory in Lexington, Massachusetts. Retirees, the 130,000 living alumni, visitors, and friends and family members of our employees and students are also part of the extended MIT community. For most purposes in this report, the MIT community consists of approximately 26,000 faculty, staff, postdocs, and students enumerated in Figure 1.

The campus community is organized not only by the categories in Figure 1, of course. Nearly every student beyond the freshman year is affiliated with at least one department or degree program.<sup>8</sup> Every researcher and postdoc is appointed in an academic department or an interdisciplinary center, lab, or program.<sup>9</sup> Every faculty member is appointed in one or more academic departments (except those few who report to the provost or to school deans). Some faculty members conduct research in their home departments, while others conduct research in one or more interdisciplinary centers. Staff members are appointed in departments, laboratories, interdisciplinary centers, or other work units, collectively called DLCs, of which there are about 200.<sup>10</sup> In addition, there are many hundreds of naturally occurring affinity groups and networks. Does this sound complicated? Welcome to MIT!<sup>11</sup>

<sup>5</sup> <http://web.mit.edu/fnl/volume/261/bertschinger.html>

<sup>6</sup> G. Hofstede, G. J. Hofstede, and M. Minkov, *Cultures and Organizations: Software of the Mind*, 3rd ed. (McGraw-Hill, 2010), Table 4.1.

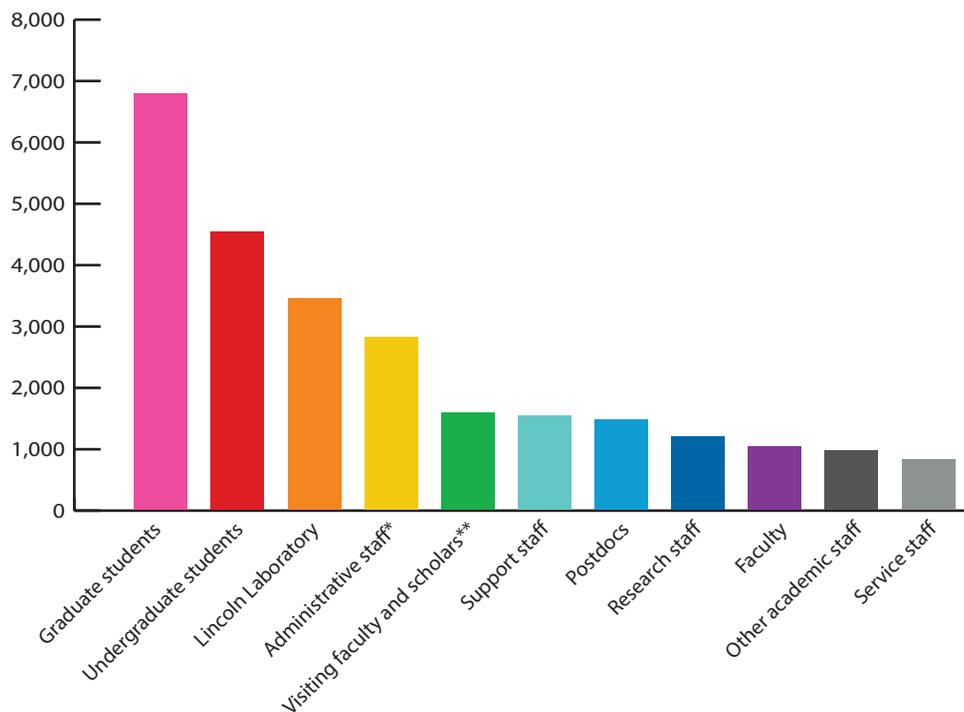
<sup>7</sup> A. Inkeles and D. J. Levinson, “National character: The study of modal personality and sociocultural systems,” in *The Handbook of Social Psychology*, edited by G. Lindzey and E. Aronson, 2nd ed., vol. 4 (Addison-Wesley, 1969).

<sup>8</sup> <http://web.mit.edu/education/>

<sup>9</sup> There are nearly 60 interdisciplinary centers, labs, and programs; see <http://web.mit.edu/facts/research-centers.html>. The label is shortened here to “interdisciplinary center.”

<sup>10</sup> Sometimes the term “DLC” excludes central administrative units; I adopt here the usage in faculty and staff surveys, whereby every employee is appointed to a DLC.

<sup>11</sup> <http://officesdirectory.mit.edu/> and <http://orgchart.mit.edu/reporting-list> list most of the DLCs.

**Figure 1. Composition of the MIT community, October 2013.**

Source: MIT Briefing Book, 2013–2014, Institutional Research, Office of the Provost.  
<http://orgchart.mit.edu/node/27/bbook>

\*Includes clinical and medical staff

\*\*Includes affiliates and visiting scientists

The first thing that many new community members notice about MIT is its decentralization. In part this reflects the academic culture, in which faculty members affiliate with their discipline as much as they do with their employer. This externally imposed structure is shaped by the social and physical architecture of MIT, in which departments are (generally) intermingled through interconnected buildings, so as to minimize disciplinary boundaries. Unlike other universities, MIT is almost borderless across disciplines; its organization and architecture, its labs and the work that they undertake favor interdisciplinary collaboration. The resulting complexity would be ungovernable by a rigid bureaucracy. Instead, MIT relies on a model of “distributed leadership,”<sup>12</sup> in which the DLC heads (defined as faculty department heads, center directors, or other work unit leaders) have significant authority to lead their own units within a larger collaborative framework. Instead of a faculty senate, there are a series of powerful faculty-led committees advising the senior leadership.<sup>13</sup> Unlike its functional organization, MIT’s governance is centralized.<sup>14</sup>

What unites MIT community members, besides their formal affiliations within this conglomerate? What divides them? What makes MIT unique? These are questions about culture, a powerful organizing principle and force that shapes everyone’s experience of MIT

<sup>12</sup> R. Bolden, “Distributed Leadership in Organizations: A Review of Theory and Research,” *Int. J. Manag. Rev.* 13, 251 (2011); doi: 10.1111/j.1468-2370.2011.00306.x; available online at [http://www.mnsu.edu/activities/leadership/distributed\\_leadership.pdf](http://www.mnsu.edu/activities/leadership/distributed_leadership.pdf).

<sup>13</sup> <http://web.mit.edu/committees/>

<sup>14</sup> <http://orgchart.mit.edu/>

in ways that are often invisible yet are deeply felt. Culture has been defined as a system of symbols and meaning, or as a set of beliefs and practices associated with a given society or group.<sup>15</sup> Here I adopt a definition from organizational theory: culture is the system of artifacts, symbols, shared beliefs, espoused values, and tacit assumptions that govern behavior in any group or organization, including subgroups with their own subcultures.<sup>16</sup> The emphasis here is on understanding why people do what they do through the lens of culture.<sup>17</sup>

MIT has a strong tradition of identifying and promoting culture, as in the phrases “hacker culture,” “dorm culture,” and “culture of inclusion.”<sup>18</sup> Culture is the limbic system of the community body—less obvious, perhaps, than the organizational hierarchy or academic disciplines that form the skeleton and organs of MIT, but no less important in determining behavior, especially in affinity groups. Understanding institutional culture is vital to effective leadership, especially when the leadership aims to shift the culture.

MIT is a collection of intersecting communities with common elements that define the MIT culture. These communities have their own distinct subcultures, such as the many different student living groups<sup>19</sup> and affinity groups. Yet despite the differences in their residential life and co-curricular experiences, MIT students share much more in common than the General Institute Requirements—and these common elements that shape behavior define the student culture. Staff members each work in one DLC, yet they all identify with the MIT mission<sup>2</sup> and experience a staff culture defined largely by their relationship to managers or faculty and to their own affinity groups. Faculty members perform research in their own academic disciplines, yet they share a common commitment to teaching and research with students and to a shared governance model that defines the faculty culture. Besides their formal affiliation as part of #OneMIT,<sup>20</sup> all of these community members experience many elements of a common MIT culture.

A challenge for every new community member is to learn the unwritten rules of behavior, to absorb unstated expectations about achievement and success, and to discern those tacit assumptions that apply in their immediate environment (in a research group, for example) from those that are values articulated by the MIT leadership. Newcomers are often surprised to learn that culture is so widely discussed in an institution globally identified with seemingly formal and quantitative subjects of science and technology. It is important to recognize culture—local, institutional, national, and otherwise—as a key aspect of MIT, its success, and its future.

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<sup>15</sup> W. H. Sewell, Jr., “The Concept(s) of Culture,” in *Beyond the Cultural Turn: New Directions in the Study of Society and Culture*, edited by V. E. Bonnell and L. Hunt (University of California Press, 1999).

<sup>16</sup> E. Schein, *Organizational Culture and Leadership*, 4th ed. (Jossey-Bass, 2010).

<sup>17</sup> E. J. Whitt, “Making the familiar strange: Discovering culture,” in *Cultural Perspectives in Student Affairs Work*, edited by G. D. Kuh (American College Personnel Association, 1993).

<sup>18</sup> <http://mitstory.mit.edu/culture>

<sup>19</sup> All MIT freshmen are required to live in one of the on-campus residences, <http://mitguidetoresidences.mit.edu/>; many students join and after the freshman year move into a fraternity, sorority, or independent living group. See <http://studentlife.mit.edu/fsilg/organizations>.

<sup>20</sup> A Twitter hashtag introduced during the inauguration of President Reif to reflect not only the unified faculty governance but the also the common experience and values of MIT.

Culture is a product of many factors, including traditions and historical evolution. This report can touch only briefly on the historical events that have shaped MIT culture. More information is contained at the MIT Museum,<sup>21</sup> in the MIT Briefing Book,<sup>22</sup> and in a series of books produced by the MIT Press.<sup>23</sup>

To identify culture, start with the visible elements of an MIT experience, which MIT social psychologist Edgar Schein calls cultural artifacts.<sup>16</sup> On campus, these include the MIT “Brass Rat” class ring,<sup>24</sup> high levels of self-reported stress,<sup>25</sup> the tradition of student hacks,<sup>26</sup> the freshman “Residence Exploration” and self-selection into dorms and floors,<sup>27</sup> the greater decentralization of undergraduate student self-government compared with graduate student government,<sup>28</sup> the promotion of innovation and entrepreneurship via numerous centers and student competitions,<sup>29</sup> the reference to campus buildings and course of study by number as opposed to name, the interconnections between buildings across the main campus, and the MIT motto of *mens et manus* (mind and hand).

To understand the meaning of these artifacts, one must ask community members, many of whom will articulate the espoused values of MIT culture. Two frequently cited values are excellence and diversity, whose creative tension underlies MIT’s principle of meritocracy.<sup>30</sup> Another espoused value is achievement, which frequently leads community members to work to the limits of their ability. MIT students are proud to “drink from the firehose” and to release the resulting stress with creative hacks.<sup>31</sup> Another response of undergraduates to the intensity of academics is to develop strong loyalty to “small families” in their self-selected dorms and living groups.<sup>32</sup> The culture of innovation and entrepreneurship is said to originate from MIT’s founding charter—a cultural artifact that also explicates meaning—as “a school of industrial science [aiding] the advancement, development and practical application of science in connection with arts, agriculture, manufactures, and commerce.”<sup>33</sup> And finally, the buildings were said to be interconnected and numbered in order to weaken disciplinary boundaries by preventing the establishment of a “physics building” or a “civil engineering building.” That effort has mostly succeeded.

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<sup>21</sup> <http://museum.mit.edu/150>

<sup>22</sup> <http://orgchart.mit.edu/node/27/bbook>

<sup>23</sup> P. N. Alexander, *A Widening Sphere: Evolving Cultures at MIT* (MIT Press, 2011); D. Kaiser, ed., *Becoming MIT: Moments of Decision* (MIT Press, 2010); J. A. Stratton and L. H. Mannix, *Mind and Hand: The Birth of MIT* (MIT Press, 2005).

<sup>24</sup> <http://museum.mit.edu/nom150/entries/649>

<sup>25</sup> Students: <http://tech.mit.edu/V132/N59/pressure/index.htm>; faculty: <http://web.mit.edu/fnl/volume/251/survey.html>

<sup>26</sup> <http://hacks.mit.edu/>; Institute Historian T. F. Peterson, *Nightwork: a History of Hacks and Pranks at MIT* (MIT Press, 2011).

<sup>27</sup> <http://web.mit.edu/dormcon/REX/>

<sup>28</sup> Undergraduates: <http://ua.mit.edu/about/structure/>; graduate students: <http://gsc.mit.edu/>.

<sup>29</sup> <http://web.mit.edu/facts/entrepreneurship.html>

<sup>30</sup> E.g., <http://gsc.scripts.mit.edu/wptest/wp-content/uploads/GSCUA%20Presidential%20Search%20-%20Preliminary%20Report.pdf> and <http://web.mit.edu/fnl/volume/182/saleh.htm>

<sup>31</sup> E.g., [http://hacks.mit.edu/Hacks/by\\_year/1991/fire\\_hydrant/](http://hacks.mit.edu/Hacks/by_year/1991/fire_hydrant/)

<sup>32</sup> <http://web.mit.edu/committees/ptac/>

<sup>33</sup> <http://mitadmissions.org/discover/facts>

The deepest elements of culture, according to Schein, are shared tacit assumptions, those expectations that we feel instinctively and that become learned behaviors that we cannot readily articulate.<sup>16,34</sup> These assumptions can be revealed in a time of crisis (for example, when caring and resilience were revealed following the Boston Marathon bombings and subsequent murder of MIT police officer Sean Collier in 2013) or when different espoused values come into conflict. Sometimes they can be found by a vigorous cycle of observation, hypothesis formation, and testing. A culture cannot be truly understood unless its tacit assumptions are revealed.

Identifying tacit assumptions and their expression is very difficult, especially for those who are steeped in the culture. Progress can be made by probing the origin of unexplained artifacts or by finding gaps or contradictions between espoused values and actual behavior. The anxiety sometimes felt by those who leave MIT provides an opportunity to reveal tacit assumptions of the MIT culture. Other opportunities are given by the experience of culture shock and cultural assimilation of new community members and by the careful observation of culture formation as study groups, design teams, and committees form and bond through overcoming successive challenges. Culture's tacit assumptions are often discovered by new community members who have the sense of "coming home" to an MIT culture that is well aligned with their values.

Examples of tacit assumptions are familiar to any traveler who notices the dress, customs, and attitudes of people in different places. For instance, the style of dress at MIT, the ways people talk to one another, and the rules of social hierarchy are different than they are at Caltech or Stanford. These are cultural artifacts. They lead the traveler to ask, why? What are the tacit assumptions that lead to distinct behaviors? One possibility is that regional attitudes are shaped by a culture of "East Coast formality" or "New England reserve" versus California's "laid-back atmosphere."<sup>35</sup> Of course, MIT's culture is a blend of many regional, national, and international styles. Even though we cannot see culture, it shapes our lives in many ways, even in science.<sup>36</sup>

## Faculty culture

As noted above, faculty have strong ties to their academic discipline, whose members evaluate their scholarship, rank their funding proposals, and provide recommendations on appointment, promotion, and tenure. The weight in such decisions comes less from colleagues within MIT than from those outside. Thus, MIT faculty are constantly competing with colleagues elsewhere. Their status inside MIT is determined, to a significant degree, by the assessment of their success outside MIT. The academic system favors those who dedicate themselves to research in their field.

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<sup>34</sup> Most cultural anthropologists and sociologists prefer the concept of shared, tacit meanings, communicated through a system of circulating signs or symbols. An example from the legal profession is S. S. Silbey, "Legal Culture and Legal Consciousness," *International Encyclopedia of the Social and Behavioral Sciences* (Elsevier Science, 2001), p. 8623; doi: 10.1016/B0-08-043076-7/02913-2; published online at <http://www.sciencedirect.com/science/article/pii/B0080430767029132>.

<sup>35</sup> V. C. Plaut, H. R. Markus, J. R. Treadway, and A. S. Fu, "The cultural construction of self and well-being: A tale of two cities," *Pers. Soc. Psychol. Bull.* 38, 1644 (2012); doi: 10.1177/0146167212458125; published online at <http://psp.sagepub.com/content/38/12/1644>.

<sup>36</sup> J. C. Hermanowicz, *Lives in Science: How Institutions Affect Academic Careers* (U. Chicago Press, 2009).

Another key to faculty culture is the concept of academic freedom and the autonomy that follows from it. Academic freedom furthers the advancement of truth free from institutional censorship or discipline, and is a core value of faculty throughout the United States.<sup>37</sup> The freedom to pursue one's own research agenda makes the faculty role highly desirable to many. Academic freedom undergoes a subtle extension from freedom of speech to freedom to pursue one's own research agenda to freedom of choice about one's efforts more broadly. In other words, faculty members want to be their own bosses. When faculty speak of academic freedom, what they often mean is autonomy. The faculty desire for autonomy may be related to the tendency toward individualism noted previously.

Faculty culture is also a culture of enterprise, especially at MIT. In some respects, every faculty member is an entrepreneur, and every new faculty appointment at MIT is analogous to a start-up company. Most new faculty members in technical fields get venture capital ("start-up funds" are standard practice in science and engineering), and they spend much of their time in marketing (giving talks about their research and establishing their professional brand), fundraising (writing grant proposals), payroll (managing the funding of their graduate students and others), human resources (managing the work of research group members), and product development (including research publications and patents). Unlike in the corporate world, however, the product is freely distributed scholarship. To get tenure, a faculty member must succeed in these efforts; excellence in teaching and community service alone will not suffice. MIT is in some respects a conglomerate of more than 1,000 business units (one business unit per faculty member), with teaching and service added on top.

Despite the strong external pressures in many fields to focus exclusively on their scholarship, MIT faculty members do value teaching and service; they were beneficiaries of such activities, and want to contribute to the advancement of their fields, their DLC, and the university. Indeed, the opportunity to teach and supervise outstanding students is among the most important elements in recruiting new faculty members to MIT. Unlike at most research universities, at MIT nearly all classes are taught by faculty members.<sup>38</sup> Teaching and mentoring are evaluated in the promotion and tenure process, with letters sought to evaluate these contributions just as letters are sought to evaluate research contributions.

Faculty members struggle to balance many interests and they begin their careers under strong pressure to excel so that they can obtain the coveted prize of tenure. The pressure often grows post-tenure, as they are expected to become world leaders in their fields. The challenge for faculty is great: they must succeed in a start-up venture to create a leading research activity in their discipline and then sustain that leadership, while excelling in teaching and mentoring, usually without having any training in management or educational practice. And unlike in the business world, where failure is largely accepted and valued,<sup>39</sup> in academia, failure (for example, to get tenure) is stigmatized. Add to this the Impostor Syndrome experienced by many faculty (see the student culture section below for an explanation), and it is no wonder that faculty members report that they are stressed.

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<sup>37</sup> <http://www.aaup.org/issues/academic-freedom>

<sup>38</sup> An exception is some areas of humanities, where lecturers teach many of the classes.

<sup>39</sup> E.g., A. Sastry and K. Penn, *Fail Better: Design Smart Mistakes and Succeed Sooner* (Harvard Business Review Press, 2014).

In such an environment, imagine the impact of a small competitive advantage that could accrue, like compounded interest, to an institution that creates a culture of caring and respect, in which everyone is helped to do their best. This report aims to jump-start such a virtuous cycle.

## Staff culture

Unlike faculty, who obtain a PhD or equivalent degree and go through a rigorous tenure evaluation process, or students, all of whom are tested repeatedly by faculty, staff members do not have a common, defining experience or set of symbols that provide meaning to their roles. Some staff members work with students or faculty, but many do not. Some work off campus, some work night shifts, some are doctors, some are lawyers, some are librarians, and many are engineers or scientists. Just as there is a tremendous variety of staff roles, there is a tremendous variety of local subcultures.

Staff members regularly tell me that they are proud to work for MIT and to serve its mission. Many do so with as much dedication and effort as any student or faculty member. However, their contributions are often given less recognition, and they generally have much less power than faculty members. These facts of life are well known to staff members, and they define a common experience of staff. Longtime staff members are familiar with the description of MIT as a “praise-free zone,”<sup>40</sup> even if that is not the universal experience.

To fully understand the staff experience, one must understand the sociological concept of privilege—the social advantage given to members of a particular group.<sup>41</sup> Privilege can be earned or unearned, and it can exist whether or not it is sought or even recognized. As an example, as a department head, I was frequently offered gifts or invited to special events that were unearned and unnecessary for the performance of my duties. The staff members who worked with me were not offered these gifts or invitations.

Staff members generally lack privileges that faculty members take for granted. For example, the autonomy that underlies the faculty role is much reduced or even absent for most staff members, who are generally not free to choose what projects (research or other) they work on. The experience of staff members is different from that of faculty in part because they lack faculty privilege.

Another common element of the staff experience is the challenge of advancement. Many staff members have shared with me how difficult it is to grow professionally and move into positions of greater responsibility at MIT. I believe there are many reasons for this, and that important efforts are being made to increase advancement opportunities, including instituting mentoring and many professional development offerings. Nevertheless, the perception that it is hard to move up shapes staff culture.

An important distinction exists in US law between salaried (“exempt”) and hourly (“non-exempt”) employees.<sup>42</sup> Hourly workers—including administrative assistants and other

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<sup>40</sup> <http://resources.mit.edu/letter/ending-praise-free-zone>; steps to end it are described in Section 5.

<sup>41</sup> P. McIntosh, “White Privilege: Unpacking the Invisible Backpack,” *Peace and Freedom Magazine*, July/August 1989.

<sup>42</sup> Nonexempt employees are entitled to overtime pay under the federal Fair Labor Standards Act. See <http://hrweb.mit.edu/compensation/job-evaluations/exempt-vs-nonexempt>.

support staff—cannot work after hours when a faculty member wishes, unless their supervisor approves overtime pay. This can lead to misunderstanding about roles and responsibilities, which, again, shapes staff culture.

The broad range of staff experience and subcultures presents a challenge to DLC heads in the distributed leadership model. Several of the key recommendations of this report focus on improving the staff experience.

## Postdoc culture

Postdocs are scholars in a limited-duration appointment, typically closely following their receipt of a PhD, to gain advanced training and mentoring in research, in preparation for a career in academia or industry. Postdocs are the most rapidly growing group at MIT; their numbers grew by about 80% over the past decade. Nearly all postdocs are in science or engineering, although there are some in other fields. About two-thirds of MIT postdocs are employees (“postdoctoral associates”), while one-third are non-employees who receive a fellowship stipend (“postdoctoral fellows”).<sup>43</sup>

Postdoc culture has symbols and artifacts, is guided by espoused values, and is subtly shaped by tacit assumptions. Like students, postdocs are at MIT for a limited time, and they often work closely with faculty. However, postdocs are more siloed than students; they experience MIT largely through the culture of their host department, lab, or center and the principal investigator or other individual who supervises them. For many postdocs, the central artifact is their employment status: if they are employed by principal investigators (usually faculty, but sometimes senior and principal research scientists), they are generally expected to contribute to a specific research project. Any time spent in independent projects, career development programs, or volunteer efforts is not time spent on that research project, creating an inherent tension. Postdoctoral fellows, by contrast, generally have great independence. However, that independence can—but need not—come at the cost of less attention and guidance from faculty. All postdocs are trainees who should have the opportunity for mentoring and career development activities.

Nationally, the postdoc culture has been described as one of “invisibility.”<sup>44</sup> Because most postdocs are at MIT for at most two years, and their work is usually focused in one research group, they are often unknown to the wider community. Through the efforts of the vice president for research<sup>45</sup> and with the establishment of the MIT Postdoctoral Association,<sup>46</sup> significant steps have been taken to increase postdocs’ visibility, enhance their career development, improve their compensation and benefits, and minimize the differences due to employment status.

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<sup>43</sup> <http://postdocs.mit.edu/>

<sup>44</sup> National Academy of Sciences, National Academy of Engineering, and Institute of Medicine, *The Postdoctoral Experience Revisited* (National Academies Press, 2014); published online at <http://www.nap.edu/catalog/18982/the-postdoctoral-experience-revisited>.

<sup>45</sup> Footnote 43 and [http://web.mit.edu/fnl/volume/262/sive\\_et\\_al.html](http://web.mit.edu/fnl/volume/262/sive_et_al.html).

<sup>46</sup> <http://pda.mit.edu/>

Although the status of postdocs at MIT has improved significantly in recent years, postdocs face many of the same cultural challenges as faculty and students. They face strong pressures owing to the academic “publish or perish” mentality, and consequently they work long hours. They experience Impostor Syndrome just as faculty and students do. Most postdocs are citizens of other countries, and they often face the challenges of acculturation to the US and even outright visa problems. Postdocs are usually in the prime years for family formation, but they receive much less compensation than faculty, so their challenges to integrate work and family life can be great.

## Student culture

MIT students are, in some respects, embryonic versions of the faculty. The most striking characteristic of MIT students for me has been their respect for and desire to emulate the faculty. They sometimes succeed more than the faculty would like.

An example of this is the pace and pressure experienced by MIT students, famously described by President Jerome Wiesner as “drinking from a firehose.” Students, like faculty, are very ambitious and driven, but even more than faculty they sometimes push themselves beyond healthy limits. Reflecting on his own presidency, Professor Paul Gray regretted that he was unable to diminish the intensity and pace of MIT for both faculty and students.<sup>47</sup> Like him, I feel that we must continue to push against the often unhealthy pace and pressure. To be effective, we must learn more about the academic cultures at MIT.

There are several elements of the student culture that concern faculty and students alike, and where progress can be and is being made. One example is the “culture of suffering,” sometimes (though less often in recent years) expressed by the dual acronym IHTFP.<sup>48</sup> The implied meaning is that students *should* suffer to gain the real MIT experience. As one undergraduate summarized:

“Who’s more hosed” ...I wish MIT students wouldn’t play that game. I wish we could just, you know, be respectful of each other and help each other when we do have stressful times. I mean, we’re all stressed, it’s true, but instead of worrying about number one, I wish we’d worry about each other more. I think that’s one thing that I would change about MIT culture.<sup>49</sup>

A similar call was made by Chancellor Eric Grimson.<sup>40</sup> The student culture of suffering did not arise in isolation. It is part of a system of interactions that include the strong student desire for faculty approval. It is related to the widespread experience of Impostor Syndrome, which is the faulty assumption that you don’t deserve to be in the position you are in, and the fear that others will realize that you are not as capable as you seem. As noted above, many faculty members experience these feelings, too.

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<sup>47</sup> <http://tech.mit.edu/V126/N63/63paulgray.html>

<sup>48</sup> I have truly found paradise; I hate this f\*\*\*ing place. These may be improvements over the previously popular “Tech is Hell.” See <http://museum.mit.edu/150/68>.

<sup>49</sup> Student quotation, April 23, 2014, <http://www.facebook.com/HumansOfMIT>.

At MIT, this fear is not driven by direct competition between students—in general, students are mutually supportive and collaborative—but by the internal competition of individuals with their own ideals. Faculty members do not drive the student fear of failure, but they can be unwitting accomplices. Students may fear that they will not live up to faculty expectations—whether or not faculty feel this way—unless they excel among their peers. This fear can lead to an unhealthy spiral whereby students see their peers doing amazing things, which causes them to doubt their own competence and belonging, so they stretch their limits to excel, in the process achieving amazing things, which causes others to doubt their own competence, creating a vicious cycle. This is indeed a culture of suffering.

As a result, some students wonder whether they were admitted to MIT by mistake; despite their great accomplishments, many people at MIT (including this author) have experienced Impostor Syndrome. Experience in high school taught MIT prefrish that they learn easily and that they were the most capable around them. Within the first few weeks of classes at MIT, these tacit assumptions are invalidated for nearly all students—leading sometimes to profound distress.<sup>50</sup> One coping strategy is to argue that the system itself prevents success, and then to adopt behaviors that reinforce the conclusion: the “I’m so hosed” game. Recognizing the forces at work requires time and space for reflection. Counseling helps, but this sometimes happens only after academic or personal crisis. Vacation time, summer internships, and extracurricular activities often help students gain much-needed perspective. Faculty and staff can help MIT students by reminding them more often that they are excellent even without a 5.0 grade point average. Once revealed, the culture of suffering becomes suspect, and students may attempt to adopt new behaviors contrary to the prevailing culture. While this can be difficult, acknowledgment of problems is the first step toward change for both individuals and institutions.

Another challenging aspect of student culture is the stigma associated with mental health issues. There is for many an inappropriate shame associated with depression and other psychiatric disorders. Community members, including students, sometimes equate mental health problems with moral failure, which troubles me greatly. We do not equate a broken leg or a bout of chicken pox with a character defect. Of course, when family and society (especially for some international students) stigmatize mental health problems, it is easy to internalize such attitudes. It is time to correct this fallacy. Professor John Belcher has helped us take a big step forward.<sup>51</sup> We must do more, as discussed in Section 7.

President Paul Gray frequently showed a cartoon of the comic strip character Pogo, who says, “We have met the enemy and he is us.”<sup>52</sup> I strongly urge us to change the culture of suffering and shame, and to retire Pogo as an unofficial MIT mascot.

The MIT student culture also echoes the faculty values of academic freedom and autonomy. Undergraduate students strongly value their freedom:

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<sup>50</sup> <http://mitadmissions.org/blogs/entry/there-are-no-imposters-in-the-class-of-2018>

<sup>51</sup> <http://tech.mit.edu/V133/N13/belcherdepression.html>, <http://web.mit.edu/fnl/volume/254/belcher.html>

<sup>52</sup> [http://en.wikipedia.org/wiki/Pogo\\_%28comic\\_strip%29](http://en.wikipedia.org/wiki/Pogo_%28comic_strip%29)

It's the freedom to choose where you live, the freedom to be without a mandatory dining plan, the freedom to explore and experiment without fear of punishment, the freedom to find a group of people whose casual pursuits lead to amazing achievements that represent the greatest part of MIT's culture.<sup>53</sup>

MIT undergraduates exercise their freedom of expression through the strong cultures existing in many of the dorms and fraternities, sororities, and independent living groups (FSILGs).<sup>54</sup> For example, "East Side" residents (the East Campus and Senior House dorms to the east of Massachusetts Avenue are often combined in this way with Random Hall and the former Bexley) pride themselves on being different from the rest, and they eloquently explain why this is important.<sup>55</sup> The competition for culture has elevated Campus Preview Weekend to a defining moment in many prefrash lives. MIT undergraduates are remarkably multicultural, not only in terms of the composition of the student body, but in their fluency in moving between strongly differentiated living-group cultures and the academic culture of faculty members, most of whom are unaware of the great and colorful diversity of student living styles.

Students also share with faculty a strong spirit of entrepreneurship, which is represented not only by active student engagement in formal business creation, but by even more active engagement in student groups. The MIT Association of Student Activities currently lists more than 500 active groups, starting with the \$100K Competition and ending with Yoga 24x7.<sup>56</sup>

Graduate student culture shares much in common with undergraduate culture at MIT, including the strong work ethic and focus on academics, the student admiration and emulation of faculty members, the prevalence of Impostor Syndrome, the stigma of mental health issues, the value of entrepreneurship, and the importance of multiculturalism. The latter is hugely important for graduate students. More than 40% of graduate students are international; in addition to experiencing a tremendous variety of national cultures and backgrounds, many graduate students experience strong culture shock when they arrive at MIT to find some of their assumptions of daily life challenged. But perhaps the greatest difference in experience of graduate students compared with undergraduates is the absence of a universal core of classes (the General Institute Requirements) and on-campus living (all freshmen but not all incoming graduate students are housed on campus). Graduate students experience MIT largely through their department or degree program, and especially through their faculty research advisor. Compared with undergraduates, graduate students have a greater variety of experiences but a lesser sense of overall community.

Unlike undergraduates, who are admitted by a centralized process with limited faculty involvement, graduate students are admitted by individual departments and degree programs whose decisions are made exclusively by faculty. I am often struck by how differently faculty members treat senior undergraduate and beginning graduate students whose academic preparation may be indistinguishable. Although graduate students are usually not employees,

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<sup>53</sup> Undergraduate Allan Sadun, quoted at <http://tech.mit.edu/V134/N50/eastside.html>.

<sup>54</sup> There are 38 FSILGs at MIT, ranging from traditional fraternities and sororities to coeducational cooperative living groups.

<sup>55</sup> <http://eastcamp.us/culture/>

<sup>56</sup> <http://asa.mit.edu/groups/> (an MIT certificate is required to view the database), <http://mit100k.org/>, <http://www.yoga24x7.org/>

faculty members sometimes tacitly assume that they are, with primary responsibility to the faculty member's research program. Funding structures reinforce this perception—most graduate students are “paid by the faculty” through research assistantships. While the dual role of student and research apprentice offers an excellent framework for learning and career development, problems arise when differing expectations are not communicated and reconciled between graduate students and faculty members. This is a challenging aspect of MIT culture for both graduate students and postdocs.

Although MIT students proudly shape their own cultures, they are not immune to the macro-cultures of US and other national societies. For example, racism, sexism, misogyny, homophobia, xenophobia, religious conflict, and violence are featured regularly and even promoted in mass media and social media. Freedom of speech and expression are sometimes used as a cover to harm others. Those with the privilege to be untargeted by bigotry or hatred can find it difficult to understand the effects of bigotry and hatred on others. Freedom of speech and expression must be balanced by tolerance and respect, especially at a university.

A particularly troubling example of the outside culture's harmful effect at MIT is the objectification of women, which excuses and even encourages sexual harassment and sexual assault. It is disturbing that 17% of undergraduate women responding to a major MIT survey in 2014 reported having experienced sexual assault involving force, physical threat, or incapacitation, and 35% reported experiencing sexual harassment, sexual assault, and other unwanted sexual behaviors while at MIT.<sup>57</sup> Our students and the MIT administration are calling on everyone at MIT to learn, think, act, and support others to eliminate these scourges.<sup>58</sup>

Another example is the gender “confidence gap,” i.e., the tendency for women to be less self-assured than men,<sup>59</sup> and the related stereotype that women should not be self-assured or self-promoting, while men should. Men are more likely than women to apply for jobs when they are unsure about their qualifications.<sup>60</sup> At MIT, women undergraduates majoring in Electrical Engineering and Computer Science (EECS) are much more likely than men to doubt their ability to succeed, and the difference cannot be explained exclusively by differences in prior preparation.<sup>61</sup> This cultural element is problematic when it leads to decreased persistence and ultimately to decreased individual success. When these tacit assumptions are revealed, they can be challenged. What we see, we can change.

In his Charge to the Graduates at Commencement in 2014, President Reif called on MIT students “to hack the world, until you make the world a little more like MIT. More daring and more passionate. More rigorous, playful, and ambitious. More humble, more respectful,

<sup>57</sup> <http://web.mit.edu/surveys/health/MIT-CASA-Survey-Summary.pdf>, <http://www.bostonglobe.com/metro/2014/10/27/mit-survey-female-students-report-being-victim-sex-assault/ng5g0nc3FKA9HQivR4nEVP/story.html>

<sup>58</sup> Our students have started a campaign to end sexual assault at MIT; see <http://itsonus.mit.edu/> and <http://www.youtube.com/watch?v=PXIXXQHkz64>.

<sup>59</sup> K. Kay and C. Shipman, “The Confidence Gap,” in *The Atlantic* (April 14, 2014); published online at <http://www.theatlantic.com/features/archive/2014/04/the-confidence-gap/359815/>.

<sup>60</sup> T. S. Mohr, “Why Women Don't Apply for Jobs Unless They're 100% Qualified,” *Harv. Bus. Rev.*, August 25, 2014, published online at <http://hbr.org/2014/08/why-women-dont-apply-for-jobs-unless-theyre-100-qualified>.

<sup>61</sup> Based on survey results of undergraduate students in Course 6 (Electrical Engineering and Computer Science, EECS) presented in a report in preparation by the Undergraduate Student Advisory Group in EECS, K. Bartel et al., 2015.

more generous and more kind.”<sup>62</sup> This theme was adapted by a student responding to the “All Doors Open” event in September 2014, who suggested that we “hack the MIT culture” by challenging prevailing assumptions such as “sleep is for the weak,” “asking for help is weakness,” and “working 24/7 is appropriate, and so is trying to do too many things at once.”<sup>63</sup> In these quotations, “hack” does not mean to gain unauthorized access; the term has evolved to mean “creative, collaborative effort to solve technical problems.” It is very much in keeping with MIT culture to regard culture itself as a technical object of study and a problem set to be solved, a code to be hacked.

Before we can hack MIT culture, we need to understand it more deeply.

### MIT culture at large

To understand MIT culture, we must go beyond espoused values to determine what lies beneath them, to discern the shared tacit assumptions that shape our behavior. An example comes from analysis of meritocracy as it is understood by different elements of the MIT community. Faculty members and admissions officers praise meritocracy as the leveler of society; success is earned by hard work, without distinction of parental income or social status. As noted above, the espoused value of overwork may be, in part, a means by which community members prove to themselves that they belong in the MIT meritocracy. Students embrace the value of merit as success through effort, and they willingly overwork themselves to strive for approval by faculty. Their sometimes tacit assumption that it is the faculty who determines merit is revealed when students and postdocs prepare to ask faculty members for letters of recommendation.

For many staff, however, the question “Who determines merit?” is much more difficult. Most staff members have little contact with faculty, and they do not experience the rigorous testing that faculty members undergo in the tenure process. Consequently, most staff members receive neither encouragement nor approval from faculty members (a circumstance referred to earlier as the “praise-free zone”). Yet their experience is often shaped indirectly by the central role of faculty at MIT.

Traditional academic culture encourages criticism; faculty members sometimes challenge each other as a way to discern truth, engaging in intellectual fencing matches that can be upsetting to outsiders unfamiliar with the culture. When staff members question faculty members, their different tacit assumptions about how truth is found—as well as the role of power and privilege in advancing claims of truth—can lead to profound discomfort and unintended feelings of mutual disrespect and even bullying. As a result, staff members often feel excluded by the faculty-centered meritocracy. While this is not the universal experience, I have heard it expressed by many administrative staff, support staff, research staff, and postdocs.

In fact, uncovering the elephant of meritocracy in the academy also reveals that truth and power can be functions of one’s education and rank. A powerful tacit assumption in universities is that tenure grants privilege in the search for truth. When tenured faculty

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<sup>62</sup> <http://president.mit.edu/speeches-writing/president-reifs-charge-graduates-2014>

<sup>63</sup> <http://tech.mit.edu/V134/N43/barnhart.html> and private communication with the chancellor.

members use that privilege (whether intentionally or not) as leverage in an argument against others, meritocracy suffers. More will be said about this in Sections 6 and 7.

In 2012, then chair of the faculty Samuel Allen adopted Schein's framework in deriving an assessment of "MIT Values and Culture."<sup>64</sup> His article presented a preliminary summary of the deep assumptions of MIT culture. I am following Professor Allen's path in seeking to understand assumptions about MIT culture and the relations between our espoused values and institutional behavior. The present motivation was stated by Professor Allen: "Understanding assumptions about MIT culture and assessing their appropriateness in 2012 should serve to inform MIT's new leadership team and help chart a course forward."

Culture powerfully shapes our interactions with others, and its tacit assumptions can lead to unexpected surprises. When we say we want to shift (or hack) the culture, we really mean that we want to change behavior that is shaped by culture. We must understand culture to know whether we are flowing with or against the river of culture when trying to navigate change. Navigating change involves a complicated interplay among assumptions, interests, values, and behavior.

If we say that we value a healthy integration of work and family life, but then give greater rewards to those who overwork at the expense of family, is there a conflict between two values, is preference being given to a special interest, or are we merely accepting the tacit assumption that working harder at MIT is always better? Whatever the case, we must make explicit our ideals, not only to guide leadership decisions, but also to find ways to shift the culture. Leadership succeeds or fails according to the alignment of its words and deeds, its ideals, and institutional culture.

Efforts to shift culture must overcome a variety of barriers. Societal influences have already been mentioned. Powerful individuals among the faculty, alumni, and other stakeholders with interest in the status quo must be convinced of the need to change, or strategies must be developed to overcome their opposition. Institutional structures like the tenure system and funding mechanisms can reinforce behaviors even when individuals want to change them.

MIT already has in place an effective mechanism for assessing institutional structures and recommending improvements to the senior administration—the system of Corporation Visiting Committees.<sup>65</sup> For each academic program, and other major activities such as the MIT Libraries, an approximately 18-person standing committee conducts a review every two years and reports to the MIT Corporation—our board of trustees. The Visiting Committees already play a role as overseers of MIT's academic culture. As noted by then chairman of the MIT Corporation Dana Mead,

MIT's visiting-committee process is singular among our peer universities. The committees provide a unique Corporation–Institute mechanism for addressing areas of special importance, such as diversity, and because the committees are well established and have a long and successful history, they can be relied upon by the departments to be strong and positive partners in striving for continuous improvement.<sup>66</sup>

<sup>64</sup> <http://web.mit.edu/fnl/volume/245/allen.html>

<sup>65</sup> <http://web.mit.edu/corporation/visiting.html>

<sup>66</sup> <http://www.technologyreview.com/article/408872/mit-visiting-committees/>

Culture can change—cultures evolve through intervention or by events outside an organization’s control. An example is the enormous change in the undergraduate student experience during the last 50 years. Long-time faculty and staff members can easily identify huge shifts in student expectations, behavior, and experience. Much of this change is due to shifts in society, including the role of technology<sup>67</sup> and the increase of women in the workforce. Some alumni attribute culture change at MIT to the increased enrollment of women students: in 1964, 3% of MIT undergraduates were women; today, 45% of undergraduates and 31% of graduate students are women. The increase in racial and ethnic diversity at MIT has also brought change. More recently, greatly improved recreational facilities at MIT such as the Z-Center have improved physical and mental health at MIT. People smile when walking out of the gym.

Besides waiting for societal shifts and adding new facilities, how can we shift the culture? Can we start with local change and propagate it to larger scale? Schein cites the key role played by leaders.<sup>16</sup> An example comes from my experience in the MIT Physics Department.

### A case study

In 2007, when it had been announced that I would become the Physics Department head, the first group I met with was the graduate women in physics. I knew that women were less likely than men to accept graduate admissions offers, their numbers were small (10% of MIT physics PhDs were awarded to women, compared with a national average of 18%), and their morale was poor. When I asked what I could do to improve matters, the students responded, “You have to create a culture of caring in the department.” They followed this instruction with crucial guidance: “We think you can make a difference, we expect you to make a difference, and we will help you.” I was being held accountable. If I wanted to succeed as a leader, I had to make this a priority. And while the impetus had come from graduate students, it was clear that a culture of caring must apply to everyone in the department.

My first step was to uncover the tacit assumptions about department culture through interviews of community members. The second was to articulate new ideals—those expressed by the women graduate students and others who sought to advance a respectful and caring community. Gathering best practices within and external to MIT, I wrote a diversity strategic plan for the department, spoke about it regularly to the faculty, and presented it to the department’s Corporation Visiting Committee. The strategic elements focused on recruitment, retention, mentoring, advancement, and climate—not only for students, but for everyone in the department, including staff. I became a spokesperson for equity and inclusion at MIT and in my academic field.<sup>68</sup>

Some of the specific efforts my leadership team and I made to shift the culture included adding contributions to outreach (and earlier, by the previous department head, mentoring and diversity contributions) to the faculty annual performance review process; offering a third month of childbirth accommodation for graduate student mothers; funding the visits of promising women and underrepresented-minority graduate students and postdocs before

<sup>67</sup> R. H. Williams, *Retooling: A Historian Confronts Technological Change* (MIT Press, 2002).

<sup>68</sup> [http://web.mit.edu/physics/news/physicsatmit/physicsatmit\\_12\\_bertschinger.pdf](http://web.mit.edu/physics/news/physicsatmit/physicsatmit_12_bertschinger.pdf), <http://aas.org/posts/news/2013/01/improving-status-women-physics-and-astronomy-departments>

they apply for positions; discussing unconscious bias and effective mechanisms to overcome it with all faculty search committee members; actively recruiting female and minority faculty members; hosting a monthly diversity and inclusion luncheon for faculty, staff, postdocs, and graduate students; supporting student groups with funding and my time; working with the national professional society to increase the numbers and success of underrepresented-minority undergraduates in physics at MIT; providing faculty members and postdocs with funds for babysitting while they attended departmental dinners; hosting staff appreciation lunches; encouraging community members to attend the annual diversity summits, and ensuring that support staff in the department were given the opportunity to attend these and other special events; encouraging mentoring at all levels; and creating a postdoctoral advisory committee to help build community among physics postdocs, who were spread among the more than a dozen interdisciplinary centers hosting them.

The single most important thing I did was to take the long version of the conflict management training offered by MIT, which provided me with key skills to work effectively with people under complex circumstances.<sup>69</sup> This training was recommended to me by graduate students, and it is an example of their joining me to cultivate a caring community.

The impact of these efforts is quantifiable: in 2014, the MIT Physics Department received a solo #1 ranking and a perfect 5.0 score in the *US News & World Report* Graduate School Rankings,<sup>70</sup> one of only two programs nationwide in any field of science, engineering, or medicine to achieve this distinction.<sup>71</sup> Previously the department had been in a four-way tie with a 4.9 score. My conversations with other physics department chairs convinced me that MIT's reputation improved as a result of the efforts inspired by women graduate students, and that this played a role in the improved ranking. Progress was also made on the original concern of small numbers of graduate women; 16% of MIT physics PhDs were awarded to women during the period 2012–2014, compared to 10% six years earlier.

### What successful DLCs suggest

To find other ways of enhancing departmental climate and success, I sought advice from the heads of departments, labs, and centers (DLCs) whose members reported the greatest satisfaction and sense of fairness and inclusion. Some of the common suggestions were to hold an annual off-campus departmental retreat for all faculty, staff, postdocs, and graduate students, organized by graduate students or postdocs; host events for families such as an annual picnic; hold student-faculty dinners; have the DLC head take new community members to dinner; have the DLC head meet weekly with a student advisory group; form and support a committee dedicated to community, diversity, and inclusion; write a strategic plan for diversity, equity, and inclusion; report annually to the DLC on progress toward the goals of this plan; encourage faculty and staff participation in campus events; provide departmental lounges for staff, undergraduates, and graduate students; nominate DLC members for awards; and offer learning and professional development opportunities for all staff members. The Biology Department's strategy of

<sup>69</sup> <http://studentlife.mit.edu/conflictmanagement/training>

<sup>70</sup> <http://grad-schools.usnews.rankingsandreviews.com/best-graduate-schools/top-science-schools/physics-rankings>

<sup>71</sup> The other one is MIT Computer Engineering; see <http://grad-schools.usnews.rankingsandreviews.com/best-graduate-schools/top-engineering-schools/computer-engineering-rankings>.

discussing diversity concerns with its Corporation Visiting Committee resulted in major gift funding for a new on-campus day care center.<sup>72</sup>

Successful DLCs also collect and analyze climate data, either from their own surveys or MIT's Quality of Life Surveys, as described in Section 6.

An excellent brief compilation of suggestions for enhancing department climate has been produced by the Women in Science & Engineering Leadership Institute of the University of Wisconsin-Madison.<sup>73</sup> Their recommendations include suggestions for promoting basic manners of respect, consideration, and politeness; building an inclusive community; recognizing and valuing the work of departmental members; communicating effectively; promoting professional development; encouraging balance between work and personal responsibilities; developing sensitivity; responding to illegal behaviors and complaints about demeaning, sexualizing, or condescending language and behavior; and retaining/tenuring women and minority faculty, staff, and students.

## LeaderShape

Another example of culture evolution—in this case, culture formation—comes from the LeaderShape program. LeaderShape is a six-day intensive off-campus program that helps young adults—and their older program facilitators—to grow as individuals and as members of a community they learn to lead with integrity.<sup>74</sup> At MIT, this program has been held annually since 1995. It is the most enjoyable and meaningful experience I have had with students in my 28 years as a professor. Each January, a group of about 70 MIT students has traveled to a conference center with about a dozen staff, faculty, and program alumni who serve as facilitators. Nominally, the program is about developing leadership skills, but it is as much about building community and shaping culture.

LeaderShape teaches participants that they can cultivate a caring, respectful community that empowers everyone to learn and do their best by first articulating ideals and then agreeing to abide by them. All of the participants experience the joy of seeing a community form and embrace them. Faculty members who wonder what the student experience is like receive an in-depth education in six days and nights; remarkably, they, like all others, are welcomed into this community, despite great differences in age, experience, and perspective. As in any real community, there is anguish as well as joy, and conflict as well as concordance. All experiences are subject matter for the growth of leadership skills, and students are encouraged regularly to consider how words and deeds align with espoused values and ideals. The outcome for nearly all participants is the realization that by aligning our values and actions, we can create positive change. Students return to MIT better able to embrace the belief in a healthy disregard for the impossible and to lead with integrity in the context of a supportive community. An MIT Admissions blogger called it “the best six days of my junior year thus far.”<sup>75</sup>

<sup>72</sup> <http://newsoffice.mit.edu/2013/koch-childcare-center-opens-1008>

<sup>73</sup> <http://wiseli.engr.wisc.edu/docs/ClimateBrochure.pdf>; copies are available from the ICEO office, Room 4-250.

<sup>74</sup> <http://studentlife.mit.edu/sao/leadership/leadershape>

<sup>75</sup> <http://mitadmissions.org/blogs/entry/leadershape-2012>

These and many similar examples, such as the Bernard M. Gordon–MIT Engineering Leadership Program, the Multicultural Conference, the Laureates and Leaders program, and the Leader to Leader program for staff, affirm that not only is culture change possible, but we already have successful models for it at MIT.<sup>76</sup> Their common approach is this: first, uncover the tacit assumptions of culture—by examining an existing group or by starting anew—and then pursue the alignment of culture, espoused values, and ideals. My experience suggests that these two steps, repeated as often as needed, can be very effective. To those who seek to create positive change in their community, my summary advice is brief: show respect for people and culture. In the words of leadership educator Peter Drucker, explicated by managing director Bill Aulet of the Martin Trust Center for MIT Entrepreneurship, “Culture eats strategy for breakfast.”<sup>77</sup>

## 2 CORE VALUES

The preceding discussion of culture motivates us to articulate MIT’s core values, which we define as ideals that become espoused values. The latter distinction is important because an ideal is a standard of perfection that may not be fully achievable but an espoused value is a principle that guides behavior and decision making. Core values are both aspirational and normative; they inspire as well as guide us.

Given MIT’s focus on quantitative analysis, some community members might dismiss a statement of core values as being merely rhetorical. However, this approach has a strong precedent. MIT was founded with a vision stemming from the core values of William Barton Rogers. The importance of values for success was noted by President Richard C. Maclaurin on the occasion of MIT’s 50th anniversary in 1911:

The Institute would...never have achieved what it has, if other forces had not contributed to its success. Some of these have been mentioned earlier; but there is one of the very first importance, rarely, I think, appreciated at its real value, to which special reference should be made. *There has never been any uncertainty or indefiniteness as to what the Institute is aiming at in its scheme of education.* Every serious student of education is struck by the fact that so many schools and colleges drift around, apparently without compass or rudder, with no definite idea as to what port they are trying to reach, or how they should go to reach it. Here, at any rate, is an institution that, *from the very outset*, has had very definite ideas on these matters, whether these ideas be right or wrong.<sup>78</sup> [italics in the original]

Core values are the compass and rudder to steer MIT toward even greater success in the future. One cannot understand the institution, or serve it well as a leader, without understanding the core values.

<sup>76</sup> <http://gelp.mit.edu/>, <http://studentlife.mit.edu/omp/mc2/about>, <http://ome.mit.edu/programs-services/laureates-and-leaders>, <http://hrweb.mit.edu/l2l>

<sup>77</sup> <http://techcrunch.com/2014/04/12/culture-eats-strategy-for-breakfast/>

<sup>78</sup> “Some Factors in the Institute’s Success,” an address given April 10, 1911, by President Richard C. Maclaurin (obtained from <http://books.google.com/books?id=-5UpAAAAYAAJ>).

Where do core values come from? To whom do they belong? How are they related to ethics and morality? These are deep questions of philosophy and religion, areas of thought that are present and valued at MIT. For example, Radius is an initiative exploring ethics at the center of science and technology through the Episcopal Chaplaincy at MIT. Founded 50 years ago as the Technology and Culture Forum, Radius is one of several programs of the MIT Chaplains that “reaches across cultural and philosophical divides to serve the whole community at MIT and beyond.”<sup>79</sup> The Addir Fellows Interfaith Dialogue Program similarly advances understanding across religious boundaries.<sup>80</sup> The Dalai Lama Center for Ethics and Transformative Values hosts an Ethics Initiative of conversations among students, faculty, and staff on the social responsibilities of scientists and engineers in a complex world.<sup>81</sup> Programs such as these help individuals to answer the questions posed above and to find their personal equation of ethics and morality.

The origin and nature of values is deeply embedded in the teaching and scholarship of our School of Humanities, Arts, and Social Sciences (SHASS). I have heard that humanities are held in lower regard than science and technology by some in the MIT community. I believe this is a mistake. As SHASS dean Deborah Fitzgerald noted in an op-ed article, alumni find great value in their broad education at MIT.<sup>82</sup> She quoted a recent graduate who is now a physician, working with patients as well as applying medical knowledge, who said, “MIT biology prepared me for medicine. Literature prepared me to be a doctor.” Similarly, a distinguished MIT engineering graduate and entrepreneur said, “The introduction to philosophy and the history of ideas turned out to be the most enduring value and benefit from my education at MIT.”

In this document we are interested in the role of values in shaping MIT as an institution, as signposts to its vision and guides to its members pursuing the MIT mission. We seek to understand values in the service of culture. To construct a list of core values, I reviewed numerous reports and writings about the MIT community and vision, summarized in Section 4. I examined the frequency of words used by the MIT News Office.<sup>83</sup> I discussed choices with dozens of community members and eliminated some values that seemed less compelling in either the aspirational or the normative dimension. The views of alumni have been especially helpful, as they have the perspective to assess MIT’s impact on their lives. Originally restricted to six, the list was expanded to 11 core values to provide a more complete mapping of MIT’s culture and ideals. I hope that this list will be improved by wider discussion in the many communities that make up MIT.

The purpose of this list is to guide the development of a vision for positive change in the MIT community. On the occasion of MIT’s 200th anniversary, I hope that MIT’s president will be able to look back, as President Maclaurin did on MIT’s 50th anniversary, to recognize these core values as “Some Factors in the Institute’s Success.”<sup>78</sup>

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<sup>79</sup> <http://radius.mit.edu/>, <http://studentlife.mit.edu/rl/mit-chaplains>

<sup>80</sup> <http://studentlife.mit.edu/content/addir-interfaith-program>

<sup>81</sup> <http://thecenter.mit.edu/events/ethics-initiative/>

<sup>82</sup> <http://shass.mit.edu/news/news-2014-power-humanities-mit-commentary-dean-deborah-fitzgerald>

<sup>83</sup> <http://newsoffice.mit.edu/search> on 11/21/2014 gave the following frequencies of word use since January 8, 1992: research (10,865), student (6,964), faculty (6,054), education (4,158), service (3,492), staff (3,233), award (3,167), data (2,609), teaching (2,357), leadership (2,082), innovation (1,753), collaboration (1,689), excellence (1,299), diversity (758), problem set (523), learning by doing (388). (These are some but not all of the most frequently appearing words.)

## Learning by doing

Education through practical application was a key principle underlying the founding of MIT in 1861 by William Barton Rogers. The official MIT motto, *Mens et Manus* (Mind and Hand), reflects this ethic, which was named “learning by doing” as early as 1911.<sup>78</sup> More recently, the Undergraduate Research Opportunities Program (UROP), founded in 1969 by Professor Margaret MacVicar, is often cited as a prime example of learning by doing, a principle that also underlies the value faculty place on technological innovation. The phrase naturally describes the universal apprentice model of graduate education. MIT’s innovation was to extend the range of learning by doing throughout its educational programs, especially to undergraduates. I propose to extend the learning-by-doing concept further as a guide to the universal meaning of MIT, to be understood and experienced by everyone in the community, including all staff members. More will be said about this in Section 7.

## Meritocracy, at its best

MIT is often described internally as having come closer to the ideal of a meritocracy than its peers. While this characterization involves some mythology (e.g., the movie *Good Will Hunting*), it is heard often enough in the community to affect perceptions and behavior, and therefore culture. The modifier “at its best” is chosen to reflect not only the problematic aspects of meritocracy mentioned in Section 1, but those identified in the social science research literature cited below.

Many artifacts support the notion of meritocracy at MIT. Founder William Barton Rogers expressed a strong aversion to honorary degrees, and MIT has never awarded any.<sup>84</sup> Similarly, MIT makes no designation for merit or honor among its degrees; there are no *cum laude* or similar distinctions. MIT offers need-blind admission, and a high percentage of students (14%) are the first in their family to graduate from college<sup>85</sup> or are Pell Grant recipients (18%).<sup>86</sup> During the early 1990s, MIT persisted in defending its practice of discussing student tuition and financial aid levels with its peers while the Ivy League schools backed down in the Overlap antitrust lawsuit brought by the US Justice Department. Ultimately, MIT gained concessions from the government.<sup>87</sup> Within MIT, this adherence to principles was viewed as an example supporting meritocracy at its best.

A tacit assumption in some parts of the community is that because of meritocracy, everyone at MIT has an opportunity to succeed solely on the basis of their intrinsic ability and effort. As noted in the preceding section, this assumption can be problematic. Community members can be disadvantaged either by having to confront stereotypes (e.g., the anti-meritocratic phrase “you’re here because of affirmative action” is still heard on campus) or because rank and privilege may directly contravene meritocracy (e.g., “I have a Brass Rat [the MIT class ring] and

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<sup>84</sup> Several individuals, including Winston Churchill in 1949, have been appointed as honorary lecturers, a rank provided by MIT’s Policies and Procedures, <http://web.mit.edu/policies/2/2.3.html#sub11>. In 1993, Salman Rushdie was awarded an honorary visiting professorship.

<sup>85</sup> <http://fgp.mit.edu/>

<sup>86</sup> <http://mitadmissions.org/afford/aid-statistics>

<sup>87</sup> <http://tech.mit.edu/V113/N64/overlap.64n.html>

you don't, so I know better"). This tension may be increased by the American cultural trait of individualism discussed in the Preface.<sup>6</sup> This conflicts with another MIT value, collaborative problem solving.

Another difficulty with meritocracy is a paradox identified by Professor Emilio Castilla.<sup>88</sup> Research shows that when an organizational culture promotes meritocracy, managers typically favor men over women, thereby diminishing the very principle being advocated. The way this can happen is that when managers are aware of unconscious gender bias, they try to avoid it, but if they are told that their organization is a meritocracy, then these measures seem no longer necessary—after all, it's a meritocracy—so unconscious bias can operate again.<sup>89</sup> The solution is to always check for bias—as it applies to gender, race, disability, class, sexual orientation, and other dimensions of diversity discussed below—and then to correct it, as discussed in Section 9.

Balancing these considerations is not easy, and some may prefer to remove meritocracy from the list of core values, while others would retain it without qualification or apology. Instead of placing an asterisk on it to denote the conflicting views, I have chosen to characterize meritocracy as an ideal whose normative use is flawed. At our best, we are free from bias (this is a normative statement!), and then meritocracy may guide us free from paradox. In the wild, meritocracy comes with caveats and needs a lot of help to be effective.

## Equity and inclusion

Equity means fairness in the treatment of people regardless of their background. Inclusion is “a sense of belonging: feeling respected, valued for who you are; feeling a level of supportive energy and commitment from others so that you can do your best work.”<sup>90</sup>

Equity and inclusion are the key regulators of meritocracy. When equity is violated, for example by disparity in salaries, resources for research, laboratory space, or other resources as a function of gender or race, then merit is hollow and corroded. When people of one group are systematically excluded, whether by action or inaction, then merit is a fig leaf covering bias and error. If we are to strive for meritocracy at its best, we must be actively fair and inclusive, and not merely passively so. Without equity and inclusion, a true meritocracy is impossible.

These concepts are widely understood at MIT. Our challenge—and a major theme of this report—is to identify and reduce the subtle and not-so-subtle biases that diminish equity and inclusion, especially those biases built upon tacit assumptions embedded and hidden in our cultures.

## Excellence

A commitment to excellence is the first of MIT's core values that President Reif has presented to the community on several occasions.<sup>1,62</sup> “Striving for excellence” describes the common experience of most community members, and this is deeply embedded in the MIT fabric.<sup>83</sup>

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<sup>88</sup> E. J. Castilla and S. Benard, *Admin. Sci. Quart.* 55, 543 (2011); doi: 10.2189/asqu.2010.55.4.543; published online at <http://asq.sagepub.com/content/55/4/543.short>.

<sup>89</sup> I am grateful to Professor Lotte Bailyn for discussion on this point.

<sup>90</sup> F. A. Miller and J. H. Katz, *The Inclusion Breakthrough: Unleashing the Real Power of Diversity* (Berrett-Koehler, 2002).

The word “excellence” is often used by faculty members to summarize the tenure standard of “exceptional quality as confirmed by distinguished members of their disciplines,”<sup>91</sup> as well as the indefinable quality they seek in students. The MIT Excellence Awards are among the highest honors awarded to staff.<sup>92</sup> Many other MIT awards have the word in their title. Clearly, MIT celebrates excellence.

Just as meritocracy is complicated by the question of who determines merit, excellence is complicated by the question of how it is determined when there is no objective measure. The Merriam-Webster Dictionary defines excellence as “the quality of being excellent.” The tautology reveals a deep truth—it is all too easy for us to limit excellence to our own experience of being excellent. The result has been called a “mirror-tocracy.”<sup>93</sup> To determine what is truly excellent, one must sample a variety of perspectives and talents—in other words, to include diversity. The result is a creative tension between excellence and diversity<sup>94</sup> similar to that between individualism and community. Like “meritocracy,” in the real world “excellence” comes with caveats.

### Collaborative problem solving

Ask MIT alumni what they recall most about their academics, and nearly all answer with the challenge of problem sets. At MIT, “pset” is not only a noun, verb, and adjective, it is the universal element of an MIT education. MIT students expect difficult problem sets, and they feel they are being shortchanged if the problems are made easier. This can present unexpected challenges to curriculum changes, and it is also related to the pace-and-pressure problem described in Section 1.

The pset experience has several consequences for students. One is that it levels the playing field; another is that it encourages collaboration. There are no shortcuts to passing the challenging MIT subjects; nearly everyone struggles. Students often remark that faculty make the problems so difficult that they can be solved only by collaboration, which is one of the intended outcomes.<sup>95</sup> Sharing the universal experience builds community and pride in growth of skills.

A less satisfying consequence of combining difficult problem sets with the ease of collaboration is the possibility of turning in others’ work as one’s own. While not universal, cheating is more common than most faculty realize, and only a fraction of cases end up being presented to the Committee on Discipline.<sup>96</sup>

The problem-solving ethos permeates the faculty and staff cultures as well. Nothing engages a room full of faculty or staff members more than a challenging puzzle to be solved. The effort to discuss methodology after a presentation of data will likely be interrupted by faculty or staff

<sup>91</sup> <http://web.mit.edu/policies/3/3.2.html>

<sup>92</sup> <http://hrweb.mit.edu/rewards/excellence>

<sup>93</sup> Entrepreneur Mitch Kapor quoted by J. Nocera, <http://www.nytimes.com/2014/12/27/opinion/joe-nocera-silicon-valleys-mirror-effect.html>.

<sup>94</sup> <http://web.mit.edu/fnl/volume/242/bertschinger.html>, <http://newsoffice.mit.edu/2012/diversity-summit-0201>

<sup>95</sup> This outcome is more easily achieved when faculty facilitate or at least encourage the formation of study groups.

<sup>96</sup> <http://web.mit.edu/fnl/volume/204/widnall.html>, <http://web.mit.edu/fnl/volume/261/redwine.html>, <http://tech.mit.edu/V134/N19/cod.html>

members who leap into “problem-solving mode” to ask what ancillary data are available, frame hypotheses, and offer tests of these hypotheses—before the presenter has finished presenting the data. One of the surest ways to get faculty engagement around almost any issue is to show them data revealing an unsolved problem.

## Innovation and entrepreneurship

William Barton Rogers’ 1860 “Objects and Plan of an Institute of Technology” presented a vision of a school that “should cultivate the habits of observation and exact thought, which are so conducive to the progress of invention and the development of intelligent industry.”<sup>97</sup> MIT was designed to have a strong culture of innovation and entrepreneurship.

I use these terms in a sense that is broader than the “innovation ecosystem” that fosters the formation of new businesses (especially new companies, i.e., “start-ups”<sup>98</sup>) and solutions to global problems.<sup>99</sup> The spirit of innovation and entrepreneurship extends beyond the several dozen student clubs and initiatives, the recent surge of hackathons and “maker faires,”<sup>100</sup> and the several major centers that serve faculty and student teams seeking to form start-ups.<sup>101</sup> It extends to every faculty appointment in every school, as described in Section 1, and is supported by a culture where often, in the words of pioneering computer scientist Grace Hopper, “it is easier to ask forgiveness than permission.” Innovation includes invention as envisioned by Rogers, but it also includes basic research, the formulation of new design principles, music composition, and much more.

Indeed, MIT as a whole is an innovation ecosystem. As noted in Section 1, faculty members have started more than 60 interdisciplinary centers, and students have created more than 500 groups and clubs. Although most of the student groups are not founded to innovate *per se*, each of them is a new enterprise established in a culture of entrepreneurship. One of the deepest truths of MIT is that the culture typically rewards individual initiative.

Innovation and entrepreneurship are related to other elements of the MIT culture, including leadership and risk-taking. Scholarly leadership is the goal of every faculty member seeking tenure: the MIT tenure standard calls for them “to be of first rank among scholars” in their discipline.<sup>91</sup> It is also explicitly valued by many leadership programs for students and staff mentioned in Section 1. Leadership is a learned skill and is a key promoter of learning by doing. Some have recommended that leadership is a separate core value on equal par with, or even more important than, others on my list.

Less obvious, perhaps, is the value at MIT of risk-taking. I have heard many conversations at all levels about this topic, on matters ranging from student safety to faculty hiring to financial planning. Sometimes risk-taking is discouraged for very good reasons. However, one cannot

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<sup>97</sup> <http://libraries.mit.edu/archives/exhibits/wbr-visionary/>

<sup>98</sup> <http://newsoffice.mit.edu/2014/mit-start-ups-win-masschallenge-1031>

<sup>99</sup> <http://innovation.mit.edu/>

<sup>100</sup> E.g., <http://breastpump.media.mit.edu/>, <http://mitadmissions.org/blogs/entry/a-weekend-of-hacking> and <http://newsoffice.mit.edu/2014/first-ever-mit-maker-faire-attracts-nearly-3000-attendeess-1007>.

<sup>101</sup> <http://entrepreneurship.mit.edu/ecosystem/>

innovate without taking informed risks: creating something new implies the possibility of failure. Indeed, in the world of innovation and entrepreneurship, most start-ups fail. There is an important lesson here for all of us. Individuals succeed by overcoming failure. We might help our students to better deal with Impostor Syndrome and other challenges by teaching them to value failure as part of the cycle of learning by doing, as effective business entrepreneurs do.<sup>39</sup>

Combining the values of innovation and entrepreneurship, meritocracy, and equity and inclusion, one might expect that the demographics of MIT technology start-up company founders, the venture capitalists who fund them, and their advisors and directors would resemble the demographics of MIT graduates in general. As noted by Professor Sangeeta Bhatia and others, this is not the case. Women lead only 3% of tech start-ups, account for only 4% of the senior venture partners funding such start-ups, and represent only 5% of the founders, advisors, and directors at MIT technology spin-offs;<sup>102</sup> the numbers are comparable or less for underrepresented minorities. These percentages are much lower than the percentages of women and minority graduates in the relevant MIT majors. Thus, to understand fully the implications of the other core values, we must examine the role of diversity.

### **Diversity of thought, experience, ability, background, and perspective**

Perhaps no concept in society is so easy to define yet so complex and challenging to work with as diversity. According to the Merriam-Webster Dictionary, diversity is “the condition of having or being composed of differing elements: variety; especially, the inclusion of different types of people (as people of different races or cultures) in a group or organization.” How do we measure diversity? The dimensions of diversity include race, ethnicity, gender, sexual orientation, gender identity or expression, national origin, religion, age, ability/disability, and socioeconomic status, as well as intellectual style, experience, and other qualities. MIT’s faculty, its graduate student body, and its undergraduate population are often more diverse in race and gender than their respective applicant pools (e.g., Section 8). They are also remarkably diverse in qualities such as mode of thought and perspective.

The value of diverse modes of thought and perspective is evident in both technical and nontechnical fields, as noted at the beginning of this section. Our faculty in humanities, arts, and social sciences, in architecture and planning, and in management provide crucial preparation to our students desiring to “best serve the nation and the world in the 21st century.”

Much has been written about the value of diversity to organizations.<sup>103</sup> It is natural to expect that the more widely one searches for ideas and talent, the more likely one is to find the best.

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<sup>102</sup> S. Bhatia, “Closing the High-Tech Gender Gap,” <http://www.technologyreview.com/view/530576/closing-the-high-tech-gender-gap/>.

<sup>103</sup> E.g., K. W. Phillips, “How Diversity Makes Us Smarter,” *Sci. Am.* 311 (Sept. 16, 2014); published online at <http://www.scientificamerican.com/article/how-diversity-makes-us-smarter/>; S. E. Page, *The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools, and Societies* (Princeton University Press, 2008); T. Kochan et al., *HR Mgmt.* 42, 3 (2003); doi: 10.1002/hrm.10061; published online at <http://onlinelibrary.wiley.com/doi/10.1002/hrm.10061/abstract>.

But diversity also comes with a cost: working with others different from oneself can be uncomfortable.<sup>104</sup> Learning usually involves moving beyond our comfort zone.

Because MIT is a place that values learning, community members agree that diversity is important

...for the simplest, but most urgent, of reasons: because the best and brightest people are found in many places, not few; because our classrooms and residence halls are places of dialogue, not monologue; because teaching and learning at their best are conversations with persons other than ourselves about ideas other than our own.<sup>105</sup>

The discomfort that can accompany diversity calls for us to be accepting of difference and inclusive of others. This is why diversity and inclusion are often mentioned together. For some community members, however, “diversity” suggests an exclusive rather than inclusive agenda, echoing discordant strains in our larger society. Some regard diversity as being in opposition with excellence, or equate diversity with affirmative action. Beyond the semantic differences and misunderstandings lie different cultural assumptions in tension with each other.<sup>106</sup> Revealing the tacit assumptions opens the possibility for creative tension—which moves us out of our comfort zones—to advance dialogue and learning.<sup>107</sup> In physics, if not in sociology, tension is a force that pulls objects closer together.

The MIT faculty as a whole emphasized the importance of diversity in a unanimous 2004 resolution calling on the MIT administration to take all necessary and sufficient steps to double the percentage of underrepresented-minority faculty and triple the percentage of underrepresented-minority graduate students in a decade, and called on the provost to report annually on process and outcomes for underrepresented-minority and women faculty and graduate student recruitment and success.<sup>108</sup> A progress report on these goals will be given in Section 8.

Our students also value diversity. More than 80% of MIT student respondents—both undergraduates and graduate students—“strongly agree” or “somewhat agree” with the statement “I feel that a diversified student body is important for MIT’s continued academic excellence.”<sup>109</sup> Similarly, more than 70% of MIT alumni respondents from six different graduating cohorts spanning 1984–2008 said that their ability to work effectively with people of different race or ethnicities in their professional lives was “essential” or “very important,” and this result held for all cohorts and racial groups.<sup>110</sup>

<sup>104</sup> S. F. Ellison and W. P. Mullin, *J. Econ. & Mgmt. Strat.* 23, 465 (2014); doi: 10.1111/jems.12051; published online at <http://onlinelibrary.wiley.com/doi/10.1111/jems.12051/full>; <http://newsoffice.mit.edu/2014/workplace-diversity-can-help-bottom-line-1007>.

<sup>105</sup> Amherst College Trustees’ Statement on Diversity, <http://www.amherst.edu/offices/diversityoffice/welcome>.

<sup>106</sup> The 2010 Report of the Initiative on Faculty Race and Diversity noted that there exists a tension at MIT between diversity and excellence; students continue to experience bigotry on college campuses, including MIT.

<sup>107</sup> The 2012 Institute Diversity Summit was devoted to diversity and excellence; [http://diversity.mit.edu/wp-content/uploads/institute\\_diversity\\_2012.pdf](http://diversity.mit.edu/wp-content/uploads/institute_diversity_2012.pdf).

<sup>108</sup> <http://web.mit.edu/dept/libdata/libdepts/d/archives/facmin/040519/040519.html#resolution>

<sup>109</sup> Data from the 2013 Student Quality of Life Survey, Institutional Research, Office of the Provost.

<sup>110</sup> Data from the 2013 Alumni Survey, Institutional Research, Office of the Provost.

In his inaugural address, President Reif ventured, “My dream is that by the time MIT selects its 18th president, our diversity will no longer need to be a matter of presidential declarations, because it will be a welcome, obvious reality and a vital source of MIT’s creative strength.”<sup>111</sup> This dream is an ideal to strive for, although not in itself a core value to guide us.

Talking about diversity and achieving its creative strength are part of our current reality and are likely to remain so for many years. Achieving the benefits of diversity requires vigilance and effort, which are sustainable if diversity remains one of MIT’s core values. On the topic of diversity itself, there is ample room at MIT for “conversations with persons other than ourselves about ideas other than our own.”

## Humility

Newcomers and visitors to MIT often comment on personal humility as a surprising characteristic of many brilliant people at MIT. Humility is not a hereditary trait; it is a learned behavior shaped by others, a cultural phenomenon. Its origin is difficult to discern—perhaps the absence at MIT of honorary degrees and related artifacts, combined with the widespread phenomenon of finding oneself a small fish in a big pond and the modeling of humility by many of MIT’s leaders, have selectively reinforced this behavioral trait in the competition among personal styles. Our interest here is less in the reasons for humility than in its effect on the community.

Humility, like meritocracy, has its pluses and minuses. On the positive side, it supports a spirit of self-examination and self-improvement for individuals and for the Institute as a whole. Because we are never fully satisfied with our accomplishments, we strive to do better. We tend not to presume that we have achieved our ideals. Tellingly, MIT was first among elite universities to acknowledge gender discrimination among faculty in the 1990s.<sup>112</sup> The widely noted humility of President Charles M. Vest, and those before and after him, has established a norm for MIT.

On the other hand, our tendency not to give ourselves credit extends to parsimony in recognizing others. MIT is still sometimes characterized as a “praise-free zone” (but see Section 5). Also, the culture of humility can breed self-criticism and self-doubt, which undermine success for many people at MIT. As noted in Section 1, Impostor Syndrome is a serious problem for students and others at MIT.

Some people disagree with my inclusion of “humility” in a list of MIT core values because they see more of its opposite, arrogance. The choice reflects a personal preference, and it may be more hopeful than broadly descriptive, but it is motivated by three aspects of MIT. The first is that, relative to expectations or to experiences at other workplaces, many new community members notice and are pleased by a general sense of humility at MIT. The second is the simple observation of our students’ great humility, which is apparent in almost any encounter. The third is the value MIT places on learning by doing. When one is constantly trying to learn and improve oneself, humility is more natural than hubris. Humility is both an aspirational value and a learned behavior, strengthened by intentional practice.<sup>113</sup> We practice what we value.

<sup>111</sup> <http://president.mit.edu/speeches-writing/inaugural-address>

<sup>112</sup> <http://web.mit.edu/fnl/women/women.html>

<sup>113</sup> E. H. Schein, *Humble Inquiry: The Gentle Art of Asking Instead of Telling* (Berrett-Koehler, 2013).

## Integrity

The core value of integrity refers to honesty, fairness, and an alignment of espoused values with behavior (i.e., being morally sound). If equity and inclusion are the regulators of meritocracy, then integrity is the amplifier—when active, it enhances the success and reputation of individuals and institutions, but when broken, it halts all progress.

Integrity is fundamental to the success of any research university. As Richard Feynman '39 wrote in an appendix to the 1986 Report of the Commission on the Space Shuttle Challenger Accident, “For a successful technology, reality must take precedence over public relations, for nature cannot be fooled.”<sup>114</sup> To the dismay of many, this lesson is often ignored in society at large, with real consequences for MIT and the rest of the world. Universities including MIT must hold firm to high standards of honesty, fairness, and ethical behavior. When these principles are undermined by the messaging of society, we must lay bare the tacit assumptions that normalize unethical behavior and hold ourselves to high ethical standards, just as we hold ourselves to high academic standards.

MIT has put forth numerous statements and policies concerning responsible and ethical conduct.<sup>115</sup> Often these are viewed as normative, i.e., they set limits on acceptable conduct by prohibiting ethical misconduct including fabrication, fraud, plagiarism, cheating, and sabotage (deliberate interference with the integrity of the work of others) and by barring retaliation and conflicts of interest and commitment.<sup>116</sup> However, core values have, by definition, an aspirational character as ideals toward which we strive. They guide us in what to do, not just what not to do. The Hacking Code of Ethics is an example.<sup>117</sup> Another is the 2007 proposal by then chair of the faculty Steven Lerman for a community-wide Statement of Ethical Principles.<sup>118</sup> This call will be renewed in Section 3.

## Openness

Openness is essential to the scientific method; MIT has been a leader in extending unrestricted free access broadly to its research and education. An open and transparent process helps to build trust and ensure accountability. Open governance also supports a culture of institutional self-improvement at MIT. As President Reif notes, “MIT’s mission statement charges us to advance knowledge and educate students, and to bring knowledge to bear on the world’s great challenges for the betterment of humankind. Open sharing of knowledge is the purest manifestation of this mission.”<sup>119</sup> The archetype of open sharing of knowledge is MIT OpenCourseWare, a web-based publication of virtually all MIT course content launched in 2001.

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<sup>114</sup> <http://science.ksc.nasa.gov/shuttle/missions/51-l/docs/rogers-commission/table-of-contents.html>

<sup>115</sup> E.g., <http://web.mit.edu/conduct/>, <http://integrity.mit.edu/>, <http://web.mit.edu/policies/10/index.html>, <http://web.mit.edu/urop/guides/rcr.html>, <http://osp.mit.edu/compliance/responsible-conduct-of-research/requirements>.

<sup>116</sup> <http://web.mit.edu/policies/9/9.6.html#sub5>, <http://web.mit.edu/conduct/conflict.html>

<sup>117</sup> <http://tech.mit.edu/V127/N66/hacking.html>

<sup>118</sup> <http://web.mit.edu/fnl/volume/196/lerman.html>

<sup>119</sup> <http://ocw.mit.edu/about/presidents-message/>

Inspired by the impact of OpenCourseWare, in 2009 the MIT Faculty voted unanimously to make their scholarly articles freely available on the web. To ensure permanent access to these materials, MIT created a digital online repository, DSpace@MIT. In 2011, MIT announced MITx, an initiative to put interactive classes online. Much has been written about the possible impact of massive open online courses (MOOCs) and digital learning, and to help chart the future, MIT established the Institute-wide Task Force on the Future of MIT Education with a characteristically open process and materials.<sup>120</sup> In all of these examples, MIT was at the forefront of innovation, with an openness that has served the world and inspired others. For these reasons and more, openness is a core value of MIT.

## Service

The importance of service at MIT is reflected by the first sentence of the MIT mission statement: “The mission of MIT 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 has a long tradition of serving the nation and the world. During World War II, Vannevar Bush and Karl Taylor Compton made iconic contributions to national service through the development and application of technology. The MIT Radiation Laboratory led the development of radar, which played a major role in the Allied victory. Bush’s 1945 report “Science, The Endless Frontier,”<sup>121</sup> inspired the massive postwar government investment in basic science that led to the development of much of the technology essential to our present quality of life.<sup>122</sup> Numerous faculty members, staff members, and alumni have served in key governmental roles in the United States and abroad.

The culture of service extends deeply across MIT. The Community Service Fund supports the public service work of MIT students, staff, faculty, and retirees through contributions made by employees.<sup>123</sup> The Public Service Center sends many hundreds of students each year to communities beyond MIT to apply their problem-solving skills to challenges around the world.<sup>124</sup> The Public Service Center’s IDEAS Global Challenge is an annual innovation and entrepreneurship competition supporting student-led service projects that positively impact underserved communities. Similarly to the \$100K Entrepreneurship Competition, the IDEAS Global Challenge provides both funding and mentoring and helps teams apply for additional outside funding. This program is noteworthy not only in how it combines the core values of MIT with the MIT mission, but also because it is open to all MIT community members, as long as MIT students lead the team.

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<sup>120</sup> <http://future.mit.edu/>

<sup>121</sup> <http://www.nsf.gov/about/history/vbush1945.htm>

<sup>122</sup> D. Kevles, *The Physicists: The History of a Scientific Community in Modern America*, 3rd ed. (Harvard University Press, 1995); G. P. Zachary, *Endless Frontier: Vannevar Bush, Engineer of the American Century* (Free Press, 1997); S. G. Kohlstedt and D. Kaiser, eds., *Science and the American Century* (University of Chicago Press, 2013).

<sup>123</sup> <http://csf.mit.edu/>, <http://web.mit.edu/community-giving/>

<sup>124</sup> <http://web.mit.edu/mitpsc/>

### 3 MISSION, VISION, AND MIT COMPACT

The implication of the core values described above is more than the sum of their parts; their interactions offer us both a vision for MIT and a prescription for change. They are not only aspirational and normative; they are also a guide to MIT culture and its evolution.

The ICEO was charged with the development of a mission statement reflecting two objectives: deepening the sense of inclusion based on MIT's shared values, and helping all members of the MIT community to appreciate and leverage its diversity of experiences and backgrounds. Informed by the analysis of culture and core values presented above, I propose the following:

#### ICEO mission statement

*The mission of the Institute community and equity office is to advance a respectful and caring community that embraces diversity and empowers everyone to learn and do their best at MIT.*

This mission statement combines MIT's shared values with appreciation and leveraging of potential; it aims to resolve the paradox of individualism and community<sup>5</sup> discussed in the Preface; and it provides a sense of purpose to inspire the many individuals working to help MIT invent its own future.

The central phrasing grew out of President Reif's goal "to cultivate a caring community."<sup>1</sup> The action "to advance" was chosen over "to cultivate" because MIT already has strong roots of caring and respect that can foster further growth; it also echoes the intent and strategies of the National Science Foundation (NSF) ADVANCE program, a highly effective model of institutional transformation.<sup>125</sup> Embracing diversity means more than recognizing or celebrating the value of diversity of thought, experience, and background; it means actively seeking out diversity to help meritocracy become its best. The core value of learning by doing is so fundamental to MIT that it might naturally reside in the mission of every MIT office.

On the other hand, empowerment of everyone to learn and do their best is an extension of MIT's mission to advance knowledge and educate students; "everyone" includes all MIT staff members and conceivably everyone touched by MIT, even those outside our immediate community. If we are to align our core values of meritocracy, equity, and inclusion, everyone in the extended MIT community should be able to participate in our great enterprise of learning by doing. And just as we aspire to "meritocracy, at its best," we aspire to have all community members learn and grow to achieve their personal best. Finally, we acknowledge the ability of MIT to inspire people all around the world, not merely those within our local community. We not only acknowledge this power, but embrace it as the ultimate realization of learning by doing.

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<sup>125</sup> <http://www.nsf.gov/crssprgm/advance/>

## ICEO vision statement

*MIT will be famous for community, diversity, empowerment, and respect.*

Although I was not charged with creating a vision statement, I offer one for its potential value of inspiration. This vision statement recognizes the key role of culture and core values, and it provides a guide to cultural evolution that builds on our strengths by utilizing the gifts of a diverse community, whose members are empowered to learn and innovate, and are respected for their creative talents and humanity.

In my discussions throughout the MIT community, many people have requested that I combine the theoretical and the practical by taking a statement of our core values and turning it into a program guide for the ICEO. That is too limited a scope—we need a program guide for all of MIT to achieve its mission, one that is supported by but not limited to the ICEO mission. While this entire report may be viewed as the program guide, as with any learning exercise, it is best to start simple: to summarize our core values and what they imply for every community member. To be true to our values of meritocracy and inclusion, and to be respectful of our culture of learning by doing, this summary should neither be written by an individual nor directed by the MIT administration. I propose that it be written by the community, for the community, and that it be discussed by everyone in the community.

Why should we undertake such an exercise now? As discussed in Section 1, there is at present great interest in the role of culture in shaping the experience of MIT community members, and an understanding that cultural shifts are called for. Section 6 will present data illustrating the inequities of experience at MIT that must be addressed and will be aided by having a common statement of values and norms. Such a statement—the MIT Compact—can protect and promote an intellectual and educational environment that empowers everyone to learn and do their best at MIT. It can be a helping “hand” to accompany the ambitious “mind” of the MIT mission statement, “We seek to develop in each member of the MIT community the ability and passion to work wisely, creatively, and effectively for the betterment of humankind.”

In thinking about this, I have been inspired by the 2007 reflection of outgoing faculty chair Steve Lerman,<sup>118</sup> who noted the importance of core values, the simplification made possible by a normative statement of ethical principles applying to everyone in the community, and the creation of a standard that transcends law and formal MIT policy. I have also been inspired by examples such as the Credo of the pharmaceutical giant Johnson & Johnson;<sup>126</sup> the science Freelance Writer Bill of Rights;<sup>127</sup> the Association of American Medical Colleges’ Compact Between Postdoctoral Appointees and Their Mentors;<sup>128</sup> the University of California, Berkeley’s Principles of Community statement;<sup>129</sup> a message about civility and respect from the Penn State leadership;<sup>130</sup> and the Carolinian Creed of the University of South Carolina.<sup>131</sup> And, finally, I have been inspired by the promotion of core values in the MIT Sloan MBA program.<sup>132</sup>

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<sup>126</sup> <http://www.jnj.com/about-jnj/jnj-credo>

<sup>127</sup> <http://sciencewritingsummit.org/freelance-writer-bill-of-rights/>

<sup>128</sup> <http://www.aamc.org/initiatives/research/postdoccompact/>

<sup>129</sup> <http://www.berkeley.edu/about/principles.shtml>

<sup>130</sup> <http://news.psu.edu/story/325057/2014/09/05/message-leadership-penn-state>

<sup>131</sup> <http://www.sa.sc.edu/creed/>; for a summary of the process leading to the Carolinian Creed see <http://www.sa.sc.edu/creed/articles/a3/>.

<sup>132</sup> <http://mitsloan.mit.edu/mba/program-components/core-values/>

These considerations lead me to recommend the adoption of a common statement of values and community standards, a summary that is both aspirational and normative, as a mechanism for translating learning about community and culture into doing.

### **Recommendation C1: Create an MIT Compact**

*Assemble a representative working group to write a brief statement of what we aspire to as a community and what we expect of one another as MIT community members.*

As an example of the transformative effect such statements can have, I recall a story told by management expert Stephen R. Covey. He was amazed by the quality of service he experienced at one hotel whose staff seemed to anticipate his every need and who demonstrated exemplary care for all customers. Interviews with housekeepers, waitresses, and bellboys showed a deep commitment to customer service. The hotel had signs proclaiming “Uncompromising personalized service,” but this practice went far beyond signage. Covey finally went to the manager to express amazement. He describes his exchange with the manager:

“Do you want to know the real key?” he inquired. He pulled out the mission statement for the hotel chain.

After reading it, I acknowledged, “That’s an impressive statement. But I know many companies that have impressive mission statements.”

“Do you want to see the one for this hotel?” he asked.

“Yes.”

“Different from the one for the hotel chain?”

“Yes. It’s in harmony with that statement, but this one pertains to our situation, our environment, our time.” He handed me another paper.

“Who developed this mission statement?” I asked.

“Everybody,” he replied.

“Everybody? Really, everybody?”

“Yes.”

“Housekeepers?”

“Yes.”

“Waitresses?”

“Yes.”

“Desk clerks?”

“Yes. Do you want to see the mission statement written by the people who greeted you last night?” He pulled out a mission statement that they, themselves, had written that was interwoven with all the other mission statements. Everyone, at every level, was involved.<sup>133</sup>

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<sup>133</sup> S. R. Covey, *The 7 Habits of Highly Effective People*, 2nd ed. (Free Press, 2004), p. 141.

The value of such statements is not restricted to businesses; the practice has strong roots in higher education. A 1990 Carnegie Foundation report on campus life<sup>134</sup> presented the concept of a campus community that is purposeful, open, just, disciplined, caring, and celebrative, with similarities to the MIT core values discussed above. The Carnegie Foundation report presented the model of a “Compact for Community” as an aspirational statement of what it means to participate in a community guided by core values. A later book by two of the Carnegie Foundation authors expanded on the recommendation of a campus compact.<sup>4</sup>

Many colleges and universities have developed such statements, including several of our peers.<sup>129,135</sup> Few, however, have taken an approach similar to that described by Covey.<sup>136</sup> MIT has an opportunity to lead.

The Compact is neither a code of conduct or honor code for students nor a statement of professional rights and duties of faculty members.<sup>137</sup> It is not a replacement for the Mind and Hand Book or Policies and Procedures. It will have no enforcement provisions (though the issue of what to do when norms are violated is discussed extensively in Section 7). And it is to be composed by representatives from the entire community, not just students, and to apply to all community members.

The culture of autonomy will be challenged by the adoption of an MIT Compact. However, the Compact will call out and promote MIT’s core values in such a compelling manner that it will bring together the community despite our strong individualism. The Compact is a powerful way to begin to hack the MIT culture.

To implement Recommendation C1, I propose the formation of a community-wide Task Force on the MIT Compact (TFMC) to assemble a brief (300 words or less) statement of what we aspire to and expect of one another as members of the MIT community. The task force could include representatives from, and should gather input from, all groups shown in Figure 1. To help anchor the results for long-term impact, the TFMC could be co-chaired by a faculty member and a staff member. The TFMC may wish to use this report and the examples of other universities as guides, but it should use the collective intelligence of our community to construct a statement that is faithful to the culture and ideals of MIT.

The TFMC would be highly diverse and should be equitably composed. It must contain enough students, postdocs and staff to ensure that perspectives are heard from these community groups, and enough faculty to reflect their perspective, leadership and longterm commitment. The group should exhibit MIT’s diversity of thought, experience, ability, background, and perspective, as well as diversity of race, gender, sexual orientation, and other characteristics, as discussed in Section 2.

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<sup>134</sup> The Carnegie Foundation for the Advancement of Teaching, *Campus Life: In Search of Community* (Jossey-Bass, 1990).

<sup>135</sup> Harvard: [http://www.harvard.edu/president/speeches/summers\\_2002/values.php](http://www.harvard.edu/president/speeches/summers_2002/values.php); Caltech: <http://diversitycenter.caltech.edu/statement> and <http://codeofconduct.caltech.edu/>; Princeton <http://www.princeton.edu/diversity/core/>; Stanford has one for students, <http://studentaffairs.stanford.edu/glo/resources/values>.

<sup>136</sup> Penn State and University of South Carolina have done so; see footnotes 130 and 131.

<sup>137</sup> E.g. [http://www.colorado.edu/bfa/sites/default/files/attached-files/PRDJanuary16\\_2013.pdf](http://www.colorado.edu/bfa/sites/default/files/attached-files/PRDJanuary16_2013.pdf).

This will be the first time that such a broad group has ever been established at MIT. Because holding conversations in such a diverse group is unprecedented at MIT, the TFMC would be facilitated using principles of intergroup dialogue.<sup>138</sup> Establishing this process as an illustration of the ICEO mission at work will be an empowering and transformative experience for the members and for MIT as a whole.

The task force should seek input widely through community forums, governance structures, and advisory groups (e.g., Faculty Policy Committee, Committee on Student Life, Undergraduate Association, Graduate Student Council, Postdoctoral Association, Council on Staff Diversity and Inclusion, Working Group on Support Staff Issues, union representatives, and ad hoc groups of research and other academic staff). After receiving input from all stakeholders, the TFMC will be the group best able to speak for all in writing the MIT Compact.

The MIT president and chair of the MIT Corporation should convene a ratification process. Once approved, the MIT Compact should be introduced as part of new-student and new-employee orientation. It is essential that the development of the Compact be community-wide, that the results be widely communicated, and that MIT's distributed leadership adopt and promote the Compact in every DLC. The TFMC should therefore recommend ways to integrate the Compact into the MIT experience of everyone in the community beyond orientation events.

Some community members have recommended to me that faculty should play a larger role in the construction of the MIT Compact because of their leading role in education and research. The faculty role in the university is indeed central, and their participation in and endorsement of the Compact process is crucial. Their key role in education and leadership suggests that, even if the task force is as diverse as suggested above, it should have a faculty co-chair. Faculty and staff leadership of a highly diverse team can be consonant with the core value of equity and inclusion combined with the concept of empowerment expressed in the ICEO mission statement. I believe that the faculty will empower others to learn and do their best at MIT by supporting a broad team effort.

I believe the process of intergroup dialogue to write the MIT Compact will be as impactful as the product. The idea of forming such a broad task force to discuss issues that deeply matter to community members has already inspired many people. To give new generations of students the opportunity to commit to shaping MIT's values and vision for a respectful and caring community, and to prevent the Compact from becoming dated, I recommend that a new task force be assembled every four years to examine and revise it so that it remains a living document embedded in our culture.

A few community members have expressed skepticism to me about the idea of an MIT Compact. In most cases, they are frustrated with the failure of existing conduct statements to constrain bad behavior. Often these concerns involve abuse of power and privilege. As one staff member shared,

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<sup>138</sup> <http://www.odec.umd.edu/CD/ARTICLES/ZUNIGA2.PDF> and <http://intergroupdialogue.syr.edu>

A Compact with no enforcement provisions is little more than lip service, especially in the eyes of those whose behavior is a stain on the entire community. The few faculty members who can be relied upon to behave badly cause staff who do not have the opportunity to get to know lots of faculty members on a more personal basis (and who do not know what wonderful people the majority of the faculty are), are [sic] afraid of the faculty. This clearly affects not only their quality of life, but it affects the way they do their jobs.<sup>139</sup>

Concerns about bad behavior will be discussed at length in Sections 6 and 7. However, such concerns are no reason to avoid creating a compact. It is important to distinguish values and standards from the enforcement of those standards. DLC heads seeking to reduce conflict will benefit from a clear statement of our community values and a sense of how deeply they are held. The MIT Compact is the first step in a transformative process, and the fact that it will not by itself eliminate bullying does not mean that we should refrain from writing it. Additional recommendations later in this report deal with these concerns.

Useful guidance comes from others who have undertaken such efforts. As the University of South Carolina's John Wesley Lowery notes,

In the years since the creation of the Carolinian's Creed, a number of other institutions have developed their own institutional creeds. The difficulty inherent in this approach, or any method that seeks to fundamentally alter institutional culture, is the challenge of integrating the creed into the fabric of the institution. The University of South Carolina has taken every opportunity to introduce its creed in a variety of campus forums, including letters to the editor of the student newspaper and the officer installation ceremonies of student organizations. This would seem to indicate acceptance as part of campus culture.<sup>140</sup>

Once the MIT Compact is ratified, a new working group should be established to oversee its implementation and integration into the fabric of MIT.

## 4

## LEARNING

The preceding sections used input from the MIT community, personal experience, and guidance from previous authors to assess the MIT culture, describe our core values, and present a preliminary mission and vision for the evolution of our culture towards a more respectful, caring, and empowering community. Later sections summarize some existing efforts that support that vision, and present recommendations and assessment mechanisms for advancing an equitable, respectful, and caring community at MIT. Between the creation of a vision and material action lies review and planning; this section reviews prior assessments of, and planning efforts to strengthen, the MIT community. It is the *mens* of cultivating a caring community.

<sup>139</sup> Similar remarks have been shared with me by many staff members and others. Allegations of bad behavior exist against all groups, but the power and privilege of faculty members creates additional challenges to resolving conflicts.

<sup>140</sup> J. W. Lowery, "Institutional Policy and Individual Responsibility: Communities of Justice and Principle," in *New Directions for Student Services*, Issue 82, p. 15 (1998), online at <http://www.sa.sc.edu/creed/articles/a7/>.

## Educational culture and values

The first major study of the MIT community that made recommendations for its future evolution was the 1949 Report of the Committee on Educational Survey, often called the Lewis Report after its chair, Professor Warren K. Lewis. The context was set by the fundamental changes to society and to MIT that occurred as a result of World War II. The committee was instructed to reexamine the educational principles that had guided MIT for nearly 90 years and to determine what changes might be called for. The report includes sections written by auxiliary committees on general education and on staff environment. It provides a sweeping analysis of the MIT community and values, its mission and its potential, and its principles and practices. Its imprint on MIT remains significant after 65 years.

The Lewis Report is best known today for its recommendation that MIT establish a school of humanities and social science in addition to the Schools of Engineering, Science, and Architecture and Planning. However, the report also considered “the multi-faceted problem of staff environment in a large urban technological school.” Its recommendation to add housing near campus for employees to foster a greater sense of community presaged elements of the current discussions of graduate student housing.<sup>141</sup> The Lewis Report offered the opinion that

A more intimate association of staff, a better understanding of the interests and contributions of our fellows, and a realization of united purpose toward outstanding educational achievement can be the most vital advances in staff environment. In concluding this section we would like to state our belief that all the members of the M.I.T. family, administration, faculty, and students, must be able to feel a sense of belonging to a great institution with a high moral purpose.<sup>142</sup>

The next period of social upheaval for higher education, including MIT, came in the 1960s. The enrollment of women students at MIT increased significantly, starting with the construction in 1963 of McCormick Hall, an all-female residence hall. Following the enactment of the US Civil Rights Act of 1964, the late 1960s saw a rapid increase in the number of African American students; Shirley Ann Jackson '68 PhD '73 was one of McCormick's first residents and the co-founder and first co-chair of the Black Students' Union.<sup>143</sup> Social protest movements roiled college campuses; one result was the spinning-off of classified research from campus to what became the Charles Stark Draper Laboratory and the MIT Lincoln Laboratory.<sup>144</sup> As one effort to improve the relations between students and faculty, MIT created the short-lived position of dean for institute relations, held by Benson R. Snyder from 1969 to 1972. In 1970, Snyder published a book analyzing the sources of student unrest, concluding (in the present

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<sup>141</sup> Report of the Graduate Student Housing Working Group, [http://orgchart.mit.edu/sites/default/files/reports/20140116\\_Provost\\_FinalGradHousing.pdf](http://orgchart.mit.edu/sites/default/files/reports/20140116_Provost_FinalGradHousing.pdf).

<sup>142</sup> <http://libraries.mit.edu/archives/mithistory/pdf/lewis.pdf>, p. 135.

<sup>143</sup> The experience of black students, staff, and faculty is detailed in C. G. Williams, *Technology and the Dream: Reflections on the Black Experience at MIT, 1941–1999* (MIT Press, 2001). See also the Blacks at MIT History Project, <http://blackhistory.mit.edu/>.

<sup>144</sup> S. W. Leslie, “Time of troubles’ for the special laboratories,” in *Becoming MIT: Moments of Decision*, ed. D. Kaiser (MIT Press, 2010).

terminology) that the tacit assumptions and espoused values of universities were misaligned, causing students to seek out the “hidden curriculum” of academic culture, with questionable success.<sup>145</sup> Similar cultural disagreements arising between students and faculty in the 1980s and 1990s were described by Associate Provost for Institute Life S. Jay Keyser.<sup>146</sup> Although the intensity of protest has diminished, similar debates about campus culture remain present today. Fifty years of sometimes turbulent student-faculty-administration relations have considerable power to inform our understanding of MIT culture and community today.

## Student life and learning

A major step forward in the examination of MIT community and culture came with the 1998 Report of the Task Force on Student Life and Learning (TFSLL).<sup>147</sup> This was at once a two-year review of MIT’s culture and mission, a statement of fundamental principles that define MIT, and a clarion call for community built around student life and learning. Nominally, it was a plan for how MIT education should evolve with changes in technology and society, but its visionary scope and approach made it much more. It was a celebration of MIT that continues to this day and that will shape MIT for the rest of this century. This report is in many ways an extension of the TFSLL report.<sup>148</sup>

The TFSLL report emphasizes the need for and value of community, which it defined as “students, faculty, staff, and alumni who have come together on campus for the common purpose of developing the qualities that define the educated individual.”<sup>149</sup> Particularly noteworthy was the community-building of the task force process itself. Not only did students serve on the main task force, but a larger student advisory committee produced a companion report, Putting Education First.<sup>150</sup> This report vividly describes the student desire for engagement with faculty through an integrated “Educational Triad” of research, academics, and community. The students called for increased faculty engagement in the student community, observing that

Embracing the Educational Triad at an Institute-wide level provides a more flexible base for the Institute’s reputation. Further, this educational schema will constitute MIT’s competitive advantage over other educational institutions in the future.<sup>151</sup>

Impetus for the Student Advisory Committee report grew out of student experiences in LeaderShape.

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<sup>145</sup> B. R. Snyder, *The Hidden Curriculum* (Alfred A Knopf, 1970).

<sup>146</sup> S. J. Keyser, *Mens et Mania: The MIT Nobody Knows* (MIT Press, 2011).

<sup>147</sup> Task Force report: <http://web.mit.edu/committees/sll/>; overview by President Charles M. Vest: <http://web.mit.edu/timeline/essay2.html>; summary and perspectives by the Committee on Student Life: <http://web.mit.edu/faculty/reports/csl.html>.

<sup>148</sup> TFSLL listed 11 principles; this report lists 11 core values. Both include learning by doing and diversity.

<sup>149</sup> <http://web.mit.edu/committees/sll/tf4.html>; in the current report “community” also includes a sense of belonging, i.e., inclusion.

<sup>150</sup> <http://web.mit.edu/committees/sll/final.html>. The joint student-faculty process of the TFSLL is similar to the representative approach recommended in Section 3 for the writing of an MIT Compact.

<sup>151</sup> <http://web.mit.edu/committees/sll/f8.html>

While some of the recommendations of the TFSSL and companion reports have been implemented, much remains unchanged today. Then and now, faculty culture sits on a three-legged stool with one very long leg (research), a medium leg (education), and a short leg (community building). The TFSSL concluded, “A cultural shift is needed at MIT. It is a shift ... from keeping research, academics, and community apart to unifying the educational value each provides.” This is why “community” is in the ICEO title.

After L. Rafael Reif was selected to be MIT’s 17th president, MIT students once more assembled their thoughts on community, in the Presidential Transition Advisory Cabinet Public Report.<sup>32</sup> Their recommendations on community reflect MIT’s values of openness (protect freedom of speech and expression, and minimize confidentiality), collaborative problem solving (involve students as stakeholders), and caring (remove the stigma surrounding asking for help). The last point is being addressed, in part, by the MIT Together information campaign and website,<sup>152</sup> but much more needs to be done, as previewed in Section 1 and discussed further in Section 7.

### Managing conflict and fostering equity and integrity

Interpersonal conflict has always been present in large institutions; in postwar America it was largely suppressed until anger burst into violence on college campuses around 1970. Frictions were never limited to relations between students and administration, however, and a new approach to managing conflict was needed, particularly when it retarded efforts to promote equality. In 1973, President Jerome B. Wiesner and Chancellor Paul E. Gray appointed labor economist Mary P. Rowe as special assistant for women and work. Her job description, in Wiesner’s words, was “to make human beings more visible in this Institute of Science and Technology.” In 1974, Wiesner and Gray appointed Clarence G. Williams as special assistant for minority affairs.

Rowe soon concluded that beyond the more obvious barriers to equality, the cumulative effect of many small inequities was a major impediment to success. She coined the term “micro-inequities,” defined as “apparently small events which are often ephemeral and hard-to-prove, events which are covert, often unintentional, frequently unrecognized by the perpetrator, which occur wherever people are perceived to be ‘different.’”<sup>153</sup> Her construction built on the concept of micro-aggressions, a term coined by Chester Pierce in 1970,<sup>154</sup> referring to “offensive mechanisms” against Black Americans that “brutalize, degrade, abuse and humiliate.” Dr. Pierce, a distinguished professor at Harvard and psychiatrist at MIT and Harvard, was, at the time, studying racism as a “public health and mental health illness.” Today the term micro-aggression generally means a milder slight that, by itself, does not brutalize, degrade, abuse, or humiliate, but when repeated can have exactly that effect.

People perceived to be different still experience a wide range of inequities today. Some of them are due to unconscious biases, which are so deeply part of our ways of thinking that a person

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<sup>152</sup> <http://together.mit.edu/>

<sup>153</sup> M. P. Rowe, “Micro-affirmations & Micro-inequities,” *J. Int. Ombuds. Assoc.* 1, 1 (2008). This and other publications of the MIT Ombuds are available at <http://web.mit.edu/ombud/publications/index.html>.

<sup>154</sup> C. Pierce, “Offensive Mechanisms,” in *The Black Seventies*, ed. F. B. Barbour (Porter Sargent, 1970).

of good will might not be able consciously to recognize his or her implicit discrimination. Sometimes, of course, the inequities arise from quite consciously directed racism, sexism, homophobia, etc.

In the same year of 1973, President Wiesner enunciated MIT's first policy on harassment, which was defined as any conduct, verbal or physical, on or off campus, that has the intent or effect of unreasonably interfering with an individual's or a group's educational or work performance or that creates an intimidating, hostile, or offensive educational, work, or living environment. The current policy includes racial harassment, religious harassment, and sexual harassment (harassment on the basis of sex, gender, sexual orientation, or gender identity or expression<sup>155</sup>).

The scope of work for Rowe and Williams expanded with every person who brought a workplace concern to their offices. Issues included conflict management, safety, illegal behavior of many kinds, research misconduct, mentorship, conflicts of interest, the importance of bystander behavior, and many other topics. In 1980, their titles were both changed to special assistant to the president and ombudsperson, the latter defined as a person providing confidential, neutral, independent, and informal assistance to community members who have concerns arising from or affecting their work and studies.

My listening tour this past year has shown me not only that the MIT Ombuds Office plays an invaluable role,<sup>156</sup> but also that many problems of abrasive conduct, incivility, bias, and harassment remain unresolved and interfere with community members' ability to work and study.<sup>139</sup> The problems are neither new nor are they unique to MIT. They require a sustained effort toward advancing a respectful and caring community, as will be described in Section 7.

In 1989, an Ad Hoc Committee on Sexual Harassment, chaired by Associate Provost for Institute Life S. Jay Keyser, was charged to examine policies and procedures to reduce sexual harassment in the context of the Institute's harassment policy. The committee's 1990 report presented a comprehensive program of communication by Institute leadership, education and prevention efforts tailored for each sector in the community (academic leaders, faculty, postdocs, students, and staff), and clarification and some revision of MIT's policies and procedures. I recall the impact made by one of the recommendations—departmental faculty meetings devoted to harassment education. During the 1993–1994 academic year, faculty members privately reviewed videotapes of skits illustrating how supervisors deal with complaints of bias or harassment and then gathered to discuss them.<sup>157</sup> The seriousness with which MIT addressed harassment made a lasting impression on more than one young faculty member. But it has not ended all problems.

The focus on reducing sexual, racial, and other forms of harassment was accompanied over the next several years by efforts to address other forms of misconduct. In 1992, the Committee on Academic Responsibility produced a report on academic misconduct, *Fostering Academic Integrity*, often called the Widnall Report after its chair, Associate Provost Sheila Widnall.

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<sup>155</sup> The American Psychological Association defines these terms at <http://www.apa.org/pi/lgbt/resources/sexuality-definitions.pdf>.

<sup>156</sup> <http://ombud.mit.edu/>

<sup>157</sup> The complaint-handler video project is described in the 1994 report of the associate provost for institute life in <http://libraries.mit.edu/archives/mithistory/presidents-reports/1994.pdf>.

In 1993, MIT published a remarkably thorough guide, *Dealing with Harassment at MIT*, as recommended by the Report of the MIT Committee on Sexual Harassment in 1990. Today MIT's online Guidelines for Raising Complaints about Harassment<sup>158</sup> is more concise, but some find it difficult to navigate.

During the last three years, nationwide concerns about sexual assault on college campuses have led to new laws and regulations affecting all universities, including MIT. The scope of Title IX of the Education Amendments of 1972, a federal law banning discrimination on the basis of sex in higher education, was extended to include sexual harassment and sexual violence in a 2011 "Dear Colleague" letter<sup>159</sup> to colleges and universities. Additional requirements were imposed by the Violence Against Women Act and its 2013 reauthorization, the Campus Sexual Violence Elimination Act. MIT is not immune to such concerns, or to the law. MIT's response, which includes a groundbreaking community study of student attitudes and experiences of sexual assault and harassment,<sup>57</sup> is discussed in Section 7.

## Embracing diversity

With the appointment of special assistants to the president and chancellor for women and work (Mary Rowe in 1973) and for minority affairs (Clarence Williams in 1974), the Wiesner administration continued to address concerns about faculty and staff diversity with many initiatives. Wiesner himself sought to recruit Black faculty members. The Office of Minority Education was created in 1974 to strengthen academic and personal support for minority students. In the 1960s, following the introduction of new federal affirmative action regulations and compliance audits by the Office of Civil Rights of the Department of Health, Education and Welfare, MIT created an Affirmative Action Plan. The original Institute plan was greatly strengthened by the Wiesner administration by building accountability into the departmental structure of MIT and by emphasizing data collection and oversight. Lincoln Laboratory began a systematic training program for supervisors, promptly dubbed "charm school," that produced many enduring changes.

As the numbers of women and minorities grew on campus, the culture gradually shifted, sometimes with difficulty. From the mid-1970s to the mid-1980s, undergraduates showed a pornographic film on each registration day.<sup>146</sup> In 1984, the Women's Studies Program was founded by Professor Ruth Perry, and that program joined the call for the end of these screenings, which took a few tumultuous years. In 1986, the Minority Student Issues Group, led by Dean of Student Affairs Shirley McBay, wrote a report, *The Racial Climate on the MIT Campus*, highlighting the negative impact of racial stereotypes and isolation on campus.<sup>160</sup> The report led to a faculty "teach-in" on March 4, 1987, in which the discussion topic in several classes that day related in some way to racism or racist behavior.

A serious racial bigotry incident in 1993 and dozens of similar concerns led to Clarence Williams' supporting students to produce a widely acclaimed series of short videos entitled

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<sup>158</sup> <http://web.mit.edu/communications/hg/>

<sup>159</sup> <http://www2.ed.gov/about/offices/list/ocr/letters/colleague-201104.html>

<sup>160</sup> <http://files.eric.ed.gov/fulltext/ED329153.pdf>

*It's Intuitively Obvious.*<sup>161</sup> The Committee on Campus Race Relations (CCRR), formed in 1994, published the Guide to Studies in Racial, Ethnic, and Intercultural Relations and established a grants program to enhance race relations. The Martin Luther King, Jr. (MLK) Visiting Professors and Scholars Program, established in 1995, evolved from a visiting scholar program started in 1991 by the MLK Celebration Committee, whose efforts began in 1975 with the first annual celebration of the life of Rev. Dr. Martin Luther King, Jr. at MIT.<sup>162</sup> In 2007 the CCRR and MLK Celebration/Planning Committee were merged to form the Committee on Race and Diversity (CRD).

Concerns about discrimination persist today in the larger society, with consequences for MIT. The killing of unarmed Black men by police in Staten Island, New York, in June 2014 and in Ferguson, Missouri, in August 2014, followed by the decisions of grand juries not to indict the police, and the murder of two minority policemen in New York in December 2014 by a Black man claiming retaliation for the other two killings have revealed the open wounds of racism in America.<sup>163</sup> While colleges and universities promote dialogue and respect, they are not isolated from society. At MIT, as elsewhere, minority students have publicly shared their stories of unequal treatment.<sup>164</sup>

Everyone at MIT has a role to play in ensuring fair and equitable treatment of all community members. The best way to start is for each of us to learn to listen with empathy to others unlike ourselves, to acknowledge that “teaching and learning at their best are conversations with persons other than ourselves about ideas other than our own.”<sup>165</sup> The resulting conversations are not always comfortable, but they can be transformative.<sup>165</sup> A good example is the MIT Black Lives Matter events of December 10, 2014.<sup>166</sup> These events have spurred dozens of informal conversations around campus, and they were followed with dialogues during the 2015 Institute Diversity Summit.

A major milestone in the advancement of diversity and inclusion in academia nationwide began with the realization in 1994 by Professor Nancy Hopkins and other tenured women faculty in the School of Science that they were being systematically marginalized and did not receive resources commensurate with their professional accomplishments. Dean of Science Robert Birgeneau and Provost Robert Brown took their concerns seriously, as did President Vest. Vest broke the news to the MIT community and the world in March 1999 with an introduction to a special edition of the Faculty Newsletter in which he stated, “I have always believed that contemporary gender discrimination within universities is part reality and part perception. True, but I now understand that reality is by far the greater part of the balance.”<sup>112</sup>

<sup>161</sup> <http://diversity.mit.edu/intuitively-obvious-videos/>

<sup>162</sup> C. G. Williams, ed., *Reflections of the Dream 1975–1994: Twenty Years Celebrating the Life of Dr. Martin Luther King, Jr. at the Massachusetts Institute of Technology* (MIT Press, 1996).

<sup>163</sup> Pew Research Center, August 2014, “Stark Racial Divisions in Reactions to Ferguson Police Shooting,” <http://www.people-press.org/files/2014/08/8-18-14-Ferguson-Release.pdf>, <http://iceoblog.mit.edu/black-lives-matter-blue-lives-matter/>.

<sup>164</sup> I, Too, Am MIT: <http://www.youtube.com/watch?v=igVq3mfg1-s>; I, Too, Am Harvard: <http://www.youtube.com/watch?v=uAMTSPGZRiI>; see also <http://tech.mit.edu/V134/N54/newburymarch.html> and <http://newsoffice.mit.edu/2015/mlk-luncheon-0205>.

<sup>165</sup> <http://newsoffice.mit.edu/transformative-conversations-iceo-community-gathering-responds-ferguson-0829>

<sup>166</sup> <http://diversity.mit.edu/event/black-lives-matter/>

The 1999 report—A Study on the Status of Women Faculty in Science at MIT—had enormous impact inside and outside of MIT.<sup>167</sup> Within the Institute it led to a series of reports on the status of women faculty in the other four schools,<sup>168</sup> the appointment of gender equity committees in each school, and to the formation of a Council on Faculty Diversity<sup>169</sup> whose co-chairs (Provost Brown, Associate Provost Philip Clay, and Professor Hopkins) served on MIT's Academic Council, the top-level advisory and governing council reporting to the president. The Council on Faculty Diversity was charged with “formulating plans for the recruitment and advancement of women and minority faculty throughout the Institute.” In 2006, the Council on Faculty Diversity was replaced by the Office of the Associate Provost for Faculty Equity, held jointly by Professors Barbara Liskov and Wesley Harris, a role that evolved further into the Institute community and equity officer in 2013 (see Appendix 1). MIT's peers and many other universities have also appointed senior leaders charged with ensuring equity for faculty members.<sup>170</sup>

Administrative changes notwithstanding, the real impact of MIT gender equity efforts has been to improve the experience of women faculty at MIT and other universities. At its 150th anniversary, MIT celebrated this progress with a major symposium, “Leaders in Science and Engineering: The Women of MIT.”<sup>171</sup> Professors Hazel Sive and Lorna Gibson co-chaired a committee that produced “A Report on the Status of Women Faculty in the Schools of Science and Engineering at MIT, 2011,” highlighting the advances made in 15 years as well as the challenges remaining.<sup>172</sup>

MIT and the nation have also struggled with the issue of gay rights for more than two decades. During the 1990s, several incidents of vandalism and discrimination against LGBTQ students took place at MIT. However, acceptance of the LGBTQ community grew through the early 2000s. In 2004, Massachusetts became the first state to legalize same-sex marriage. In 2006, MIT made *The Advocate's* top 100 list of gay-friendly campuses; in 2011, *Newsweek* named MIT the most gay-friendly campus in the country.<sup>173</sup> MIT has more recently become a leader in supporting transgender students and employees, who are protected against harassment on the basis of gender identity and expression or sexual orientation. Despite these advances, unequal treatment of LGBTQ students remains a concern (Section 6).

Concerns about marginalization of underrepresented-minority faculty are regularly expressed at MIT. In 2001, the MIT Press published Clarence Williams' in-depth study of the experiences of Black Americans at MIT, which, among many other points, highlighted the importance of effective recruitment and mentoring.<sup>143</sup> In 2010, MIT published the Report on the Initiative for Faculty Race and Diversity,<sup>174</sup> also known as the Hammond Report, after committee chair

<sup>167</sup> L. Bailyn, “Putting Gender on the Table,” in *Becoming MIT: Moments of Decision*, ed. D. Kaiser (MIT Press, 2010).

<sup>168</sup> The April/May 2002 Faculty Newsletter is a remarkable second special edition devoted to the status of women faculty at MIT: <https://web.mit.edu/fnl/vol/archives/Fnl144.pdf>.

<sup>169</sup> <http://newsoffice.mit.edu/2000/diversity-0913>

<sup>170</sup> E.g., <http://www.faculty.harvard.edu/diversity/faculty-diversity-peer-institutions>

<sup>171</sup> <http://mit150.mit.edu/symposia/women-of-MIT>

<sup>172</sup> [http://web.mit.edu/faculty/reports/pdf/women\\_faculty.pdf](http://web.mit.edu/faculty/reports/pdf/women_faculty.pdf)

<sup>173</sup> <http://tech.mit.edu/V126/N31/31wire.html>, <http://studentlife.mit.edu/news/2011/11/newsweek-names-mit-most-gay-friendly-school>

<sup>174</sup> <http://web.mit.edu/provost/raceinitiative/>

Professor Paula Hammond. The report is a thorough study of how race affects the recruitment, retention, professional opportunities, and collegial experiences of underrepresented-minority faculty at MIT. The report shows that while progress has been made in increasing equity and inclusion for underrepresented-minority faculty since the first serious efforts in the 1970s, we still have a long way to go to achieve a true culture of inclusion. The unfinished business of the Hammond Report forms a major part of the ICEO recommendations in Section 9.

The efforts to assess and strengthen faculty diversity have their parallels in similar efforts for staff. In 2003, the Human Resources Initiative for Staff Diversity produced a report concluding that MIT lagged behind many of its peers and top companies in terms of representation of and advancement opportunities for minorities on the staff. In addition, minority staff reported a less welcoming and inclusive environment than whites did. Cultural issues such as the perception of a “wall” separating faculty and staff, the “praise-free zone” mentality, inadequate mentoring, and unconscious bias were noted as barriers to increasing diversity.

Unconscious bias is the automatic reliance on a stereotype while making judgments or decisions.<sup>175</sup> As a tacit, learned behavior, it has much in common with culture. It is now regarded as a best practice of employers to provide recruiters and evaluators with information about unconscious bias and strategies to overcome it. At MIT, faculty search committees receive such information, as do the human resources (HR) administrators who hire staff. MIT HR has undertaken steps to reduce bias, establish welcoming environments, empower employees, and increase staff diversity. These include the establishment of the Council on Staff Diversity and Inclusion (CSDI) and employee resource groups (Section 5).

The wall between staff and faculty has been reduced, in at least one way, by their collaboration in organizing Institute diversity summits annually since 2011 through the efforts of the CSDI and the Committee on Race and Diversity. The summits attract several hundred attendees each January and have led to thought-provoking, energizing conversations across many subcultures of MIT. They build upon the 2008 Diversity Leadership Congress convened by President Susan Hockfield.<sup>176</sup> The 2012 Institute Diversity Summit Report<sup>107</sup> presented the perspectives of, and advice from, faculty, staff, and students on the subjects of diversity and inclusion at MIT. Its recommendations are an excellent starting point for efforts to advance community, equity, diversity, and inclusion.

## 5 DOING

If the preceding section described the *mens* of community building, this section holds the *manus*. Ever since its founding, MIT has sought to empower its community members in support of the ideals described in Section 2. Much has been done, so I will mention only a few of the recent efforts to cultivate a caring community inspired by our core values. Many of these were initiated

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<sup>175</sup> The universality of unconscious bias is easily demonstrated via the Implicit Association Test, which can be done online at <http://implicit.harvard.edu/>. An excellent popular account is M. R. Banaji and A. G. Greenwald, *Blind Spot: Hidden Biases of Good People* (Delacorte Press, 2013).

<sup>176</sup> <http://web.mit.edu/diversityleaders/>

and/or sustained by volunteers acting beyond their normal roles. They are presented as models for future programs described in Section 7.

## Social intrapreneurship

Intrapreneurship is a term used in the technology world that is defined as “successful adaptation of entrepreneurial attitudes and strategies inside of a bureaucratic organization.”<sup>177</sup> Social intrapreneurship borrows the attitudes and some of the strategies of entrepreneurship that turn technological innovation into start-up companies, to turn unmet needs and opportunities inside an organization into activities and programs that support members of the organization. At MIT, this means innovation that helps the community to strengthen itself. Social intrapreneurship activities are “learning by doing good.”

There are many examples of social intrapreneurship at MIT, including:

1. Graduate Student Resources for Easing Friction and Stress Program<sup>178</sup>

The Resources for Easing Friction and Stress (REFS) Program is a graduate-student-run, department-based, peer support program. In 2001, a group of Chemistry graduate students concerned about the effects of stress and conflict on themselves and their peers took a mediation training course run by the MIT Office of Student Citizenship. The REFS Program provides informal, confidential mentorship and conflict management support for personal problems, disputes with lab members, and communications issues with faculty advisors. The program spread to other departments, and in 2015 the Graduate Student Council is expanding it to serve all graduate students. The REFS Program is a model volunteer program that advances a respectful and caring community.
2. Medical Staff Rep Program

The MIT Medical Department has long had a confidential patient advocacy program designed to help patients resolve any issues or concerns in their experience with the department. Medical staff had no such support when they faced difficult interactions. To assess needs and motivate change, staff members conducted a climate survey, and the survey results led the leadership to support a program for medical staff similar to the REFS Program.
3. Graduate Community Fellows Program<sup>179</sup>

The Office of the Dean for Graduate Education (ODGE) supports and organizes a group of graduate students who work to enhance the community life of graduate students. The program is responsive to community needs; campus programs supporting the ODGE mission can request fellows who work on a wide range of projects. The program is a model for rebalancing, for graduate students, the Educational Triad described in Section 4.

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<sup>177</sup> <http://techchange.org/2013/09/30/what-is-intrapreneurship/>

<sup>178</sup> <http://studentlife.mit.edu/conflictmanagement/refs>

<sup>179</sup> <http://odge.mit.edu/community/gcf/>

4. You Are Welcome Here Campaign<sup>180</sup>

The You Are Welcome Here campaign placed hundreds of signs around the MIT campus starting in 1999 (and repeated in 2004 and 2010) affirming that the office residents support a safe and inclusive environment for LBGTQ people at MIT. These small signs, displayed by many with pride, have helped foster a welcoming, inclusive community. The campaign has had national impact.<sup>181</sup>

5. Artists Beyond the Desk<sup>182</sup>

The Artists Beyond the Desk program is one of many initiatives started by the Working Group on Support Staff Issues, a group that works to address issues of concern to support staff employees at MIT.<sup>183</sup> MIT is fortunate to have support staff talents of many kinds, including excellence in the performing arts. The regular performances by MIT staff bring joy to our community.

6. First Generation Program<sup>85</sup>

The First Generation Program (FGP) builds community among MIT students, faculty, alumni, and staff who were the first in their families to graduate from college. The FGP was begun by a staff member who saw the unmet needs of first-generation students. First known at MIT through its inspiring “Who am I?” posters along the Infinite Corridor, the FGP now provides a supportive community for the 14% of our undergraduates who lack the privilege of having family members with experience applying to and navigating college.

7. Employee Resource Groups<sup>184</sup>

Employee resource groups (ERGs) are groups led by employees who share interests, issues, and a common bond or background. Members of these groups create a positive work environment at MIT by actively contributing to the Institute’s mission, values, and efforts specific to inclusion, such as recruitment and retention. ERGs were established first at Lincoln Laboratory and subsequently on campus, where they have contributed to employee engagement, satisfaction, and professional development for more than 400 members.

8. ESL for Service Employees Program<sup>185</sup>

MIT provides English as a second language (ESL) classes for MIT service staff employees to help them gain confidence and professional skills in their work. Classes and tutoring are offered by volunteers (students, staff, faculty, and retired employees) during the service staff employee’s regular work shift, including at night to accommodate the schedules of night-shift workers. The program advances a respectful and caring community for service staff. The program

<sup>180</sup> <http://yawh.mit.edu/>

<sup>181</sup> <http://blogs.scientificamerican.com/voices/2014/12/23/you-are-welcome-here-small-stickers-make-a-big-difference-for-lgbtq-scientists/>

<sup>182</sup> <http://web.mit.edu/abd/about.html>

<sup>183</sup> <http://mitwgssi.weebly.com/>

<sup>184</sup> <http://hrweb.mit.edu/diversity/ergs>

<sup>185</sup> <http://web.mit.edu/womensleague/involved/esl.html>, <http://newsoffice.mit.edu/2010/english-classes-0722>

has helped workers achieve personal milestones such as US citizenship, GED certificates (equivalent to high school diploma), and professional licenses.

9. Institute Diversity Summit<sup>186</sup>

The Institute Diversity Summit is an annual symposium organized at MIT since 2011 by a volunteer group nucleated by CRD and CSDI. The summits have attracted up to 700 people around themes such as “diversity and excellence,” “meritocracy and inclusion,” and “demystifying diversity.” They have kindled a sense of excitement about inclusive excellence by engaging a broad cross-section of the MIT community in topics members care about.

Each of these examples shows MIT’s core values in action. All of them arose through the creativity and innovation of community members engaging in collaborative problem solving. All exhibit learning by doing.

## Building community

While social intrapreneurship is the start-up world of community support, important work is done by existing enterprises dedicated to enhancing the MIT experience. A complete listing would be impossible to produce, and credit goes to many more than can be identified here. To begin the recognition and thanks for this important work, I list a few efforts that have made MIT a more human place, which are not described elsewhere in this report.

1. Humans of MIT Facebook page<sup>187</sup>

Inspired by Humans of New York, MIT students have created a portrait blog of life in the MIT community. The anonymous posting pages MIT Confessions and I Saw You MIT create different kinds of connections between students through their candor, humor, poignancy, and occasional incivility.<sup>188</sup>

2. MIT Admissions blogging<sup>189</sup>

Wildly popular, these uncensored reflections by MIT students have impacted college admissions nationwide.

3. MIT Connect and Yammer<sup>190</sup>

Explore MIT through social media, including blogs and Twitter. Staff members have their own private social media network, Yammer.

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<sup>186</sup> <http://newsoffice.mit.edu/2012/diversity-summit-0201>, <http://newsoffice.mit.edu/2013/mit-diversity-summit-0131>, <http://newsoffice.mit.edu/2014/diversity-summit-0128>

<sup>187</sup> <http://www.facebook.com/HumansOfMIT>

<sup>188</sup> <http://www.facebook.com/beaverconfessions>, <http://isawyou.mit.edu/>

<sup>189</sup> <http://mitadmissions.org/blogs>, <http://newsoffice.mit.edu/2014/undergraduate-admissions-office-celebrates-10-years-student-blogging>

<sup>190</sup> <http://connect.mit.edu/>, <http://www.yammer.com/mit.edu/>

4. The Tech<sup>191</sup>

Established in 1881, MIT's oldest and largest newspaper is student-run and is also the first newspaper published on the web. It is widely read throughout the MIT community and effectively engages a variety of perspectives on topics of importance to students.
5. Faculty Newsletter<sup>192</sup>

Founded in 1988 by volunteers to provide a forum for sharing views on issues of concern to faculty, the Faculty Newsletter has become a valuable resource for everyone at MIT.
6. Random Faculty Dinners<sup>193</sup>

Since 1985, MIT has invited random groups of faculty to dinner monthly in the Emma Rogers Room to build community.
7. Undergraduate Association Student-Faculty Dinners<sup>194</sup>

The Undergraduate Association Committee on Education pays for groups of three to six students to dine with a professor.
8. Community Picnics  
Everyone loves free food (MIT students even have an email list for that) at a picnic—whether it be held on Killian Court, in a residence hall, or in Johnson Athletic Center.
9. MIT Women's League<sup>195</sup>

The MIT Women's League is a social and service organization founded in 1913 to foster connections among women at the Institute. Its breakfast talks and international wives' dinner events are very popular. The Women's League initiated the ESL for Service Employees program, and it provides scholarships to undergraduate women.
10. Margaret Cheney Room<sup>196</sup>

The Margaret Cheney Room was established in 1882 as a safe space to promote community and empower all women students at MIT.
11. One Community Room<sup>197</sup>

The chancellor and ombuds created a community space, the One Community Room (8-219), as a private and safe space intended to help build community at

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<sup>191</sup> <http://tech.mit.edu/>

<sup>192</sup> <http://web.mit.edu/fnl/>

<sup>193</sup> <http://web.mit.edu/fnl/volume/231/keyser.html>

<sup>194</sup> <http://ua.mit.edu/projects/student-faculty-dinners/>

<sup>195</sup> <http://web.mit.edu/womensleague/>

<sup>196</sup> <http://studentlife.mit.edu/women/cheneyroom>

<sup>197</sup> <http://newsoffice.mit.edu/2013/new-one-community-room-opens-at-mit>, <http://one-community.mit.edu/>

MIT. It may be reserved by individuals or by groups whose focus is fostering a sense of belonging and unity on the MIT campus.

12. MIT-EMS<sup>198</sup>

MIT Emergency Medical Services is a student group that operates the MIT ambulance and trains community members to become emergency medical technicians.

13. The MIT Board of Chaplains and the Addir Fellows Program<sup>79,80</sup>

The chaplains at MIT, representing many of the world's religions, serve both their own religious communities and the MIT community at large. The Addir Fellows Program brings together students and everyone in the MIT community to build bridges of dialogue and understanding about different religious faiths.

I would like to see this list become a living online document for the community to add to, to help newcomers and old-timers find activities and programs that empower individuals by building community.

## Rewarding

Since 1953, MIT has held an annual Awards Convocation, where major awards are given to students or student organizations (and a few to staff and faculty) for exemplary achievements and contributions.<sup>199</sup> In addition to these Institute-wide awards, many but not all departments, schools, offices, and programs also give student awards.<sup>200</sup> These recognitions are greatly appreciated by students, and the awards ceremonies are a time of community-wide celebration. If we want to build a truly respectful and caring community, then even more should be done to reward student contributions to community, service, and leadership. Many faculty members send congratulatory notes to top performers in their classes and give other encouragements that are greatly appreciated. But all MIT students are gifted, and all deserve more encouragement and appreciation than we give. For example, a biannual award luncheon with the president, chancellor, or chairman of the Corporation given to student groups for exemplary contributions to community, service, and leadership would both honor students and provide MIT's senior leadership with valuable insight into student culture and activities.

Prior to the 1990s, very few MIT awards were given to staff and faculty, which undoubtedly contributed to our reputation as a "praise-free zone." This cultural artifact has been slow to change, but it has changed.

In the mid-1990s, President Vest initiated a major overhaul of MIT's administrative and support efforts to reduce their costs.<sup>201</sup> This "re-engineering" led to much criticism at the time and remains a sore point with some faculty and staff even today. But one of its children was our current Rewards & Recognition Program for staff, which has done much to boost staff

<sup>198</sup> <http://ems.mit.edu/>

<sup>199</sup> <http://awards.mit.edu/award/search>

<sup>200</sup> <http://studentlife.mit.edu/2013-2014-awards>

<sup>201</sup> <http://web.mit.edu/reeng/>

morale.<sup>202</sup> The annual Excellence Awards ceremony is a raucous, joyful celebration of service and community that puts praise back into the MIT cultural zone.

For faculty, the Margaret MacVicar Faculty Fellows Program<sup>203</sup> has had a similarly transformative effect in shifting the prevailing culture. The program, begun in 1992, recognizes a few faculty members each year who have made exemplary and sustained contributions to undergraduate education. MacVicar Fellowships are prestigious and highly desired, and they send a strong message that MIT cares about undergraduate education. I believe they have played a significant role in strengthening the academic third of the Educational Triad.

The myth of the praise-free zone should be further dissipated by a new recognition program, Committed to Caring, initiated in 2014 by the Office of the Dean for Graduate Education.<sup>204</sup> Based on nominations from graduate students, faculty members will be recognized each month for their commitment to caring for graduate students. Posters of the first awardees are currently visible throughout MIT. The goal of the program is to reward faculty who exemplify the community portion of the Educational Triad, and thereby to promote a more caring community. Similar awards for outstanding freshman advisors and UROP mentors have also been introduced.<sup>205</sup>

The programs described above in this section are further transforming MIT. With planning and innovation, we can fulfill the vision of Section 3, but we must first determine our goals and identify ways to know when they have been achieved.

## 6 ASSESSING A RESPECTFUL AND CARING COMMUNITY

In this section we examine more closely the implications of the ICEO mission and vision statements for the experience of community members. If we can quantify a caring, equitable community, then as collaborative problem solvers we can design ways to improve it. This section uses data to motivate our goals and the means to achieve them.

A good way to begin is by asking community members how they experience the community. By this I do not mean to use anecdotal reports of self-selected user reviews, such as are compiled by Glassdoor and reported by Forbes.<sup>206</sup> Instead we seek a more rigorous methodology.

One approach used by many organizations is to retain outside consulting groups. For example, the Gallup Employee Engagement survey<sup>207</sup> has been used by many corporations to help employees thrive as a means to improve business performance. Although such an instrument is not ideal for assessing the complex MIT culture, its use by MIT (and other college) graduates

<sup>202</sup> <http://hrweb.mit.edu/rewards/>

<sup>203</sup> <http://web.mit.edu/macvicar/>

<sup>204</sup> <http://odge.mit.edu/community/committed-to-caring-c2c/>

<sup>205</sup> <http://due.mit.edu/news/2014/celebrating-outstanding-faculty-advisors>, <http://due.mit.edu/news/2014/2013-2014-urop-mentor-year-awards>

<sup>206</sup> <http://www.glassdoor.com/> and <http://www.forbes.com/pictures/fjle45iidk/the-top-25-universities-to-work-for-in-2014-2/>

<sup>207</sup> <http://www.gallup.com/strategicconsulting/en-us/employeeengagement.aspx>

in the Gallup-Purdue Index has provided data on which aspects of the student experience correlate best with later well-being on the job and in their communities. The Gallup-Purdue results confirm our experience at MIT that students do better when they have deep connections with faculty members who care about them outside the classroom.<sup>208</sup>

As an extension of the 2012 Staff Quality of Life Survey, employees in the Office of the Executive Vice President and Treasurer responded to a series of employee engagement questions. The survey responses determined a set of “dimensions of employee engagement,” among which the strongest were “supervisor fairness and respect” and “personal support from one’s supervisor.” We will find other ways to measure these dimensions below.

Other kinds of surveys measure civility and respect or their absence. Several universities have found it helpful to utilize the Conflict Climate Inventory, an assessment tool for understanding and improving conflict management.<sup>209</sup> Such survey instruments can provide a snapshot of individual DLCs that have a common culture, but they may not be the best diagnostic for a large decentralized organization. Alternatively, climate site visits such as those conducted by the University of Michigan ADVANCE program or the American Physical Society can be very helpful in assessing and improving departmental climate.<sup>210</sup>

Google performs an extensive survey of its employees every year called Googlegeist. Participation is outstanding, at over 90%; employees are asked to rate their managers, with the option of remaining anonymous (though nearly all give their name), and management uses the feedback to improve practices. Rigorous analysis, correlation with other data, annual repetition, and visible improvements in response to survey results<sup>211</sup> have helped make Google one of the best companies to work for. I recommend that the incoming vice president for human resources and our Office of Institutional Research study the Googlegeist methodology and results to learn how we can improve our own engagement, satisfaction, and retention.

## Survey data

Although not as detailed as these climate assessments, MIT’s Quality of Life Surveys, given every four years, provide data that can quantify a caring, equitable community.<sup>212</sup> I have examined the surveys given to faculty, staff, and students, and found a set of variables that have good statistical power to discriminate among different DLCs, and whose ranks correlate well with qualitative information obtained through personal interviews. My experience indicates that when used carefully, such survey data can reveal strengths and weaknesses of the leadership in different units, and it is sensitive to the different subcultures of MIT, making it useful both for identifying areas for improvement and for assessing overall climate.

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<sup>208</sup> S. Carlson, “A Caring Professor May Be Key in How a Graduate Thrives,” *Chron. Higher Ed.*, May 16, 2014; published online at <http://chronicle.com/article/A-Caring-Professor-May-Be-Key/146409/>; see also <http://due.mit.edu/news/2014/faculty-and-freshmen-strengthen-their-connections-0>.

<sup>209</sup> <http://www.conflictclimate.com/>

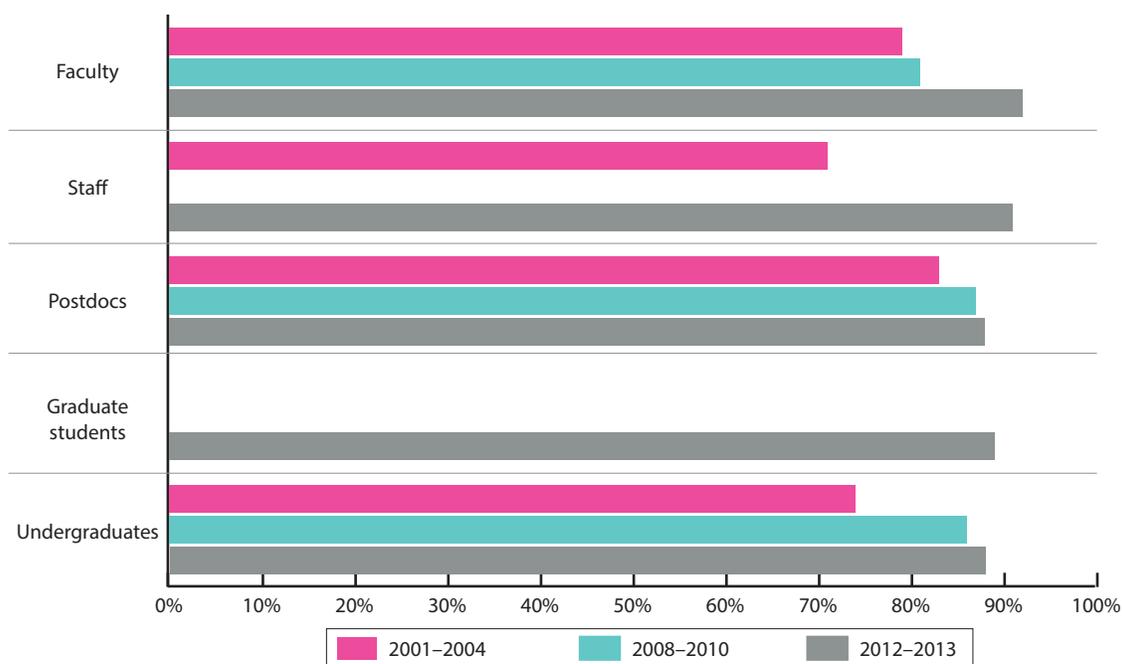
<sup>210</sup> [http://sitemaker.umich.edu/advance/request\\_a\\_um\\_unit\\_climate\\_assessment](http://sitemaker.umich.edu/advance/request_a_um_unit_climate_assessment), <http://www.aps.org/programs/women/sitevisits/index.cfm>

<sup>211</sup> D. A. Garvin, “How Google Sold Its Engineers on Management,” *Harv. Bus. Rev.*, December 2013, published online at <http://hbr.org/2013/12/how-google-sold-its-engineers-on-management>.

<sup>212</sup> [http://web.mit.edu/fnl/volume/245/senior\\_survey.html](http://web.mit.edu/fnl/volume/245/senior_survey.html), <http://web.mit.edu/fnl/volume/251/survey.html>

One widely used measure is overall satisfaction, through responses to the survey question “Overall, how satisfied are you with being an employee/a faculty member/graduate student/ etc. at MIT?” The most recent survey results, along with two prior surveys going back a decade (except for graduate students, who were not asked this question before 2011), are shown in Figure 2. The results show remarkable improvement over the last decade in all categories, with a 19% improvement for staff. MIT faculty are significantly more likely to be satisfied than faculty at our peer institutions. Harvard has recently published a detailed analysis of its Faculty Climate Survey,<sup>213</sup> and MIT should perform a similar analysis, extended beyond faculty to include staff and postdocs.

**Figure 2. Community satisfaction at MIT, by group.**



Sources: 2002, 2008, and 2012 Undergraduate Senior Surveys; 2013 Graduate Enrolled Student Survey; 2003, 2010, and 2012 Postdoc Surveys; 2001 Campus Staff Survey; 2004 and 2008 Faculty Surveys; 2012 Faculty and Staff Quality of Life Survey, Institutional Research, Office of the Provost.

Notes: Percentage of responses “somewhat satisfied,” “generally satisfied,” “satisfied,” “very satisfied” (varies according to survey) to the question asking how satisfied the respondent is being a student/postdoc/employee at MIT. For staff in 2001, the percentage is those who agree or strongly agree with “I am satisfied with my job at MIT.” Over a decade, the overall satisfaction rates increased by 14%, 5%, 19%, 13% for graduating seniors, postdocs, staff, and faculty, respectively, to the current values of 88%, 88%, 90%, and 92%. The satisfaction rate for graduate students in 2012–2013 was 89%. No staff surveys were conducted during the period 2008–2010, and graduate students were not asked about overall satisfaction before 2011.

The overall satisfaction data show strong improvements over the last decade, and they show a positive correlation with rank, in the sense that faculty are on average more satisfied than staff, who are more satisfied than postdocs and students. The improvement for staff is especially impressive, but all groups for which there is enough data show improved satisfaction. The reasons for this are unclear; in Section 5, I speculated that the staff Rewards & Recognition Program has boosted morale, but it also could be due to a change in the survey question.<sup>214</sup> The improvement in faculty satisfaction must be due in part to something else; the 2008 survey was administered in the spring, before the financial crisis.

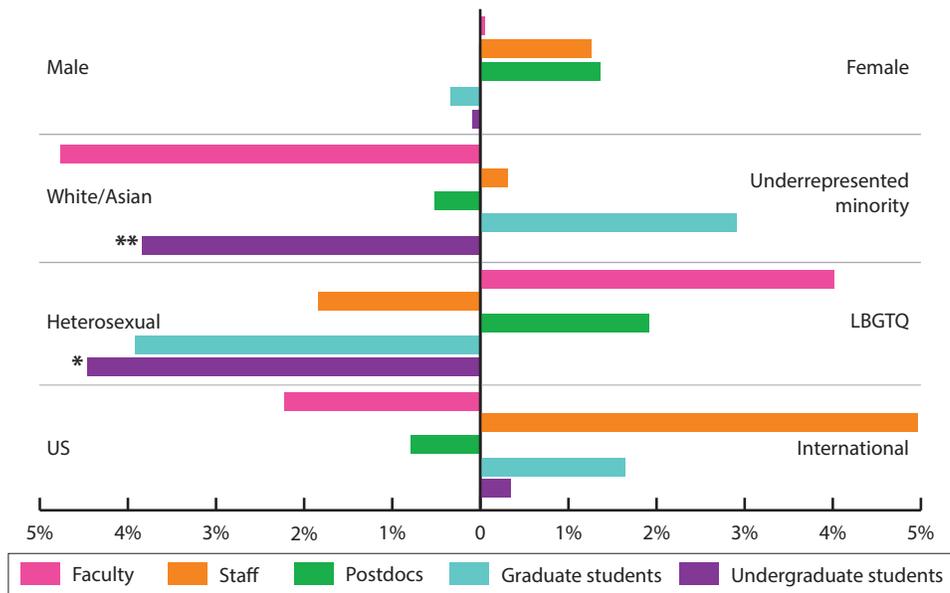
<sup>213</sup> Harvard climate survey results for faculty, and comparison with its peers, are summarized at [http://www.faculty.harvard.edu/Faculty\\_Climate\\_Survey\\_2013](http://www.faculty.harvard.edu/Faculty_Climate_Survey_2013).

<sup>214</sup> <http://web.mit.edu/ir/surveys/staffsurvey.html>

More information comes from examining how overall satisfaction depends on demographic data. MIT’s surveys invite respondents to specify gender, race/ethnicity, and sexual orientation, and MIT also records visa status or country of origin.

Figure 3 shows differences in satisfaction between demographic groups for the same categories as Figure 2 (except that graduating seniors are replaced by all undergraduates). A bar to the right or left indicates that the particular group in a pair is more satisfied. For instance, let’s ask whether women at MIT are equally as satisfied as men. We can look at this comparison for each employee and student category and, if women are more satisfied, we draw a bar to the right; if men are more satisfied, we draw a bar to the left. Figure 3 builds on this, adding race/ethnicity, sexual orientation, and national origin to gender in comparing satisfaction across each employee and student group. These kinds of data allow us to infer whether people are systematically less satisfied with their MIT experience based on a group characteristic. The statistical significance of these results is noted in the figure. If there is no notation, then there are too few data to have strong confidence in a nonzero difference between groups, although there may be a signal. For example, female staff and postdocs may be slightly more satisfied on average as a group than male staff and postdocs, but the difference is not large enough to be convincing. On the other hand, white and Asian undergraduates are clearly more satisfied than URM undergraduates, and similarly with heterosexual undergraduates compared with LBGQT students. MIT defines underrepresented minorities (URM) as Black or African American, American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, Hispanic/Latino, and two or more races including any of these.

**Figure 3. Pairwise differences in MIT community satisfaction, by group.**



Sources: 2012 Faculty and Staff Quality of Life Survey, 2013 Student Quality of Life Survey, Institutional Research, Office of the Provost.

Note: Bars point in the direction of the groups that report greater satisfaction.

\* $p < .05$

\*\* $p < .01$

Figure 3 shows that LBGTQ students are less satisfied than heterosexual students, underrepresented-minority faculty and undergraduates are less satisfied than their non-Hispanic white and Asian counterparts, and several groups one might not expect to be more satisfied than their control groups are actually more satisfied: LBGTQ faculty, international staff, and underrepresented-minority graduate students. Strikingly, the gender differences are very small (less than 2%). This figure provides a baseline for future comparisons, so that we can assess whether climate changes decrease or increase the gaps with time.

Overall satisfaction is a blunt tool; for finer work, other measures are helpful. Leaders manage what they can measure. To advance a respectful and caring community, ask people whether they feel respected and cared for. MIT has two survey measurements that are particularly helpful in this regard: on a 5-point Likert scale (strongly disagree = -2, disagree = -1, neither agree nor disagree = 0, agree = 1, strongly agree = 2), respond to the two survey items

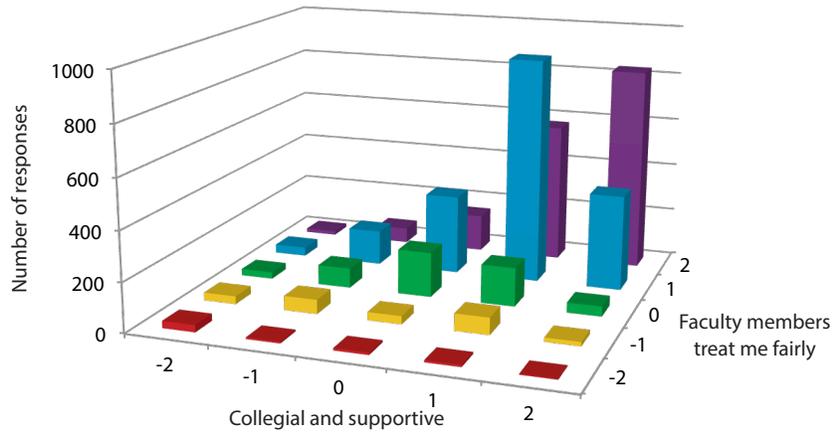
1. “Fair and equitable,” with versions
  - a. “Faculty members treat me fairly” (undergraduates, graduate students)
  - b. “My DLC’s procedures are fair and equitable to all” (postdocs, staff, faculty)
  
2. “Collegial and supportive,” with versions
  - a. “My department creates a collegial and supportive environment” (undergraduates, graduate students)
  - b. “My supervisor creates a collegial and supportive environment” (postdocs, staff)
  - c. “My chair/director/dean creates a collegial and supportive environment” (faculty)

The variations on the questions arise from the varying nature of reporting relationships across rank and DLC. Each survey response is converted to an integer between -2 and +2. The results are shown in Figures 4a and b.

The data in Figures 4a and b show that most community members feel treated fairly in a collegial and supportive environment. Closer inspection shows some interesting patterns. Students are more likely to report that “faculty members treat me fairly” than they are to say “my department/program creates a collegial and supportive environment,” while employees are more likely to say their environment is collegial and supportive than fair and equitable. And while there are correlations in the responses to the pair of survey questions, the shapes of the distributions differ for students and employees.

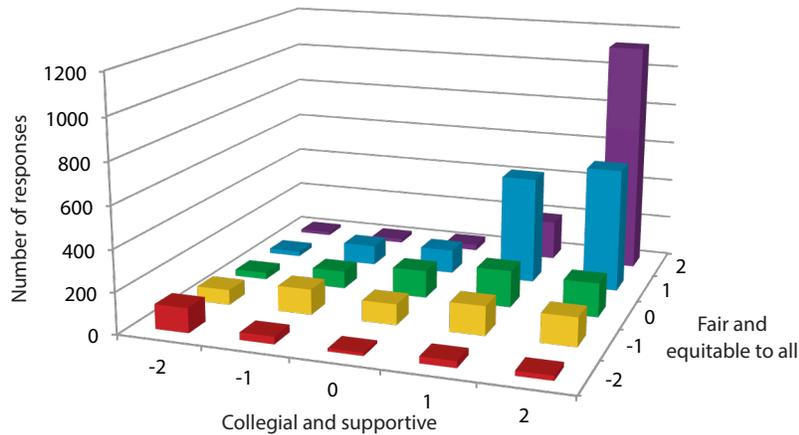
As discussed in Section 1, the cultures of faculty, staff, and students are shaped by their environments for work and learning. This suggests grouping the survey responses by DLC or degree program. Comparing the distributions of the grouped and ungrouped responses allows one to determine how much of the variation arises within DLCs as opposed to the overall population. From Figures 4a and b alone, it is impossible to tell whether DLCs all have similar distributions, or whether some DLCs have better climates than others.

**Figure 4a. Students’ responses to questions regarding community and equity at MIT.**



Source: 2013 Student Quality of Life Survey, Institutional Research, Office of the Provost.

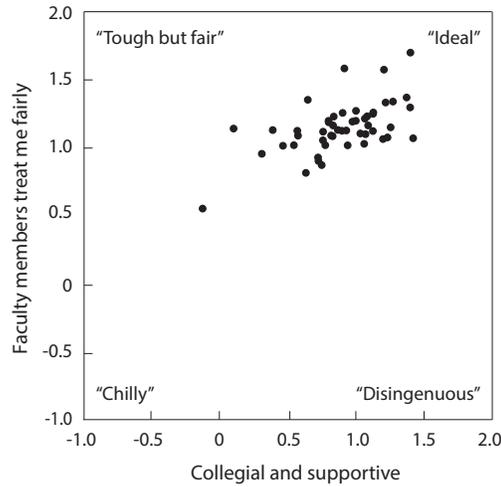
**Figure 4b. Faculty, staff, and postdocs’ responses to questions regarding community and equity at MIT.**



Source: 2012 Faculty and Staff Quality of Life Survey, Institutional Research, Office of the Provost.

Figures 5a and b groups the responses of Figures 4a and b into academic majors and programs (for students) and DLCs (for employees and postdocs) with five or more members. The labels in the corners suggest qualitative descriptors of the climate for those extremes. Points in the “ideal” corner represent DLCs/programs whose members feel treated collegially and fairly; points in the lower right corner represent DLCs whose members feel treated collegially despite seeing great unfairness in the unit, a climate described as “disingenuous”; “chilly” and “tough but fair” climates should be clear to the reader. The figures show great variation in the experience reported by different groups in different DLCs, but there are some trends.

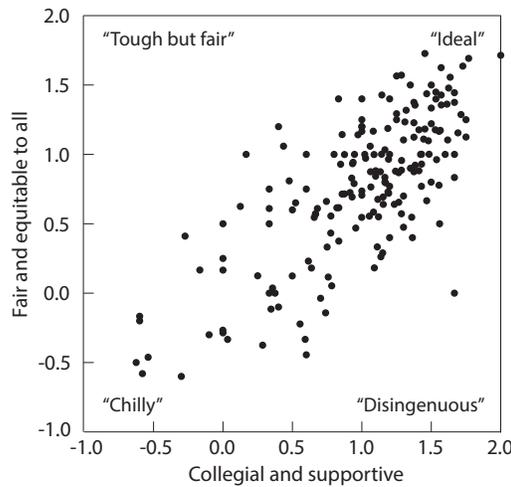
**Figure 5a. Students’ responses to questions regarding community and equity at MIT, averaged into academic majors or programs with five or more responses.**



Source: 2013 Student Quality of Life Survey, Institutional Research, Office of the Provost.

Note: Descriptive labels are shown for each of the extremes.

**Figure 5b. Faculty, staff, and postdocs’ responses to questions regarding community and equity at MIT, averaged into departments, labs and centers with five or more responses.**



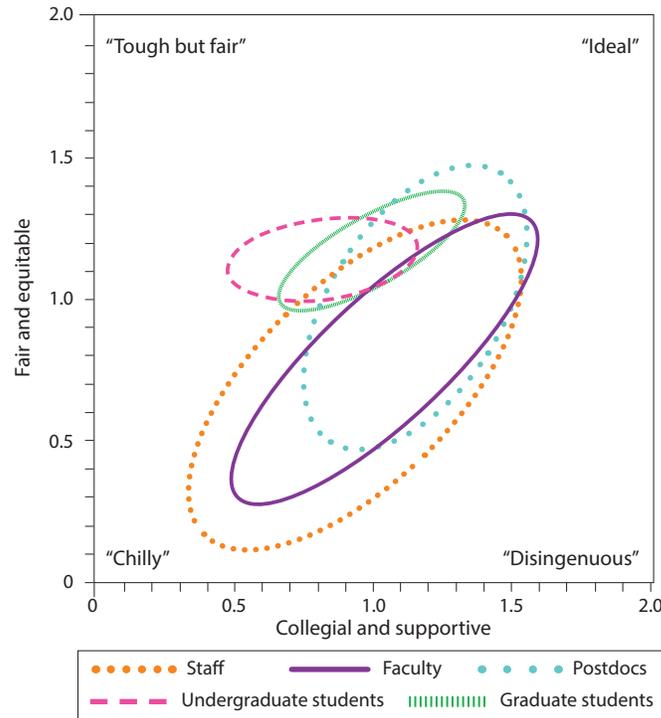
Source: 2012 Faculty and Staff Quality of Life Survey, Institutional Research, Office of the Provost.

Note: Descriptive labels are shown for each of the extremes.

Survey respondents represent 22 undergraduate majors, 28 graduate programs, 26 interdisciplinary centers hosting postdocs, 133 work units for staff, and 25 academic departments for faculty. Thus, the two panels have 50 and 184 points, respectively. The differences between the two panels are striking. While much of this difference may be due to the different “fairness” questions asked of students and employees, some of it probably reflects significant differences in experience.

To help understand the experiences of different groups, Figure 6 uses ellipses to represent the “one-sigma” contours for different groups using the data shown in Figures 5a and b. The result is a set of “community and equity contours” that present a statistical portrait of equity and inclusion.

**Figure 6. Statistical view of “community and equity contours” for different MIT community groups.**



Source: Combined results for students (2013 Student Quality of Life Survey), postdocs (2012 Postdoc Survey) and faculty and staff (2012 Quality of Life Survey). Data from Institutional Research, Office of the Provost.

Note: Descriptive labels are shown for each of the extremes.

While there are many conclusions one might draw from Figures 5a and b, and Figure 6, three are statistically robust and are supported by numerous conversations with community members. First, students generally feel that MIT faculty members are fair—tough, but fair. This is evidence for the culture of meritocracy at MIT discussed in Section 2. Second, staff members are least likely among all groups to experience MIT as fair and equitable or collegial and supportive. They also have the largest range of variation in both measures. Finally, the student experience of different departments and programs is much more uniform than that of postdocs, staff, and faculty: their community and equity contours are much smaller than the others.

The experiences of faculty, staff, and postdocs are strongly correlated by the subculture and leadership in each DLC or research lab. The relatively large degree of scatter arises from a significant variation among the departmental cultures. It is possible to quantify this by comparing the community and equity contours of Figure 6 with the same contours without

grouping into work unit or program. Grouping (averaging over work units, i.e., DLC or program) reduces the scatter. How much the scatter is reduced depends on how correlated the responses are within the work units.

Table 2 uses a method based on analysis of variance to estimate how much of the scatter in the two climate indicators used in Figures 5a and b is due to the DLC or program versus the general distribution. In other words, it shows to what extent the climate is locally determined versus being the same across MIT.

**Table 2. MIT department, lab, center, and program contribution to climate variance**

	Undergraduate students	Graduate students	Postdocs	Staff	Faculty
Collegial and supportive	54%	57%	5%	58%	71%
Fair and equitable	0%	16%	59%	59%	64%

Source: Combined results for students (2013 Student Quality of Life Survey), postdocs (2012 Postdoc Survey), and faculty and staff (2012 Quality of Life Survey), Institutional Research, Office of the Provost.

Note: Assume initially that all departments, labs, and centers (DLCs) have the same climate, and that survey responses are drawn randomly from a universal population with standard deviation  $\sigma_{pop}$ . The overall population is then reduced to a set of DLC responses by averaging the survey results within each DLC. If each DLC has  $n$  members, then the standard deviation of the DLC responses is  $\sigma_{pop}/\sqrt{n}$ . By contrast, if each DLC has a different climate and the standard deviation among DLCs is  $\sigma_{DLC}$  then the standard deviation of DLC responses will be constant as  $n$  increases. By comparing the grouped and ungrouped responses, one can determine the fraction of the variance that arises within DLCs:

$$f_{DLC} = \frac{\sigma_{DLC}^2}{\sigma_{DLC}^2 + \sigma_{pop}^2/n}$$

It is straightforward to generalize this to a set of DLCs with different numbers of responses. This fraction is presented in the table for different groups and survey questions.

The results in Table 2 show that for undergraduates, department choice has no effect (on average) on an undergraduate’s perception of *faculty* fairness, but whether the *department* is perceived as having a collegial and supportive environment does depend on the department. For postdocs, the effect is reversed, but the questions asked are slightly different. The postdoctoral supervisor may or may not create a collegial and supportive environment, but that outcome is essentially uncorrelated with the host DLC. On the other hand, the postdoc’s assessment of whether the DLC’s procedures are fair and equitable to all correlates with the DLC. These results are unsurprising.

For graduate students as for undergraduates, it is the faculty advisor whose fairness is being assessed, and with the exception of a few outliers in Figure 5a, the DLC appears to play little role in determining fairness.

For the other community and equity measures, however, and especially for staff and faculty themselves, most of the variance in measures of a “collegial and supportive environment” and in “fair and equitable procedures” across DLCs is due to the DLCs themselves, as opposed to arising from the natural variance of people irrespective of the unit of their primary appointment.

This does not mean that the host department or DLC determines a community member's experience. The variance of ungrouped distributions is larger than that of the grouped DLCs. It is only when averaged over members of a DLC that the local climate emerges as the largest signal. However, the strength of that signal shows that the host DLC has a significant effect on climate. Why this is so will be discussed in the next subsection.

Analyzing the community and equity data of Figures 4a and b using the demographic pairs shown in Figure 3 yields several statistically robust results:

- Female postdocs are 11% less likely than male postdocs to agree that their DLC's procedures are fair and equitable to all ( $p < .001$ ); the same is true, to a lesser extent, for female versus male faculty (9% difference,  $p < .05$ ).
- LBGTQ staff are 7% less likely than heterosexual staff to agree that their supervisor creates a collegial and supportive environment ( $p < .001$ ).
- International staff are 12% more likely than US citizens and permanent residents to agree that their supervisor creates a collegial and supportive environment ( $p < .05$ ).

These differences are smaller than the corresponding standard deviations across the DLCs, reinforcing the conclusion that climate is mostly local. Much more work can be done to analyze such survey data to assess the intersection of demographics, rank, and DLC. Such data can be very helpful for leaders and managers who wish to identify chilly climates in need of improvement, and to assess the effectiveness of their interventions.

The utility of campus survey data suggests it may be worthwhile to periodically review which questions are most useful in categorizing the data using clustering algorithms and other data-mining tools, and to prune the surveys of questions that do not have significant discriminatory power. Conversely, survey questions could be added that measure the alignment of espoused values, experience, and outcomes. For example, to assess whether progress is being made to enhance civility and respect, the item "People in my department/DLC are treated with civility and respect" could be added to the Quality of Life Survey.

## Qualitative data

Figures 5a and b and Table 2 suggest that the climate varies considerably across departments, programs, interdisciplinary centers, and central administrative units, more than can be accounted for by random (uncorrelated) variations. To understand why this is so, one may interview community members, as is done in the climate site visits mentioned at the beginning of this section. Although I undertook no such visits, during my year-long listening tour I heard from many community members who shared concerns about the treatment they or others had experienced. This qualitative data revealed that in a small percentage of DLCs, abrasive behavior has a chilling effect on climate. An example of such concerns was given near the end of Section 3.

Abrasive conduct is interpersonal behavior that causes emotional distress in others sufficient to disrupt their functioning. It includes micro-aggressions, favoritism, rudeness, incivility,

condescension, intimidation, and abuse.<sup>215</sup> A more commonly used term for the extreme form is bullying. In order to label the behavior and not the perpetrator, I will use instead the term abrasive conduct.

Some examples shared with me include these statements from community members:

*My supervisor or coworker does not say good morning or good evening to me, but greets others.*

*My supervisor was threatening coworkers who then refused to meet with her alone in her office (for a weekly progress meeting). I was asked to sit in on these meetings as a witness.*

*I am not allowed overtime. The work often cannot be done in forty hours. I am supposed to do the work that two support staff did last semester.<sup>216</sup>*

*My faculty member does not plan ahead to get grant proposal materials done on time, so there often is a difficult crunch period for me.*

*Staff are challenged to intuit desired outcomes for assignments as expectations are not explicitly outlined at the outset.*

*Divisive language used by leadership in team meetings contributes to a culture of intraoffice enmity.*

*We believe most students suffer severe power imbalances that safety measures, such as thesis committees, fail to keep at bay.*

I have also heard many examples of respectful and caring behavior:

*My supervisor checks in with me regularly to inquire about my workload and whether or not I can manage it. I am repeatedly encouraged to come forward if something becomes too much for me to handle time wise, and adjustments are made if that's the case. I am expected to be honest and forthcoming, and as a result, I am never reprimanded.*

*I feel respected as a human and a professional at MIT, by the faculty and students that I support. If I'm sick I get wellness check-in calls and encouraged to take the time needed. If they see me online doing work when they know I'm not well, they actually pick up the slack and insist that I get rest and get well.*

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<sup>215</sup> H. Levinson, "The abrasive personality," *Harv. Bus. Rev.*, May-June 1978, 86, published online at <http://hbr.org/1978/05/the-abrasive-personality/>; L. Crawshaw, "Workplace bullying? Mobbing? Harassment? Distraction by a thousand definitions," *Consulting Psychology Journal: Practice and Research Special Issue on Workplace Mobbing & Bullying*, 61, 263 (2009); doi: 10.1037/a0016590; published online at <http://psycnet.apa.org/journals/cpb/61/3/263/>; <http://www.kwesthues.com/mobbing.htm>.

<sup>216</sup> This is from a support staff member who is legally entitled to overtime pay for working more than 40 hours in a week. Working from home is included in this requirement.

*I have nominated co-workers and the administrative officer for an award. Several managers do respect support staff and promote the time for trainings to occur. MIT does strive to promote rewards and recognition throughout the Institute. My managers also provide “spot awards” for a job well done.*

It should now be clear why there is so much scatter in Figures 5a and b: some people are supported by colleagues while others are hindered. Behavior affects experience affects performance. Even mild forms of abrasive conduct—for example, micro-inequities—can diminish morale, motivation, and achievement. As famously noted by Virginia Valian,<sup>217</sup> “Mountains are molehills, piled one on top of another.”

And finally, my listening tour yielded some written advice from community members:

*It would be good if President Reif could communicate to the deans of all five schools to talk to each of their department heads in their schools, followed by meetings with the administrative officers and HR coordinators to meet with their support staff about respectfulness and fairness, and encourage a good collaboration of outside workshops and career development for all.*

*All of my people that I work with have been communicative to me. They have all been above board. My suggestion is there should be a mandatory program for all faculty, managers, supervisors, etc. to take a class in proper leadership.*

*I don't think I'm alone in my frustration over MIT's inability to sanction faculty members who bully others. I think we ought to take a principled stand against bullying.*

*MIT has a unique opportunity to confront graduate student mistreatment across academia and demonstrate to other institutions how to provide an environment that respects the well-being of its researchers.*

These comments from community members show the need for continued monitoring of the climate using qualitative methods. This is being done in a spontaneous fashion. Several representative bodies have conducted surveys of their members and are working to bring concerns to the attention of the MIT administration. I applaud these efforts. They include a survey on civility and respect at MIT conducted by the Working Group on Support Staff Issues, an advising survey conducted by the Graduate Student Council, and a survey conducted by the MIT Postdoctoral Association.

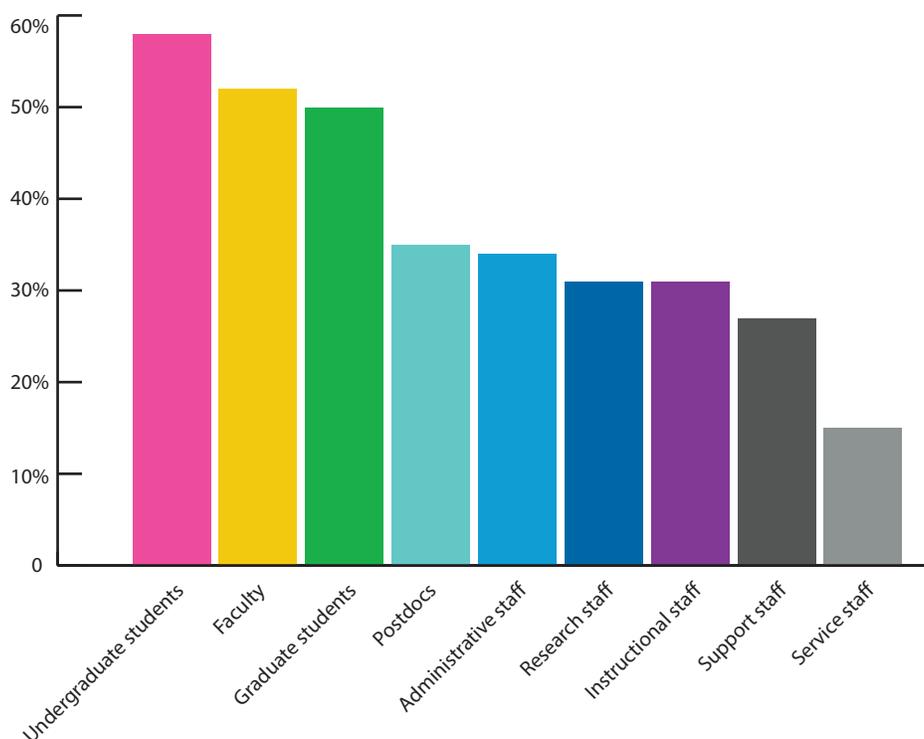
## Measures of stress

MIT is reported as being a place of high stress. The Quality of Life Surveys ask respondents how often they felt overwhelmed by all they had to do during the past year (faculty, staff, and postdocs) or within the current school year (students). The percentages reporting “frequently or very frequently” are shown in Figure 7.

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<sup>217</sup> V. Valian, *Why So Slow? The Advancement of Women* (MIT Press, 1999).

**Figure 7. Percentage of MIT community members who reported feeling “frequently” or “very frequently” overwhelmed by all they had to do during the past year, by group.**



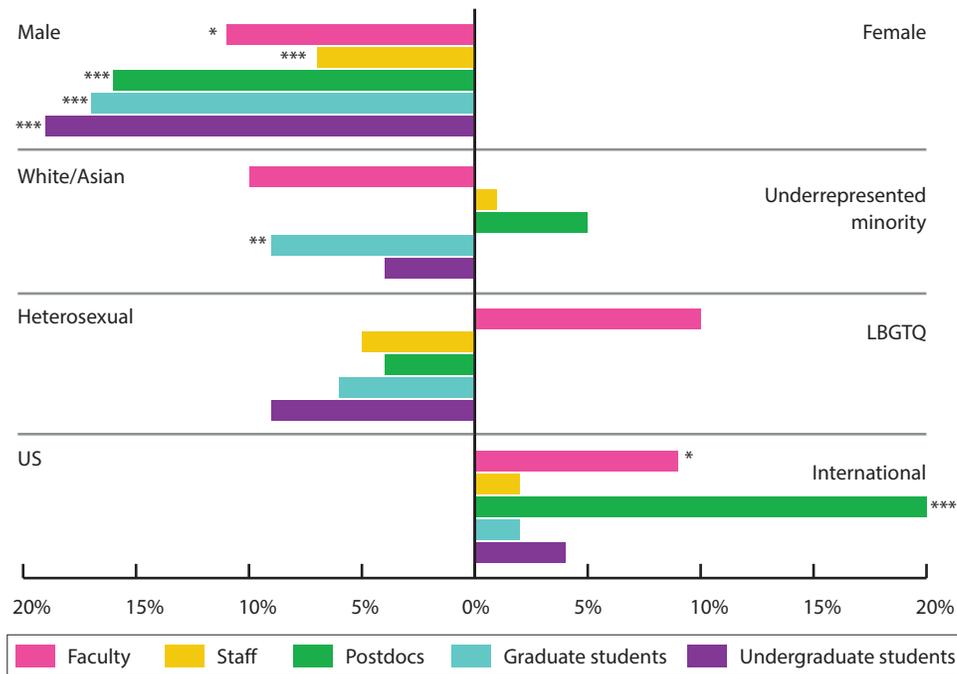
Source: 2012 Faculty and Staff Quality of Life Survey, 2013 Student Quality of Life Survey, Institutional Research, Office of the Provost.

Dividing these data into pairs of demographic groups, as in Figure 3, provides some insight into how much stress is experienced by different groups. The results are shown in Figure 8.

These results show a large range of self-reported experiences, with 67% of undergraduate women reporting being frequently or very frequently overwhelmed compared with 48% of undergraduate men. The corresponding numbers for graduate students were 61% (female) and 44% (male). Women at all levels are more likely than men to report being frequently overwhelmed at MIT, even though their overall satisfaction is the same (Figure 3). This result may be related to the Impostor Syndrome discussed in Section 1 or the gender confidence gap<sup>59</sup> discussed in Section 3, but it may also be due to the experience of micro-inequities and micro-aggressions, differences in workload, or other factors. Research is needed to understand the nature and origin of the gender difference found here and to identify remedies. One hopeful sign is that the differences today are much less than the 36% difference in the percentages of women and men who reported experiencing “extreme stress over the last two years” in a 1995 faculty survey.<sup>67</sup>

The main sources of stress reported by students in the 2013 Quality of Life Survey were managing their academic work and balancing multiple commitments (academic, extracurricular, personal). For undergraduates, 32% reported the expectation to perform as well as peers was very stressful, but only 10% reported that a competitive atmosphere on campus was very stressful. These data support the assertion in Section 1 that students compete more

**Figure 8. Pairwise differences in MIT community members' sense of feeling "overwhelmed," by group.**



Source: 2012 Faculty and Staff Quality of Life Survey, 2013 Student Quality of Life Survey, Institutional Research, Office of the Provost.

Note: Bars point in the direction of the group that is less frequently overwhelmed.

\* $p < .05$   
 \*\* $p < .01$   
 \*\*\* $p < .001$

with themselves than with others. Faculty members reported that the most extensive source of stress was lack of time to think and reflect (38%). This is the firehose in numbers.

Looking in more detail at the sources of stress for students in the 2013 Quality of Life Survey yields these differences:

- Female–Male: 21% difference in undergraduates reporting that *the expectation to perform as well as peers* was moderately stressful or very stressful.
- URM–(Non-URM): 14% difference in undergraduates reporting that *paying for school* was moderately stressful or very stressful.
- LGBTQ–Heterosexual: 18% difference in students somewhat or strongly agreeing that *the MIT administration is responsive to student concerns*.
- International–US: 38% difference in undergraduates (29% for graduate students) reporting that *immigration matters* were moderately stressful or very stressful.

These results are important diagnostics. They suggest that female undergraduates are more likely than males to experience Impostor Syndrome, and they show that URM students are more strongly affected by financial concerns than non-Hispanic white or Asian students. This is not surprising, as URM students are more likely to have parents who did not complete

college and to come from families with lower total income. More surprising, perhaps, is the finding that only 27% of LGBTQ students feel that the MIT administration is responsive to student concerns. Possible reasons for this will be considered at the end of Section 7. Finally, visa issues are a serious source of stress for international students. This fact has been noted and discussed in detail in the Report of the Working Group on International Student Support.<sup>218</sup>

## Micro-aggressions

Section 1 discussed the results of the 2014 Community Attitudes on Sexual Assault survey that was completed by 35% of students (including 46% of female undergraduates).<sup>57</sup> It revealed a serious problem of unwanted sexual behavior, especially as experienced by undergraduate women. In addition to providing disturbing statistics on sexual assault, the survey also showed that nearly half (48%) of female undergraduate respondents in social settings heard suggestions or implications that women don't have to meet the same intellectual standards men do to get into MIT. These micro-aggressions (defined in Section 4, and extended here to include gender and other group characteristics) may well fuel the greater doubt by female students about whether they belong described in Section 1, and add to the different experiences of stress of women and men described above in this section. Unfortunately, women, minorities, and LGBTQ students at MIT still face hostility.<sup>219</sup> Fortunately, much support is also offered through many offices, including the Violence Prevention and Response Team at MIT Medical, the Women's and Gender Studies Program, the Office of Minority Education, the Rainbow Lounge, and the Office of the Dean for Graduate Education.<sup>220</sup>

The data presented in this section show clearly that we have not yet achieved a respectful and caring community; we have the means to identify where and how we fall short; and we have the collective will to improve ourselves. These are the necessary and sufficient conditions for undertaking reforms that will make MIT famous for community, diversity, empowerment, and respect.

## 7 ADVANCING CARING AND RESPECT

The previous sections have identified five impediments to a respectful and caring community at MIT:

- Unconscious bias and micro-inequities (Section 4)
- Discrimination and harassment based on race, gender, sexual orientation, etc. (Section 4)
- Abrasive conduct (Section 6)
- Sexual assault (Section 1)
- Excessive stress (Section 6)

<sup>218</sup> <http://odg.mit.edu/about/committees/sponsored-by-odg/wgiss/>

<sup>219</sup> E.g., <http://www.wired.com/2014/12/mit-scientists-on-women-in-stem/>, <http://diversity.mit.edu/event/techprivilege/>, and footnote 164.

<sup>220</sup> <http://medical.mit.edu/community/violence-prevention>, <http://wgs.mit.edu/>, <http://ome.mit.edu/>, <http://lgbt.mit.edu/>, <http://odg.mit.edu/>.

To reiterate, unconscious bias is the automatic reliance on a stereotype while making judgments or decisions.<sup>175</sup> Micro-inequities are small slights against people who are different from oneself, often unintentional and arising from unconscious bias.<sup>153</sup> Discrimination and harassment are deliberate, not unconscious. Abrasive conduct is interpersonal behavior, not necessarily discriminatory, that causes emotional distress in others sufficient to disrupt their functioning.<sup>215</sup>

All of these factors weaken our community and hinder us as individuals and as an institution. We can do better to achieve the MIT mission by working collaboratively to solve these problems, guided by our core values. This section presents a series of recommendations for reducing the impediments to a respectful and caring community and for empowering our members to learn and do their best at MIT.

### **Recommendation C2: Launch an education campaign, employing bystander videos and leadership workshops**

*Launch a campaign to educate all community members in the use of bystander interventions and micro-affirmations to reduce micro-inequities, micro-aggressions, and all forms of misconduct. The campaign will use orientation programs for all community members, leadership and conflict management workshops, and a bystander intervention video competition.*

This recommendation addresses several of the impediments listed above: micro-inequities, discrimination and harassment, abrasive conduct, and sexual assault. The premise is that community members serving as active bystanders—people who take appropriate action when they see harm occurring—play a crucial role in preventing harm. Bystander intervention is a key to preventing sexual violence.<sup>58</sup> However, bystander intervention can be used to discourage any and all negative behaviors and encourage positive behaviors in a workplace or learning community.<sup>221</sup> The Conflict Management Office in the Division of Student Life supports active bystanders by working with MIT students, postdocs, faculty, and staff to improve their conflict management skills and giving them opportunities to practice and reflect on those skills.<sup>69</sup> Recommendation C2 seeks to extend the benefit of bystander intervention methods to the entire MIT community.

Many staff members have told me how helpful they find the active bystander pamphlet produced by the Southern Poverty Law Center, *Speak Up: Responding to Everyday Bigotry*.<sup>222</sup> A popular workshop using these methods is offered at the Institute Diversity Summit. The MIT Sloan School offers similar workshops to MBA students, who have, over the last two decades, helped create a set of three-to-five-minute videos presenting skits illustrating effective ways that active bystanders can respond in situations involving discrimination (race, gender, sexual orientation, or national origin), academic integrity violations, substance abuse, and bullying.<sup>223</sup> These videos illustrate the use of positive interventions taken by bystanders such as micro-affirmations—“apparently small acts, which are often ephemeral and hard-to-see,

<sup>221</sup> M. Scully and M. Rowe, “Bystander training within organizations,” *J. Int. Ombuds. Assoc.* 2, 89 (2009); available at [http://www.ombudsassociation.org/IOA\\_Main/media/SiteFiles/2009Vol2Journal.pdf](http://www.ombudsassociation.org/IOA_Main/media/SiteFiles/2009Vol2Journal.pdf).

<sup>222</sup> <http://www.splcenter.org/get-informed/publications/speak-up-responding-to-everyday-bigotry>; copies are available from the ICEO office, Room 4-250.

<sup>223</sup> <http://newsoffice.mit.edu/2011/iap-active-bystander-workshop>

events that are public and private, often unconscious but very effective, which occur wherever people wish to help others to succeed.”<sup>153</sup> Community members may view some of these videos at <http://diversity.mit.edu/bystander-videos/>.

The Sloan active bystander video series provides an excellent model for scaling up to all of MIT. It is well received by Sloan members because the actors are Sloan faculty, staff, and students, and the scenarios are relevant; thus Sloan community members are motivated to implement the ideas presented in these videos. Following this model, I am organizing an MIT-wide Bystander Intervention Video Competition, calling upon community members to produce and record their own short (three-to-five-minute) skits using readily available technology and then to upload the result to a video site such as YouTube. Our students are well versed in using such technology for public service announcements, for example as part of the “I, Too, Am MIT”<sup>164</sup> campaign, and the i3 videos introducing prospective undergraduates to the MIT residence halls.<sup>224</sup>

The Bystander Intervention Video Competition will run through calendar year 2015. Each month, one or two winning entries will be selected and featured at the ICEO [website](#). Funding will not be provided for video production, as low-cost methods are readily available for producing videos and posting them online, but prizes will be given to the winners. Entries are sought from student and staff groups, from collaborative teams in individual DLCs, and from other combinations of community members who wish to portray ways we can advance a respectful and caring community. Videos could also be class projects in MIT subjects such as 15.668 People and Organizations.

To be eligible, a video must illustrate a micro-inequity (including unconscious bias) or micro-aggression (i.e., a micro-inequity perceived as conscious bigotry) or a real or potential violation of MIT’s policies (harassment, sexual misconduct, academic and research misconduct, sabotage or retaliation, substance abuse, hazing, discrimination, safety violations, conflicts of interest). The video must also illustrate positive interventions taken by bystanders, such as micro-affirmations. Producers are encouraged to divide their skit into several scenes illustrating alternative forms of bystander intervention, as is done in the Sloan videos referred to above.

Some of the new video entries will be used in campus-wide educational materials, like the harassment complaint-handler video series was used during the 1993–1994 academic year.<sup>157</sup> However, the new videos will be much shorter and collectively will have a much broader scope than those of 20 years ago.

I recommend that during the 2015–2016 academic year, a team of students, postdocs, staff, and faculty develop an MITx course called Introduction to the MIT Community that will provide information about the MIT Compact, our history and traditions described in Sections 1–5, and our policies and procedures on issues discussed in this section. The curriculum will use video case studies, including those produced for the Bystander Intervention Video Competition. Ultimately, this course could help new community members learn about MIT culture, values, and norms, much as the i3 videos help new students learn about the dorms. Introduction to the MIT Community should be part of orientation for all new students and employees. Presented as part of MITx, it will become a powerful recruiting tool for the Institute.

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<sup>224</sup> <http://web.mit.edu/i3/>

The bystander video series is intended to advance conversations around MIT about how we treat one another and what it means to be part of a respectful and caring community. But videos and orientation activities alone are unlikely to significantly reduce the problems identified in Section 6. Real change will happen when everyone is talking about the issues and seeing them in a new light, so that deep-seated cultures can be shifted. To encourage this, as part of Recommendation C2 I recommend three additional steps.

First, during the 2015–2016 academic year, facilitated discussions about community standards should be held in each DLC (work unit) so as to reach all current faculty and supervisory staff, as was done in 1993–1994. This time, bystander intervention videos featuring members of a given DLC could be used in that DLC’s discussions to show members the relevance of the topics, as has been done for MBA students in the Sloan School. Feedback from these sessions will be helpful in the development of the MITx course Introduction to the MIT Community. Attendance will be expected of every faculty member and every staff supervisor.

Second, I recommend that every DLC head attend a leadership orientation workshop on promising practices for promoting an equitable and supportive environment, and take a four-hour course offered on the edX platform, ILX1 Inclusive Leadership Training: Becoming a Successful Leader.<sup>225</sup>

As an example, a half-day leadership workshop is offered annually for new department heads by the Office of the Provost, and a longer version is offered by MIT HR, Managing for Excellence.<sup>226</sup> Every department head and every head or director of an interdisciplinary center should attend a workshop of at least one-half day plus four hours of online content such as ILX1. Managers in central administrative units and other leadership roles (e.g., administrative officers) should attend a similar workshop.

Finally, I recommend that all DLC heads take MIT Conflict Management Training, which comes in programs ranging from one to 40 hours.<sup>69</sup> Another training opportunity recommended to me by executive coaches is Crucial Conversations training by VitalSmarts, which will be offered in Cambridge on March 10 and 11, 2015.<sup>227</sup> I recommend that tuition for this course be paid by MIT for any supervisor or DLC head who wishes to take it.

The effectiveness of these leadership orientation activities should be assessed not only by surveying attendees, but also by conducting exit interviews with DLC heads when they step down.

Recommendation C2 may be challenging within a culture that values autonomy and freedom of expression. Not everyone will be comfortable participating in bystander intervention or conflict management, and they need not do so. But these programs are called for because violations of our core values of equity and inclusion, of integrity, and of meritocracy at its best are unworthy of MIT. Efforts to address them head-on are very much in MIT’s spirit of learning by doing.

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<sup>225</sup> <http://www.edx.org/course/inclusive-leadership-training-becoming-catalystx-ilx1> starts February 18, 2015.

<sup>226</sup> <http://www.morassociates.com/mit/managingforexcellence>

<sup>227</sup> <http://www.vitalismarts.com/>; the training is based on the book by K. Patterson, J. Grenny, R. McMillan, and A. Switzler, *Crucial Conversations: Tools for Talking When Stakes Are High* (McGraw-Hill, 2011).

The fulfillment of Recommendations C1 and C2 will lead to a distributed leadership that understands MIT values, aspires to advance a respectful and caring community, and is skilled in working with others to reduce the barriers listed at the beginning of this section. In order to succeed, the leadership must also have clear and effective policies and procedures for dealing with violations of community norms. That is the subject of the next recommendation.

### **Recommendation C3: Review and update policies and complaint-handling procedures**

*MIT's policies and complaint-handling procedures should be reviewed and updated as needed. An investigator for formal complaints should be appointed.*

MIT has long had policies on “responsible and ethical conduct” and “relations and responsibilities within the MIT community.”<sup>228</sup> Among them is the Policy on Harassment, which states,

Harassment is any conduct, verbal or physical, on or off campus, that has the intent or effect of unreasonably interfering with an individual or group’s educational or work performance at MIT or that creates an intimidating, hostile, or offensive educational, work, or living environment. ...

The Institute is committed under this policy to stopping harassment and associated retaliatory behavior. All MIT supervisors have a responsibility to act to stop harassment in the areas under their supervision.<sup>229</sup>

MIT’s policies and procedures for community members are primarily contained in four online documents: Policies and Procedures, Rules and Regulations of the Faculty, the Personnel Policy Manual, and the Mind and Hand Book.<sup>230</sup> These documents are updated occasionally when new legal requirements are introduced or the MIT administration identifies gaps. There is not yet enough coordination among these documents, leading to some inconsistencies.

I recommend that the president appoint an ad hoc committee to review these documents and recommend updates where needed and simplifications where possible. I further recommend that this committee consider the examples of other universities that have adopted new policies on bullying or abrasive conduct.<sup>231</sup> Although our policy does not explicitly bar abrasive conduct, we have begun to call it out as inappropriate in an annual letter to the community.<sup>232</sup>

For consistency with MIT culture and traditions, in matters of personal conduct, one community standard should apply to all—students, postdocs, staff, and faculty. This tradition needs to be reaffirmed by both senior and distributed leadership.

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<sup>228</sup> <http://web.mit.edu/conduct/>, <http://web.mit.edu/policies/9/>

<sup>229</sup> <http://web.mit.edu/policies/9/9.5.html>

<sup>230</sup> <http://web.mit.edu/policies/>, <http://web.mit.edu/faculty/governance/rules/>, <http://hrweb.mit.edu/policy/>, <http://studentlife.mit.edu/mindandhandbook>

<sup>231</sup> E.g., Oregon State University: <http://oregonstate.edu/oei/bullying-policy>; University of Massachusetts—Amherst: <http://www.umass.edu/chancellor/content/workplace-climate-and-bullying> and <http://chronicle.com/article/U-of-Massachusetts-Mounts/145785>; University of Missouri: <http://civility.missouri.edu/>.

<sup>232</sup> [http://orgchart.mit.edu/node/148/letters\\_to\\_community/](http://orgchart.mit.edu/node/148/letters_to_community/)

Many community members have expressed concerns to me about the daunting nature of MIT's complaint-handling procedures.<sup>233</sup> The Ombuds Office and HR have helpful documents describing the options.<sup>234</sup> However, more should be done to clarify and streamline the procedures and to improve implementation. For example, some DLC heads have expressed to me their belief that they can take action to resolve conflict only if a complaint has been filed, particularly if a faculty member is involved. This reflects a misunderstanding of the faculty leadership role and of faculty autonomy. Much of the difficulty stems from the difference in status and power between faculty and other members of the community. Faculty members may be unaware of how difficult it is for some community members—especially students and support staff members—to talk with them about concerns involving the faculty member. This limits the effectiveness of MIT's informal complaint resolution process, which calls for such discussion as the first step.<sup>235</sup>

Moreover, the formal complaint resolution process differs for complaints raised against faculty and non-faculty. Despite our explicit no-retaliation policy (Policies and Procedures Section 9.6.5.1), many community members are fearful of retaliation by faculty members or others in power. MIT's core values of meritocracy and inclusion are tarnished when it is perceived that faculty members are not being held to the same community standards as others.

I recommend that MIT's complaint resolution procedures be reviewed, that statistics be collected on formal complaints, and that each year an internal report be prepared for the president summarizing the numbers of complaints heard by type and employee category, and giving recommendations for improving the complaint resolution process based on experience.

Further, I recommend that several steps be taken to assist DLC heads and to improve the handling of complaints involving faculty members. To handle internal complaints that can be resolved within a DLC, it would be ideal to have one or more designated faculty internal mediators within the DLC who have received training in conflict management. This will be made much simpler if all DLC heads receive such training following Recommendation C2 above.

Faculty internal mediators will be most helpful in resolving complaints informally. However, because of the perceived power of faculty relative to other groups, it is very helpful to have resources for other community members, such as the graduate student REFS Program.<sup>178</sup> I recommend the extension of the REFS Program to include postdocs; this can begin with postdocs who have taken the tier 2 or 3 MIT conflict management training.<sup>69</sup>

When informal processes fail to resolve a complaint of harassment or discrimination against a faculty member, a complainant may request an investigation by the Officers of the Faculty as described in Section 9.6.4 of Policies and Procedures. This process combines fact-finding and judicial process in a group of faculty who may have no formal training in conflict resolution. Similarly to allegations of sexual misconduct against students, it would be preferable to have a trained investigator (a permanent staff member, not a faculty member) appointed as a fact-finder, similar to the Title IX investigator role for students. A similar recommendation

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<sup>233</sup> <http://web.mit.edu/policies/9/9.6.html>

<sup>234</sup> <http://ombud.mit.edu/sites/default/files/documents/Resources%20for%20Handling%20Complaints%203-14.pdf>, <http://hrweb.mit.edu/employee-labor-relations/complaint-resolution>

<sup>235</sup> <http://web.mit.edu/policies/9/9.6.html#sub2>

was made in 1995 by the Ad Hoc Committee on Grievance Investigation Procedures,<sup>236</sup> which proposed the formation of a joint faculty/staff panel that would oversee investigations and could appoint trained investigators who may be MIT faculty or staff or outside experts, and would hear complaints against either faculty or staff. This recommendation was never implemented. Instead, the current independent investigation panel model<sup>237</sup> was implemented, which creates an ad hoc faculty panel for each complaint against a faculty member. A single neutral fact finder may be best for straightforward violations of policies, while a panel of faculty fact finders may be preferable if there is a chance of mediating a resolution, or if the weight and judgment of a faculty panel is needed to effect a particular outcome. In the latter case, it is important that the faculty panel members be trained in mediation and conflict management, which will be the case if Recommendation C2 is fulfilled.

Recommendations C2 and C3 address some impediments to a respectful and caring community. The next three recommendations seek to empower community members to learn and do their best at MIT.

### **Recommendation C4: Organize an annual Community and Equity Challenge competition**

*Organize a “business plan” competition for projects that strengthen the MIT community. As with the \$100K Competition, offer engagement opportunities with community stakeholders, mentoring, and prizes.*

MIT’s core value of innovation and entrepreneurship is supported by a prominent and effective set of programs and competitions, such as the \$100K Entrepreneurship Competition,<sup>56</sup> that support MIT’s mission “to bring [our] knowledge to bear on the world’s great challenges.” The Community and Equity Challenge will strengthen our community itself by leveraging its talent broadly, using a model that has already proven effective in the \$100K Entrepreneurship Competition and the IDEAS Global Challenge. Adopting a crowdsourcing strategy to strengthen the community itself engages everyone in the core values of learning by doing, meritocracy, collaborative problem solving, innovation and entrepreneurship, diversity, equity and inclusion, and service.

The Community and Equity Challenge has a secondary goal of improving the engagement and satisfaction of community members, especially staff members who have excellent ideas for how to strengthen the community but may lack the means to carry them out. The Community and Equity Challenge will bring the opportunity of social intrapreneurship, discussed in Section 5, to the whole community.

The outcome of this annual competition will be a set of projects that serve the MIT community rather than external communities or business creation. An example along these lines is the MIT Creative Arts Competition,<sup>238</sup> which encourages innovative use of the arts as a core component of a business plan. The Community and Equity Challenge concept would involve the assembly of a team (with breadth across the MIT community being an asset—students, postdocs, staff, faculty, alumni, and affiliates would be welcome) who would be judged and provided

<sup>236</sup> <http://libraries.mit.edu/archives/mithistory/presidents-reports/1995.pdf>

<sup>237</sup> <http://web.mit.edu/policies/9/9.6.html#sub4>

<sup>238</sup> <http://arts.mit.edu/10k/>

with coaching and mentoring by community members and alumni experienced in social intrapreneurship. The mentoring would be modeled after the highly successful MIT Venture Mentoring Service,<sup>239</sup> which brings a network of experienced professionals, many of them MIT alumni, to mentor entrepreneurs in the MIT community.

Community and Equity Challenge teams would be coached in the development of a proposal and implementation plan for their project, which would then be pitched to a panel of judges. Although proposals should support the ICEO mission “to advance a respectful and caring community that embraces diversity and empowers everyone to learn and do their best at MIT,” the competition should be run not by the ICEO but by other MIT entities (e.g., the Innovation Initiative or Public Service Center) that have expertise in running entrepreneurship competitions, or in partnership with the iCampus Student Prize.<sup>240</sup> The ICEO would help to find mentors and judges and raise funding for this effort.

Each year, up to two proposals would receive funding (up to \$10,000 each), and the teams would receive mentoring as desired to develop their initiatives. The program should first operate for a trial period of up to three years and then be evaluated to assess the impact in building community through interviews of community members and evaluation of how well the teams achieved their proposed outcomes.

### **Recommendation C5: Implement a paid “Time for Learning and Doing” during work hours program**

*Grant all full-time staff (including research staff and postdocs) two hours per week for professional development and/or community service.*

Many staff members and postdocs have shared with me the excitement they feel when they participate in community service and learning. The energy and enthusiasm they bring to collaborative projects is inspiring and contagious. Imagine the impact MIT could make if everyone felt that they were full participants in a learning-by-doing community. This would be MIT inclusion at its best.

Many community members—especially faculty and students—are able to pursue interests beyond their immediate duties for professional development or community service activities, but, for a variety of reasons, not everyone can. If MIT is to be true to its values of equity and inclusion, then all community members should have the opportunity to learn and to serve.

One way to strengthen our brand by leveraging our core values would be to grant every full-time employee some paid time each week for professional development and/or community service (internal or external). An average of two hours per week might be enough to produce tangible benefits, including improvement of engagement and commitment with minimal loss of time to the primary assignment. The effects on satisfaction and engagement can be measured using MIT’s Quality of Life Surveys supplemented by employee engagement questions, as was done in 2012 for staff in the Office of the Executive Vice President and Treasurer (Section 6), and supervisors can be interviewed to assess their satisfaction and the impact on employee

<sup>239</sup> <http://vms.mit.edu/outreach-programs>

<sup>240</sup> <http://icampusprize.mit.edu/>

productivity. Given the MIT culture of overworking, 5% Time for Learning and Doing may well increase rather than decrease overall productivity and thereby pay for itself in the long run.

To succeed, this effort would have to reward employees for time taken from other pressing projects, and avoid an undue burden on the employee or group. For example, research staff should be given credit for service work as part of their annual performance evaluation. This is important to counter the tendency to focus on short-term gains over long-term development. The reason for allowing either professional development or community service work to qualify is to provide maximal flexibility to the preferences of the employee and the needs of the group. All postdocs, as trainees, should have the opportunity for professional development activities.

For those employees whose contracts do not permit paid time for non-essential professional development or service, other options should be explored, including providing supplemental compensation. In the future, if this program proves successful and becomes adopted Institute-wide, funding agencies or other sponsors could be informed that MIT policy is to grant 5% release time for learning and doing, and be encouraged to permit that under the contracts.

I propose that, for a one-year trial period, Time for Learning and Doing be offered to some administrative and support staff, and that it then be assessed for effects on employee satisfaction and engagement, and on productivity.

To assess this intervention, I propose conducting a randomized experiment that grants some employees Time for Learning and Doing and compares their satisfaction, engagement, and productivity with a control sample. Several faculty members at the Sloan School of Management are experienced in conducting such workplace experiments. Doing this would put MIT at the cutting edge of business innovation, with the added benefit of better aligning our principles (learning by doing) with our practices (applying the principle to all employees). Human Resources could work with faculty experts to develop an experimental protocol and assessment plan. If the effort is successful, then it should be phased in for more employee categories.

Under this plan, requests for Time for Learning and Doing are presented to supervisors. Approval for an average of two hours per week should not be unreasonably withheld. Usage could be restricted to activities that improve an individual's knowledge or skills or serve needs of the MIT community. Examples include Community Wellness programs at MIT Medical,<sup>241</sup> learning and development opportunities provided by HR,<sup>242</sup> participation in employee resource groups,<sup>184</sup> joining a team for the Community and Equity Competition, participation in the Working Group on Support Staff Issues, participation in mentoring initiatives, and attending or volunteering for the Institute Diversity Summit, Commencement, the Excellence Awards, or other community events.

There are two valuable learning resources for all employees that support the goals of Learning and Doing but are not part of Recommendation C5. First is the vast set of online materials available at no cost to MIT community members through Atlas,<sup>243</sup> including

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<sup>241</sup> <http://medical.mit.edu/community>

<sup>242</sup> <http://hrweb.mit.edu/learning-development>

<sup>243</sup> [https://atlas.mit.edu/atlas/Main.action?tab=home&sub=group\\_training](https://atlas.mit.edu/atlas/Main.action?tab=home&sub=group_training)

- **MIT Learning Center:** Environmental, health, and safety compliance training and many other training courses, including the Preventing Sexual Harassment module required of all new employees.<sup>244</sup>
- **lynda.com:** Video tutorials in many popular software, design, and business skills.
- **Skillsoft:** A pioneering web-based learning catalog of thousands of courses, books, and videos developed by industry-leading learning experts.

The second learning resource is the employee Tuition Assistance Plan, under which all MIT employees working half-time or more for more than one year are eligible for up to \$5,250 per year in reimbursement for tuition and fees for courses taken for credit and a grade in a degree program.<sup>245</sup> This program has enabled many MIT employees to earn degrees, including graduate degrees. Besides classes taken outside MIT, the program includes MIT courses taken as a special student or in the Advanced Study Program.<sup>246</sup>

Recommendation C5 does not apply to students and faculty, as they already have flexibility to devote time to professional development and community service. However, the spirit of the recommendation would encourage students and faculty to participate in such activities. Students could take advantage of Career Fair Day, a day with no classes each fall.<sup>247</sup> Students who do not want to spend the whole day visiting prospective employers could engage in other professional development or community service activities that day. Because faculty do not teach on that day, joint student-faculty service projects could be arranged, or community-building workshops held. This would provide an excellent opportunity for students and faculty to engage outside the classroom.

One community member has shared with me another idea for supporting MIT's core values through volunteerism, which is separate from but related to Recommendation C5: the use of a time bank. A time bank is a system for providing exchange of services using a commitment of time. Regardless of rank, education, or any other privilege, one hour is the same unit to all who participate. The service one provides or receives, however, is entirely up to the individual. Thus time banking is equitable, inclusive of all, and empowering of diverse talents.

An MIT time bank would help us exchange the most precious commodity for many in our community: time. For example, if I tutor a student for three hours in physics, I could use that credit to receive three hours of web programming help or childcare—the fixed unit of currency is an hour of someone's assistance. A time bank for MIT community members would further build community irrespective of demographics, position, or privilege. This seems an excellent idea for an innovative community member to initiate, perhaps by creating an app in a hackathon.

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<sup>244</sup> <https://sbsjp601.mit.edu/irj/portal/learning?course=RCC91010w>

<sup>245</sup> <http://hrweb.mit.edu/benefits/tuition-education/tuition-assistance-plan>, [http://hrweb.mit.edu/sites/default/files/tuition\\_taplan\\_spd.pdf](http://hrweb.mit.edu/sites/default/files/tuition_taplan_spd.pdf)

<sup>246</sup> <http://hrweb.mit.edu/benefits/tuition-education/tuition-assistance-plan/special-students>

<sup>247</sup> <http://career-fair.mit.edu/>

## Recommendation C6: Establish a Mentoring Resource Center

*Establish a small work unit to provide information, training, and support of mentoring across all sectors of the community, including an online mentoring portal and a blended matching process.*

MIT has a long history of providing mentoring to its faculty, staff, and students (although the term “advising” is more often used for the latter, and connotes a lesser degree of commitment by the advisor to the advisee). Mentoring helps protégés (also called mentees) at all levels to learn and grow in their profession. The term “mentoring” was introduced at MIT in the 1970s when Mary Rowe began promoting it as a way to eliminate barriers to equality for women. During the 1990s, women faculty members produced a classic guide, *The MIT Mentoring Booklet*. Updated in 2006, it remains one of the best guides to faculty mentoring that I have ever seen.<sup>248</sup> Since the reports on the status of women faculty almost 15 years ago,<sup>167,168</sup> systems have been implemented to ensure that all untenured faculty members receive mentoring.<sup>249</sup>

Mentoring of junior faculty is an excellent start. Expanding mentoring practices to other groups is a good opportunity to empower others to learn and do their best at MIT. The Council on Family and Work has analyzed MIT Quality of Life Survey data for faculty and staff and has determined that adequate mentoring is a predictor of the ability to integrate work and family/personal life, but most employees (other than junior faculty) do not receive such mentoring.<sup>250</sup> A Mentoring Resource Center would support this expansion.

MIT’s vice president for research encourages supervisors to hold an introductory meeting with each of their postdocs to set overall goals and construct a mentoring plan; this is followed by annual review meetings to evaluate overall progress and to discuss career development and future goals. Excellent template materials are available at the MIT postdoc information website.<sup>251</sup> Many postdocs report that they receive adequate mentoring, but others would be helped by the services of a Mentoring Resource Center.

Mentoring is especially important for students. The Graduate Student Council has established an Advising Initiative seeking to improve the mentoring provided by faculty advisors.<sup>252</sup> Graduate Women at MIT operates a mentoring program that matches graduate women with successful professors and alumni through mentoring groups.<sup>253</sup> The Office of Minority Education offers a similar program for undergraduates, the Mentor Advocate Partnership, which includes staff mentors as well as faculty.<sup>254</sup> The Community Catalyst Leadership Program pairs MIT alumni mentors with undergraduates.<sup>255</sup>

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<sup>248</sup> <http://web.mit.edu/cortiz/www/Diversity/MITMentoringBooklet.pdf>

<sup>249</sup> However, the quality of mentoring varies, e.g., <http://web.mit.edu/fnl/volume/232/kochan.html>.

<sup>250</sup> <http://hrweb.mit.edu/workfamily/>

<sup>251</sup> <http://postdocs.mit.edu/career-development/mentoring-and-advising>

<sup>252</sup> <http://gsc.mit.edu/programs-initiatives/advising/>

<sup>253</sup> <http://www.gwamit.org/mentoring-program>

<sup>254</sup> <http://ome.mit.edu/programs-services/mentor-advocate-partnership>

<sup>255</sup> <http://alum.mit.edu/students/NetworkwithAlumni/cclp>

In 2013, the Faculty unanimously passed a resolution stating that “every freshman should have a faculty member serving as mentor or advisor.”<sup>256</sup> The call sought not only to increase the quantity of freshman advising performed by faculty, but also the quality. In the two academic years since this resolution, the Faculty have responded with significant increases in the numbers of freshman advisors and their engagement (e.g., by participation in events organized by the Undergraduate Advising and Academic Programs Office, which has created a mentorship website<sup>257</sup>).

However, many undergraduates report dissatisfaction with mentoring beyond the freshman year once they have declared a major. The sophomore and junior years are crucial periods for professional development. Many students report feeling less confident and less directed when they graduate than when they began as freshmen: 21% of the respondents to the 2014 Senior Survey reported that during MIT their self-esteem/self-confidence had developed “very little or none.” I have even heard students say they are attracted to jobs in consulting, rather than going on to graduate school, because the top consulting firms provide valuable career advising and preparation that was not available from mentors at MIT. We must improve our mentoring of all students.

Staff members are the group most lacking in mentoring opportunities at this time (especially sponsored research staff, except at Lincoln Laboratory, which has several popular mentoring programs). The Human Resources Department has responded by offering a pilot mentoring program that pairs administrative staff mentors and mentees across different work areas.<sup>258</sup> Other mentoring programs for both administrative and support staff exist in several schools and departments, but there is little or no interaction between them or learning from efforts elsewhere, even across MIT. Mentoring is a hot topic whose sum is ready to grow larger than its parts.

MIT HR’s Leader to Leader Program is a nationally recognized best-practice leadership development program for staff.<sup>259</sup> Participants are grouped in teams to work on projects that improve processes or enhance the MIT community. In 2014, a Leader to Leader team worked on a Mentoring@MIT project to assess the value of an MIT-wide staff mentoring program. They analyzed both the value proposition and the challenges of implementing such a program and made the following recommendations:

1. Apply MIT’s blended learning approach to Mentoring@MIT
  - a. Establish a Mentoring Resource Center and online mentoring portal co-sponsored by the ICEO and HR
  - b. Hire a dedicated Mentoring Coordinator
  - c. Develop a blended approach to the matching process
  - d. Create training modules on MITx

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<sup>256</sup> <http://web.mit.edu/fnl/volume/254/grove%20et%20al.html>

<sup>257</sup> <http://mentorship.mit.edu/>

<sup>258</sup> <http://newsoffice.mit.edu/2013/quiet-place-think-out-loud>

<sup>259</sup> <http://hrweb.mit.edu/l2l>

2. Commit to an Institutional culture of mentoring
  - a. Convene a steering committee to provide guidance and connect Institute leadership to the program
  - b. Develop robust communications plans to promote the value of mentoring, launch the program, and recruit mentors and mentees
  - c. Connect mentoring opportunities with current administrative processes, such as the Performance and Development Review
  - d. Link mentoring resources through Atlas by using an online portal
  - e. Commit resources to make this an institutional value
  
3. Develop a vision for the future of Mentoring@MIT
  - a. Become a leader in the space by conducting bold experiments related to mentoring (cross-silo, mentoring circles, etc.)
  - b. Continue to leverage technology (MITx, mentoring.mit.edu) to further mentoring practices at MIT
  - c. Build mechanisms to monitor the outcomes of mentoring

I support these recommendations, with the proviso that the services of a Mentoring Resource Center should be available to all community members, not only staff.

### **A more inclusive and welcoming community**

The recommendations given above, if fully implemented, would significantly advance equity and inclusion at MIT. Each would require a substantial effort and some resources. There are other areas where increments to existing efforts would also strengthen the community. Among these, I highlight three.

#### **Efforts to mitigate stress**

As noted previously, the MIT culture produces high stress for many and discourages asking for help. Faculty members almost universally encourage students to seek help from Student Support Services and MIT Medical, but they, too, can use such help. When faculty members engage in abrasive conduct, the effects can be corrosive on many around them. Specialized coaching can save the faculty member and those around him or her from a downward spiral.<sup>260</sup>

The MIT Work-Life Center helps people manage stress through its many programs on topics such as parenting, elder care, and work/family integration.<sup>261</sup> Community Wellness at MIT

<sup>260</sup> L. Crawshaw, "Coaching abrasive leaders: Using action research to reduce suffering and increase productivity in organizations," *Int. J. Coach. Organ.*, 29, 8(1), 59 (2010); available online at <http://www.bosswhispering.com/Coaching%20Abrasive%20Leaders.pdf>.

<sup>261</sup> <http://hrweb.mit.edu/worklife/welcome>, <http://web.mit.edu/facultyworklife/>

Medical offers mindfulness meditation, yoga, tai chi, childbirth preparation, and programs to support wholeness for staff and faculty.<sup>241</sup> MIT Recreation offers many outstanding fitness and wellness programs.<sup>262</sup> The Personal Assistance Program offers counseling and mental health referrals to staff and faculty.<sup>263</sup> Unfortunately, Policies and Procedures describes this program, in part, as one that can be implemented by a supervisor upon evidence of unsatisfactory performance, making it seem punitive.<sup>264</sup> This unfortunate wording should be changed. Consideration should also be given to replacing the Personal Assistance Program with a comprehensive Employee Assistance Program.

All of these programs are outstanding and underutilized. I would not be a successful academic leader without their help. I believe the MIT community would be stronger, and its members would be happier and less stressed, if more faculty and staff members were to use these programs.

Similar programs exist by and for students, including those belonging to the Students at MIT Allied for Student Health (SMASH).<sup>265</sup> I support the recommendation of the Presidential Transition Advisory Cabinet that MIT create a presidential-level standing committee on mental health and wellness.<sup>32</sup> It is important for students and faculty to work together to reduce the stigma associated with receiving mental health services and with asking for help. A good start would be for the administration to solicit student feedback on its mental health services, including MIT Medical, and Student Support Services.

Most of these measures are aimed at managing stress, without addressing its root causes. As described in Sections 1 and 6, the pace and pressure of academic life at MIT are largely responsible for high stress, and these have proven to be highly resistant to change, due to the cultural value of achievement. Nonetheless, starting with the faculty, we should strive to reduce the pace a little, to benefit ourselves and the community. As I noted in Section 1, our students emulate us, and sometimes they succeed more than we would like.

### ***Work-life integration***

Although the MIT Work-Life Center and Community Wellness offer wonderful programs to help community members manage work and life outside work, some needs require different resources. Among these are maternity and parental leave and assistance with childcare. The importance of these topics has long been understood for faculty: faculty members (both men and women) are eligible for one semester of teaching relief at full pay for the care of and responsibility for a newborn, adopted, or foster child, and female faculty members are automatically granted tenure-clock extensions for childbirth.<sup>266</sup> Faculty are also given priority at the Technology Childcare Centers (TCC).<sup>267</sup> While these benefits are understandable and appropriate given the large financial investment MIT makes in each faculty member, combined

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<sup>262</sup> <http://www.mitrecsports.com/index.php/fitness-wellness>

<sup>263</sup> <http://medical.mit.edu/services/personal-assistance-program>

<sup>264</sup> <http://web.mit.edu/policies/7/7.4.html#sub4>

<sup>265</sup> <http://web.mit.edu/smash/>

<sup>266</sup> <http://web.mit.edu/policies/7/7.5.html#sub3>, <http://web.mit.edu/policies/3/3.2.html#sub1>

<sup>267</sup> <http://childcare.mit.edu/how-apply/application-policies/enrollment-priority>

with the challenges junior faculty face in working towards tenure and the competition for faculty with other universities, they do not address significant needs of other parents, especially graduate students and postdocs. TCC offers employees and postdocs partial scholarships for childcare slots, while the Office of the Dean for Graduate Education offers childbirth accommodation support to graduate student mothers as well as a popular program of backup childcare.<sup>268</sup> These programs are greatly appreciated by those who are able to benefit from them, but many, including some faculty, are caught in the middle and cannot afford the costs of full-time childcare at TCC.

I recommend that MIT explore options to provide more uniform family and medical leave for all non-faculty employees, postdocs, and graduate students, and to increase the scholarship funds available for childcare. This will require additional fundraising, which should be considered as part of MIT's capital campaign. In addition, not only should all new buildings have lactation rooms and gender-neutral single-occupancy restrooms, but building plans should also consider reserving funds to be used for childcare, either in the form of new sites added to the Technology Childcare Centers, or scholarship funds made available to the MIT community. This last recommendation is made in the spirit of the Percent for Art program and could be named Percent for Family-Friendly Facilities.<sup>269</sup>

One final area where MIT has already taken significant steps to enhance work/family integration and employee satisfaction, and where extension to more employees may be possible, is in providing flexible work arrangements. The Council on Family and Work's analysis of the MIT Quality of Life Survey data for faculty and staff found that having a supervisor who is open to flexible work arrangements is the strongest predictor of employees' ability to integrate work and family/personal life.<sup>250</sup> DLC heads and administrative officers should be open to employees' requests for flexible work arrangements and should be provided with examples of successful arrangements so that they are aware of the mutual benefits. During the hiring/onboarding process, every employee should be told the options for flexible work arrangements, both on a regular basis and in the event of major life events.

### ***Fostering multiculturalism and social justice***

As noted above, MIT is a remarkably diverse community that offers community members many ways to celebrate and learn from its diversity. Many groups offer regular programs, some of which are listed in Section 5. In my view, what these efforts need most is increased participation by community members, especially faculty members, whose leadership is important in community matters. By focusing on efforts that improve the faculty experience, we might increase faculty participation. Thus, planning for such efforts as the Institute Diversity Summit should include input from faculty members as to what would be most helpful for them.

Many of MIT's multicultural efforts to foster an inclusive and affirming campus climate are based in the Office of Multicultural Programs in the Division of Student Life. This office provides oversight for the Black Students' Union and the Latino Cultural Center, advises and

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<sup>268</sup> <http://childcare.mit.edu/tuition-scholarships/mit-childcare-scholarship-program>, <http://odg.mit.edu/community/resources-for-grad-families/>

<sup>269</sup> <http://web.mit.edu/policies/14/14.7.html>, <http://listart.mit.edu/collections/percent-art>

supports culturally focused student clubs and organizations, and serves as a safe space for students to develop connections and broaden their scope. The Office of Multicultural Programs exists to help students succeed, while providing advocacy, support services, trainings, workshops, leadership development, and culturally based programs. It provides students with opportunities to engage in meaningful dialogue and activities that will assist them in becoming change agents at MIT and beyond. Among these is the Multicultural Conference, which offers two provocative days of workshops, speakers, community building, action, and reflection centered on issues of culture, identity, and social justice at MIT and beyond. MIT students return to campus inspired and supported to promote equality and value diversity as pillars of inclusive excellence.

Some colleges and universities have found it helpful to build a multicultural center—a campus space to link communities, provide education, and empower community members. For example, the Davis Center of Williams College houses a Gender and Sexuality Resource Center and student groups, and hosts a faculty fellowship program to engage faculty members in multicultural affairs.<sup>270</sup> A similar organization could strengthen MIT's multicultural programs and enhance faculty leadership.

MIT's multicultural student programs are currently either divided between Walker Memorial and the Student Center, or without a home at all. If Walker Memorial is converted to new use, MIT will need to relocate the Black Students' Union and the Rainbow Lounge. This would provide an opportunity to co-locate these offices near the Latino Cultural Center. Ideally, a Women's Center, an Asian Student Center, and a Native American Student Center would also be located in a future multicultural center that could also include the International Students Office and an office for the First Generation Program. In this way, many student groups dedicated to different aspects of multicultural affairs could have greater visibility and interaction than they do at present. This would benefit in particular those groups whose members suffer additional stress, revealed by the differential indicators in Section 6: women, URM and first-generation undergraduates, LBGTQ students, and international students.

In Section 6, Quality of Life Survey responses of LBGTQ students revealed a concern that the MIT administration is not fully responsive to student concerns. The survey reveals that LBGTQ students report feeling less safe on campus, that they have less sense of belonging, that the campus climate is more hostile/intolerant, and that they have less access to resources (such as LBGTQ-competent advising, professional development, and mentorship). Conversations suggest that this is due in part to a low level of staffing and funding. Because LBGTQ students are coming out at younger ages and seeking out resources at higher rates than in the past, and because LBGTQ students are roughly four times more likely to experience depression and commit suicide, increasing the staffing and financial support for LBGTQ community members may be one of the most effective investments MIT can make for its students in the near term.

Students and faculty have called for a greater commitment to social justice at MIT in the context of, for example, race, gender, religion, and income inequality. The Black Lives Matter panel on December 10, 2014, recommended that all MIT students take a class in social justice.<sup>166</sup>

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<sup>270</sup> <http://davis-center.williams.edu/>

MIT offers excellent social justice subjects in humanities, philosophy, political science, and urban studies and planning, but they are often under-enrolled. Social justice and ethics could be added as a field of concentration in the Humanities, Arts, and Social Sciences Requirement.<sup>271</sup> Students can also learn social justice and ethics by doing—for example through participation in the Community Innovators Lab and D-Lab.<sup>272</sup>

## 8 ASSESSING A DIVERSE AND EQUITABLE COMMUNITY

The next two sections focus on diversity of and equity in the MIT community. How diverse is our community? What are the measures? Are we achieving the benefits of diversity? If not, how can we improve? These are typical questions answered in a diversity report. At MIT, they are embedded in our culture. Having devoted much of this report to an examination of culture, now we examine our diversity and seek, in President Reif's words, to "help the entire MIT community to draw strength and energy from our extraordinary diversity of experiences and backgrounds."<sup>1</sup>

### Demographic measures

Start by quantifying the diversity of our community based on gender, race/ethnicity, and national origin. This is, of course, only a partial representation of diversity. However, the data are readily available, and they provide some idea of our demographic diversity.<sup>273</sup> Table 3 shows the demographic distribution of the major categories of students, postdocs, and employees at MIT (campus) plus Lincoln Laboratory. The categories differ slightly from those reported in Figure 1 so as to group benefits-eligible staff into functional areas. Most of the Lincoln Laboratory staff are technical staff.

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<sup>271</sup> <http://web.mit.edu/hassreq/concentrations.html>

<sup>272</sup> <http://web.mit.edu/colab/>, <http://d-lab.mit.edu/>

<sup>273</sup> A more complete representation of demographic diversity would include LGBTQ status, veteran status, age, religion, and disability, as well as intersections of these qualities.

**Table 3. Demographic composition of the MIT Community, October 2013**

Category	Number	Female	Underrepresented minorities <sup>a</sup>	International <sup>b</sup>
Graduate students	6,773	31%	7%	41%
Undergraduates	4,528	45%	24%	10%
Lincoln Laboratory	3,418	24%	4%	0% <sup>c</sup>
Administrative staff <sup>d</sup>	2,699	57%	9%	0%
Postdocs	1,459	26%	2%	63%
Support staff	1,451	78%	15%	1%
Research staff <sup>e</sup>	1,189	32%	4%	11%
Faculty	1,030	22%	7% <sup>f</sup>	41%
Service staff	815	24%	18%	2%
Academic staff <sup>g</sup>	593	36%	4%	6%
Clinical/medical staff	102	74%	7%	0%

Source: Institutional Research, Office of the Provost.

<sup>a</sup> Defined as Black or African American, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Hispanic/Latino, and two or more races including any of these.

<sup>b</sup> Excludes US citizens and permanent residents, except for faculty, whose country of origin is used instead.

<sup>c</sup> Lincoln Laboratory employees are required to be US citizens.

<sup>d</sup> Includes research administrators and academic administrators.

<sup>e</sup> Includes research scientist and technical staff, principal researcher, and senior researcher.

<sup>f</sup> Of the URM faculty, 51% are international; 41% of all faculty are international. If only US-born faculty are counted, 6% are URM.

<sup>g</sup> Includes adjunct and professor of the practice, coach, instructor, technical instructor, lecturer, and senior lecturer.

The quantification of underrepresented minorities (URMs) is complicated by the fact that a group that is underrepresented in the United States (e.g., Hispanic faculty) may not be underrepresented elsewhere in the world (e.g., in Spain or Latin America). With groups that have a large international presence at MIT, it is therefore useful to disaggregate race/ethnicity separately for US and international scholars. As an example, Table 4 shows a detailed breakdown of the current year (2014–2015) faculty composition, using recently compiled data on country of origin. Such data were not fully available at the time of the 2010 Report on the Initiative for Faculty Race and Diversity.<sup>174</sup> For comparison, the percentages of the US population over age 18 are shown in the right-hand column. It is encouraging that Asian women are no longer underrepresented at MIT. However, other minority groups are significantly underrepresented among the faculty compared with their presence in the US population. Similar results hold for graduate students and postdocs.

**Table 4. Demographic composition of the MIT Faculty, October 2014**

Race/ethnicity <sup>b</sup>	US <sup>a</sup>		International <sup>a</sup>		US population <sup>c</sup>
	Female	Male	Female	Male	
Asian	7%	5%	29%	27%	6%
Black or African American	7%	3%	1%	3%	13%
Hispanic/Latino	2%	1%	2%	9%	13%
Native American <sup>d</sup>	< 1%	< 1%	0%	0%	2%
White	84%	90%	67%	62%	66%

Source: Institutional Research, Office of the Provost.

Note: Data excludes the Department of Athletics, Recreation and Physical Education and the Office of the Dean for Student Life. Numbers may not total 100% due to rounding.

<sup>a</sup> Indicates country of origin.

<sup>b</sup> When two or more races are selected, the assignment is made to the one with the smaller population at MIT.

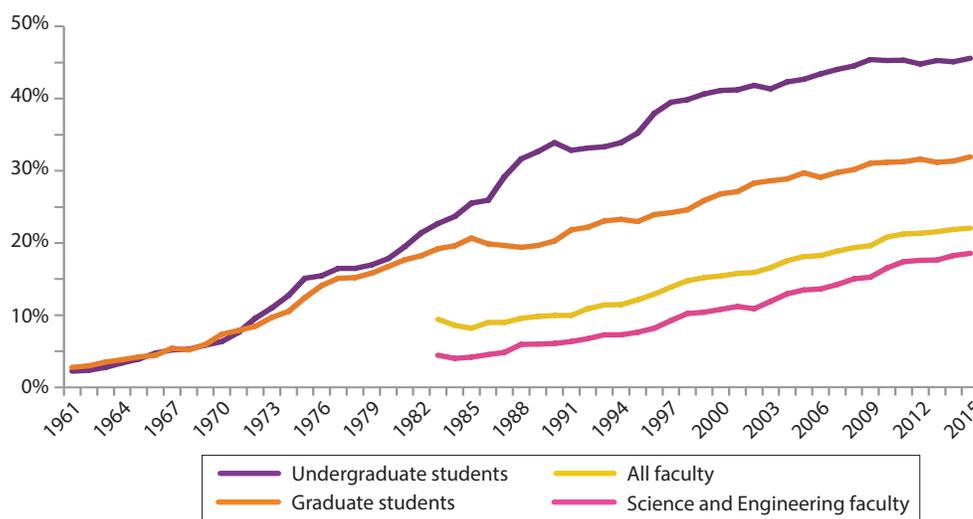
<sup>c</sup> Percentages of the population over age 18 from an estimate at <http://factfinder2.census.gov/> from July 1, 2013.

<sup>d</sup> Native American combines American Indian or Alaska Native with Native Hawaiian or Other Pacific Islander.

Figures 9 and 10 show how the diversity of the students and faculty has changed with time, as measured by gender and URM status. They show an impressive growth in the percentages of women faculty and URM students and faculty during the last decade, i.e., during the tenure of President Susan Hockfield.

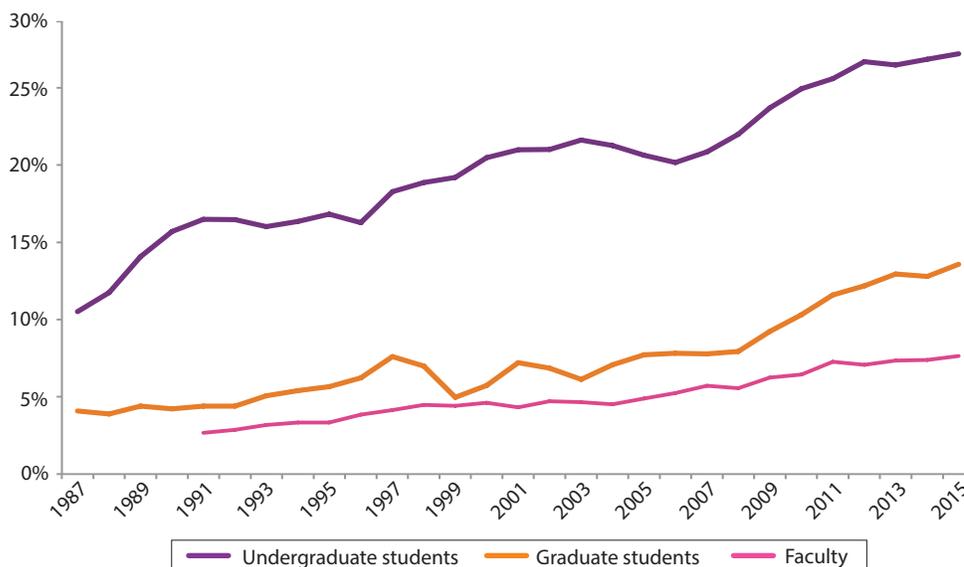
Tables 3 and 4 and Figures 9 and 10 present measures of the current composition of our community and how it changes with time, but they do not show the progress of individuals in each category. Retention data are important for understanding pipeline issues and as an independent measure of equity. Thus, in the future I will seek data on employee retention and on retention of students within undergraduate and graduate degree programs, including transfers

**Figure 9. Percentage of women faculty and students at MIT, 1961–2015.**



Source: Institutional Research, Office of the Provost.

**Figure 10. Percentage of underrepresented-minority faculty and students at MIT, 1987–2015.**



Source: Institutional Research, Office of the Provost.

Note: Student data include only domestic students (i.e., US citizens and permanent residents).

in and out of majors and completion fractions, as a function of gender, race/ethnicity, LBGTQ identity, nationality, religion, and ability/disability. This will be facilitated if questions about religion and ability/disability status are added to surveys. (LBGTQ identity is already included.)

As an application of the data shown above, we can assess progress toward the goal set by the MIT Faculty in 2004 to double the percentage of URM faculty and triple the percentage of URM graduate students in 10 years. In academic year 2004, 4% of the faculty were URM; this fraction increased by a factor of 1.9 from 2004 to 2014 and by a factor of 1.6 from 2003 to 2013 (the difference is due to fluctuations in faculty numbers). The numbers of both US-born and international URM faculty have increased. Similarly, including only US citizens and permanent residents, 7% of the graduate students were URM in 2004; this fraction has increased by a factor of 1.8 in the last decade. Thus, the faculty goal is close to fulfillment, while more work needs to be done to achieve the graduate student goal.

Table 3 shows a severe underrepresentation of URM among postdocs, academic and research staff, and Lincoln Laboratory staff. To put this in perspective, Table 5 compares the percentages of women and underrepresented minorities for these groups with percentages recently reported for technical employees at several major companies. They are sorted by increasing URM fraction.

**Table 5. Representation of women and underrepresented minorities at MIT and in major technology companies**

Group	Female	Underrepresented minorities
MIT postdocs	26%	2%
MIT academic staff	36%	4%
Lincoln Laboratory tech staff <sup>a</sup>	18%	4%
MIT research staff	32%	4%
Facebook tech	15%	6%
Google tech	17%	6%
MIT faculty	22%	7%
Twitter tech	10%	8%
Yahoo tech	15%	8%
Microsoft professional	23%	9%
Intel professional	25%	11%
Apple tech	20%	15%

Sources: MIT data provided by Institutional Research, Office of the Provost, October 2013; Microsoft data [http://www.microsoft.com/global/en-us/diversity/RenderingAssets/Microsoft\\_EEO-1\\_Report\\_2014.pdf](http://www.microsoft.com/global/en-us/diversity/RenderingAssets/Microsoft_EEO-1_Report_2014.pdf); all other data from <http://opendiversitydata.org/>.

<sup>a</sup> Lincoln Laboratory tech staff includes research scientists and technical staff.

While MIT has a better gender balance overall than most companies in the tech sector, with the exception of faculty, it has a lower representation of URM PhDs and technical staff than all major companies in the tech sector, which is surprising and leads to the next recommendation.

### **Recommendation E1: Increase the URM percentage of non-faculty academics**

*Set a goal to approximately equalize the percentage of URM postdocs, academic staff, research staff, and Lincoln Laboratory technical staff with that of the faculty by 2025, and report progress annually.*

The reason for singling out URM postdocs, academic staff, research staff, and Lincoln Laboratory technical staff is that, like faculty, these positions typically require a PhD, and they are the only categories in which demographic diversity is less than that of faculty.

These results are anomalous. We know there are highly qualified URM PhDs—our faculty composition proves that. Why are there such small percentages of URMs in other positions requiring a PhD? We must be missing many outstanding potential candidates. Our community will be stronger if we search for and recruit the outstanding underrepresented minorities who are not currently being hired.

To accomplish this goal, faculty and administrators who recruit and hire research scientists and technical staff at all ranks, postdocs, lecturers, senior lecturers, instructors, technical instructors, and coaches should review their recruiting practices and consider implementing the procedures

used for faculty searches. MIT's Affirmative Action Plan should be reviewed for further understanding of the responsibilities assigned, and procedures should be developed to carry out the Institute's Equal Opportunity policy.<sup>274</sup> MIT has committed to an Affirmative Action Serious Search Policy<sup>275</sup> with a review of the search plan for each of the categories mentioned in this paragraph except postdocs to be conducted by a senior officer such as a dean or vice president.

Training should be given on unconscious bias and search procedures to everyone hiring in these employment categories, including postdocs, and progress towards closing the gap should be reported annually to the ICEO and provost by the relevant senior officers, e.g., school dean, vice president for research (for some postdocs and sponsored research staff), or vice president for human resources. Recommended practices for faculty recruitment can and should be applied to hiring in these other employee categories. This is the joint responsibility of the faculty and staff members involved in hiring at the local unit.

The results in Figures 9 and 10 suggest that attention to best practices for recruiting correlates with positive results: the percentages of women and underrepresented-minority graduate students and faculty grew after more inclusive search procedures were adopted. This experience with faculty and students positions MIT well to strengthen its technical workforce of postdocs, research staff, and academic staff through improved recruiting practices. MIT can and should improve its diversity relative to the tech industry.

Diversity in any employee category is dependent on diversity in the applicant pool. As will be discussed further in Section 9, this is a major factor limiting the female and URM fractions in some disciplines. With the rise of online applications, MIT is able to track the applicant pool for many categories. Tables 6 and 7 show averages for graduate student and faculty applicant pools compared with actual recruitments averaged over several years so that the fluctuations are small.

**Table 6. Summary of MIT graduate student recruitment outcomes, 2012–2014**

School	Applied		Admitted		Enrolled		Yield ratio		Pipeline ratio	
	Female	URM	Female	URM	Female	URM	Female	URM	Female	URM
School of Architecture and Planning	42%	8%	46%	11%	45%	10%	1.0	0.9	1.1	1.3
School of Engineering	21%	5%	29%	8%	28%	8%	1.0	1.0	1.4	1.7
School of Humanities, Arts, and Social Sciences	37%	6%	41%	7%	43%	7%	1.0	1.1	1.2	1.3
MIT Sloan School of Management	28%	5%	35%	8%	32%	8%	0.9	0.9	1.1	1.5
School of Science	30%	6%	34%	8%	31%	8%	0.9	1.0	1.0	1.5

Source: Institutional Research, Office of the Provost.

Notes: URM = underrepresented minority (defined as Black or African American, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Hispanic/Latino, and two or more races including any of these); yield ratio = (% enrolled)/(% admitted); pipeline ratio = (% enrolled)/(% applied).

<sup>274</sup> Policies and Procedures, section 7.1.2; <http://web.mit.edu/policies/7/7.1.html#sub2>

<sup>275</sup> Policies and Procedures, section 7.1.3; <http://web.mit.edu/policies/7/7.1.html#sub3>

**Table 7. Summary of MIT faculty recruitment outcomes, 2009–2013**

School	Applied		Interviewed		Offered		Hired		Offer ratio		Yield ratio		Pipeline ratio	
	F	URM	F	URM	F	URM	F	URM	F	URM	F	URM	F	URM
School of Architecture and Planning	31%	5%	39%	9%	45%	18%	45%	18%	1.2	2.0	1.0	1.0	1.5	3.6
School of Engineering	13%	4%	32%	8%	34%	8%	34%	7%	1.1	1.0	1.0	1.0	2.7	1.7
School of Humanities, Arts, and Social Sciences	32%	7%	35%	8%	28%	11%	31%	10%	0.8	1.3	1.1	0.9	1.0	1.4
MIT Sloan School of Management	29%	8%	26%	9%	23%	11%	23%	14%	0.9	1.3	1.0	1.2	0.8	1.8
School of Science	21%	5%	27%	8%	21%	3%	18%	5%	0.8	0.4	0.9	1.5	0.9	1.1

Source: Institutional Research, Office of the Provost.

Notes: URM = underrepresented minority (defined as Black or African American, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Hispanic/Latino, and two or more races including any of these); offer ratio = (% offered)/(% interviewed); yield ratio = (% hired)/(% offered); pipeline ratio = (% hired)/(% applied).

Analysis of recruiting outcomes must consider several stages in the process. The first and most difficult to quantify is the assembly of an applicant pool. This depends on such factors as where jobs are advertised, the wording of the advertisements, personal encouragement to prospective applicants, and the reputation of the department. Some well-qualified individuals choose not to apply for reasons that either are unknown or are known but cannot be addressed by MIT (e.g., geographic restrictions). These challenging aspects of recruitment deserve more attention than can be given here.

Here we focus on factors that are assailable once applications have been received. For graduate student recruitment, there are three stages before a student comes to MIT: the application, the offer (admission), and the acceptance (enrollment). For faculty, there is an extra stage: the interview. (Some departments conduct interviews of prospective graduate students, but most do not.) We wish to determine how these stages affect the diversity of the enrolled students or starting faculty relative to the applicant pools. With three stages, there are two ratios that determine recruiting effectiveness; with four stages there are three ratios. We call these ratios  $Y$  (the yield ratio),  $P$  (the pipeline ratio), and, for faculty,  $O$  (the offer ratio).

The model of recruiting used here follows the percentage of women or underrepresented minorities at each stage of the process. To monitor the fraction of women, for example, measure how that fraction changes with each successive stage. Suppose that women are 10% of the applicant pool but 15% of those coming to MIT. This overall ratio is the pipeline ratio  $P$ : it is a dimensionless factor giving the enhancement (if  $P > 1$ ) or reduction (if  $P < 1$ ) of the percentage of women coming to MIT compared with the fraction in the applicant pool. Because the outcome is dependent on the intermediate stages—admission for graduate students, and both interviews and offers for faculty—additional ratios are needed to describe the change in the concentration at each stage.

An analogy is given by the refinement of ore into purified metal. The natural occurrence of the metal may be 10%; the first stage of refinement might increase this to 70% and the second stage to 95%. The overall refinement ratio is 9.5, which is the product of 7.0 for the first stage and  $9.5/7.0=1.4$  for the second stage. In the case of graduate admission, the second stage determines how effectively a department recruits those who have received offers. Faculty characterize this effectiveness by the admission yield, which is the fraction of offers made that were accepted.

Here we are interested not in the total yield, but in how the percentage of women changes as a result of differences in yield with gender or URM status. The yield ratio  $Y$  provides this information. It is a ratio of two fractions: the fraction of women in the enrolled group divided by the fraction of women in the admitted group. Equivalently, it is the admission yield for women divided by the admission yield for all. Thus  $Y$  is independent of the percentage in the applicant pool, and measures only the relative success in recruiting one group (here, females) compared with the entire sample. A yield ratio of 0.9 for females, for example, indicates that women accepted offers with 10% less likelihood than all offers, indicating that women were less likely to accept offers than men. This information is useful to a department head or dean who wants to understand what accounts for the female fraction of the incoming class. It is different from the pipeline ratio  $P$ , which is the fraction of women in the group of enrolled students divided by the fraction of women in the applicant pool. Yield and pipeline ratios for underrepresented minorities are calculated the same way. Thus if URM are 4% of the applicant pool, 5% of the admitted students, and 6% of the enrolled group,  $Y = 1.2$  and  $P = 1.5$  for underrepresented minorities.

For faculty recruiting, the extra step of an interview provides one more factor, the offer ratio  $O$ , defined as the fraction of women (or URM) in the group to whom faculty offers were made, divided by the fraction of women (or URM) in the group of interviewees. The factors  $O$  and  $Y$  are key measures of recruiting process that affect the final results described by the pipeline ratio  $P$ .

Tables 6 and 7 show that in most instances  $P > 1$ , implying that women and URMs are recruited at a percentage higher than their presence in the applicant pools. There are several possible explanations for this. Examination shows that in nearly all cases, the yield ratio  $Y$  is very close to 1, implying that once an offer is made, the likelihood of success is the same for all groups. (The School of Science URM yield ratio for faculty recruitment is based on small numbers such that its difference from 1 is not statistically significant.) That is good news; we are approximately equally effective in recruiting candidates independently of gender and URM status once offers are made. However, the offer ratios are often greater than 1, suggesting that women and minorities are among the stronger candidates in the interview pool, and they are also among the stronger candidates in the applicant pools ( $P > 1$ ). This is an efficient outcome: search committees would prefer to have more applicants strong enough to receive faculty offers. But why is the effect usually stronger for women and minorities?

One possible explanation is that because of cultural differences women and URM are less likely to apply than majority men having the same qualifications. Evidence for this hypothesis comes from the Report on the Initiative for Faculty Race and Diversity, which notes that approximately 63% of URM faculty were specifically recruited, compared with 21% of non-URM faculty.<sup>174</sup>

Another possible explanation, based on my experience as the department head of Physics (the department with the smallest percentage of female doctoral applicants, followed by Mathematics and EECS), is that less-qualified women and minority candidates are less likely to apply,<sup>59</sup> so that those in the applicant pool are relatively stronger than their white male counterparts. I have noted above that the recruitment outcomes are driven primarily by the applicant pool and the offers made (P and O), not by differential acceptance of offers (Y).

Tables 6 and 7 are missing the percentage of women and URMs who could be available based on rates at which they earn degrees. A pipeline ratio  $P > 1$  indicates that hiring has enriched the presence of women or minorities compared with the applicant pool, but it says nothing about whether women or minorities are applying at rates comparable to majority males. The Office of Institutional Research has done some preliminary work to estimate this effect based on national degree statistics, but more analysis is needed.

Tables 6 and 7 show significant variation across the five MIT schools in both the diversity of the applicant pools and in the recruitment outcomes for graduate students and faculty. It is striking how effective the School of Engineering has been in hiring women faculty, and the School of Architecture and Planning in hiring underrepresented minorities. It is noteworthy that  $P > 1$  for URM faculty and graduate students in all schools, plausibly due to intentional recruitment efforts motivated by the 2004 faculty resolution. It is disappointing that only two schools have  $P > 1$  for female faculty. There are also significant variations across departments within schools, not shown here. This is to be expected given not only the small numbers in many cases but also the subjective nature of faculty judgment, which is needed because, e.g., standardized test scores are poor predictors of graduate school performance or career success.<sup>276</sup>

The situation for postdocs, research staff, and academic staff can be further complicated by a lack of recordkeeping comparable to what is done for graduate students and faculty recruitment. This leads to the next recommendation.

### **Recommendation E2: Collect applicant-pool data for all academic and research hires**

*Departments, labs, and centers should collect and analyze application data for postdocs, research staff, academic staff, and Lincoln Laboratory technical staff, in addition to faculty, graduate students, and other staff categories.*

The pool for women and minorities should be compared with the relevant PhD fractions in each discipline, which are available to DLC heads from the Office of Institutional Research. Targeted recruitment efforts should be made to increase the pipeline ratio for underrepresented groups. This recommendation supports the previous one.

In some circumstances—for example, a postdoc with an external fellowship or an unsalaried or part-time academic staff member—there may not be an application process. If the outcome is a set of appointments with much less diversity than exists in the national pool in the field, the reasons need to be understood and any biases corrected.

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<sup>276</sup> C. Miller & K. Stassun, “A test that fails,” *Nature* 510, 303 (2014); doi: 10.1038/nj7504-303a; published online at <http://www.nature.com/naturejobs/science/articles/10.1038/nj7504-303a>.

Although MIT's Affirmative Action Serious Search Policy<sup>275</sup> does not apply to postdocs, every effort should be made to conduct postdoc searches using recommended practices and to equalize the selection processes and experience of postdoctoral associates (employees) and fellows (non-employees). Applicant-pool data for postdocs are needed to understand why elite male faculty in the life sciences employ fewer women:<sup>277</sup> is it because male principal investigators recruit fewer women from the same pool, or is it because women are less likely to apply to their labs? The remedy depends on this diagnosis.

## Salary equity

In the 1990s, the Committee on Women Faculty in the School of Science at MIT found that women faculty were underpaid relative to men, and recommended that salary data and other resources be reviewed annually for gender equity. This has become standard practice at MIT, but perhaps not at peer universities, judging by the 2014 Faculty Salary Survey of the American Association of University Professors. As shown in Figure 11, MIT is the only one of its peers for whom female full professors earn as much, on average, as their male counterparts. This phenomenon—that pay gaps diminish when they are observed and accountability is introduced—has also been demonstrated in a controlled experiment in a large private company.<sup>278</sup> In addition to salary, MIT should monitor the allocation of faculty start-up funds and internal research funds for equity across gender, race/ethnicity, and other group characteristics.

Similar data are not publicly available for other employee categories. However, given the experience with faculty, it is likely that inequitable pay gaps exist elsewhere. This motivates the next recommendation.

## Recommendation E3: Review salary equity for postdocs and all employee categories

*The vice president for human resources should analyze data on salaries and other resources to ensure equity on the basis of gender, race/ethnicity, LBGTQ identity, nationality, and ability/disability for postdocs as well as all employee categories.*

The United States has a longstanding gender wage gap; women working full time earn 78% as much as men.<sup>279</sup> Salary differences arise from differences in job title and experience, which must be included in the analysis of salary equity. Such a systematic approach was used to eliminate gender inequity in MIT faculty salaries, as shown in Figure 11. At present, we do not even know whether similar inequities exist for other employee categories or, if they do, their origin. Answering these questions is the goal of Recommendation E3.

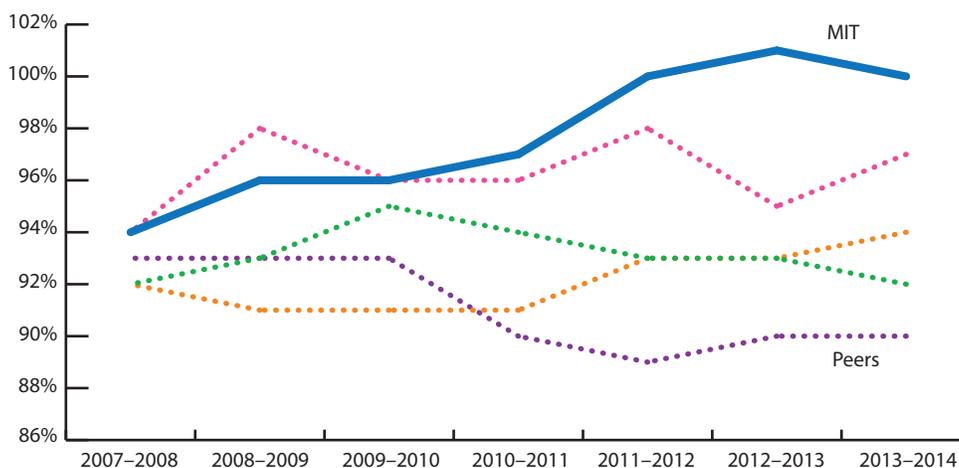
This recommendation would be an ambitious project for the HR department, and need not be undertaken all at once. It is motivated by the principle of equity: the gender wage gap for

<sup>277</sup> J. M. Sheltzer and J. C. Smith, "Elite male faculty in the life sciences employ fewer women," *PNAS* 111, 10107 (2014); doi: 10.1073/pnas.1403334111; published online at <http://www.pnas.org/content/111/28/10107.full.pdf+html>.

<sup>278</sup> E. J. Castilla, "Accounting for the gap: A firm study manipulating organizational accountability in pay decisions," *Organization Science*, March-April issue (2015); available online at <http://pubsonline.informs.org/doi/abs/10.1287/orsc.2014.0950>.

<sup>279</sup> Median earnings in 2013 from the US Census Bureau, <http://www.census.gov/newsroom/press-releases/2014/cb14-169.html>.

**Figure 11. Ratio of average salaries of female and male full professors at MIT and at four peer institutions, 2007–2014.**



Source: Data from J. W. Curtis and S. Thornton. Losing Focus: The Annual Report on the Economic Status of the Profession, 2013–14, American Association of University Professors. <http://chronicle.com/article/2013-14-AAUP-Faculty-Salary/145679#id=table>

faculty was eliminated, and it would be inequitable if gaps remain for other groups. To make this recommendation practicable, it should be tried first as a pilot study looking at academic or research staff using the four paired groups shown in Figure 3 in Section 6, e.g., female–male. If gaps are found, this would provide impetus for expanding to additional employee groups.

Besides salary, other tangible factors should be considered in assessing the equity of experience and reward of MIT community members. These include hours worked, employee benefits, rewards and recognitions, office and lab space, leadership positions, committee service, and speaking opportunities such as representation at MIT conferences, colloquia, and seminars. It is the responsibility of every dean, department head, and manager to consider the equity of such resources when allocating them. Unfortunately, there are still conferences and seminar series at MIT with few or no women as invited speakers, in fields with an abundance of women.

## 9 ACHIEVING THE BENEFITS OF DIVERSITY

The MIT mission statement consists of four sentences. One of them states, “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.”<sup>2</sup> A diverse campus community includes a diverse group of faculty, research staff, postdocs, and graduate students. At MIT these groups have a smaller percentage of women and underrepresented minorities than exists in the undergraduate student body (Section 8). Besides helping our students, normalizing the representation of different groups reduces the isolation of group members and makes available to more people “the support and intellectual stimulation of a diverse campus community.” Other measures of diversity are equally important to MIT’s mission, including international diversity and intellectual diversity.

To achieve the benefits of diversity, we must increase the representation of underrepresented groups in the academic ranks of faculty, sponsored research staff, academic staff, postdocs, and graduate students. We must also foster an environment “to help the entire MIT community to draw strength and energy from our extraordinary diversity of experiences and backgrounds.”<sup>1</sup>

In the decade following the 2004 Faculty resolution calling for an increase in the percentage of URM faculty and graduate students overall at MIT, these percentages grew by factors of 1.6–1.9 and 1.8, respectively (Section 8). Significant progress has been made, yet there is more work ahead. While gender diversity goals for faculty and graduate students have not been stated in a faculty resolution, it is obvious that in many fields women are not advancing in proportion to men, with a concomitant loss of talent. Similarly, while no diversity goals were set in 2004 by the Faculty for postdocs, research staff, or academic staff, the numbers in these ranks at MIT today, and their importance to the faculty career path, calls for measurement and correction of inequities as is being done for students and faculty (Section 8).

Although continued efforts to assess and enhance the benefits of diversity are appropriate across all sectors of the MIT community, the greatest challenges arise for faculty, academic staff, research staff, postdocs, and graduate students. These are the areas where ICEO efforts can be most fruitfully applied. This focus is needed because the processes used to recruit, evaluate, promote, and reward people from these groups differ from those used for everyone else at MIT. Because academic research is highly specialized, merit is judged by experts within or close to the research field of candidates. Admissions, recruitment, and promotion processes in these ranks are handled separately by each academic department, and sometimes even separately by each faculty member, in marked contrast to undergraduate admissions, which is centrally operated. Undergraduate admissions builds a class as a cohort, recognizing that students learn from one another. At more advanced academic levels, the benefits of diversity and of cohort-building are more difficult to achieve, because the selection and advancement processes are applied to individuals, not cohorts.

An important part of the ICEO role is to continue the work of the associate provosts for faculty equity to help MIT achieve the benefits of diversity through monitoring practices and outcomes and by providing advice to department heads and deans on faculty recruitment and retention; promotion and career development; and work-family issues.<sup>280</sup> The recommendations in this section represent the portion of the ICEO role carried forward from the associate provosts for faculty equity (Appendix 1), extended beyond faculty to include the academic pipeline problem.

#### **Recommendation E4: Implement recommendations of existing faculty equity reports**

*New deans and department heads should review and implement recommendations of existing faculty equity reports.<sup>281</sup> The provost should review progress every five years, starting in 2015.*

Several previous reports have analyzed the status of women and underrepresented-minority faculty at MIT and made recommendations for improving equity. These include the 1999 and

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<sup>280</sup> <http://web.mit.edu/newsoffice/2006/faculty-equity.html>

<sup>281</sup> Reports of the Committees on the Status of Women Faculty (March 2002), Report on the Initiative for Faculty Race and Diversity (February 2010), Report on the Special Faculty Committee on Promotion and Tenure Processes (June 2010), and A Report on the Status of Women Faculty in the Schools of Science and Engineering (March 2011), all available at <http://web.mit.edu/faculty/reports/index.html>.

2002 reports on the status of women faculty,<sup>167,168</sup> the 2011 update report for women in science and engineering,<sup>172</sup> and the 2010 Report on the Initiative for Faculty Race and Diversity.<sup>174</sup> The issues raised in these reports remain salient today. Because department heads and deans make the key decisions concerning faculty processes, and there is variation in how these processes operate,<sup>249</sup> it is important that leaders be aware of the challenges facing women and URM faculty and of promising practices for improving their status and success. All new department heads should read the reports as part of their initial orientation, and they should review with their dean annually what they are doing to implement the recommendations of these reports.

These reports made a number of important recommendations that require continued effort, including:

- Strengthen efforts to recruit, mentor, promote, and retain women and minority faculty
- Increase the diversity of MIT graduate student and faculty populations
- Train all search committees about unconscious bias and steps to overcome it
- Appoint women and minorities to leadership positions
- Monitor equity of salaries, recognition and resources, and service commitments
- Take steps to end marginalization and strengthen the culture of inclusion
- Address quality-of-life concerns, including work/family integration
- Implement mechanisms to monitor success and ensure accountability

All of these topics are discussed in this report, in many different sections, because diversity is an organic part of community, culture, and excellence at MIT.

Many of the recommendations in these reports have been implemented in some fashion. However, faculty members have expressed to me concerns that without continual effort and attention, equity gains may be reversed. Moreover, a series of studies, some performed by MIT researchers, have demonstrated that unconscious bias continues to affect judgments concerning recruitment, mentoring, and even salaries for women and minorities. It should be a concern to all of us that bias may continue to detract from the success and experience of many people at MIT. Hence, I make a key recommendation:

### **Recommendation E5: Educate all community members about unconscious bias**

*Every community member should become aware of unconscious bias and methods to reveal and correct it, starting with the Implicit Association Test.*<sup>175</sup>

A key study motivating this recommendation is the 2012 article by Moss-Racusin et al.<sup>282</sup> In a randomized double-blind study, the authors showed that science faculty members from research-intensive universities—regardless of their gender—rated male applicants for a laboratory manager position as significantly more competent and hireable than female applicants with identical applications. The faculty also selected a higher starting salary and offered more career mentoring to the male applicant.

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<sup>282</sup> C. A. Moss-Racusin et al., “Science faculty’s subtle gender biases favor male students,” *PNAS* 109, 16474 (2012); doi: 10.1073/pnas.1211286109; published online at <http://www.pnas.org/content/109/41/16474.full.pdf+html>.

Similarly, students—regardless of their gender—rated more highly online instructors whose names were given as male regardless of the true gender of the instructors.<sup>283</sup> Thus, not only faculty, but all community members should learn about their unconscious bias. But this is especially important for faculty, given their key roles in recruiting students and researchers.

Unconscious bias (sometimes called implicit bias) is not restricted to gender; it also applies to race, as shown by Milkman, Akinola, and Chugh in a 2014 article.<sup>284</sup> The authors tested the response of more than 6,500 professors at top US universities across disciplines by sending them requests to meet with prospective graduate students. The requests were identical aside from the name of the prospective student, which was carefully chosen to suggest gender and race. Faculty ignored requests from women and minorities at a higher rate than requests from Caucasian males. The effect was largest in disciplines with the highest faculty salaries. The percentage of women or minorities in the discipline or university had no significant effect on faculty responsiveness, with the sole exception that same-race faculty responded more frequently to requests from students with Chinese names.

One might question whether differential responses to inquiries or to curriculum vitae would affect the actual outcomes of a selection process. While it is difficult to prove causality, the difference in outcomes is real. For example, using publicly accessible data, Sheltzer and Smith showed in a 2014 article<sup>277</sup> that male faculty members in biology tend to employ fewer female graduate students and postdocs than female faculty members do, with the greatest effect for elite male faculty who are members of the National Academy of Sciences, are funded by the Howard Hughes Medical Institute, or have other prestigious awards. The authors showed that new assistant professors at the institutions surveyed are largely composed of postdocs from these prominent laboratories, thereby promulgating the underrepresentation of women. Whatever the cause of these results—which the authors cannot ascertain—the effect is clear and worrisome. Although the study was limited to life sciences faculty, it should be possible to extend to other disciplines.

To correct these biases, faculty must become aware of them and adopt practices of conscious correction that counteract unconscious bias.<sup>285</sup> Good methodologies have been developed over more than two decades, especially through the efforts of the NSF ADVANCE program at the University of Michigan<sup>286</sup> and the Women in Science and Engineering Leadership Institute of the University of Wisconsin, whose booklet “Searching for Excellence & Diversity: A Guide for Search Committees” provides excellent advice for faculty members.<sup>287</sup> Harvard has also produced an excellent set of materials.<sup>288</sup>

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<sup>283</sup> L. MacNell, A. Driscoll, and A. N. Hunt, “What’s in a Name: Exposing Gender Bias in Student Ratings of Teaching,” *Innov. Higher Ed.* (2014); doi: 10.1007/s10755-014-9313-4; published online at <http://link.springer.com/article/10.1007/s10755-014-9313-4>.

<sup>284</sup> K. L. Milkman, M. Akinola, and D. Chugh, “What Happens Before? A Field Experiment Exploring How Pay and Representation Differentially Shape Bias on the Pathway into Organizations,” *SSRN* 2063742 (2014); doi: 10.2139/ssrn.2063742; published online at <http://ssrn.com/abstract=2063742>.

<sup>285</sup> C. A. Moss-Racusin et al., “Scientific Diversity Interventions,” *Science* 343, 615 (2014); doi: 10.1126/science.1245936; published online at <http://www.sciencemag.org/content/343/6171/615.full>.

<sup>286</sup> <http://sitemaker.umich.edu/advance/home>

<sup>287</sup> <http://wiseli.engr.wisc.edu/searchguidebooks.php>; copies are available for MIT faculty from the ICEO.

<sup>288</sup> <http://www.faculty.harvard.edu/appointment-policies-and-practices/resources-conducting-faculty-search>

Most faculty search committees at MIT are aware of this bias and receive some training. Following the example of the associate provost for faculty equity, the ICEO meets periodically with department heads one-on-one to review practices followed by search and selection committees for faculty, research staff, postdocs, and graduate students, including search committee training. All departments should use a guide to search procedures such as the MIT Faculty Search Committee Handbook.<sup>289</sup> This handbook should be updated.

Unconscious bias operates regardless of the selection process. Thus, when choosing a new department head or dean, evaluators must be aware of and correct unconscious bias in appointments to leadership roles so that women and minorities are not inadvertently discriminated against.

Recently Google has acknowledged that unconscious bias may affect its hiring patterns and has taken steps to address it, including offering workshops to nearly half of its employees in 2013.<sup>290</sup> As their website notes,

This created a company-wide dialogue around how unconscious bias can affect perceptions of others, interactions with coworkers and clients, and the business overall. We hope our focus on making the unconscious conscious will not only foster a more inclusive workplace, but also make us a better company.<sup>291</sup>

We expect no less at MIT than at Google.<sup>292</sup> As at Google, unconscious bias affects more than recruitment outcomes; it affects everyone's experience at MIT. Unconscious bias gives white males and females a presumption of competency that is often denied to others.<sup>41</sup> Unconscious bias operates whenever a professor inadvertently yet systematically overlooks the raised hand of an Asian female in class to answer an Asian male.<sup>293</sup> It happens when a Black male professor is misidentified as a trespasser.<sup>174</sup> The accumulation of many such slights can have a damaging effect on the career success of promising scholars,<sup>217</sup> while the accumulation of advantage has the opposite effect.<sup>294</sup> These processes, well known to sociologists, must become known by academic leaders in all fields to help them more effectively build a true meritocracy.

Recommendation E5 is so important to ensuring equitable practices that it cannot be left to chance or only offered on a volunteer basis. It is so important that MIT graduate students have organized sessions on unconscious bias at two conferences during the 2014–2015 academic year.<sup>295</sup>

<sup>289</sup> [http://orgchart.mit.edu/sites/default/files/reports/20020101\\_Provost\\_Search\\_Comm.Handbookt8.pdf](http://orgchart.mit.edu/sites/default/files/reports/20020101_Provost_Search_Comm.Handbookt8.pdf)

<sup>290</sup> <http://www.nytimes.com/2014/09/25/technology/exposing-hidden-biases-at-google-to-improve-diversity.html>

<sup>291</sup> <http://www.google.com/diversity/at-google.html>

<sup>292</sup> Dr. Brian Welle of Google has made public an excellent introduction to unconscious bias and its effects: <http://www.youtube.com/watch?v=nLjFTHtEVU>.

<sup>293</sup> Philip Guo '05 MEng'06 has eloquently described how such silent technical privilege shaped his career; [http://www.slate.com/articles/technology/technology/2014/01/programmer\\_privilege\\_as\\_an\\_asian\\_male\\_computer\\_science\\_major\\_everyone\\_gave.html](http://www.slate.com/articles/technology/technology/2014/01/programmer_privilege_as_an_asian_male_computer_science_major_everyone_gave.html).

<sup>294</sup> T. A. DiPrete and G. M. Eirich, "Cumulative Advantage as a Mechanism for Inequality: A Review of Theoretical and Empirical Developments," *Ann. Rev. Sociol.* 32, 271 (2006); doi: 10.1146/annurev.soc.32.061604.123127; published online at <http://www.annualreviews.org/doi/abs/10.1146/annurev.soc.32.061604.123127>.

<sup>295</sup> <http://gwamitleadership2014.wordpress.com/events/>, <http://www.mitbreakingthemold.com/2015-swim-conference>

Recommendation E5 is so important that MIT should recruit an expert social scientist trained in one of the leading groups working on unconscious bias and its correction, to implement an Institute-wide workshop for all current faculty and other supervisors and hiring managers, and to assess the outcomes. Workshops should be offered annually for new employees and for search committee members, who should receive periodic refreshers. A successful model is given by the 2.5-hour workshops developed by the group of Molly Carnes at the University of Wisconsin-Madison and validated by a randomized, controlled trial.<sup>296</sup>

### **Recommendation E6: Consider appointing a faculty recruitment concierge**

*Consider appointing a faculty concierge to assist department heads and deans with dual career recruitment and retention.*

A growing challenge facing department heads is how to successfully recruit and retain faculty members whose spouse or partner requires assistance in job placement, especially if they are also seeking a faculty position. The American Association of University Professors provides recommendations that could be helpful at MIT.<sup>297</sup> As a department head, I frequently had to recruit or retain faculty members in competition with peer universities who have well-organized efforts to assist new faculty and their partners. My job would have been easier if MIT had something like Princeton's special assistant to the dean of faculty, who helps with all matters of gender equity, including partner placement and family-friendly policies, or Stanford's centralization of information for dual-career and other work-life issues, or UC Berkeley's CALcierge program, which offers relocation and dual career services to prospective and new faculty.<sup>298</sup> I recommend that the provost canvass deans and department heads for their needs, investigate the approaches followed by other universities, and assess the costs and benefits of creating a faculty concierge service to assist department heads with faculty hiring and retention. The concierge could be a faculty member or a staff member, and could take advantage of programming offered by the MIT Work-Life Center.<sup>261</sup>

### **Recommendation E7: Connect the STEM pipeline at MIT**

*Charge a working group to assess the impact of K-12 STEM outreach efforts, communicate their value to MIT, and propose ways to increase that value.*

MIT makes strong efforts to recruit women and minorities at all levels, and has been relatively successful with faculty given the applicant pools (Section 8). However, we are limited by the smaller percentages of women and underrepresented-minority PhDs in many fields compared with their percentages in the US population. While this is especially true in the science, technology, engineering, and math (STEM) disciplines, it holds in nearly all fields represented at MIT. There is a national need to "fill the pipeline" with talent from every demographic.<sup>299</sup>

<sup>296</sup> M. Carnes et al., "The effect of an intervention to break the gender bias habit for faculty at one institution: A cluster randomized, controlled trial," *Acad. Med.*, in press (2014); doi: 10.1097/ACM.0000000000000552; published online at [http://journals.lww.com/academicmedicine/Abstract/publishahead/The\\_Effect\\_of\\_an\\_Intervention\\_to\\_Break\\_the\\_Gender.98931.aspx](http://journals.lww.com/academicmedicine/Abstract/publishahead/The_Effect_of_an_Intervention_to_Break_the_Gender.98931.aspx).

<sup>297</sup> <http://www.aaup.org/report/recommendations-partner-accommodation-and-dual-career-appointments>

<sup>298</sup> [http://www.princeton.edu/dof/policies/family\\_friendly/family\\_friendly/](http://www.princeton.edu/dof/policies/family_friendly/family_friendly/), <http://facultydevelopment.stanford.edu/diversity-and-community/work-life/dual-career>, <http://calcierge.berkeley.edu/>

<sup>299</sup> [http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-executive-report-final\\_2-13-12.pdf](http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-executive-report-final_2-13-12.pdf)

As one of the leading universities in STEM disciplines worldwide, MIT benefits enormously from the encouragement given to and the education of talented pre-college students. Many community members feel an obligation to give back by expanding the pipeline to increase access to MIT and its peers for students from underrepresented groups. We are in an excellent position to help ourselves by helping others enter the STEM pipeline.

Dozens of MIT offices and programs are involved in K–12 education and outreach efforts to encourage young people, including girls and underrepresented minorities, to pursue STEM careers. These efforts are largely invisible to most faculty members, yet are important for the long-term success of the faculty mission. Thus, I describe a few of the extraordinary programs.

The Minority Introduction to Engineering and Science (MITES) program of the Office of Engineering Outreach Programs (OEOP) has brought more than 1,600 high school students to MIT since 1974.<sup>300</sup> During this time, 32% of MITES students have matriculated at MIT, and over 80% have gone on to major in technical fields. OEOP runs other residential and community-based programs for middle-school and high school students year-round on Saturdays and during the summer. All of MIT benefits from these programs offered by the School of Engineering.

The Edgerton Center runs a year-round K–12 science and engineering outreach program focused on Boston-area youth that reaches 4,000 children each year. The center is developing science curricula that will reach millions of middle-school children.<sup>301</sup> The MIT Alumni Association and Lincoln Laboratory partner with the FIRST (For Inspiration and Recognition of Science and Technology) Robotics Competition,<sup>302</sup> whose participants include many girls and minority students. Lincoln Laboratory runs several other outreach programs, including the Radar Introduction for Student Engineers.<sup>303</sup> The Mathematics Department brings high school students to campus for PRIMES (Program for Research in Mathematics, Engineering & Science),<sup>304</sup> and it also hosts the Math Prize for Girls, which brings hundreds of high school girls to MIT each fall from the US and Canada.<sup>305</sup> The Center for Excellence in Education runs the Research Science Institute, a six-week program that brings 80 high school students to MIT each summer to work with faculty and staff.<sup>306</sup> The Math  $\sqrt{\text{Roots}}$  program is a four-week intensive summer program for high-achieving African American high school students in math.<sup>307</sup>

MIT students are enthusiastic about outreach and teaching, and they contribute their time and talents through many student clubs. The Educational Studies Program is especially popular with our own students and with the more than 3,000 middle-school and high school students who participate in their Splash, Spark, and HSSP programs every year, the latter in

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<sup>300</sup> <http://web.mit.edu/mites/> and [http://web.mit.edu/oeop/OEOP\\_Home.html](http://web.mit.edu/oeop/OEOP_Home.html)

<sup>301</sup> <http://edgerton.mit.edu/k-12/>

<sup>302</sup> <http://alum.mit.edu/pages/sliceofmit/2014/05/05/first-robotics/> and <http://www.ll.mit.edu/outreach/FIRST.html>

<sup>303</sup> <http://www.ll.mit.edu/outreach/LLrise.html>

<sup>304</sup> <http://web.mit.edu/primes/>

<sup>305</sup> <http://www.bostonglobe.com/metro/2014/09/27/for-girls-rare-chance-flex-math-muscles/WUyteAjKjYvmZXwfxjoWFI/story.html>

<sup>306</sup> <http://www.cee.org/research-science-institute>

<sup>307</sup> <http://mathroots.mit.edu/>

collaboration with Harvard students.<sup>308</sup> The Women’s Technology Program brings high school girls each summer to campus to work with female MIT undergraduates and graduate students in EECS and Mechanical Engineering.<sup>309</sup>

MIT has more than 80 outreach programs sharing the Institute’s research and teaching with the broader community, and more K–12 projects are initiated by MIT students every year. In addition, the MIT Alumni Association maintains a set of K–12 STEM activities.<sup>310</sup>

While these efforts are individually outstanding, they lack visibility among MIT faculty, and they lack visible connections outside MIT. Many faculty members seeking to become involved in outreach programs, often as a requirement of a research sponsor, are unaware of the existing efforts, or they find it difficult to discern which ones are most suitable for their needs and interests. Moreover, while our collective efforts contribute many sections of pipe, we have neither systematically assessed their effectiveness nor linked them together to create a whole pipeline or to join existing ones elsewhere. Recommendation E7 seeks to fix this shortcoming.

These efforts should not be based within the Institute Community and Equity Office; they are appropriately distributed across many areas of MIT. But given their relevance to community and equity for all of MIT, the ICEO has an interest in advancing their effectiveness. I therefore strongly support Recommendation 9 of the Institute-wide Task Force on the Future of MIT Education, which “recommends that MIT define a K–12 strategy through a special interest group under the auspices of the Initiative for Educational Innovation.”<sup>311</sup>

The ICEO perspective differs somewhat from that of the Task Force on the Future of MIT Education, however. Rather than focus on educational innovation, the desire here is to leverage our pipeline efforts for greater effect, as measured by new students pursuing STEM careers. Among the possibilities to be considered are tracking the numbers of participants and assessing the outcomes across the whole set of existing MIT programs, especially with regard to MIT freshman admissions; increasing support of the most promising efforts; exploring further partnerships and collaboration with other organizations to fill in gaps in the pipeline; experimenting with ways to reach underserved populations using online platforms; and providing free access to our program materials so that others can replicate successful programs. These issues fall naturally within the interest of the recently created MIT Outreach Working Group (MITOWG), which consists of the directors and coordinators of various K–12 education and outreach efforts. I recommend that the MITOWG be charged with carrying out Recommendation E7 in consultation with the special interest group within the Initiative for Educational Innovation, and with the MIT Alumni Association K–12 STEM working group.

Our opportunity to enhance the STEM pipeline does not end with pre-college programs; it begins with them. We can increase the diversity of our graduate students, postdocs, research staff, and faculty by recruiting, mentoring, and offering research experiences to talented individuals from outside of MIT. The MIT Summer Research Program has brought

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<sup>308</sup> <http://esp.mit.edu>

<sup>309</sup> <http://wtp.mit.edu/>

<sup>310</sup> <http://alum.mit.edu/volunteering/VolunteerTools/K12Toolkit>

<sup>311</sup> [http://web.mit.edu/future-report/TaskForceFinal\\_July28.pdf](http://web.mit.edu/future-report/TaskForceFinal_July28.pdf)

thousands of undergraduates to MIT for summer research projects since 1986,<sup>312</sup> and many of these students have come to MIT for graduate study. The Dow–MIT ACCESS Program seeks to increase the diversity of graduate applicants to the Departments of Chemical Engineering, Materials Science and Engineering, and Chemistry with two full days of information and skill-building for undergraduates from outside MIT in these fields.<sup>313</sup> To increase the numbers of women applying for postdoctoral and faculty positions, the Department of Aeronautics and Astronautics and the Department of Earth, Atmospheric and Planetary Sciences jointly host an annual Women in Aerospace Symposium.<sup>314</sup> This model has been adapted by the Electrical Engineering and Computer Science Department for its annual Rising Stars in EECS conference, which has proven so successful that it is now rotating to other universities, starting with UC Berkeley in 2014.<sup>315</sup> Other departments should consider similar recruiting efforts.

### **Recommendation E8: Enhance the MIT MLK programs**

*Increase the visibility of and MIT faculty participation in the MLK programs. Add an MLK Postdoctoral Program modeled on the MLK Visiting Professors and Scholars Program.*

As described in Section 4, MIT has promoted the vision of Rev. Dr. Martin Luther King, Jr. for 40 years since the first annual celebration in 1975. The MLK programs currently include the annual Leadership Awards, MLK Celebration, 17.922 MLK Design Seminar, MLK Inspired Art and Performance Contest, and MLK Visiting Professors and Scholars Program. These activities and programs have been overseen by an MLK Planning and Celebration Committee and the associate provost for faculty equity.

In my first year as ICEO, I have been impressed with the impact of all of these programs, which serve the vital interests of community, diversity, inclusion, and respect at MIT. Their continued success relies on stewardship by and support of the MIT senior leadership, which is most naturally conducted via the Institute Community and Equity Office. I recommend that the Institute continue to value and support these programs and strive to increase faculty awareness of and involvement in them.

During the past year MIT has already enhanced the programs through support given to the ICEO to implement a new website, <http://mlkscholars.mit.edu/>, and through the contributions of a senior faculty advisory group to recruit visiting professors and to optimize the programming offered to this distinguished cohort. The Visiting Professors and Scholars Program honors the life and legacy of Rev. Dr. Martin Luther King, Jr. by increasing the presence of minority scholars at MIT. Each scholar spends a year or so at MIT collaborating with faculty members; all five schools participate. The program is not intended to be a substitute for recruiting minority faculty. Instead it provides a mutually enriching experience for the visitor, host faculty, and others at MIT.

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<sup>312</sup> <http://odge.mit.edu/undergraduate/msrp/>

<sup>313</sup> <http://access.mit.edu/>

<sup>314</sup> <http://wia.mit.edu/>

<sup>315</sup> <http://www.rle.mit.edu/risingstars/> and <http://www.eecs.berkeley.edu/XRG/risingstars/>

In Section 8 we saw that while strides are being made to increase underrepresented-minority faculty at MIT, little progress has been made with postdoctoral scholars, who remain severely underrepresented. This is a lost opportunity, as postdoctoral positions are a stepping stone to faculty positions in most MIT fields. To correct this, I recommend that MIT fund a three-year pilot program of postdoctoral fellowships, with nominations provided by MIT faculty and with the fellows hosted by MIT departments, similar to the MLK Visiting Professors and Scholars. Although postdocs have been included in the past as visiting scholars, in order to have a positive impact in overall postdoc numbers, it is necessary to appoint several per year.

I recommend a pilot program in which a cohort of three postdocs is appointed to start in fall 2015 for two years, and a second cohort of three postdocs is appointed a year later. The program should be evaluated after two years, to determine whether to continue it beyond two cohorts. If the program continues, then in a steady state, six postdocs will be in residence at any time, or more if departments provide funding for a third year. A program of this size will enable the postdocs to form a strong peer network and support one another's academic success. The long-term goal is to strengthen and diversify the overall population of MIT postdocs, as called for in Recommendation E1 of Section 8.

An existing program like this is the California Alliance Postdoc Fellowship Program hosted by UC Berkeley, UCLA, Stanford, and Caltech.<sup>316</sup> This program's rules state "Applicants must be US citizens or permanent residents and belong to an underrepresented minority group (African American, Chicano/Latino, Native American/Alaska Native). Proposed research must fall within the *Mathematical, Physical Sciences and Engineering* fields." The MIT program would be similar, except that candidates would be considered in any field with faculty at MIT.

## 10 PEERING OUTWARD AND BEYOND

MIT has taken an innovative approach to diversity and inclusion by appointing a senior officer whose title contains neither "diversity" nor "inclusion," and whose constituency is the entire community, not just the faculty. In true MIT form, we are conducting an experiment.

During the past year my conception of the ICEO has evolved as I learned more about the MIT community. Initially, I viewed the ICEO as an extension of the faculty equity officer role held by my predecessors into an agent of inclusion for everyone. Later, I described the role as a combination of chief diversity officer, faculty equity officer, and steward of community life. While the tripartite emphasis on diversity, equity, and inclusion is appropriate, the scope implied by those three titles far exceeds what one person can do. To succeed, the ICEO must be a leader, not a manager. I try to shape the conversations around campus to stimulate progress along the ICEO mission to advance a respectful and caring community that empowers everyone to learn and do their best at MIT. Communications and coordination are crucial to the role. With more experience, I learned the value of acting as a roving ambassador on call to help senior leaders and others as a thought partner in MIT community affairs. The role will evolve further as implementation of this report unfolds.

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<sup>316</sup> <http://www.california-alliance.org/postdocfellowships>

Among the many things I have learned, one will not surprise community members: data are important to telling our story. Therefore, I provide a structural recommendation based on data.

### **Recommendation S1: Create and use a Community and Equity Dashboard**

*The Office of Institutional Research should prepare and periodically update a Community and Equity Dashboard for MIT as a whole and for each academic department, using data to show progress toward the goals of this report. Department heads should discuss this progress annually with their dean. Visiting Committees should be provided, and requested to comment on, the CE Dashboard and plans for their unit.*

The purpose of a dashboard is twofold: It provides an internal progress report for accountability to our mission, and it will enable us to set a standard for the world of higher education, which presently lacks such a model quantifying the culture and diversity of our campus communities. MIT has always been a pacesetter in open sharing of our methods and results, and the CE Dashboard will extend this to best practices for strengthening learning communities in research universities.

What should such a dashboard display? To reflect the goals of this report, it must characterize the diversity of our community, the progress towards equity of experience across the community, and the degree to which we have achieved a culture of caring and respect, i.e., inclusion. Cornell University has created an excellent model for such displays, with dashboards devoted to composition of its community and to achievement, engagement, and inclusion of its students.<sup>317</sup> Recommendation S1 calls for MIT to adopt broader measures of equity and inclusion for all community members than those introduced by Cornell. Sections 6 and 8 provide a set of graphs and tables measuring diversity, equity, and inclusion that could be incorporated into a Community and Equity Dashboard.

Recommendation S1 implies a high level of openness in sharing of data. Not every institution is comfortable with this approach, but it is consistent with MIT's core values.

The establishment of the Institute Community and Equity Office creates new opportunities for learning by sharing as well as by doing. As an example, in 2014 a group of Massachusetts colleges and universities established the Leading for Change Higher Education Diversity Consortium as a voluntary collaboration that is committed to identifying student and employee diversity best practices through uniform and transparent use of data, institutional benchmarks and reflective practice.<sup>318</sup> MIT is already part of the planning committee for this consortium and should take the next step, outlined in Recommendation S2.

### **Recommendation S2: Join the Leading for Change Higher Education Diversity Consortium**

*The Leading for Change Higher Education Diversity Consortium is a statewide group of colleges and universities that agree to share the kind of data that will be included in the public CE dashboard. In addition, consortium members share best practices in promoting equity and inclusion. Joining the consortium will help us learn from promising practices at colleges not normally considered our peers, and*

<sup>317</sup> <http://irp.dpb.cornell.edu/university-factbook/diversity>; see also Bridgewater State University's dashboard [http://strategy.bridgew.edu/#single\\_page\\_anchor\\_4](http://strategy.bridgew.edu/#single_page_anchor_4)

<sup>318</sup> <http://www.bridgew.edu/the-university/diversity-consortium>

*it will let us help other campuses adopt our successful innovations in equity and inclusion. The initial focus of the consortium's efforts will be on the success of first-generation and underrepresented minority students.*

Leading for Change Higher Education Diversity Consortium members agree to gather and share data that MIT already collects and largely makes public, such as retention and graduation rates of students grouped into demographic categories discussed above, as well as first-generation and Pell Grant-eligible students. In addition, members will share employee demographic data and climate data such as those presented in Section 8.<sup>319</sup> Most importantly, Consortium members commit to a reflective practice of evaluating progress in equity and inclusion through use of data and sharing of best practices. Consortium membership aligns well with our efforts to “advance a respectful and caring community that embraces diversity and empowers everyone to learn and do their best.”

### **Recommendation S3: Appoint equity committees**

*Appoint an Equity Committee in each of the five schools, and in addition one each for the deans for undergraduate education, graduate education, student life, and digital learning; the vice presidents for research, resource development, human resources, information systems and technology, and finance; and the directors of the Libraries and Lincoln Laboratory. The equity committee chairs will work with the ICEO and others to uniformly implement the equity recommendations of Sections 8 and 9.*

In the distributed-leadership model of MIT, responsibility rests largely with deans and DLC heads. Responsibility for implementing this report will also rest largely with them. Between 2000 and 2007, the school deans were assisted in similar matters by faculty gender equity committees. Many faculty have recommended to me that these committees be restarted, as they ensured that faculty who were knowledgeable about and committed to equity assisted the deans and provided accountability as well as a steady rudder when deans and department heads changed. A distributed support system provides local connections in each school. But the scope of this report is much broader than gender equity for faculty, and a broader system is needed.

One could imagine having in major area a faculty gender equity committee, a staff community committee, a minority faculty committee, a LBGTQ issues committee, and so on. However, guided by the image of an inclusive community, I propose instead the establishment of one Equity Committee for every member of Academic Council overseeing significant numbers of students or employees. The equity committees should, where relevant, include both faculty and staff members, ideally including staff with some responsibility for diversity and inclusion, and should have staffing and resources needed to accomplish their work. Each Equity Committee will report to the relevant dean, vice president, or director, who will provide it with a charge. Each committee may have subcommittees to focus on faculty affairs, staff or student affairs, etc., as desired by the dean or vice president. The 16 equity committee chairs will work with the ICEO and others to uniformly implement the equity recommendations of Sections 8 and 9.

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<sup>319</sup> The full set of benchmark data shared by the Leading for Change Higher Education Diversity Consortium is available at <http://www.bridgew.edu/the-university/diversity-consortium/diversity-benchmarks>.

## Priorities and implementation

The 17 major recommendations of this report are grouped into three priority categories, shown in Table 1 in the Executive Summary. Priorities are set by the necessary order of implementation as well as importance.

### *First priority*

The first priority of this report is the recommendation that enables all the others, whose success will shift the rock of MIT culture by enabling transformative conversations: Recommendation C1, Create an MIT Compact. MIT's senior leadership should convene a highly diverse Task Force on the MIT Compact that engages all groups shown in Figure 1. The Task Force should be co-chaired by staff and faculty members and be given adequate staff support, including one or more facilitators skilled in intergroup dialogue. It should hold public forums and meet with other bodies such as the Faculty Policy Committee, Committee on Student Life, Undergraduate Association, Graduate Student Council, Postdoctoral Association, Council on Staff Diversity and Inclusion, Working Group on Support Staff Issues, union representatives, and ad hoc groups of research and other academic staff.

While the TFMC is at work, community engagement should be directed to Recommendation C2, Launch an education campaign, employing bystander videos and leadership workshops. This is appropriate because already a number of groups around campus are working on campaigns to promote civility and respect, and the Bystander Intervention Video Competition will enable cross-fertilization of ideas and ensure that each group's efforts support the larger community. The ICEO can coordinate this, working with the Conflict Management Office in the Division of Student Life, the Ombuds Office, Human Resources, and others. The Office of Digital Learning could provide funding and recruit a course staff for the MITx course Introduction to the MIT Community. The deans should consider how to encourage and reward DLC heads taking leadership and conflict management workshops.

Implementation of the first two recommendations can begin immediately, although it will take a year or more to complete C2.

Next in this group is Recommendation E5, Educate all community members about unconscious bias. This begins by inviting an expert to present a workshop at MIT that could be replicated eventually across all major DLCs. We may want to set the conditions for a randomized trial of the effectiveness of this training at MIT, as was done at the University of Wisconsin-Madison.<sup>296</sup>

Fourth priority is Recommendation C3, Review and update policies and complaint-handling procedures. Some changes are required by the Campus SaVE Act, providing an opportunity for the president to assign an ad hoc group to review our various policies to streamline, better coordinate, and ensure consistency with any new legal requirements. The group should also consider the recommendation to appoint a faculty complaint investigator.

Fifth in this group is Recommendation S1, Create and use a Community and Equity Dashboard, to be developed by the Office of Institutional Research. The CE Dashboard will provide department heads, deans, and visiting committees with useful diagnostic information on

climate and diversity issues in academic departments, as well as organize MIT-wide data in a compelling new way.

Sixth is Recommendation S2, Join the Leading for Change Higher Education Diversity Consortium. This effort requires a modest time commitment (~1 day per semester) from a number of people, mainly staff in the offices of the student deans. The benefit to MIT is sharing of best practices on student success, especially for first-generation and underrepresented-minority students, which are the initial focus of the consortium. The chancellor would be the best person to decide whether this makes sense. There is benefit to joining the consortium before its next summit on March 30, 2015.

Seventh in this group is Recommendation E4, Implement recommendations of existing faculty equity reports. This step is enabled by Recommendation E5. The school deans would lead this effort. A five-year review of the Report on the Initiative for Faculty Race and Diversity should be started by the provost. The findings of this review will provide feedback into the implementation plan.

The first-priority recommendations could be largely completed within one year, although most would require ongoing effort.

### *Second priority*

The second group of recommendations will contribute significantly to the mission to advance a respectful, caring, and equitable community, but they affect other recommendations less than those in the top group.

Recommendation E8, Enhance the MIT MLK programs. This recommendation calls for additional funding for up to six postdocs per year beyond what is currently provided for in the visiting professors and scholars program. It would contribute to reducing the demographic inequities in postdoc selection that currently exist across MIT.

Recommendation S3, Appoint equity committees to help carry out this report's recommendations. Committees of faculty and staff reporting to the relevant senior leaders will work with the ICEO and others to uniformly implement the equity recommendations of Sections 8 and 9.

Recommendation E6, Consider appointing a faculty recruitment concierge. If the school deans and department heads find this role helpful, then a current or retired faculty member experienced in faculty recruitment, and having connections with other area universities and businesses, could be sought to fill the concierge role. Alternatively, the position could be filled by a staff member working with the deans.

Recommendation C5, Implement a paid "Time for Learning and Doing" during work hours program, would begin as a pilot project with a randomized controlled trial involving administrative and support staff. The project would be a collaboration between Sloan faculty and MIT's Human Resources Department.

Recommendation E2, Collect applicant-pool data for all academic and research hires. This effort would be useful in identifying challenges to achieving diversity of academic and research staff comparable to that among the faculty.

Recommendation C6, Establish a Mentoring Resource Center. This is a relatively large effort that would require hiring a mentoring coordinator and creating mentor training modules on MITx. This is an example of a recommendation that has a lower priority not because it is less important or valuable than others in this group, but because it will require a large effort that will take time.

### **Third priority**

The third group of recommendations include the following:

- Recommendation E1, Increase the URM percentage of non-faculty academics
- Recommendation E3, Review salary equity for postdocs and all employee categories
- Recommendation C4, Organize an annual Community and Equity Challenge competition
- Recommendation E7, Connect the STEM pipeline at MIT

Several of the recommendations are related to employee talent management and are best led by the vice president for human resources, including C5, C6, E2, E3, and many of the minor recommendations summarized in Appendix 2. Implementation of these should await review, possible modification, and reprioritization by the incoming vice president for human resources as part of a human resources strategic planning process.<sup>320</sup>

### **Organizational change**

Achieving the goals of this report requires a shift in organizational culture. The process can be subdivided into four conceptual steps:

1. Understand and work with organizational culture
2. Adopt a change model (e.g., Kurt Lewin, John Kotter)
3. Organize the change management group
4. Communicate, implement, assess, iterate

The first step is much of the work of this report, and will be supplemented by the experience of individual managers and leaders at MIT. For the second step, we begin with the change model of Kurt Lewin.

Lewin was a social psychologist who worked briefly at MIT in the late 1940s. He thought of organizational cultures in a status quo as being naturally rigid, like a block of ice. Lewin described the organizational change process with a physical analogy having three steps: First, melt the ice, transforming the solid into a liquid. Second, change the shape by flowing the liquid into a differently shaped container. Third, refreeze into a different shape. To undergo these three steps, an initially rigid organizational culture must have enough heat applied to melt

<sup>320</sup> <http://newsoffice.mit.edu/2014/lorraine-goffe-rush-vice-president-hr-1216>

it. Once the system is liquid, change happens easily. Finally, changes are anchored in a new status quo, a new culture.

In Lewin's model, the key is to find what forces drive or restrain the change, so that one can plan ways to melt the opposition and begin change.

For the MIT Compact, the driving forces include the following:

- Students and others want to “hack the culture.”
- Several groups are already working on their own “bill of rights” style of document.
- There is widespread concern about the negative effects of stress and a desire to do something about it.

Restraining forces include the following:

- Faculty privilege and lack of ownership in community affairs
- Skepticism that an MIT Compact will change behavior
- Paralyzing stress: the feeling of being overwhelmed

One way to melt the status quo is for a representative Task Force on the MIT Compact to establish trust and respect within its discussions so that members see that equity trumps privilege and that community members are willing to work together for the common good. This is step 3 above, “Organize the change management group.” Once the Task Force has established trust and understanding, members will find it easy to generate ideas for, and ultimately to converge on, a draft Compact. The Task Force will then have to engage other groups to enlarge the circle of trust and respect, by starting step 4.

A more complex description of change management comes from John Kotter,<sup>321</sup> whose first step, establishing a sense of urgency, also aims to melt the status quo. Lewin's simpler model should provide an adequate starting point. Before moving to implement it, however, I provide some complementary perspectives.

### **Culture, the endless frontier**

Based on my reading of history, I do not believe that the need for attention to community and equity will ever disappear. However, the need for the constant attention of a full-time senior faculty officer might diminish if the recommendations of this report are enacted across the majority of work units and become institutionalized. This will happen if and only if the culture is transformed. I am optimistic that we will succeed, given the strong desire of so many people for MIT to become its best through learning by doing, with caring and respect.

We seek to change the culture not because it is broken, but because it steers us away from our vision for a better MIT. The tacit assumptions that say working harder is always better, or asking for help is weakness, prevent us from doing our best. But they will not be abandoned

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<sup>321</sup> J. P. Kotter, “Leading Change: Why Transformation Efforts Fail,” *Harv. Bus. Rev.*, March–April 1995, 73, 59, published online at <http://hbr.org/1995/05/leading-change-why-transformation-efforts-fail-2>.

solely because we ask. They will change once people are convinced that there is a better way, by seeing new behaviors lead to greater success. We will also have to discuss what success means—and for this, faculty leadership is essential, because students emulate faculty.

Because culture involves learned behavior, changing it requires unlearning followed by new learning. This can be painful. Kurt Lewin called this process unfreezing and refreezing; Edgar Schein calls it learning anxiety.<sup>16</sup> The learning anxiety—whether it arises from working with people very different from oneself, or from the assumption that getting more sleep will diminish the amount of work accomplished—makes us resist change. The only way to overcome this resistance is by creating psychological safety.

President Vest created psychological safety in 1999 when he stated publicly that gender discrimination in universities is real, not merely perception. In saying this, he made it safe for others to question their assumptions about meritocracy, too. As a result, rapid progress followed in transforming the culture, so that we now understand that meritocracy itself is part reality and part perception, and perception may be the greater part of the balance. This would have happened much less readily had President Vest himself not championed the cause.

A similar pattern may be happening now, as the MIT community absorbs the implications of President Reif's call for MIT to be "famous for sympathy, humility, decency, respect, and kindness."<sup>322</sup>

Unlearning habits is difficult, and change will bring tension and possibly increased conflict. If community members trust that their concerns will be heard, they will voice them. Leaders must be prepared for this, and recognize that it is not a failure of change, but a success.

Given their importance to MIT, alumni should also participate in our institutional self-examination. As we have seen, MIT culture has deep roots going back to its founding by William Barton Rogers, and these roots are reinforced by our alumni. I would welcome a study similar to this report, to examine the alumni role in shaping MIT's culture and mission, so that we can learn by doing together.

The program described in this report will take years to implement fully. Some effect should be visible in the 2016 Faculty and Staff Quality of Life Survey, but the magnitude of the changes will not become clear before the second cycle of surveys in academic year 2020.

In the life of an institution, a decade is barely noticeable. Yet within this period we have the opportunity to help MIT become "famous for community, diversity, empowerment, and respect."

As MIT approaches a new equilibrium, it will be an island in the large ocean of a society with a very different cultural texture. For these reasons, our work of culture change will never end: new community members will always seek to learn our institutional values, norms, and traditions. I am not discouraged by this, any more than I am discouraged that we have to teach freshmen electromagnetism every year. It is a privilege to teach bright students at MIT.

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322 <http://president.mit.edu/speeches-writing/president-reifs-charge-graduates-2013>

It is a great privilege, for both faculty and staff, to prepare each new generation with the cultural knowledge, and not just the technical knowledge, to solve the world's great challenges. Part of our teaching mission will always be "to develop in each member of the MIT community the ability and passion to work wisely, creatively, and effectively for the betterment of humankind." Most of my students will quickly forget Faraday's Law, but they will not forget a moment of joy shared in celebrating their success. Let us all learn by doing, and in so doing, reinvent MIT.

## Appendix 1: Formation of the Institute Community and Equity Office

### Charge from Provost Chris Kaiser

The Institute community and equity officer (ICEO) will develop and lead a strategic planning process in consultation with, and reflecting the needs of, the entire MIT community: faculty, students, postdocs, and staff. The outcome of that effort should include development of an ICEO mission statement reflecting two objectives: deepening the sense of inclusion based on MIT's shared values, and helping all members of the MIT community to appreciate and leverage its diversity of experiences and backgrounds. The plan will also articulate a set of achievable goals and the means for assessing progress toward these goals.

### Background to the establishment of the Institute Community and Equity Office

In 2006, MIT created the position of associate provost for faculty equity to provide a focus for faculty diversity and equity issues across the Institute, including, for example, faculty recruitment and retention, promotion and career development, and work-family issues.<sup>323</sup> One year later, Professors Wesley Harris and Barbara Liskov jointly assumed this role, leading to important progress on faculty recruitment, retention, mentorship, and climate. Their work was informed by two key reports: the 2010 Report on the Initiative for Faculty Race and Diversity<sup>324</sup> and the 2011 Report on the Status of Women Faculty in the Schools of Science and Engineering at MIT.<sup>325</sup> In 2013 the associate provosts for faculty equity stepped down, and their role became part of the new Institute Community and Equity Office.<sup>326</sup>

Matters of equity, diversity, and inclusion for non-faculty members of the MIT community have been distributed across many offices, including the Human Resources Department, the Division of Student Life, the offices of the Dean for Graduate Education and the Dean for Undergraduate Education, the Graduate Student Council, the MIT Postdoctoral Association, and the Ombuds Office.

During the last decade, two committees have played a major role in promoting diversity and inclusion across MIT. The Committee on Race and Diversity (CRD) is a presidential committee charged with fostering better relations among diverse racial and cultural groups at MIT and helping the community realize the benefits of its cultural and racial diversity. The Council on Staff Diversity and Inclusion (CSDI), sponsored by the Office of the Executive Vice President and Treasurer, encourages and informs efforts to leverage the diversity of MIT's staff to advance MIT's mission. For these two committees and many others, diversity is measured by the breadth of race, gender, sexual orientation, national origin, religion, age, and ability, while inclusion is measured by a welcoming and supportive environment and opportunities to learn and grow.

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<sup>323</sup> <http://web.mit.edu/newsoffice/2006/faculty-equity.html>

<sup>324</sup> <http://web.mit.edu/provost/raceinitiative/>

<sup>325</sup> [http://web.mit.edu/faculty/reports/pdf/women\\_faculty.pdf](http://web.mit.edu/faculty/reports/pdf/women_faculty.pdf)

<sup>326</sup> <http://web.mit.edu/newsoffice/2013/letter-on-institute-community-and-equity-officer.html>

On October 31, 2012, the CRD and CSDI jointly met with President Rafael Reif to recommend the creation of a position in the senior administration to help coordinate, communicate, and advance efforts to promote diversity and inclusion. In response to this call, President Reif created the Institute community and equity officer position.

The ICEO combines the faculty equity role held by the associate provosts for faculty equity with a broader emphasis on cultivating a caring community across MIT. In addition to promoting best practices for faculty equity, the ICEO is an agent of inclusion for everyone at MIT. This document presents a vision for the ICEO role as well as a response to the charge given by the provost.

## Appendix 2: Summary of recommendations

This appendix summarizes 17 major recommendations, as well as the many minor recommendations scattered throughout the text. The recommendations are organized into three categories: Community (C), Equity (E), and Structural (S). The major recommendations are listed in Table 1 in the Executive Summary.

### Major community recommendations

#### **Recommendation C1: Create an MIT Compact (Section 3)**

*Assemble a representative working group to write a brief statement of what we aspire to as a community and what we expect of one another as MIT community members.*

1. Convene a highly diverse community-wide Task Force on the MIT Compact (TFMC). The Task Force should be co-chaired by staff and faculty members and provided with adequate staff support, including one or more facilitators skilled in intergroup dialogue.
2. The Task Force should represent and gather input from graduate students, undergraduate students, Lincoln Laboratory employees, administrative staff, visiting faculty and scholars, support staff, postdocs, research staff, faculty, other academic staff, and service staff.
3. Charge the TFMC with writing a  $\leq 300$ -word statement considering core values, community aspirations, and norms.
4. The TFMC gathers input from all stakeholders, including community forums, governance structures, and advisory groups (e.g., Faculty Policy Committee, Committee on Student Life, Undergraduate Association, Graduate Student Council, Postdoctoral Association, Council on Staff Diversity and Inclusion, Working Group on Support Staff Issues, union representatives, and ad hoc groups of research and other academic staff).
5. The MIT president and chair of the MIT Corporation commence a ratification process.
6. A working group convenes to oversee implementation.
7. Make the Compact a living document by repeating the Task Force process every four years.

#### **Recommendation C2: Launch an education campaign, employing bystander videos and leadership workshops (Section 7)**

*Launch a campaign to educate all community members in the use of bystander interventions and micro-affirmations to reduce micro-inequities, micro-aggressions, and all forms of misconduct. The campaign will use orientation programs for all community members, leadership and conflict management workshops, and a bystander intervention video competition.*

1. Conduct a Bystander Intervention Video Competition (monthly YouTube skits).
2. Produce and deliver an MITx course, Introduction to the MIT Community.

3. Facilitate conversations about community standards in each department, lab, and center (DLC) for all faculty and supervisory staff.
4. Encourage every DLC head, administrative officer, and equivalent to attend a leadership workshop and take a four-hour online course such as ILX1 on the edX platform.
5. Provide every DLC head with conflict management training, paying the tuition when needed, e.g., for Crucial Conversations by VitalSmarts.<sup>327</sup>
6. Assess the effectiveness of these leadership orientation activities using surveys and by conducting exit interviews with DLC heads when they step down.

**Recommendation C3: Review and update policies and complaint-handling procedures (Section 7)**

*MIT's policies and complaint-handling procedures should be reviewed and updated as needed. An investigator for formal complaints should be appointed.*

1. The president should appoint an ad hoc group to review, streamline, and update Policies and Procedures, the Personnel Policy Manual, and the Mind and Hand Book so that they are consistent with one another. The group should consider adding language about bullying or abrasive conduct.
2. Statistics on formal complaints should be reported annually to the president.
3. All DLCs should have faculty internal mediators.
4. The REFS program should be extended to include postdocs.
5. MIT should appoint a complaint investigator similar to the Title IX investigator.

**Recommendation C4: Organize an annual Community and Equity Challenge competition (Section 7)**

*Organize a "business plan" competition for projects that strengthen the MIT community. As with the \$100K Competition, offer engagement opportunities with community stakeholders, mentoring, and prizes.*

1. Organize the Community and Equity Challenge to bring the opportunity of social intrapreneurship (Section 5) to staff, postdocs, students, and faculty, with projects that advance a respectful and caring community.
2. As with other business plan competitions, teams would pitch a plan to judges, and winning teams would be provided mentoring and funding to develop their project.
3. This competition could be organized for a three-year trial period by experienced groups such as the Innovation Initiative or Public Service Center.

**Recommendation C5: Implement a paid "Time for Learning and Doing" during work hours program (Section 7)**

*Grant all full-time staff (including research staff and postdocs) two hours per week for professional development and/or community service.*

<sup>327</sup> <http://www.vitalsmarts.com/>; the training is based on the book by K. Patterson, J. Grenny, R. McMillan, and A. Switzler, *Crucial Conversations: Tools for Talking When Stakes Are High* (McGraw-Hill, 2011).

1. Through a collaboration between Sloan faculty and the Human Resources (HR) Department, conduct a one-year randomized trial of a Time for Learning and Doing program with administrative and support staff. Assess the outcomes on employee and supervisor satisfaction and productivity before considering expanding to other employee categories.
2. Employee time used in this way should be paid, and counted in performance review.
3. Postdocs, as trainees, should all receive time for professional development.

### **Recommendation C6: Establish a Mentoring Resource Center (Section 7)**

*Establish a small work unit to provide information, training, and support of mentoring across all sectors of the community, including an online mentoring portal and a blended matching process.*

1. The Mentoring Resource Center should be co-sponsored with HR and be staffed by a dedicated mentoring coordinator, who will develop a blended approach to mentor matching.
2. The Mentoring Resource Center will have an online and physical presence and will create training modules on MITx.
3. To assess the benefits of mentoring, the Mentoring Resource Center will conduct a one-year randomized trial with administrative and support staff, in collaboration with Sloan faculty and HR, and assess outcomes on employee and supervisor satisfaction and productivity.

### **Minor community recommendations**

1. Give a biannual award luncheon with the president, chancellor, or chairman of the Corporation to honor student groups for exemplary contributions to community, service, and leadership. This would both honor students and provide MIT's senior leadership with valuable insight into student culture and activities. (Section 5)
2. Encourage faculty and students to engage outside the classroom on Career Fair Day, for example by collaborating in community-building activities that day. (Section 7)
3. Create a "time bank" for exchange of services using a commitment of time. (Section 7)
4. Provide coaching to faculty and other supervisors engaging in abrasive conduct. (Section 7)
5. Change the description of the Personal Assistance Program in Section 7.4.4 of Policies and Procedures so that it is not seen as punitive. Consider, as an alternative, a comprehensive Employee Assistance Program. (Section 7)
6. Create a presidential-level standing committee on mental health and wellness, and solicit student feedback on mental health services. (Section 7)
7. Explore options to provide more uniform family and medical leave for all non-faculty employees, postdocs, and graduate students, and to increase scholarship funds available for childcare. Fundraising for these efforts should be part of MIT's capital campaign. (Section 7)
8. In all new buildings, provide lactation rooms and gender-neutral single-occupancy restrooms. In addition, building plans should also consider reserving funds to be

used for childcare, either in the form of new sites added to the Technology Childcare Centers, or scholarship funds made available to the MIT community. MIT's Percent for Art program could be duplicated to create a Percent for Family-Friendly Facilities program. (Section 7)

9. Instruct DLC heads and administrative officers to be open to employees' requests for flexible work arrangements, and provide them with examples of successful arrangements so they are aware of the mutual benefits. (Section 7)
10. During the hiring/onboarding process, inform every employee of the options for flexible work arrangements, both on a regular basis and in the event of major life events. (Section 7)
11. Increase faculty participation in the annual Institute Diversity Summit. (Section 7)
12. Consider establishing a multicultural center to include the Black Students' Union, the Rainbow Lounge, the Latino Cultural Center, a women's center, an Asian Student Center, a Native American Student Center, the International Students Office, and an office for the First Generation Program. (Section 7)
13. Increase staffing support for LBGTQ students. (Section 7)
14. Encourage MIT students to explore subjects in social justice. Social justice and ethics could be added as a field of concentration in the HASS Requirement. (Section 7)

### Major equity recommendations

#### **Recommendation E1: Increase the URM percentage of non-faculty academics (Section 8)**

*Set a goal to approximately equalize the percentage of underrepresented-minority (URM) postdocs, academic staff, research staff, and Lincoln Laboratory technical staff with that of the faculty by 2025, and report progress annually.*

1. Those who recruit and hire research scientists and technical staff at all ranks, postdocs, lecturers, senior lecturers, instructors, technical instructors, and coaches should review their recruiting practices and consider implementing the procedures used for faculty searches.
2. MIT's Affirmative Action Plan should be reviewed for further understanding of the responsibilities assigned and the procedures developed to carry out the Institute's Equal Opportunity policy.
3. Training should be given on unconscious bias and search procedures to everyone hiring in these employment categories, including postdocs, and recruitment summaries should be reported annually to the ICEO and provost by the relevant senior officers, e.g., school dean, vice president for research (for some postdocs and sponsored research staff), or vice president for human resources.
4. MIT should improve its diversity to approach or equal that of the tech industry.

**Recommendation E2: Collect applicant-pool data for all academic and research hires (Section 8)**

*Departments, labs, and centers should collect and analyze application data for postdocs, research staff, academic staff, and Lincoln Laboratory technical staff, in addition to faculty, graduate students, and other staff categories.*

1. The applicant pool for women and minorities in each category indicated should be compared with the relevant PhD fractions in each discipline, which are available to department heads from the Office of Institutional Research. Targeted recruitment efforts should be made to increase the pipeline ratio for underrepresented groups.
2. Where searches cannot be conducted—for example, a postdoc with an external fellowship—it the repeated outcome is a set of appointments with much less diversity than exists in the national pool in the field, the reasons need to be understood and any biases corrected.

**Recommendation E3: Review salary equity for postdocs and all employee categories (Section 8)**

*The vice president for human resources should analyze data on salaries and other resources to ensure equity on the basis of gender, race/ethnicity, LGBTQ identity, nationality, and ability/disability for postdocs as well as all employee categories.*

1. A pilot study should be undertaken for academic or research staff using the four paired groups shown in Figure 3 of Section 6, e.g., female–male. If gaps are found, this would provide impetus for expanding to additional employee groups.
2. Differences for these four paired groups should also be analyzed for hours worked, employee benefits, rewards and recognitions, office and lab space, leadership positions, committee service, and speaking opportunities such as representation at MIT conferences, colloquia, and seminars.

**Recommendation E4: Implement recommendations of existing faculty equity reports (Section 9)**

*New deans and department heads should review and implement recommendations of existing faculty equity reports.<sup>328</sup> The provost should review progress every five years, starting in 2015.*

1. Department heads should review with their dean annually what they are doing to implement the recommendations of these reports.

**Recommendation E5: Educate all community members about unconscious bias (Section 9)**

*Every community member should become aware of unconscious bias and methods to reveal and correct it, starting with the Implicit Association Test.<sup>329</sup>*

1. All departments should use a guide to search procedures indicating ways to correct unconscious bias such as the MIT Faculty Search Committee Handbook.<sup>330</sup> This handbook should be updated.

<sup>328</sup> Reports of the Committees on the Status of Women Faculty (March 2002), Report on the Initiative for Faculty Race and Diversity (February 2010), Report on the Special Faculty Committee on Promotion and Tenure Processes (June 2010), and A Report on the Status of Women Faculty in the Schools of Science and Engineering (March 2011), all available at <http://web.mit.edu/faculty/reports/index.html>.

<sup>329</sup> The universality of unconscious bias is easily demonstrated via the Implicit Association Test, which can be done online at <http://implicit.harvard.edu/>. An excellent popular account is M. R. Banaji and A. G. Greenwald, *Blind Spot: Hidden Biases of Good People* (Delacorte Press, 2013).

<sup>330</sup> [http://orgchart.mit.edu/sites/default/files/reports/20020101\\_Provost\\_Search\\_Comm.Handbookt8.pdf](http://orgchart.mit.edu/sites/default/files/reports/20020101_Provost_Search_Comm.Handbookt8.pdf)

2. MIT should recruit an expert social scientist trained in one of the leading groups working on unconscious bias and its correction, to implement an Institute-wide workshop for all current faculty and other supervisors and hiring managers and assess the outcomes.
3. Workshops should be offered annually for new employees and for search committee members, who should receive periodic refreshers.

**Recommendation E6: Consider appointing a faculty recruitment concierge (Section 9)**

*Consider appointing a faculty concierge to assist department heads and deans with dual career recruitment and retention.*

1. The provost should canvass deans and department heads for their needs, investigate the approaches followed by other universities, and assess the costs and benefits of creating a faculty concierge service to assist department heads with faculty hiring and retention. The concierge could be a faculty member or a staff member, and could take advantage of programming offered by the MIT Work-Life Center.

**Recommendation E7: Connect the STEM pipeline at MIT (Section 9)**

*Charge a working group to assess the impact of K-12 STEM outreach efforts, communicate their value to MIT, and propose ways to increase that value.*

1. This recommendation is closely related to Recommendation 9 of the Institute-wide Task Force on the Future of MIT Education, which will establish an Initiative for Educational Innovation. Therefore, the MIT Outreach Working Group should carry out Recommendation E7 in consultation with the special interest group within the Initiative for Educational Innovation, and with the MIT Alumni Association K–12 STEM working group.

**Recommendation E8: Enhance the MIT MLK programs (Section 9)**

*Increase the visibility of and MIT faculty participation in the MLK programs. Add an MLK Postdoctoral Program modeled on the MLK Visiting Professors and Scholars Program.*

1. The Institute should continue to value and support the annual MLK Leadership Awards, MLK Celebration, 17.922 MLK Design Seminar, MLK Inspired Art and Performance Contest, and MLK Visiting Professors and Scholars Program and strive to increase faculty awareness of and involvement in them.
2. MIT should fund a three-year pilot program of postdoctoral fellowships, with nominations provided by MIT faculty and with the fellows hosted by MIT departments, similarly to the MLK visiting professors and scholars. This pilot would support three two-year postdocs starting in fall 2015 and fall 2016, after which the program will be evaluated. If the program continues, then in a steady state six postdocs will be in residence at any time, or more if departments provide funding for a third year.

## Minor equity recommendation

1. More departments should adopt recruiting strategies similar to the Dow–MIT ACCESS Program in the Departments of Chemical Engineering, Materials Science and Engineering, and Chemistry; the Women in Aerospace Symposium of the Department of Aeronautics and Astronautics and the Department of Earth, Atmospheric and Planetary Sciences; and the annual Rising Stars in EECS Conference. (Section 9)

## Major structural recommendations

### **Recommendation S1: Create and use a Community and Equity Dashboard (Section 10)**

*The Office of Institutional Research should prepare and periodically update a Community and Equity (CE) Dashboard for MIT as a whole and for each academic department using data to show progress toward the goals of this report. Department heads should discuss this progress annually with their dean. Visiting Committees should be provided, and requested to comment on, the CE Dashboard and plans for their unit.*

### **Recommendation S2: Join the Leading for Change Higher Education Diversity Consortium (Section 10)**

*The Leading for Change Higher Education Diversity Consortium is a statewide group of colleges and universities that agree to share the kind of data that will be included in the public CE dashboard. In addition, Consortium members share best practices in promoting equity and inclusion. Joining the Consortium will help us learn from promising practices at colleges not normally considered our peers, and it will let us help other campuses adopt our successful innovations in equity and inclusion. The initial focus of the Consortium's efforts will be on the success of first-generation and underrepresented minority students.*

### **Recommendation S3: Appoint equity committees (Section 10)**

*Appoint an Equity Committee in each of the five schools, and in addition one each for the deans for undergraduate education, graduate education, student life, and digital learning; the vice presidents for research, resource development, human resources, information systems and technology, and finance; and the directors, the Libraries and Lincoln Laboratory. The equity committee chairs will work with the ICEO and others to uniformly implement this report's equity recommendations.*

1. Faculty and staff knowledgeable about and committed to diversity and inclusion can support MIT's distributed leadership.
2. Dean/VP/Director will give committee a charge with relevant area focus.
3. Equity committee chairs will work with ICEO and the Human Resources Department to implement equity recommendations.

## Minor structural recommendations

1. The incoming vice president for human resources and the Office of Institutional Research should study the Google methodology, including its Googlegeist annual employee survey, to learn how we can improve employee engagement, satisfaction, and retention. (Section 6)

2. The Council on Family and Work should analyze the Faculty and Staff Quality of Life Survey data in a manner similar to Harvard's Faculty Climate Survey<sup>331</sup> but extended to all employee groups. (Section 6)
3. The Office of Institutional Research should periodically review the questions used in the Quality of Life Survey and other surveys to find which questions are most useful in categorizing the data using clustering algorithms and other data-mining tools, and prune the surveys of questions that do not have significant discriminatory power. (Section 6)
4. Add the item "People in my department/DLC are treated with civility and respect" to the Quality of Life Surveys. (Section 6)

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<sup>331</sup> Harvard climate survey results for faculty, and comparison with its peers, are summarized at [http://www.faculty.harvard.edu/Faculty\\_Climate\\_Survey\\_2013](http://www.faculty.harvard.edu/Faculty_Climate_Survey_2013).