Massachusetts Institute of Technology

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September/October 2016

MIT Faculty Newsletter

http://web.mit.edu/fnl

in this issue we offer commentary on the Faculty and Staff Quality of Life Survey (below and page 22); a report on MIT's overall international activities, "Global MIT" (below) and "The MIT Haiti-Initiative" (page 14); and two articles on Access MIT (pages 16 and 18).

2016 Presidential Candidates

Global MIT

R. K. Lester

THE MIT COMMUNITY IS magnificently but unselfconsciously multinational. With 42% of our faculty, 43% of our graduate students, and 65% of our post-docs hailing from countries other than the U.S., and 151 countries represented on our campus, MIT is truly "of the world."

We are also, increasingly, *in* the world. Today MIT faculty and students are working in more than 75 countries, and 50% of this year's graduating seniors reported having had at least one international educational experience, up from 23% in the class of 2006 (see Figure 1, page 9). For some students this meant traditional study-abroad programs at other universities. For many more it meant practical internships and experiential learning opportunities, often preceded by country-specific cultural and historical

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MIT Asked, We Answered: The 2016 Faculty Quality of Life Survey

Krishna Rajagopal, Leslie Kolodziejski, Christopher Capozzola

WELCOME BACK FROM WHAT we hope has been an invigorating summer, and all best wishes for the new academic year.

The three of us have spent time over the summer diving into the results from the 2016 Faculty Quality of Life Survey. The outcome of the survey provides a wealth of information and insights about the perspectives of the MIT Faculty on a wide variety of questions. Elsewhere in this issue of the *Faculty Newsletter*, Institutional Research (IR) has provided a synopsis of some of the highlights [see page 22]. These are only a small fraction of the data. Much more data, as well as data from earlier MIT surveys, can be found on the IR Website (***web.mit.edu/ir/surveys/index.html***), including in particular the highlights from the 2016 survey.

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Editorial

Presidential Candidates Weigh In On Science Policy Issues

IN SEPTEMBER, PRESIDENTIAL candidates Donald Trump, Hillary Rodham Clinton, and Jill Stein returned their responses to a set of 20 key science policy issues (Libertarian Party candidate Gary Johnson did not respond). The questionnaire was prepared by a national science consortium, ScienceDebate.org, that included the American Association for the Advancement of Science and the National Academy of Sciences.

The issues included were: Innovation; Research; Climate Change; Biodiversity; The Internet; Mental Health; Energy; Education; Public Health; Water; Nuclear Power; Food; Global Challenges; Regulations; Vaccination; Space; Opioids; Ocean Health; Immigration, and Scientific Integrity. Unfortunately, Nuclear Weapons was not among the issues presented. The full responses can be found at ***sciencedebate.org/20answers.***

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Presidential Candidates
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Reflecting her experience in both the Congressional and Executive branches of the government, Clinton's responses exhibit much more specificity in terms of programmatic proposals. Among the clearer differences between Trump and Clinton were in the responses to the threat of climate change. Trump stated that "There is still much that needs to be investigated in the field of 'climate change.'" However, his follow-up downplayed the issue and suggested that the nation's "limited financial resources" would be better spent making sure people have clean water, eliminating diseases such as malaria, or developing energy sources that reduce dependence on fossil fuels.

Clinton's view was that "When it comes to climate change, the science is crystal clear. Climate change is an urgent threat and a defining challenge of our time and its impacts are already being felt at home and around the world." She continued with identification of intermediate goals she would pursue, including generating half the nation's electricity from clean energy sources.

Dr. Jill Stein, the Green Party candidate, had the strongest, most detailed response on this front: "Climate change is the greatest existential threat that humanity has ever faced." She called for a WWII-style national mobilization to respond to the danger, with the implication that a "Green New Deal" could create millions of new jobs in sustainable energy and energy conservation. The Clinton response on the Energy issue also called for major new investments in sustainable energy and energy conservation.

Both Trump and Clinton supported maintaining nuclear power in the nation's energy source mix.

On the Public Health Issue, Clinton proposed creation of a "Public Health Rapid Response Fund," with consistent, year-to-year budgets, to better enable the Centers for Disease Control, the U.S. Department of Health and Human Services, the Federal Emergency Management Agency, state and local public health departments, hospital systems, and other federal agencies to quickly and aggressively respond to major public health crises and pandemics."

Trump, much more restrained, responded that "In a time of limited resources, one must ensure that the nation is getting the greatest bang for the buck. We cannot simply throw money at these institutions and assume that the nation will be well served. What we ought to focus on is assessing where we need to be as a nation and then applying resources to those areas where we need the most work. Our efforts to support research and public health initiatives will have to be balanced with other demands for scarce resources."

Trump and Clinton identified a number of programmatic initiatives that would require Congressional budget authorization. However, they will all be constrained by the reality that the single largest component of the discretionary Congressional budget is Pentagon spending, some 55% of the total $1.15 trillion, about $625 billion dollars last year (***https://media.nationalpriorities.org/uploads/discretionary_spending_pie%2C_2015_enacted.png***). This excludes Medicare and Social Security, which are federal Trust Funds. It is this enormous expenditure which constricts investment in every other sector of the federal budget addressing social and economic needs of Americans – housing, transportation, healthcare, education, biomedical research, environmental protection, infrastructure, and sustainable energy development, to name a few. Yet both Donald Trump and Hillary Clinton are silent on this largest payout of taxpayer's dollars. In fact, Trump's campaign speeches claim the military is underfunded and called for waiving the Congressional "sequester" that currently limits increases in the Pentagon budget, and rebuilding the military through even more federal spending.

It would be very useful in this election year to have a good national debate about the balance between our domestic and military spending and the proper balance between them. This should include the issues of education and research as investments for our future. In this connection, we should keep Eisenhower's admonitions that a strong economy is essential for a strong defense. We should debate the need for the modernization of many weapons systems that are currently being proposed. Indeed, many observers of the military budget have concluded that we are spending too much and that this is reducing our security. Senator Markey and Representative Blumenauer introduced bicameral legislation that would cut $100 billion from the nuclear weapons budget over the next decade (***www.markey.senate.gov/news/press-releases/sen-markey-and-rep-blumenauer-introduce-bicameral-legislation-to-cut-100-billion-from-wasteful-nuclear-weapons-budget***).

Last, but not least, we return to the question of nuclear weapons that surprisingly was not on the list of questions. What is their proper role in our defense? Do we have the right number or too many, as well as their proper deployment and alert status, for our defense needs? Trump also asserts that he may want to use nuclear weapons in the Middle East and elsewhere. Clinton has mostly focused on Trump's temperament to be detrimental to his being commander in chief, but has not enunciated her vision of their proper role. These are critical issues for our future.

Editorial Subcommittee

Faculty Quality of Life Survey
Rajagopal et al., from page 1

This survey is conducted every four years. In 2012, Chair of the Faculty Samuel Allen summarized the results by observing that members of the Faculty were "happy but stressed," noting that the "generally high measures of faculty satisfaction . . . are very encouraging" but that "at the same time, a significant number of faculty report feeling overwhelmed either often or very often," "find the workload either heavy or too heavy," and "find the integration of work with personal/family life to be a challenge." In all these respects, the message from the 2016 survey is very similar to that in 2012. The overall level of satisfaction with being at MIT is even slightly higher than in 2012, and substantially higher than in 2008. In 2016, as in the past, the sense of a Faculty that is stretched thin comes through in many ways. For example, we note that "lack of time to think and reflect" and "lack of time for friends and family" were two of the top three sources of stress in four of MIT's Schools, and the third and fourth sources of stress in the fifth School.

As Officers of the Faculty, we have access to the answers that members of the Faculty gave to the open-ended questions that were embedded within the survey, of course without knowing who authored any answer, as does the Provost. 544 faculty members answered one or more of these questions, and we have read every answer. Doing so was a privilege; the perspectives we have gained will be of great value, and we want to share some of what we have learned with you. The answers to two of the open-ended questions – where the Faculty were asked what we each wished we could spend (1) more time on and (2) less time on – have been coded and reported on by IR in their synopsis. We cannot summarize everything we have read, but we see it as our responsibility to share with you some of the themes that appeared frequently in the open-ended responses.

Aspects of the MIT environment that are uniquely attractive

One of the questions we were asked was: "We know that many faculty receive expressions of interest and offers to work elsewhere. What aspects of the MIT environment are uniquely attractive relative to other opportunities [we] may have?" 370 faculty members answered this question and, overwhelmingly, the most frequent replies cited the extremely high quality of the undergraduates, graduate students, and postdoctoral associates that come to MIT. With similarly high frequency, faculty cite the quality of their colleagues – their outstanding scholarship and their genuine collegiality. Over half of the comments indicate that the people of MIT (students, faculty, staff, administration) are the reason why faculty remain here. Our culture is treasured by many faculty who describe MIT as a place of problem solving, a place that seeks to impact at the highest level important issues facing the world, a place with a culture of excellence and a culture of hardworking intellectuals without arrogance. The location of MIT in the heart of Cambridge – near Boston and as part of New England – is also highly valued. Faculty enjoy the opportunity to engage with surrounding industry and neighboring academic institutions. Faculty treasure the flexibility to choose their research directions, engage in interdisciplinary research, collaborate freely with colleagues throughout the Institute, and strive to innovate in the humanities, sciences and engineering, and in educational endeavors. Faculty appreciate excellence and find it at MIT. The following reply from one faculty colleague sums up why faculty stay at MIT: "*1. The sense and spirit in my department – and more broadly across the Institute – of a shared and student-centered mission, for excellence in education and research, and for impact on society. 2. World-class colleagues and students. 3. The relative absence of politics in department affairs, and the willingness to experiment and improve. 4. Greater Boston and New England as great places to live.*"

Engaging with undergraduates and with graduate students

We were also asked how we like to engage with undergraduates and with graduate students. 304 and 307 respondents replied, respectively. The answers to the two questions were interestingly, but perhaps not surprisingly, different:

In general, the replies to the question about engagement with undergraduates can be categorized as involving interactions as part of one or more of the following: teaching; research; advising, mentoring, and providing career advice; and social engagements. Approximately one-third of the comments indicated that faculty obtain a high degree of satisfaction from their teaching, both in the classroom and with laboratory subjects. Associated with their teaching activity, members of the Faculty enjoy interacting with undergraduates in one-on-one meetings during office hours associated with a class or in open, or drop-in, office hours. Faculty also indicated great enjoyment in engaging with undergraduates as research collaborators, either in an official UROP context or by providing opportunities for research discussion. One-quarter of the comments centered around the opportunities for research collaboration with undergraduates. The other two manners of engagement with undergraduates – advising and mentoring, and social interaction – were also viewed as important by faculty, with each mentioned by approximately 20% of the respondents. In the replies centered around advising and mentoring, faculty indicated that they enjoy offering advice about career planning and applying to medical school or graduate school, as well as overall advice about navigating MIT and college in general. Participation by faculty in informal social events, and even planned Institute events, were viewed as valuable ways to engage with undergraduates in a meaningful way. More than 10% of the faculty who responded specifically suggested that lunches or dinners were great ways to build relationships with undergraduates.

As anticipated, engagement around research dominated replies to the question about graduate students, followed closely by interest in and activities that promote mentoring. Over 40% of the faculty responding indicated a strong desire to participate in research collaborations with graduate students, as well as enjoying meeting graduate students in typical contexts such as one-on-one meetings, lab meetings, formal group meetings, and thesis committee meetings. Faculty frequently commented on the enjoyment and satisfaction derived from mentoring graduate students and meeting with them informally – almost a third of the replies. In contrast to ways that faculty engage with undergraduates, the activities affiliated with teaching, including contributions to graduate seminars, were cited less frequently – about one-sixth of the replies. Social activities, including departmental functions and parties, retreats, and Institute-organized events, as well as lunches and dinners, were also mentioned – again by about one-sixth of those who replied – as ways that faculty enjoy engaging with graduate students.

Ways to make MIT even better

Three of the open-ended questions focused on ways to make improvements to MIT.

The first of these followed up on one of the closed-ended questions on the survey: "Do you want to use more technology in your teaching?" 38% of respondents answered in the positive. Those respondents were then asked the open-ended question: "How can MIT most effectively support you doing so?" 145 faculty members answered this question, providing a wide range of thoughtful remarks. Perhaps because this was the most sharply focused open-ended question, its answers in sum are perhaps the most interesting. Three common themes emerged, in each case appearing in various ways in more than 40 answers.

The first, and by a small margin most numerous, theme was the need for improvements to our classrooms. Many simply stated this as a general goal. The most common explicit example given was the importance of making it easier to capture lectures on video, including greatly increasing the number of classrooms in which lectures can easily be recorded. Faculty also wrote about the need for classrooms that can better integrate computer and chalkboard use, and suggested experimenting with replacing the familiar nine-panel array of chalkboards by a nine-panel array of pressure-sensitive digital blackboards such that at the end of a lecture, the content of the boards could be uploaded. Many stressed the need for classrooms designed for interactive teaching, for example including built-in real time polling software to make the effective use of clickers seamless.

The second theme was the need for enhanced support for the online components of our teaching. Here the most common suggestion was for greater opportunities and various types of support to develop *MITx* courses. Many other examples were also mentioned, including ensuring that online tools from the Office of Digital Learning are easily available, and various ideas for enhancing and supporting different digital supplements to our on-campus teaching. The need for continued advances in the possibilities for flipped classrooms, as well as the emphasis on making it easy to record lectures – as mentioned above – also featured in many answers.

The third theme was the need for a substantial increase in personnel with expertise in educational technology, including in particular online technology. What comes through clearly is that what is needed are people with whom faculty can work directly to develop online materials, including edX-style content: contextually savvy staff located nearby, designated to support each department, with a mission to source, disseminate, and support relevant tools and technological solutions within a department. In addition, many faculty suggested enhanced training for graduate TAs, teaching them how to use, and support the use of, educational technologies.

The overarching message that comes through loud and clear from the 145 faculty who answered this question is a sense of pent-up demand for the teaching spaces, technology, and people needed to catalyze and realize their visions for how best to teach MIT's students.

Two final open-ended questions asked for key areas that MIT could improve to make its environment even better, and sought suggestions for specific strategies. 335 faculty members offered extensive comments on a wide range of issues. Nearly a third of respondents mentioned salary, often calling for comparisons to peer institutions. For many, salary issues overlap with housing costs and other quality-of-life issues related to living in Boston, including commuting time and the difficulty of finding satisfactory childcare. For many faculty – across Schools and ranks – managing work-life balance is a significant stressor and one they wish MIT would do more to address. For many, additional administrative support would smooth their Institute experience. Close to 20 faculty members urged greater recognition for humanities, arts, and social sciences and more seamless integration of SHASS into the Institute. Funding for research came up repeatedly, with more than 20 among these respondents specifically mentioning a desire for greater support for cross-disciplinary research or for mid-career exploration of a new field — undertakings hard to fund through traditional means. Cross-disciplinary exchange was also a goal sought by the numerous faculty members who advocated a greater sense of community and more interaction with colleagues, exchanges that they hoped would take place in an improved, and more sociable, campus environment. Finally, almost a tenth of respondents called for improvements to the campus climate for women and underrepresented minorities, and several asked specifically for more training opportunities to address gender and racial bias at the Institute.

Female and male faculty responses to specific closed-ended questions

We now return to the closed-ended questions that formed the bulk of the survey.

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Faculty Quality of Life Survey
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On the IR Website, any faculty member can see the percentage of faculty across all of MIT who responded in a particular way to each of the many questions. Along with the Provost, the School Deans and Department Heads, and their designees, we as Officers of the Faculty are also able to slice the data in various ways, looking at the differences between how tenure-track and tenured faculty answered each question, or comparing answers from female and male faculty, or underrepresented minority (URM) and non-URM faculty. (However, none of us can see data for any cell containing fewer than five respondents.)

We decided to use these data to look at the ways in which the experiences of faculty at MIT, in particular the ways in which we each experience our environment and its climate, are similar or different for male and female faculty. We look forward to a day when differences by gender are negligible, but each of the three of us knows that we are not yet at such a day. So, we wanted to see what the data have to say. We have selected 12 questions that all survey respondents were asked that come at this in different ways, and we have sliced the data to look at how female and male faculty answered each of them. The results are shown in the charts below. We also examined variation by URM and non-URM status, but our initial analysis did not yield statistically robust findings. We recommend the continued collection of quantitative and qualitative data around these issues.

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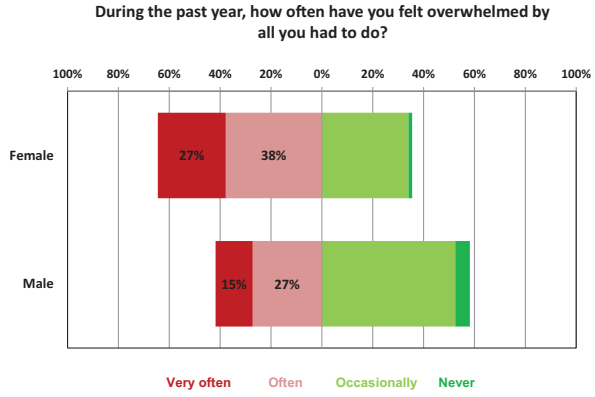
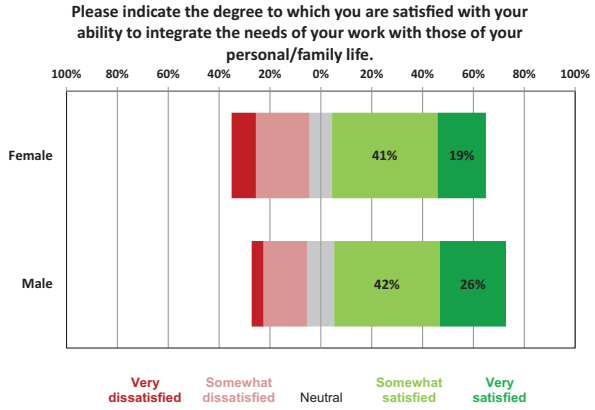
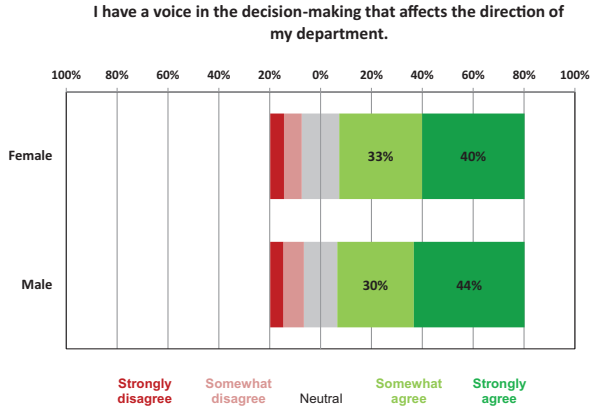
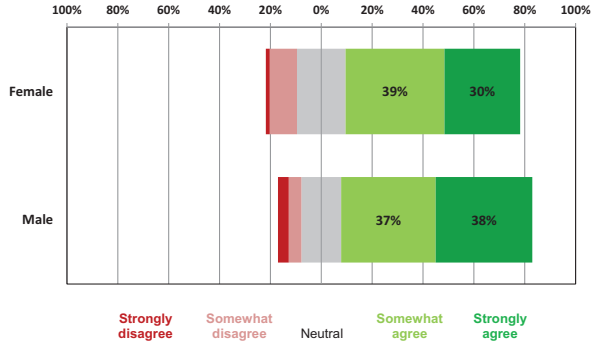


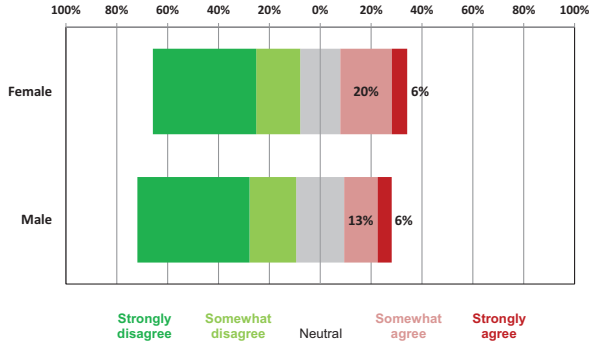




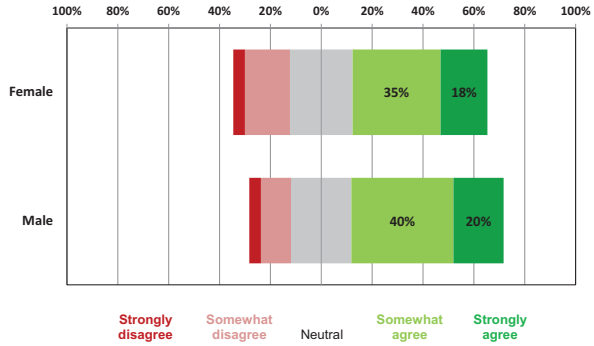
I can navigate the unwritten rules concerning how I should conduct myself in my position at MIT.



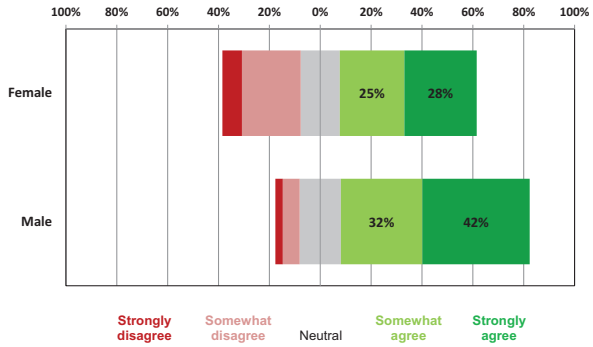
I feel excluded from an informal network in my department.



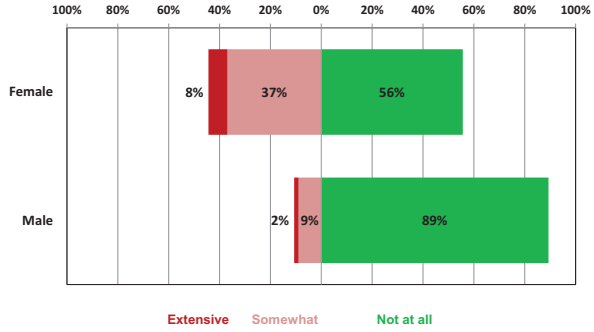
I feel supported when trying to take actions/make change.



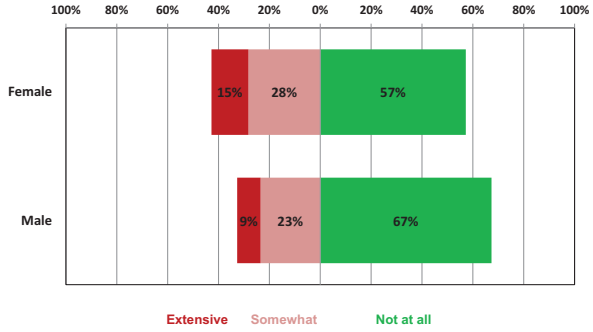
My workplace is free from bias and discrimination.



Source of Stress: Bias/discrimination

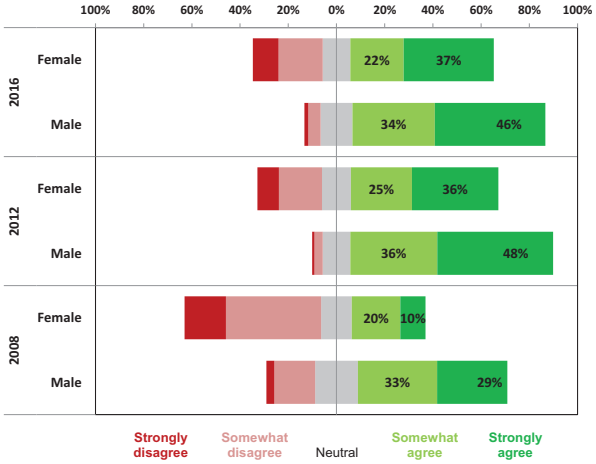


Source of Stress: Abrasive behavior by colleagues or supervisors



I have to work harder than some of my colleagues to be taken seriously.

I feel that the climate and opportunities for female faculty in my department are at least as good as those for male faculty.



Faculty Quality of Life Survey
Rajagopal et al., from preceding page

There are some questions where the responses from male and female faculty are similar. However, in too many cases there are substantial differences and, in all such cases, the experience of female faculty is either more negative or less positive. While male and female respondents generally felt similar about having a voice in decision-making and their ability to navigate unwritten rules at the Institute, considerable discrepancies emerged around perceptions of bias and discrimination and the extent to which bias, discrimination, and abrasive behavior are sources of stress for male and female faculty. We think it is important for all of us to take a close look at these data, which indicate that MIT has more work to do, both in understanding these variations and responding to them. For 7 of the 12 questions, there were similar enough questions asked in 2008 and 2012 that we could look for changes over this time period. In most cases we found consistency across the three surveys; we did find changes over time in two cases, shown in the charts. We hope that in the 2020 survey we will see change – in the direction of fewer differences between the experience of female and male faculty at MIT, and fewer faculty reporting bias and/or discrimination as a source of stress.

In sum

Slicing the data, for example as we have done above, or so as to look at the experience of URM faculty members, or in other ways, is helpful in many instances and we can see a variety of ways in which Department Heads and Deans will be able to use the data to identify specific opportunities for improvement and ways to address them. The three of us will be meeting with the Deans' group, chaired by the Provost, to discuss the outcomes of the 2016 survey and, while maintaining confidentiality around individual responses, will share our perspectives on the text replies offered by MIT faculty. In this way – as well as in others – we will do our part to further advise leaders at MIT in ways that rely upon the insights we have gained by carefully examining the outcomes and faculty comments.

As faculty officers, we played a small role in the development of the 2016 Faculty Quality of Life Survey. We recognize that the survey was long, and we are very grateful for your time and thoughtful response to the questions. We welcome any additional thoughts you might have as you peruse the survey outcomes yourself. We look forward to further enhancing MIT with your guidance and participation. ■

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Christopher Capozzola is an Associate Professor of History and Secretary of the Faculty *(capozzol@mit.edu).*

Global MIT
Lester, from page 1

education and language training. A big part is played by MISTI, which last year arranged almost 1000 student placements in 30 countries (70% for undergraduates) – a fourfold increase in the last 10 years (see Figure 2). Other important contributors to our hands-on international offerings include D-Lab, IROP, the Public Service Center, the Tata Center for Technology and Design, and Sloan's Action Learning programs. *Mens et manus* is alive not just in Cambridge but around the world.

Digital learning is helping to expand our international reach. Since its launch in 2003, the pioneering OpenCourseWare Website has received nearly 200 million visits from every country in the world, and 3.5 million learners – 75% of them from outside the U.S. – have signed up for *MITx* courses since 2012.

MIT researchers themselves range almost as widely, like EAPS professors Olivier Jagoutz and Leigh Royden and their students measuring tectonic displacements in the wilds of the Himalayas, or political scientist Fotini Christia braving wilds of a different kind to study conflict and cooperation in Afghanistan and Yemen, or the team of MIT physicists contributing to epochal discoveries at the Large Hadron Collider on the Franco-Swiss border.

MIT has also been deeply involved in major institution-building projects around the world, including the Singapore University of Technology and Design, the Singapore-MIT Alliance for Research and Technology (SMART), the Masdar Institute in Abu Dhabi, and Russia's new Skolkovo Institute for Science and Technology. Another major MIT program, to help upgrade engineering research and education in Portugal, is now in its tenth year. During the last decade, 419 MIT faculty members – or roughly 40% of the faculty – have participated in at least one of these five big projects (see Figure 3, next page). Other large international institution-building projects have been coordinated at the school or department level, such as the development of the Asia School of Business in Malaysia (by the Sloan School) and the collaboration with King Fahd University of Petroleum and Minerals in Saudi Arabia (Mechanical Engineering.)

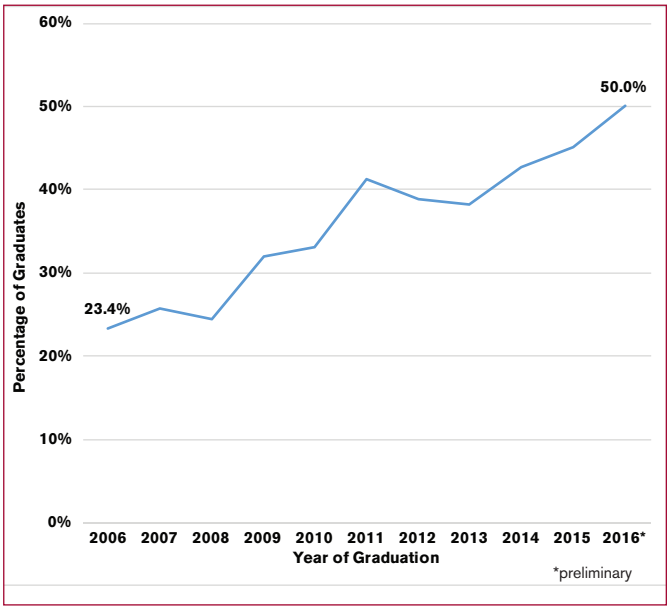

Figure 1. Percentage of MIT Undergraduates Graduating With At Least One International Experience

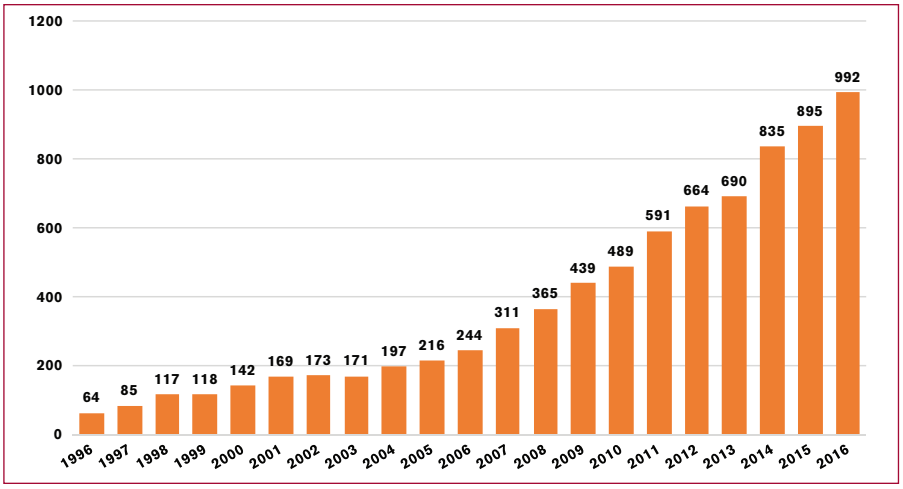

Figure 2. MISTI Annual Placements 1996-2016
(MISTI year runs from September 1- August 31. 2016 represents the 2015-2016 year.)

International engagements have been the fastest-growing part of MIT's portfolio over the last decade (see Figure 4, next page), and further growth is all but certain. Our students are seeking more high-quality opportunities to learn about and engage with the world. Our faculty are well aware that research funding is growing in many countries, even as U.S. support for R&D falters. And MIT itself, at the top of the international university rankings and widely recognized for its strength in combining innovation with research and education, is much in demand as a partner by governments and universities around the world. International firms are also showing increasing interest, and now account for more than half of all corporate R&D funding on campus.

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Global MIT
Lester, from preceding page

These trends raise important questions. Collectively, what are we trying to do in the world? What impacts do we seek, and with what priorities? How successful have we been thus far? How can we ensure that our international efforts don't deplete but rather sustain and strengthen our Cambridge campus, the "mother ship" and source of our excellence, creativity, and energy?

Of course, much of what we do internationally will continue to grow out of individual faculty initiatives. That is as it should be, and a major part of my job as Associate Provost for international activities is to support individual faculty activities and help ensure that our faculty and students can do their best work, wherever they are in the world.

But some of our international initiatives are larger in scale and require more coordination. Many international research projects undertaken by our faculty – for example, on clean water, public health, environmental sustainability, low-carbon energy, and urbanization – have this character, and so do our institution-building projects. There are many more of these kinds of opportunities than we can accommodate. So we need to set institutional priorities. Another role for my office is to help in this task.

With this in mind I launched a strategic review at the beginning of the year, and will complete it by year's end. As part of this review, our team has been seeking the views of faculty, staff, students, and administrators on what MIT has been doing and what we might do in the future. The team has also been consulting with colleagues at other universities and with outside advisors and partners. I myself have discussed this subject with more than 300 members of our community in recent months. This article is a brief progress report. My main purpose is to share with the faculty a few observations about certain strategic questions that MIT must address in the international arena, and to invite your comments on these important subjects.

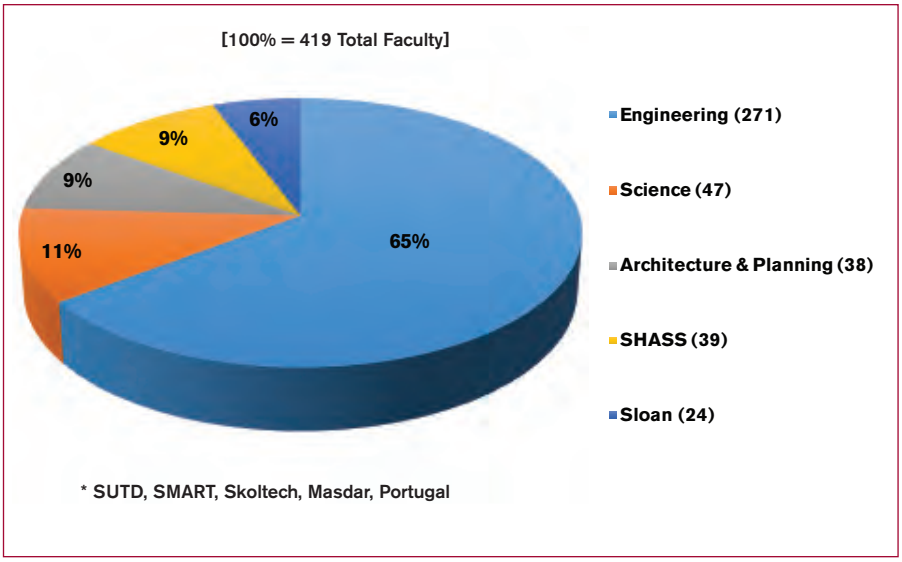

Figure 3. Faculty Participation in Five Major International Programs, by School (2006-2015)*

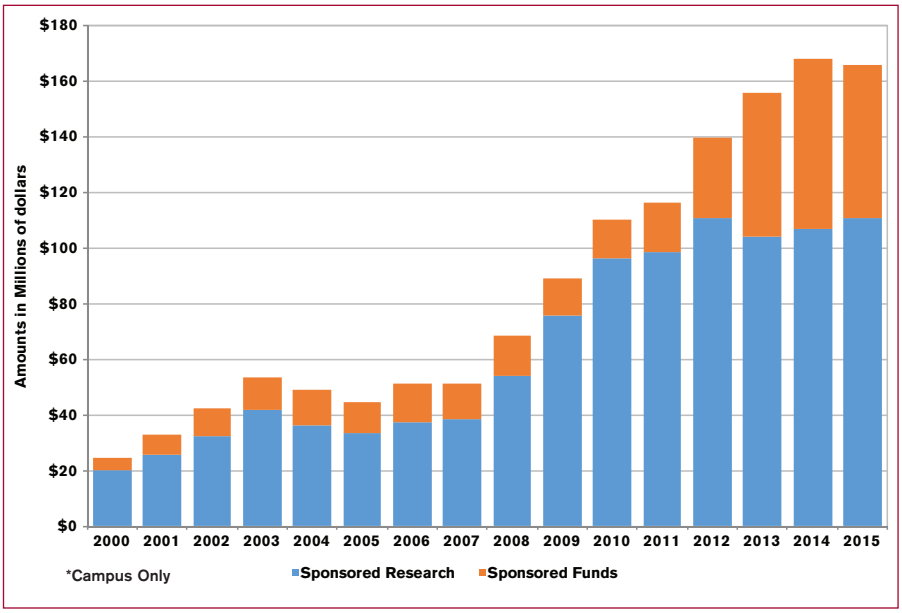

Figure 4. International Sponsored Research and Other Sponsored Activity*

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Writing in these pages a few years ago, then-Provost Rafael Reif described MIT's approaches to international engagement, and his article remains the most comprehensive statement of what we are doing and why [*MIT Faculty Newsletter*, Vol. XXIII No. 3, January/February 2011]. When we engage overseas, our goals include:

- providing educational opportunities to help prepare our students to become global leaders;
- applying discoveries, inventions, and innovations at the frontiers of knowledge to help solve the world's biggest problems;
- attracting the most talented students, faculty, and staff to MIT from around the world;

- enabling our faculty and students to engage with the world's most outstanding researchers the best scientific capabilities;
- accelerating and magnifying the impact of our research and educational activities;
- strengthening MIT by diversifying and expanding our international funding sources.

It usually isn't possible to achieve all of these goals in a single international engagement. But, broadly speaking, the larger the engagement, the more of them we might hope to realize.

My review has highlighted three kinds of international activity that seem particularly important to our community and that to some extent differentiate us from our peers.

• First, to help prepare our students for productive, rewarding, and consequential lives and careers, we are building out a *global classroom* for them. But this isn't a conventional classroom. We want our students to learn about the world in the same way they learn at MIT itself – by doing. So MIT's global classroom similarly emphasizes hands-on learning and practical problem solving. MIT may be unique in the extent to which these experiences have been integrated into our undergraduate education programs. Today about half of our students are participating. Perhaps, as with UROP, we should encourage all of them to do so, though a new funding model may be needed to accommodate the needs of students with fewer financial means. (We are simultaneously developing a different kind of global classroom – a low-cost digital or blended classroom for non-MIT learners all over the world who aspire to MIT-quality education.)

• Second, we are a *global catalyst* of innovation. The greatest agents of our impact are, of course, our alumni – now more than 130,000 strong, many of them living and working overseas. In addition, governments, universities, and philanthropists around the world are asking us to contribute directly to their human development goals, by importing MIT policies and practices for education, research, innovation, and entrepreneurship, and by inviting us to help them build entrepreneurial, impact-driven universities modeled after ours.

• Third, we are a *global problem-solver.* Our entrepreneurial, outward-looking faculty will go wherever in the world important problems are to be found, and where their knowledge, insights, methods, and rigor can help to solve them.

But while our individual faculty indeed go almost everywhere in pursuit of their intellectual and educational objectives, MIT itself must be more strategic in its institutional engagements.

But while our individual faculty indeed go almost everywhere in pursuit of their intellectual and educational objectives, MIT itself must be more strategic in its institutional engagements. We can enhance our impact by committing to being present in a particular place on a significant scale and for an extended period. But when we do this we also incur opportunity costs both at home and elsewhere, especially with a faculty of more or less fixed size. A brief and partial *tour d'horizon* suggests what is at stake:

China. We must expand our engagements in and with China, for the simple reason that Chinese researchers will increasingly be present at the frontiers of science and technology, where MIT faculty and students must also be. China's breathtaking economic rise over the last two decades has been accompanied by an equally remarkable expansion of its research infrastructure. China is now second only to the U.S. in total R&D spending, accounting for 20% of the world's total in 2013, compared with 27% in the U.S., and by the end of the decade China may well become the world leader by this metric [National Science Board, *Science and Engineering Indicators – 2016*, Chapter 4, Research and Development: National Trends and International Comparisons]. But America's future relations with China are likely to grow more complicated, with new potential for conflict as well as cooperation. Strategic rivalries will intensify in different parts of the world, and economic competition will aggravate political strains over trade and technology. At the same time, cooperation on climate change mitigation, clean energy, environmental sustainability, and other issues will likely increase. We must expand our engagement with China, while being prepared for periods of political confrontation and the risk of arbitrary government action. We must also recognize that China is not moving towards an open innovation economy any time soon, and that the Chinese government will try to maintain a tight grip on its scientific and technological infrastructure. MIT thus faces the challenge of operating in an asymmetric information environment, in which new scientific knowledge, including new knowledge we ourselves help to create through our collaborations with Chinese colleagues, may not flow as freely in China as here. Our longer-standing engagements elsewhere in Asia, including Japan, Korea, Taiwan, and Singapore, are free of most of these complications, and will continue to be important to us even as we consider new possibilities in China.

India. MIT has a long history of deep engagement with India, including successful post-independence institution-building projects at IIT Kanpur, the Indian Institute of Management in Calcutta, and the Birla Institute for Technology and Science. Today the Tata Center and the Jameel Poverty Action Lab (JPAL) are both very active there. India's openness, democratic government, enormous population of young people with aspirations for higher education, deep traditions of scientific excellence, huge development and modernization challenges,

continued on next page

Global MIT
Lester, from preceding page

and a generally cooperative political relationship with the U.S. make it a natural focus for MIT collaborations. So, too, do the interests of many of our current faculty. But bureaucratic and financial hurdles are significant, and progress in building institutional partnerships is likely to be slow.

Europe. MIT's closest international ties historically have been with Europe, and today we continue to have important academic, industrial, and government partnerships with many European countries, including France, Spain, Portugal, Switzerland, Germany, the U.K., Italy, the Netherlands, and Luxembourg. Last year European firms provided more funding for on-campus research at MIT than did American firms. Europe will continue to struggle with the challenges of integration and slow economic growth, but it will remain a global leader in higher education and science, and new opportunities for collaboration will continue to emerge.

Middle East. MIT has become much more active in this region over the past decade. The recent sharp decline in the world oil price is creating serious fiscal problems for several governments, but it is also driving efforts to accelerate the transition to less oil-dependent, more-diversified economies. Reforming leaders in the region see MIT's presence as a valuable catalyst of technological, economic, and social transformation. The involvement of American universities is also prized as evidence of broader American commitment to the region, and current uncertainty about the direction of U.S. policy is likely to encourage efforts by governments in the region to engage with us. So the opportunities for MIT in the region will grow. But strong resistance to modernization will persist in some countries, and it seems certain that sectarian conflict will continue to destabilize the region for many years if not decades to come.

Africa. Out of all the world's regions, we have been least active in Africa. Here it is surely funding constraints that have been primarily responsible, rather than an absence of challenges. Indeed, Africa – the world's fastest growing region in recent years – contains a multitude of important problems of great interest to many MIT faculty and students, including public health, water and environmental quality, rapid urbanization, the spread of social, digital, and transportation networks, and access to education. To succeed in future engagements in Africa we will need to find a sustainable funding model. We will also need to identify long-term strategic partners who can compensate for gaps in our own know-how and experience. And, as in other parts of the world, concentrating our efforts in countries with democratic leanings and a strong commitment to education and STEM development will increase the likelihood of success.

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Latin America. In Latin America, too, we have been less active than in other parts of the world, and again it is funding constraints that have been the primary reason. A major target of opportunity is Mexico, whose economy is so tightly integrated with ours – especially in important manufacturing sectors, where the two countries will largely sink or swim together. More broadly, the U.S. has an enormous stake in the prosperity, security, and political development of the Latin American region, and for MIT there may also be a related opportunity to strengthen our connections to the domestic Latino community, which will likely become more active in helping to shape U.S. relations with Latin America. Strengthening our academic and industrial partnerships in Mexico and elsewhere in Latin America can thus help to advance MIT's domestic and international objectives simultaneously.

* * * * *

So where should we be in the world? During a recent discussion of this question with an MIT advisory committee, one strongly-expressed view was that we should focus on places and partners that are excellent in research and strong in innovation, ideally with strengths complementary to ours, from whom we can learn and with whom we can jointly maximize our impact. Another view, equally forcefully expressed, was that we should concentrate on locations where the challenges and needs are greatest, where we can most effectively pursue our mission of working for the betterment of humankind. The best answer is likely some combination of the two, but perhaps with somewhat greater emphasis on the latter – including Africa and Latin America – than we have managed until now. This, however, will require new funding models, possibly involving resource transfers from richer to poorer parts of the world.

Another question: How should we operate in regions of the world with cultural values different from ours – in the Gulf, for example, where we're seen as an agent of social and economic transformation, but where our own students and faculty may face restrictions on their ability to operate? The fundamental principle here is clear: our international activ-

ities must be an integral part of what we do, not something separate. So wherever we are working in the world, we should be guided by the same core values that inform life and work on our own campus.

To my knowledge there is no official recitation of these values, but I think most faculty colleagues would concur with the majority of the following statements:

- We generate, disseminate, and preserve knowledge for the betterment of humankind.

- We engage our students in rigorous academic study and introduce them to the excitement of discovery.

- We collaborate with others to bring knowledge to bear on the world's great challenges.

- We seek excellence in everything we do.

- We encourage intellectual risk-taking and experimentation.

- We insist on:
  - honesty and integrity in all academic and personal dealings;
  - respect for others;
  - a commitment to diversity;
  - fairness and equity in the treatment of all individuals and groups;
  - faculty autonomy and institutional independence; and
  - freedom of expression, communication, publication, and movement of people.

I believe that if MIT's name is going to be used in association with an international activity we must be confident that these values will guide the conduct of that activity. So, for example, MIT ought only to enter into research or other academic engagements in a society whose cultural norms appear to us to be biased against women if we are confident that these activities will be carried out with no restrictions of any kind on our women faculty and students, or on female collaborators if they are working under MIT auspices. However, I do not think that we should require others in that society to adhere to our values as a condition of our institutional engagement. In other words, when we work overseas we should take every opportunity to "export" our values. But the right way to do this is to show by our own example how we do things at MIT, not to insist on persuading others to do things our way.

A third topic: If, as seems certain, MIT's future will lie increasingly in the international arena, what does this mean for our status as an American institution? As a faculty, the most important work that we do is inherently international. Collaborating with colleagues to advance the frontiers of knowledge; educating and mentoring our excellent students from around the world; preparing them for leadership: this work can thrive only in a world in which information and people move freely and openly. But the notion that we could exist as a purely global university, jurisdictionally unmoored and owing allegiance only to the universal laws of science and reason, is illusory. Even as our international engagement grows, we will continue to depend on the American taxpayer for much of our research funding. No less important, we are the beneficiary of American laws, regulations, and other public goods – including safety and security – that our government provides. What obligations does this create for us in the international arena? Of course, we must always comply with the relevant federal and state laws. Beyond this, when ought we to consider the national interest, and what exactly would that mean? To be sure, our institutional preferences will sometimes differ from the policies of the government of the day. And where we disagree with such policies we should make this clear to our government, so that there are no surprises. But as an institution that is both in the world and worldly, we may encounter situations where competing national interests are at stake. In such cases I believe that there should be no doubt, either at home or abroad, that as far as our own actions are concerned we will never put any other country's interests ahead of those of the U.S.

* * * * *

Our strategic review encompasses other important questions too. For example, under what circumstances, if any, ought MIT to consider a permanent presence overseas? (It is worth noting that we have now been present in Singapore on a substantial scale for almost two decades. Only at Lincoln Laboratory, less than 20 miles from Kendall Square, have we been continuously present at an off-campus location for longer.) Ought we to consider raising the cap on international students in undergraduate admissions? Should we actively seek to increase the international involvement of faculty from those of our Schools – especially SHASS and the School of Science – that have been less represented in MIT's international engagements to date? Are our on-campus intellectual and administrative capabilities adequate to support our international goals? And as we work to strengthen our own innovation ecosystem based here in Cambridge, should we also be engaging jointly with other participants in that ecosystem in our international activities? Should we be looking for opportunities not only to partner with universities elsewhere, but to build international partnerships at the ecosystem level – perhaps even a network of some of the world's most dynamic innovation hubs, each with a comparative advantage in a different area, working together to address some of the world's great challenges – like climate change mitigation, or clean water, or physical and cybersecurity?

Many of these topics will require thoughtful and rigorous consideration by our faculty. I plan to report to the faculty in a few months on what concrete steps we might take to advance our goals for international engagement and how best to consider and develop these. In the meantime, I welcome your comments and suggestions.

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The MIT-Haiti Initiative: An International Engagement

Haynes Miller

I HAD THE FOLLOWING DREAM the other night. I was getting my 10-year-old daughter ready for school. School was important: an education was the only pathway to a better future for her. She showed me her homework from the night before. I thought it was well done, though I couldn't understand most of the words. It was hard to have my child being taught in German. Of course this was my educational background too, but things fade; I never really learned to speak the language. On the other hand, I never really learned to write English either, or read it fluently, since it was not taught in school. Maybe it didn't matter, since there was so little literature published in English. And of course it really wasn't fair to expect the school to teach – mathematics, say – in English, since all the published textbooks were in German. This is the way it's always been. It was always hard for me to express myself in German, and the school rarely asked more than rote learning. I'm sure that this is the case for my daughter as well. But after all, most courses are taught in this language. I gave my daughter a hug and sent her on her way.

Luckily, this dream of mine is fictional. But this is exactly the nightmare faced by almost all Haitian parents today, with the German of the dream replaced by French and English by Haitian Creole ("Kreyòl"). All Haitians speak Kreyòl, while less than five percent speak French at home. Both are official languages, but there are great impediments to using Kreyòl in educational settings. And very often the teacher is insecure with his or her own French. A further tragedy is that most literate Haitians are insecure about writing in Kreyòl also, because until quite recently Kreyòl orthography was rarely taught in schools. In a sad affirmation of the status quo, it is widely held that deep or technical ideas cannot be expressed in this language.

The use of French as a language of instruction in Haiti is inextricably linked with a reliance on a conservative teaching methodology at all levels. It's often said by teachers that they speak Kreyòl when they want their students to understand and participate, and French when they want them to obey and keep quiet.

An ongoing initiative based at MIT is helping to provide training and resources for higher education that are founded on contemporary educational theory and active learning methods, and, as a consequence, predicate the use of Kreyòl in the classroom. My own association with this initiative has been among the most rewarding experiences in my career at MIT, and I think I speak for all the participants in the project in thanking Professor Michel DeGraff for his passionate and visionary leadership. In this brief article, I'd like to report on this initiative.

A founding symposium was held at MIT in October 2010, at the Cambridge Marriott Hotel. Convened by Professors Michel DeGraff and Thomas Kochan (then Chair of the Faculty) along with Vijay Kumar (then Director of the Office of Educational Innovation and Technology), it drew a highly distinguished group of Haitian academicians, including a former prime minister (Michèle Pierre-Louis from the FOKAL Foundation in Haiti which co-sponsored the symposium), deans from the Faculty of Sciences at the State University of Haiti, and rectors or presidents from a number of public and private institutions, as well as high-tech industry and telecommunications representatives.

The relationships and plans forged by this conference led to the first MIT-Haiti workshop, in Port-au-Prince, in March 2012. This pilot led to a substantial grant from the U.S. National Science Foundation, with Michel DeGraff and Vijay Kumar as Principal Investigators, which has funded a very active program of engagement between MIT and Haitian faculty. The focus has been on fostering active learning in Haitian higher education, supported by technology and the use of Kreyòl.

A main element of this collaboration has been a series of workshops – eight, so far. They have reached some 263 Haitian faculty and administrators, with around 100 attending more than one of them. They have a standard format: three or four days; lectures in the morning on modern educational theory, active learning methods, and lesson design, followed by disciplinary sessions in the afternoon in which active learning strategies are exemplified, discussed, and then created by the participants. Sessions have been conducted on biology (highlighting the StarBiochem and StarGenetics tools), mathematics (highlighting the MIT Mathlets and GeoGebra), statistics, physics (using PhETs and hands-on kits), and chemistry and bio-chemistry. Sometimes a panel of Haitian educators or academic administrators discusses examples of effective teaching strategies or educational initiatives. One of the outcomes of these

MIT participants in the MIT-Haiti workshops (with current positions)

Lourdes Alemán, Program Coordinator for Curriculum Innovation, ODL
Deborah Ancona, Seeley Distinguished Professor of Management
Paul Belony, President, Belony Scientific
Jonathan Bloom, Computational Biologist, Broad Institute
Alison Brauneis, Associate Director of Instructional Design, Stanford
Jean-Michel Claus, Javascript Programmer
Michel DeGraff, Professor of Linguistics
Kirky DeLong, Senior Project Manager, ODL
Cecilia d'Oliveira, Associate Dean of Digital Learning, ODL
Peter Dourmashkin, Senior Lecturer, Physics
Ruthly François, International Health Department, Johns Hopkins Bloomberg School of Public Health
Mary Grenham, Administrative Officer, Department of Linguistics & Philosophy
Chris Kaiser, Professor of Biology
Vijay Kumar, Associate Dean of Digital Learning, ODL
Judith Leonard, Administrative Analyst, ODL
Suzana Lisanti, Web Producer
Haynes Miller, Professor of Mathematics
Brandon Muramatsu, Associate Director of Strategic Education Initiatives, ODL
Christopher Naylor, Systems Administrator, Department of Linguistics & Philosophy
Rebecca Rosemé Obounou, Program Coordinator, MIT Sloan School of Management
Jeremy Orloff, Lecturer, ESG and Mathematics
Glenda Stump, Consultant for Educational Research
Elizabeth Vogel Taylor, Lecturer, Concourse and Chemistry

workshops is a convincing demonstration that there is no real obstacle to conducting technical discussions in Kreyòl. Along the way we have been contributing to the glossary of technical terms in the language.

In September 2015, six of the most committed Haitian participants spent two weeks at MIT. They enjoyed a rich program of talks and classroom visits, and worked on syllabus enrichment. When they returned to Haiti, five of the six formed a "Konbit" – a Kreyòl term for an agricultural practice common in Haiti as it was in an earlier era in the U.S., in which neighbors cooperate to work their various fields. The Konbit immediately ran a series of workshops in Haiti, amplifying the work of the MIT team. We regard the Konbit initiative as a mark of the coming of age of the MIT-Haiti Initiative.

The MIT-Haiti Initiative has recently broken new ground, establishing a collaboration not just with individual academics but rather with an institution. In August 2015 we ran a workshop at the Campus Henri Christophe of the State University of Haiti. This is a newly built and very attractive university campus near a town picturesquely named Limonade, not far from Cap Haïtien in the north of the country. Following that workshop, the president of this university applied for and won a grant from the U.S. Embassy in Haiti to fund a further workshop, followed by a week of intensive engagement by the MIT team with the Limonade faculty. This visit occurred in June 2016. We established close relationships with much of the faculty at this campus, and look forward to continuing our involvement with them. We are involved in a proposal to create a center of pedagogy at that institution, for which we would serve as consultants.

The MIT-Haiti Initiative has several other components. Michel DeGraff has a longstanding relationship with Lekòl Kominotè Matènwa, a Kreyòl-based K-10 school in rural Haiti (on the island of Lagonav). He has conducted research there demonstrating a strong correlation between reading comprehension and the use of Kreyòl in the classroom. The Konbit visited this school in February 2016 and conducted a workshop with its faculty.

In June 2014 a large proportion of the leadership of the government of Haiti, including then Prime Minister Laurent Lamothe, attended a three-day workshop on leadership and team-building in Port-au-Prince led by Sloan School Professor Deborah Ancona. In a speech at the Sloan School in April 2015, Lamothe gave a passionate account of the importance of the use of Kreyòl in Haitian schools, and a thank you to the MIT-Haiti initiative for "even daring to do what others would not even think of doing – trying to push the boundaries a little bit."

More than 200 million children worldwide are being "educated" today in a language that they don't speak, and 40% of the world's population (more than 2.3 billion people) speak languages that are still marginalized at school. The MIT-Haiti Initiative is forging a model of the use of local languages such as Kreyòl as the primary language of instruction at all educational levels. We believe that this is not only desirable from a pedagogical perspective, but actually necessary for the psychological and cultural wellbeing and the socio-economic and political advancement of large sectors of the world's population. The Haitian example is particularly poignant. In many cases the marginalized local language is spoken only by a very small group or fragment of the population. Haitian Creole on the other hand is spoken by all 10 million Haitians. It is a unifying language, and as such it offers a tremendous national resource, one so far underutilized.

For more information about the MIT-Haiti Initiative, please visit the Website ***haiti.mit.edu***. We welcome your participation in this ongoing international engagement.

Editor's Note: For a Kreyòl translation of this article see: **web.mit.edu/fnl/volume/291/miller_kreyol.html.**

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MIT Administration "Walking the Talk" on Transit Commuter Benefits

Frederick P. Salvucci

THE ANNOUNCEMENT BY EXECUTIVE Vice President and Treasurer Israel Ruiz that beginning September 1, MIT employees received free use of transit as a benefit provided by MIT, is a very positive and very significant example of "thinking globally and acting locally."

About a decade ago, then-President Susan Hockfield held a day-long symposium at Kresge on the energy problem of the planet and announced that MIT would not only do excellent research, but would also "walk the talk" and lead in its own practice. In the new MIT-subsidized free transit benefit action, President Rafael Reif and Israel Ruiz have demonstrated that this was not just a throwaway line in a speech, but a real commitment to lead by example. By changing the incentive structure of the commuting benefits it provides to its employees, MIT is setting an example of how major employers can incentivize a more sustainable public transit-oriented commuting pattern and finance the expanded employee benefits through savings realized by not building the increasingly expensive garage parking spaces required to support auto commuting. This is the largest and most ambitious employer-led initiative in the region to help employees shift their commuting towards lower impact transit. As an MIT research associate who has often been critical of MIT policy in the Kendall Square area, as well as of MIT's failure to provide much more graduate student housing at prices that are affordable, I am delighted to be able to say that this time the administration has really stepped up to the plate.

The process through which the administration adopted this policy is also unique, and remarkable. Inspired by the aforementioned speech of President Susan Hockfield, a young Masters degree student named Ursula Hester in the Department of Urban Studies and Planning decided to do her thesis research on the hypothesis that MIT could afford to improve the incentive to use public transportation for employees commuting to MIT, by broadening employee benefits to provide free use of public transit to all employees, while financing the subsidies through savings from not building new parking garages. (Ursula Hester's thesis: "A transit pass in everyone's hand?" implementing Universal Employee Transit Pass programs as a strategy to increase transit ridership, 2004.) Ursula's thesis showed that the working hypothesis is compelling.

The following year another Masters degree candidate (Tegin Teich Bennet, now the City of Cambridge Transit Planner) requested that John Attanucci, a research associate in the Transit Lab in Civil and Environmental Engineering (CEE), organize a faculty and student seminar on how to implement the Ursula Hester thesis concept. In addition to academic participants, Larry Brutti, Operations Manager of the MIT Parking and Transportation Office, participated directly with the students, and provided the institutional perspective of the MIT commuter benefit program. CEE Professor Nigel Wilson, leader of the Transit Lab, also provided his long-term perspective on the MIT commuting benefits program. Professor Wilson had served as a faculty representative on the administration Transportation and Parking Advisory Committee for years, and had successfully advocated for "levelling the playing field" between auto and transit commuter choices, by gradually increasing the price of employee parking to closer to market rate, and by initiating a program of MIT subsidies for the MBTA monthly transit pass, so that MIT employees could have similar pre-tax employer provided subsidy available for transit commuting as for parking, while providing more environmentally friendly options for commuting.

The students participating in the seminar identified the opportunity provided by the MBTA introduction of the "smart" CharlieCard to insert a CharlieCard chip in the MIT employees' MIT ID cards . . . . With both a CharlieCard chip and an MIT parking chip in the ID, it became a "mobility pass."

The students participating in the seminar identified the opportunity provided by the MBTA introduction of the "smart" CharlieCard to insert a CharlieCard chip in the MIT employees' MIT ID cards, to make using public transit customer friendly, and to provide

free occasional use of public transit, encouraging more public transit use.

With both a CharlieCard chip and an MIT parking chip in the ID, it became a "mobility pass." One participant in the seminar (David Block-Schachter, now the Chief Research Scientist at the MBTA) did his Masters thesis on improving understanding of the commuting behavior of MIT employees, based on the employee survey which MIT conducts every two years pursuant to the U.S. Clean Air Act regulation. The analysis showed significant variance from day to day within the commuting pattern of many individual employees. But the employee benefit program then in place did not reflect this variability, and actually encouraged an employee to either always drive, or always use transit, once the employee had chosen either a monthly parking or a monthly transit pass. This led to the hypothesis that if all employees had a daily choice of parking for a daily charge or using public transit "for free," many more employees would choose public transit, reducing the demand for added parking, and reducing auto congestion and air pollution in the area.

But the MBTA monthly employee pass price structure then in place required MIT to pay the monthly price for each employee, even those who used the T infrequently. If the MBTA would be willing to use the information now available with the CharlieCard to identify actual use, and charge MIT for the actual use, then MIT could afford to provide free transit to all employees, and finance the costs through regularly increasing parking fees and savings from avoiding further expensive construction of parking garages.

MIT is not primarily in the transportation business, and prioritizes employee satisfaction. So intensive focus groups were then conducted with all MIT employees invited to participate. These focus groups reinforced the conclusion from the survey analysis that employees would respond favorably to more options, particularly if the incentives were positive ("carrots" not "sticks"). Experiments were organized with the MBTA's cooperation to test the actual behavior of about 1,000 employees with the CharlieCard chip embedded in their identity cards.

Another Master of Science in Transportation thesis, conducted by Dianne Kamfonik, identifies the positive revenue consequence for MBTA resulting from employer subsidies of transit pass programs. This information helped to design a "win-win-win" program where the MBTA, MIT employees, and MIT will all gain from a new employee transit pass structure. More recently, a thesis by Matthew Hartnett, uses the availability of fine grained data available from the CharlieCard and commuter surveys over a period of 10 years to analyze the outcomes of the pilot program, which further verified the incentive to shift mode to transit provided by the "mobility pass". Matthew even identifies what appears to be a slight reduction in automobile ownership by employees, providing environmental benefits from reduction of auto dependency generally.

All of this intensive interaction and pilot testing with the MBTA has enjoyed the strong support of the MBTA, and most recently, Secretary of Transportation Stephanie Pollack. The research was funded through the "Cambridge Living Laboratory" program sponsored by the University Transportation Center transit research program and a Federal Highway Administration grant overseen by John Attanucci of the MIT CEE Transit Lab. But some of the early insights about the potential role of employers in shaping commuter preferences goes back to the insights of MIT Professors Alan Altshuler and Daniel Roos in the 1970s. The potential to replicate and expand on this expertise with other major employers will continue to be examined by John Attanucci and Professor Jinhua Zhao of DUSP as an example of mutual nudging of behavior requiring collaboration by the MBTA, major employers, and their employees.

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In conclusion, this is a really large and significant contribution by President Rafael Reif and Executive Vice President and Treasurer Israel Ruiz. It places MIT in the forefront of progressive employers taking direct action to improve the environment, and reduces negative externalities associated with driving, while securing the Institute's core responsibilities as a university. The responsibility now shifts to the faculty and staff, to "think globally and act locally." First, by taking advantage of the new incentive structure provided by the Institute to shift our travel patterns to drive less and use public transit more. This case should also inspire all of us to become active and engaged in Institute policy matters, and stick to it, as Professor Nigel Wilson and John Attanucci have in this case. With sound technical analysis and persistence, it is possible to move Institute policy towards socio-economic and environmental sustainability.

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Access MIT Provides Flexible Commuting Options and an Opportunity for Meaningful Personal Action

Les Norford

ON JUNE 14, 2016, Executive Vice President and Treasurer Israel Ruiz announced the inception of Access MIT, a new vision for commuting to and from MIT. Its initial phase provides more day-to-day commuting choice to faculty, staff, and postdocs on the Cambridge campus and makes a strong effort to align the financial and environmental objectives of individuals and the Institute. In short, for employees who park in lots with electronic gates, parking will no longer be an annual sunk cost. Instead these parkers will pay by the day and have access to zero cost subway and local bus right inside their MIT ID cards. Taking public transit, biking, or sharing a ride with a colleague on days you don't park becomes the cheapest option, making the savvy financial choice also an environmentally friendly one. The Institute benefits as well, because lowering the demand for parking also reduces traffic congestion and provides an opportunity to rethink how much space we dedicate to parking lots in future planning efforts.

Details of the program are summarized in the table. Faculty, staff, and postdocs who opt-in will enjoy unlimited use of MBTA subway lines and local buses. Faculty and staff who park in gated MIT lots will pay a daily cost of $10, or $5 in an economy lot – both have a cap to ensure that parkers do not pay more than the regular annual rate. Those who use commuter rail, express buses, and ferries will enjoy an increased monthly pass subsidy. Those who park at MBTA stations will receive a 50 percent subsidy for parking fees, subject to a monthly cap. Occasional use of commuter rail and ferry services are not yet included, only because current ticketing does not work with the existing chip technology that is embedded in MIT IDs.

The Institute Committee for Transportation and Parking, comprised of faculty, staff, and students, was pleased to develop the Access MIT initiative after the Committee had been charged to boldly redefine commuting at MIT. The Committee worked with stakeholders to develop a vision that prioritized flexibility, urban mobility, and environmental and community health as part of the commuting experience. As noted by Fred Salvucci in his article in this issue of the *Faculty Newsletter* (page 16), the work of the Department of Civil and Environmental Engineering Transit Lab faculty, staff and graduate students has provided the foundation for the new suite of programs. During the development stage, the Committee received input from focus groups and continues to invite feedback from members of the Institute community.

Several aspects of the new program merit brief highlights:

1. Choice. Some members of our community use cars every day, for a variety of reasons. Access MIT does not penalize those who cannot or choose not to find alternatives to driving. The accumulated cost of daily parking costs will be capped at an annual total that is based on the annual parking fee still in place for ungated lots.

2. Peace of mind. Some parents or others with caregiving responsibilities drive to campus so they can quickly help family members if needed. MIT pays for emergency rides home for those who walk, bike, ride the T, or take other shared modes.

3. Economics. Parking facilities at MIT are increasingly expensive. Those with memories of campus in past decades or an eye for historical photographs know that the days of ample surface parking on campus are long over. The price the Institute charges for parking has increased steadily and significantly over the last decade, though it remains well below the current market rate. The cost to build underground parking, as found in large garages at Stata and Sloan, now runs about $150,000 per space to build. In the future, garages will provide an increasingly large fraction of the total inventory. The total capital, interest, and operating cost amortized over a 40-year life of a garage parking spot is over $7,500 per year. The programs that are part of Access MIT represent a financial carrot to complement rising parking prices: a cost-saving incentive to consider taking transit, biking, walking, or carpooling when possible.

Some might argue that changes to parking fees discourage driving to work, and therefore limit the interaction of faculty, staff, and students that is at the heart of a brick-and-mortar institution. Access MIT, however, seeks to encourage this vital interaction by providing free bus and subway rides to the Institute for employees. Further, it provides this same benefit

Summary of New Programs 2016-2017

Changes to Parking Fees	
	New in 2016-2017
Parking Rates	Parkers in gated lots pay $100 permit fee plus $10/day (capped at $1760/year); $5/day in economy gated lots (capped at $880/year).
First Time Parking Fee	New parkers pay $100 one-time fee to register their vehicles in addition to $100 annual permit fee.
Changes to Public Transit	
	New in 2016-2017
T Pass (subway/bus)	100% subsidized for employees and post-docs, commuter pays $0, embedded in MIT employee ID card.
Commuter Rail, Express Bus, and Ferry Services	Monthly Passes are 60% subsidized (increase of 10%).
MBTA Station Parking	50% discount up to $100/month.

to walkers, bikers, and those who already use public transportation, encouraging even short visits to campus on any day of the week and at any time.

4. Environment. Getting to campus on foot, by bike, or on the T benefits the local environment and contributes to the Institute's goals to reduce greenhouse gas emissions. A gallon of gasoline weighs about 2.9 kg, 87% of which is carbon. Its combustion produces 8.9 kg of CO_2, which will linger in the atmosphere and oceans for a very long time.

MIT's Climate Action Plan affirms the need for scientific discovery but also emphasizes that technology alone is not sufficient. The Plan states: "Addressing this global problem will take deep societal change. That means there is a role – and a personal responsibility – for everyone: every nation, every sector, every institution, every firm, every individual human being. We aim to help inform and inspire a broad societal movement to find climate solutions. We hope you will find your own opportunity, in our plan or elsewhere, to make a difference." Access MIT provides an opportunity for meaningful personal action.

Cars are also a source of traffic congestion, noise and (non-carbon) pollution, including NOx and particulates. Airborne pollutants have health consequences, even when concentrations are below those specified in EPA's National Ambient Air Quality Standards. The City of Cambridge in particular will be a better home for its residents if Access MIT lessens urban traffic.

5. Living Laboratory. Access MIT is a campus-wide experiment. At one point in its development, the Transportation and Parking Committee considered a smaller experiment, which would compare the commuting choices of two or three cohorts, one of which would have been subject to existing (and lesser) benefits. Instead, there was a decision to implement the new program for the benefit of all. The Institute will spend an appreciable amount of money to encourage alternatives to driving, with the hope (bolstered by evidence of the efficacy of programs elsewhere, as assessed by the Transit Lab) that these subsidies will lead to lower costs to develop parking infrastructure. The announced goal of the revised parking benefits and costs is to reduce on-campus demand for parking by 10 percent in two years. A 10 percent decrease roughly translates into leaving the car at home two days per month and saving parking fees and operating expenses for the car. The program will be shaped in coming years by careful study of shifts in mobility.

6. Interactive data. Student researchers in the Transit Lab, in collaboration with the Parking and Transportation Office, helped develop and pilot an online dashboard to enable the MIT community to better manage their commutes. "AccessMyCommute," which is now accessible via an individual's Atlas commuting page, allows each of us to track and plan our commutes, identify other MIT employees interested in carpooling in our area, and win prizes for more sustainable commutes. In the coming year, the Transit Lab will continue to work with MIT faculty and staff to launch contests, develop new features, and better understand what motivates commuter behavior.

MIT has attracted a booming biotech and infotech community in East Cambridge and the assembled intellectual capital has global importance. Access MIT represents an evolving vision about how faculty, staff, and postdocs can reach campus – and travel through the Boston area – in ways that acknowledge the vitality of our dense urban neighborhood and provide choices of how we contribute to and interact with it. With the participation of the MIT community, the program will realize its potential to become a model for other institutions in our surrounding area.

Les Norford is a Professor of Building Technology, Department of Architecture; Member of the Committee for Transportation and Parking *(lnorford@mit.edu).*

An Update on Gender Imbalance in MIT Admissions Maker Portfolios

Chris Peterson
Hal Abelson

LAST NOVEMBER, WE RECORDED in these pages ("Gender Imbalance in MIT Admissions Maker Portfolios") a notable difference in the rates at which men and women submitted Maker Portfolios as supplements to their freshman applications. Specifically, we observed that women submitted the Maker Portfolio – and only the Maker Portfolio – at a lower rate than men, and far below the rates that they submit any other type of supplemental portfolio or apply to MIT overall. We solicited advice from readers and took additional steps to increase the representation of women and the diversity of projects featured in public presentations and portfolio materials.

After another admissions cycle, we regret to report that the patterns have not changed much. Below is the data for the prospective Class of 2019 (entering fall 2015) that we published last year, as well as the data for the prospective Class of 2020 (entering fall 2016).

As shown in the figures, the gap between the proportion of men and women who submitted Maker Portfolios closed by .6%, and the rate at which female applicants submitted Maker Portfolios increased by .6%, shifts that closely track the .5% delta in overall application rates. Indeed, portfolio submission rates increased across all portfolios for both men and women. Any improvement is a good thing, but it's a bit discouraging that, despite efforts to better represent the diversity of people and projects we wish to encounter in the Maker Portfolio, the needle hasn't moved as much as we would like.

As we approach the next admissions cycle, the Admissions Office is continuing to work on improving representation and recruitment, including an initiative, in partnership with Maker Media, that will leverage their intellectual property and community of Maker Faires with admissions' database of prospective students to help encourage more women to take up "making" and identify as makers. However, the persistence of this pattern, despite several years of prior work to improve representation and reach targeted populations, leaves us questioning what other dynamics may be in play. Our understanding would probably be improved by additional qualitative work, including (but not limited to) interviews with enrolling women who did or did not submit maker portfolios and other

EY2015	All	Men	Male % of Pool	% of All Men	Women	Female % of Pool	% of All Women
Apply to MIT	18,306	12,750	69.6%	100%	5,556	30.4%	100%
Submit Maker Portfolio	1,101	946	85.9%	7.4%	155	14.1%	2.8%
Submit Research Portfolio	2,056	1,339	65.1%	10.5%	717	34.9%	12.9%
Submit Music & Theater Arts Portfolio	1,013	642	63.4%	5.0%	371	36.7%	6.7%
Submit Art/Architecture Portfolio	848	372	43.9%	2.9%	476	56.1%	8.6%
EY2016	**All**	**Men**	**Male % of Pool**	**% of All Men**	**Women**	**Female % of Pool**	**% of All Women**
Apply to MIT	19,020	13,131	69.1%	100%	5,889	30.9%	100%
Submit Maker Portfolio	1,355	1,156	85.3%	8.8%	199	14.7%	3.4%
Submit Research Portfolio	2,259	1,451	64.2%	11.1%	808	35.8%	13.7%
Submit Music & Theater Arts Portfolio	1,125	660	58.6%	5.0%	465	41.2%	7.9%
Submit Art/Architecture Portfolio	893	396	44.3%	3.0%	497	55.7%	8.4%

fieldwork that might trace the web of reasons that influence whether and which portfolios are submitted by applicants. We welcome suggestions of resources (e.g., people and/or money) that might support this kind of research to: *chris.peterson @mit.edu*, cc:ing *hal@mit.edu*.

Chris Peterson is Assistant Director of Admissions *(chris.peterson@mit.edu);*
Hal Abelson is a Professor in the Department of Electrical Engineering and Computer Science *(hal@mit.edu).*

Teaching this fall? You should know . . .

. . . the Faculty regulates examinations and assignments for all subjects.

View the complete regulations at ***web.mit.edu/faculty/teaching/termregs.html***. Select requirements are provided below for reference. Contact Faculty Chair Krishna Rajagopal at ***exam-termregs@mit.edu*** with questions or requests for exceptions.

No required classes, examinations, oral presentations, exercises, or assignments of any kind may be scheduled after the last regularly scheduled class in a subject, except for final examinations scheduled through the Schedules Office. The last class day for all subjects is Wednesday, December 14, 2016.

Undergraduate Subjects
By the end of the **first week** of classes, faculty must provide:

- a clear and complete description of the required work, including the number and kinds of assignments
- the approximate schedule of tests and due dates for major projects
- an indication of whether or not there will be a final examination, and
- the grading criteria and procedures to be used

By the end of the **third week**, faculty must provide a precise schedule of tests and major assignments.

Regularly scheduled academic activity between 7 and 10 pm always takes precedence over evening review sessions or exams/quizzes. Hence:

- Evening review sessions should be optional, and should be described as such. It is good practice to announce them explicitly as being for those students who do not have classes on the evening in question; some instructors schedule two review sessions to provide alternate times.
- In the case of an evening exam/quiz, you must make available an alternate time for any students with such a conflict. (Note: Evening exams/quizzes may be scheduled only on a Tuesday, Wednesday, or Thursday)

When held outside scheduled class times, tests must:

- not exceed two hours in length
- begin no earlier than 7:30 pm when held in the evening, and
- be scheduled through the Schedules Office

In all undergraduate subjects, there shall be no tests after Friday, December 9, 2016. Unit tests may be scheduled during the final examination period. For each undergraduate subject with a final examination, no other test may be given and no assignment may fall due after Friday, December 9, 2016. For each subject without a final examination, at most one assignment may fall due between December 9 and the end of the last regularly scheduled class in the subject.

Graduate Subjects
By the end of the **third** week, faculty must provide:

- a clear and complete description of the required work, including the number and kinds of assignments
- the schedule of tests and due dates for major projects
- an indication of whether or not there will be a final examination, and
- the grading criteria and procedures to be used

For each graduate subject with a final examination, no other test may be given and no assignment may fall due after Friday, December 9, 2016. For each subject without a final examination, at most, either one in-class test may be given, or one assignment, term paper, or oral presentation may fall due between December 9 and the end of the last regularly scheduled class in the subject.

Student Holidays
There is a student holiday on Friday, September 23, coinciding with the Fall Career Fair. Monday, October 10 (Columbus Day) and Tuesday, October 11 are also student holidays.

Collaboration Policy and Expectations for Academic Conduct
Due to varying faculty attitudes towards collaboration and diverse cultural values and priorities regarding academic honesty, students are often confused about expectations regarding permissible academic conduct. It is important to clarify, in writing, expectations regarding collaboration and academic conduct at the beginning of each semester. This could include a reference to the *MIT Academic Integrity Handbook.*

Highlights from the 2016 Faculty and Staff Quality of Life Survey

Institutional Research

THE COUNCIL ON FAMILY and Work monitors the state of family and work life at MIT and works to ensure MIT is a place where faculty and staff can have fulfilling and productive professional and personal lives. As part of its charge, the Council sponsors the MIT Faculty and Staff Quality of Life Survey. The Office of the Provost and the Chair of the Faculty serve as co-sponsors of the faculty portion of the survey.

In mid-January of this year, Provost Martin Schmidt and Executive Vice President Israel Ruiz invited MIT faculty and staff to participate in a quality of life survey. The survey was administered by the Office of Institutional Research. The purpose of the survey was to examine the work-life environment for faculty, other instructional staff, researchers, postdoctoral scholars, administrative staff, support staff, and service staff at MIT Main Campus and Lincoln Laboratory. Faculty received a similar survey in 2004, 2008, and 2012. The survey included other employee types beginning in 2012.

The survey covered a number of topics, including satisfaction, workload, work-related stressors, departmental climate, mentoring, integration of work and personal/family life, and the tenure and promotion process. It was based in part on a core survey developed by schools in the Association of American Universities (AAU).

The survey closed in late February with more than 7,000 responses. Fifty-seven percent of Main Campus staff and 45% of Lincoln Laboratory staff answered the survey. The response rate for faculty was 64%, slightly lower than the 66% rate in 2012.

As with all surveys run by Institutional Research, the survey data are treated as confidential, and the results are never presented in a way that individual respondents can be identified.

Below are some of the broad-level survey results, organized by topic area. The Council on Family and Work is preparing a more detailed analysis, which should be available later this fall.

Satisfaction

Faculty and staff appear to be quite satisfied in their roles at MIT. Ninety percent of survey respondents, overall, said they were somewhat or very satisfied being an MIT employee. See MIT Numbers (back page). Ninety-two percent of faculty reported being satisfied. Tenured faculty reported slightly higher satisfaction rates than tenure-track faculty. The rates ranged from 89% in Engineering to 97% in Sloan.

The last time this survey was administered (2012), the same percentage of faculty said they were somewhat or very satisfied in their overall role as faculty at MIT. However, the percentage of "Very satisfied" rose from 57% in 2012 to 62% in 2016. See Figure 2.

When asked about their satisfaction with 22 specific items, faculty rated "Quality of graduate/professional students," "Quality of undergraduate students," and "Office space" as the top three items. The bottom three items were "Support for securing grants," "Committee and administrative responsibilities," and "Time available for scholarly work." [*The ranking of items is based on mean score.*] Faculty and staff were also asked, "Please indicate the degree to which you are satisfied with your ability to integrate the needs of your work with those of your personal/family life." Seventy-seven percent of respondents said they were somewhat or very satisfied on this measure. Faculty and postdoctoral scholars, however, tended to have lower ratings compared to other staff types (66% and 63%, respectively). See Figure 3. A higher percentage of tenured faculty said they were satisfied with their ability to integrate work and family life compared to tenure-track faculty. In addition, female faculty and underrepresented minority faculty reported lower levels of satisfaction compared to their counterparts.

Workload and Stress

While faculty and staff indicated they were generally happy in their roles at MIT, they also reported working hard. On average, faculty and postdoctoral scholars reported working more hours per week than other employee types. See Figure 4.

On the survey faculty were asked how they divided their time among various work-related activities. Tenured faculty reported spending more time on administrative responsibilities and less time on scholarship, compared to tenure-track faculty. See Figure 5.

Nearly 60% of faculty said their workload was too heavy or much too heavy, while fewer than 1% said too light or much too light. For each of the other staff types, a majority answered "about right." See Figure 6 (page 24).

In tandem with the findings regarding workload, faculty were more likely than other groups to report being overwhelmed

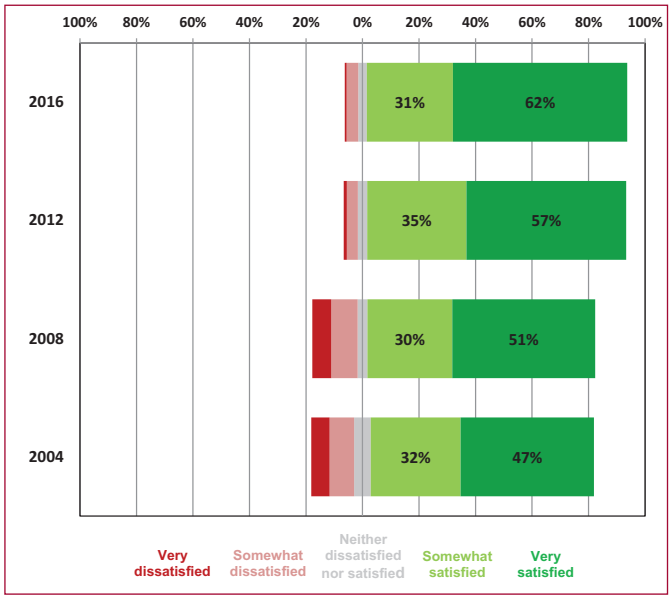

Figure 2. Satisfaction with being a faculty member at MIT

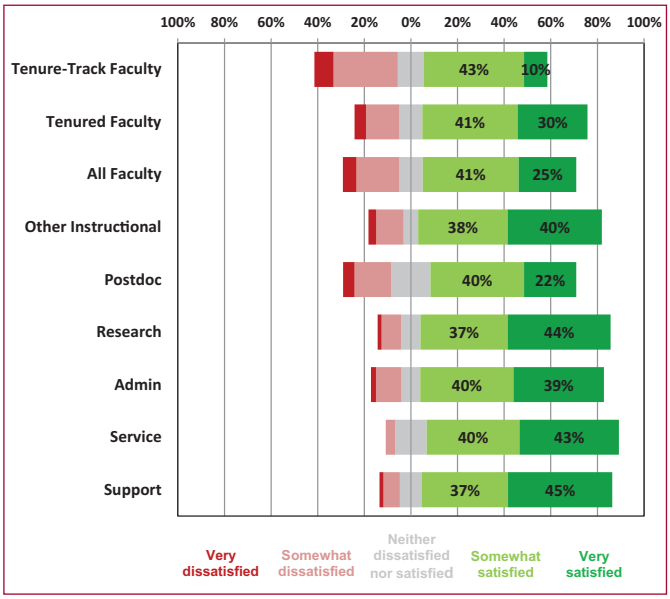

Figure 3. Satisfaction with ability to integrate the needs of work with personal/family life

Faculty	62
Other Instructional	48
Postdoc	53
Research	46
Admin	44
Service	42
Support	38
Overall	46

Figure 4. Average number of hours in a typical work week

	Tenure-Track	Tenured
Teaching (including preparing materials for class, lecturing, etc.)	24%	22%
Advising undergraduate students	4%	4%
Advising graduate students	11%	11%
Scholarship, conducting research, creating or performing artistic work	32%	25%
Other communication with students outside of class	5%	6%
Writing and administering grants	11%	8%
Administrative responsibilities and university service	7%	17%
Service external to university	5%	6%
Other work-related activities, including paid consulting	1%	3%

Figure 5. As you think about how you spend your time, what percentage of your average work week do you spend on each of the following work-related activities?

by all they had to do during the past year. Forty-seven percent of faculty said they felt overwhelmed "Often" or "Very Often", compared to 33% for respondents overall. Tenure-track faculty reported being more often overwhelmed, compared to tenured faculty. See Figure 7 (next page).

The survey asked faculty to rate the extent to which 33 work-related and non-work-related items contributed to their stress over the past year. The top six sources of stress were: Lack of time to think and reflect; Securing funding for research; Scholarly productivity; Lack of time for friends and family; Managing a research group or grant (e.g., finances, personnel); and Teaching responsibilities.

Climate

The survey had a number of questions about department/unit climate. Among them was one that asked faculty and staff to rate their level of agreement or disagreement with: I have a voice in the decision-making that affects the direction of my department, lab, or center. Fifty-two percent of the overall population said they somewhat or strongly agreed with this statement. Seventy-three percent of faculty agreed with the statement, up from 70% in 2012. See Figure 8 (next page) for a breakdown of faculty results by academic school.

Below are additional items asked of faculty in this section of the survey. The figure next to each statement is the percent of faculty who answered "Somewhat agree" or "Strongly agree."

83% – My primary department is a good fit for me.
71% – I have the resources (equipment, training, budget, etc.) I need to do my job well.
77% – My department's procedures are fair and equitable to all.
88% – My chair/director/dean creates a collegial and supportive environment.
74% – MIT values my research/scholarship.
66% – MIT values my teaching.
84% – In my workplace everyone is treated with respect.
58% – I feel supported when trying to take actions/make change.

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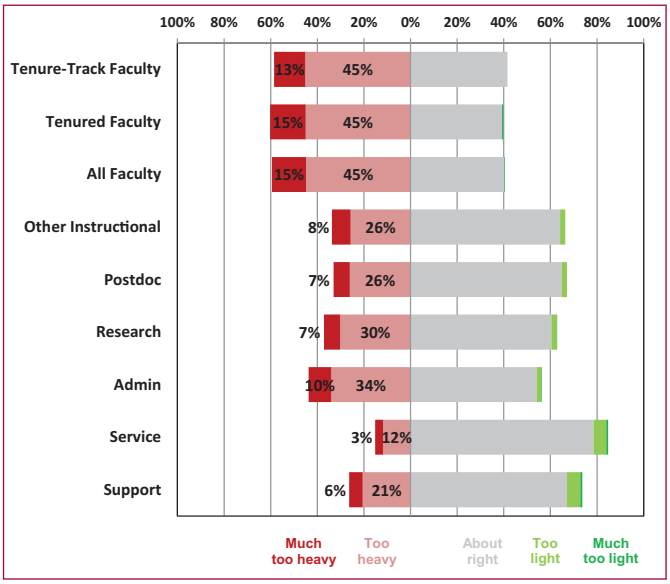


Figure 6. Overall, how would you rate your workload?

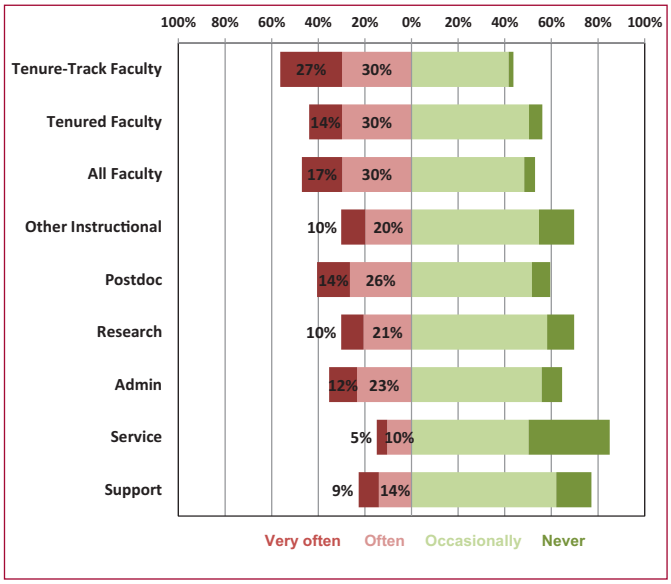


Figure 7. During the past year, how often have you felt overwhelmed by all you had to do?

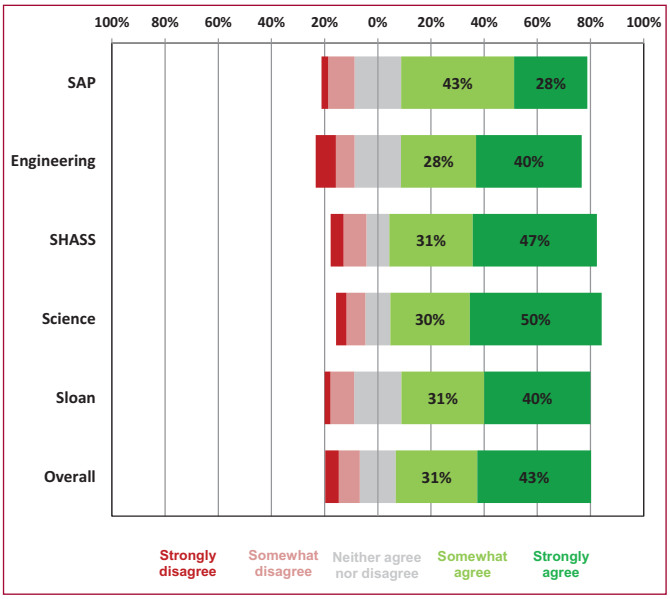


Figure 8. I have a voice in the decision-making that affects my department, lab, or center

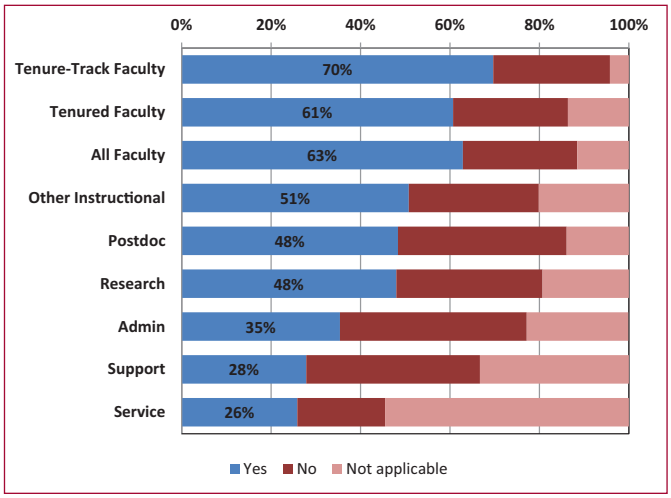


Figure 9. While at MIT do you feel you have received adequate mentoring?

Mentoring

The survey asked several questions on mentoring, including one about whether or not faculty and staff felt as though they had received adequate mentoring while they were at MIT. More than half of service staff chose "Not applicable" for this question – compared to just 12% of faculty. Faculty were more likely than other groups to say they had received adequate mentoring. The rate for tenure-track faculty was higher than tenured faculty (70% "Yes" compared to 61%). See Figure 9.

Tenure and Promotion

On the survey faculty were asked if the criteria for tenure are clearly communicated, the extent to which various items are valued in the tenure process, and how appropriately those items are valued.

Tenured faculty were more likely than tenure-track faculty to agree that the criteria for tenure were clearly communicated. Faculty reported that research/scholarly work and professional reputation were most valued in the tenure process. See Figure 10. When asked how appropriately the same items were valued in the tenure process, more than a third of faculty said "Advising and mentoring" and "Teaching contributions" were at least somewhat undervalued.

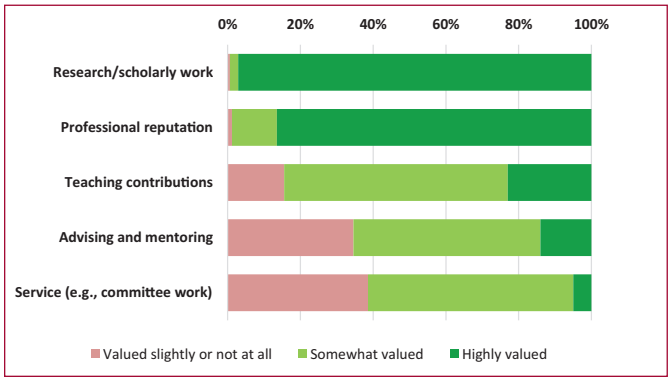
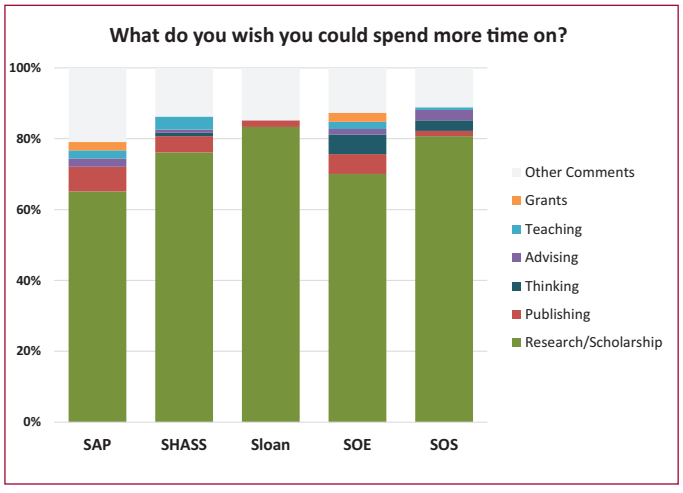


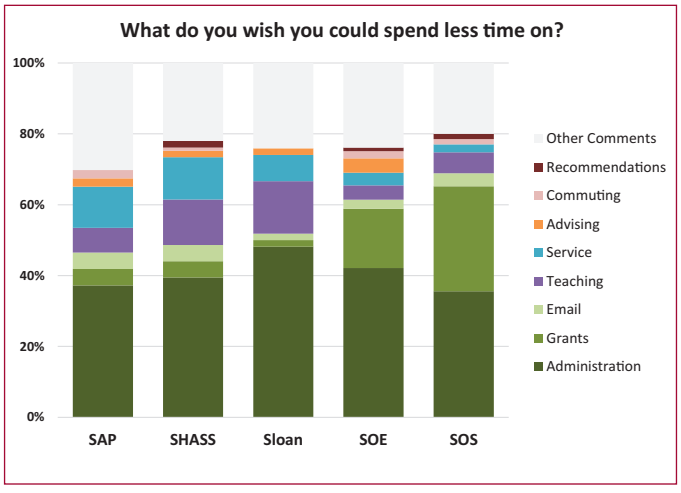
Figure 10. In your experience, to what extent are the following items valued in the tenure process?

Open-Ended Comments

On the survey, faculty were asked several open-ended questions, including "What do you wish you could spend more time on?" and "What do you wish you could spend less time on?" About half of faculty answered these questions. Each comment was read and assigned to one or more response categories.

Nearly three-quarters of faculty said they wanted to spend more time on research. More than half of faculty said they wanted to spend less time on administrative-related duties (e.g., administration, grants, and email). See two charts below.





MITAC: New Ticket Office Offers Discounted Tickets to Many Activities

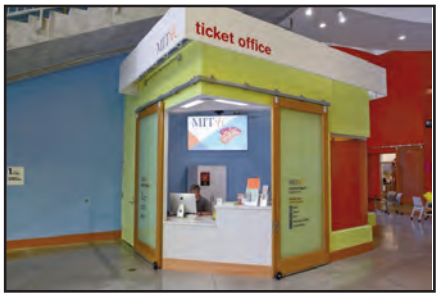
Diane Betz Tavitian

THE MIT ACTIVITIES COMMITTEE (MITAC) invites all MIT faculty, and the entire MIT community, to its recently inaugurated new "Ticket Office" along the Charles Vest Student Street in the Stata Center. Discounted tickets to numerous cultural and recreational activities can be bought for one's own use, or as gifts for family, friends, and colleagues. The offerings are broad and numerous, and the savings are significant.

MITAC is an employee benefit service that was launched in 1983 in Building 20 as a pilot program to negotiate discounts to movies, sporting events, museums, theater productions, etc.; to arrange special programs and events for the MIT community to help build community and employee morale; and, in general, to provide employees economical access to many of the leisure time activities available in the Greater Boston Area. Since then, MITAC has grown to the point where in the 2015 calendar year it sold almost 40,000 tickets to over 5,000 customers who collectively saved more than $285,000 – a savings to the MIT community of 10% to 60% of the retail value of tickets. MITAC is guided by both a volunteer program committee, which organizes many of the unique special events MITAC offers, and a presidentially appointed Advisory Council which provides guidance on long-term goals and planning, business practices, and policies.

When the Radiation Lab, aka Building 20 ("The Magic Incubator"), was torn down in 1998, the MITAC office moved from the first floor of Building 20 to the basement of Walker Memorial, a location even harder to find than its original home.

When the Stata Center was opened on the site of Building 20 in 2004, MITAC came full circle and set up shop near the



Forbes Family Café at the east end of the Student Street traversing Stata. This location was much more accessible to customers and sales increased, but the open-air desk was less than ideal for customers and operations.

The new "Ticket Office" is a dedicated office area for MITAC constructed last fall on the site of the open-air MITAC desk. The new area provides enhanced customer services and the MITAC staff with more space to do the behind-the-scenes work needed to run the day-to-day operations, and can be closed up at night. During the day the Ticket Office opens revealing a ticket counter, as well as racks of activity brochures and literature. Video displays on the outer walls describe MITAC's current offerings 24/7.

Other changes are also coming soon for MITAC and its customers. The Website is currently being revamped, the new site is being made mobile-device accessible, and an on-line ticketing service will be inaugurated in coming months.

MITAC offers a wide spectrum of more than 250 cultural and recreational events annually to our community. Regularly discounted tickets include those for:

- Boston Bruins & Boston Celtics
- Movies (AMC, Showcase, Regal, Landmark, IMAX, Chunky's)
- Local attractions (Boston Children's Museum, Museum of Science, New England Aquarium, Harvard Museum of Natural History, Peabody Essex Museum, Gardner Museum)
- Broadway shows
- Boston Pops
- Boston Symphony Orchestra
- World Music
- Special family events

For more information, subscribe to MITAC's weekly and monthly electronic newsletters, and/or visit MITAC online (***web.mit.edu/mitac***), on campus (Stata Ticket Office, Tuesday thru Friday, 11 am – 4 pm), or at Lincoln Laboratory (A 109, Thursday and Friday, 11 am – 4 pm). Questions and activity suggestions can be sent to: **mitac-office@mit.edu.**

Diane Betz Tavitian is MIT Activities Committee (MITAC) Coordinator *(dtavit@mit.edu).*

Nominate a Colleague as a MacVicar Faculty Fellow

PROVOST MARTIN SCHMIDT is calling for nominations of faculty as 2017 MacVicar Faculty Fellows.

The MacVicar Faculty Fellows Program recognizes MIT faculty who have made exemplary and sustained contributions to the teaching and education of undergraduates at the Institute. Together the Fellows form a small academy of scholars committed to exceptional instruction and innovation in education.

MacVicar Faculty Fellows are selected through a competitive nomination process, appointed for 10-year terms, and receive $10,000 per year of discretionary funds for educational activities, research, travel, and other scholarly expenses.

The MacVicar Program honors the life and contributions of the late Margaret MacVicar, Professor of Physical Science and Dean for Undergraduate Education.

Nominations should include:

- a primary nomination letter detailing the contributions of the nominee to undergraduate education,
- three-to-six supporting letters from faculty colleagues, including one from his or her department head if the primary letter is not from the department head,
- three-to-six supporting letters from present or former undergraduate students, with specific comments about the nominee's undergraduate teaching,
- the nominee's curriculum vitae,
- a list of undergraduate subjects, including the number of students taught, and
- a summary of available student evaluation results for the nominee.

Please use the template found at ***web.mit.edu/macvicar/evaltemp.xlsx***.

For more information, visit ***web.mit.edu/macvicar*** or contact the Registrar's Office Curriculum & Faculty Support team at x3-6776 or *macvicarprogram@mit.edu*.

Nominations are due on Thursday, November 17.

Request for Preliminary Proposals for Innovative Curricular Projects

The Alex and Brit d'Arbeloff Fund for Excellence in Education

THE OFFICE OF THE DEAN for Undergraduate Education seeks preliminary proposals for faculty-led projects to enhance the educational experience of MIT undergraduates. Projects can be focused at any level of undergraduate education, but priority will be given to projects that:

- Improve the first-year academic experience
- Enhance the General Institute Requirements (GIRs)
- Enrich faculty-student interactions in the residence-based curriculum
- Transcend specific departmental curricula

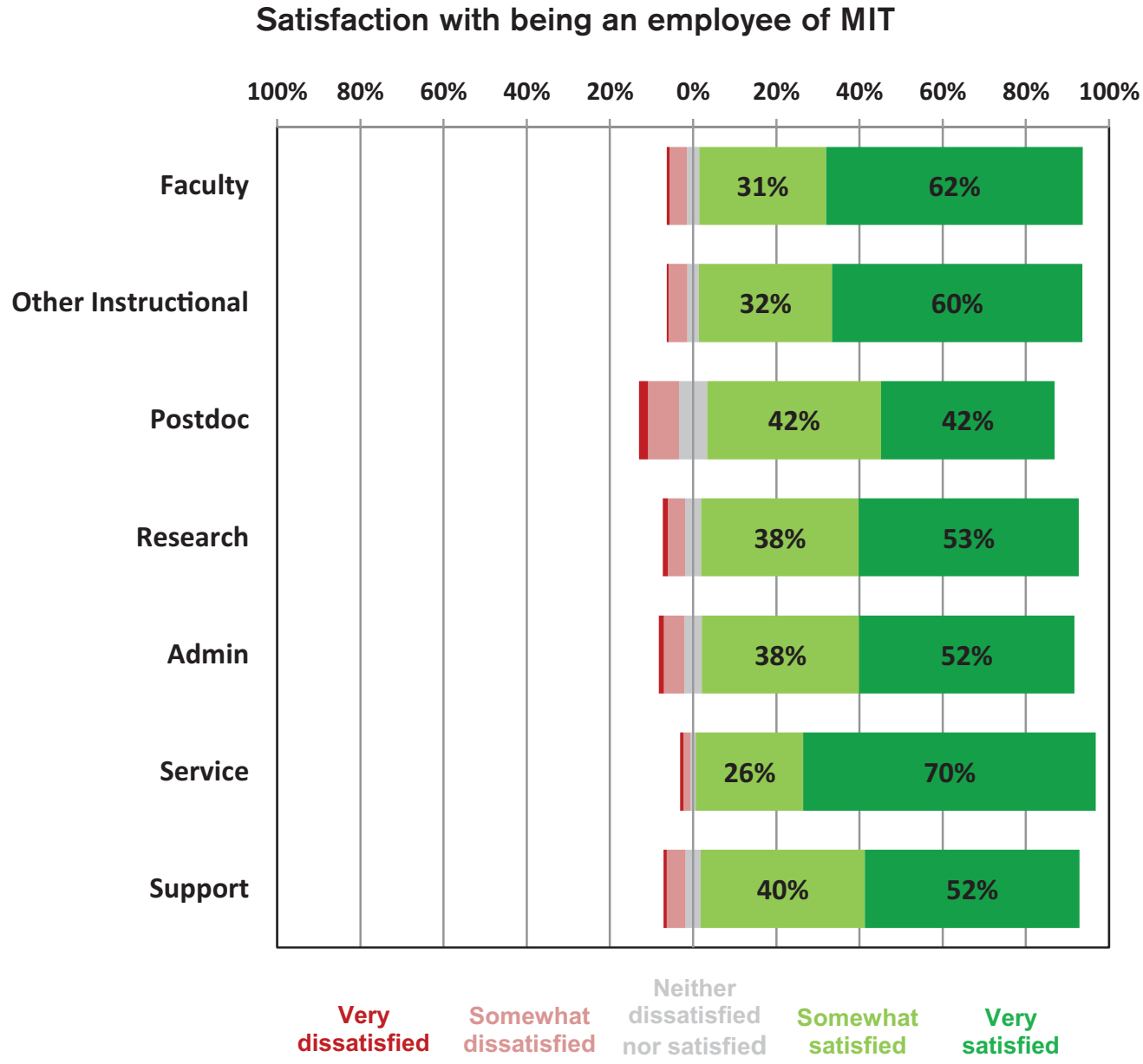
Proposals that make use of innovative pedagogies or best practices to improve student learning and the student experience are encouraged. The d'Arbeloff Fund Review Committee is also interested in proposals seeking to improve student motivation, confidence, and self-efficacy by providing opportunities to demonstrate technical accomplishments in authentic contexts.

The d'Arbeloff Fund Review Committee places a high value on assessment of educational innovations and encourages sharing of good practices and results. The process includes a workshop on assessment and submission of final project reports by all grant recipients.

For guidelines and more information, visit ***web.mit.edu/darbeloff*** or contact the Registrar's Office, Curriculum and Faculty Support at x3-6776 or *darbeloff-fund@mit.edu*.

Preliminary proposals, with an estimated budget, are due by Friday, September 30.

M.I.T. Numbers
from the 2016 Faculty and Staff Quality of Life Survey



Source: Office of the Provost/Institutional Research