

## Chair of the Faculty

### Faculty Policy Committee

The Faculty Policy Committee (FPC), chaired by professor Samuel Allen, contributed to the discussions and planning of a number of key Institute initiatives, most notably the collaboration between MIT, the Skolkovo Institute of Science and Technology (SkTech), and the Skolkovo Foundation; online education (*MITx*); and the future of the MIT campus and Kendall Square (MIT2030). Among its guests during the course of the year, the committee met with the president, the provost, the associate provost, the vice president for research, and the ombudspersons.

The committee devoted a great deal of time and attention during the fall term to the collaboration between MIT and the Skolkovo Foundation. The committee met with professor Duane Boning, who led the assessment team, and with provost Rafael Reif to discuss both the opportunities and potential risks inherent in pursuing this new collaboration. As MIT expands its focus and reach globally, the faculty wish to ensure that the Institute's partnerships are worthwhile, that they do not place additional burdens on the faculty, and that they are consistent with MIT's mission and values. In addition to discussing the proposed collaboration at several FPC meetings, the collaboration with the Skolkovo Foundation was discussed at length at Institute faculty meetings and at a special faculty forum.

The topic of online education dominated many of the committee's discussions throughout the academic year. Provost Reif first broached the subject at the committee's October 6 meeting; his ongoing conversations with FPC and with many others led to the creation of *MITx* and, ultimately, MIT's collaboration with Harvard University known as edX. The committee offered counsel to the provost about key elements of *MITx*, including suggestions for incorporating online education into the residential learning experience, engaging the faculty, identifying the subjects to offer online, and communicating the rollout of the initiative. The chair of the faculty sponsored two faculty fora on *MITx* during the spring term. FPC will remain actively involved with online education as it becomes more closely intertwined with MIT's educational model.

As it did during the previous academic year, FPC engaged in discussions related to the planning for the future of the MIT campus and Kendall Square. MIT2030, the tool for envisioning the future for the physical campus and the innovation district in Kendall Square, remains a topic in which the faculty have great interest. The committee hopes to ensure an ongoing collaboration between the administration and faculty as the plans move forward and the vision becomes clearer. There is universal agreement that the MIT campus and surrounding areas are in need of significant improvement; there remain questions, however, about how to utilize the space most effectively to benefit both the Institute and the community. The chair of the faculty will sponsor a faculty forum on MIT2030 over the summer.

At the request of the Registrar, FPC discussed the evolution of the Independent Activities Period (IAP), especially since the dissolution of the IAP Policy Committee in 2000. IAP was initially established to offer opportunities for “creativity and flexibility in teaching and learning.” Over time, however, the period between the fall and spring terms has come to resemble a regular academic term. For instance, some departments now offer required for-credit subjects during IAP as part of a particular major. The academic calendar defines the first day of IAP classes, students may preregister for subjects, subjects are evaluated, and grades must be reported to the Registrar at the end of the period. IFPC charged an IAP subcommittee, chaired by professor Lisa Steiner, to gain a fuller understanding of the changes to IAP and the impact those changes have had on MIT’s curriculum, students, and faculty. The subcommittee met throughout the spring term and will submit a report to FPC in fall 2012.

At the May faculty meeting, professor Steven Hall was voted in as the next chair of the faculty for the term 2013–2015. He will join FPC in 2012–2013, along with professor John Hansman.

### **Committee on the Undergraduate Program**

During 2011–2012, the Committee on the Undergraduate Program (CUP) made decisions or recommendations on a number of matters, and heard updates and provided input on a range of issues that cut across faculty and institutional governance. Professor Timothy Grove chaired the committee, which met in alternate weeks throughout the fall and spring terms.

Carrying over from last year, CUP and the Committee on Curricula (CoC) continued discussions regarding a recommendation to refine policies regarding the minor programs of individual students. When consultations failed to achieve consensus or sufficient buy-in to support change, the committees agreed to maintain existing policies in this area.

After having conducted annual reviews of the Inter-school Education Council’s experimental oversight of an interdisciplinary minor program (Energy Studies), CUP decided to allow its three-year experiment to terminate on schedule, in May 2012. At the same time, in conjunction with CoC, CUP has recommended to FPC that current policies regarding the governance of interdisciplinary minors remain in place. CUP and CoC chairs are seeking to work with the leadership of the Energy Studies Minor to identify and transition the program to an appropriate governance arrangement by fall 2012.

CUP continued to demonstrate its interest in undergraduate advising, and in 2011–2012 focused significant time and attention on freshman advising, as it sought to understand current successes and challenges as well as how MIT might seek to improve the quality of freshman advising. At a number of spring meetings, the committee worked to articulate principles and priorities related to this activity and considered

how the Institute might effectively increase faculty involvement in advising first-year undergraduates. Recognizing that any changes will be informed by more comprehensive feedback and require broad partnership across the faculty and administration, CUP resolved to take up this agenda item again in AY2013 after some effort by the chair over the summer to lay the groundwork for moving forward.

After hearing presentations from the Office of Minority Education (OME), CUP requested additional information about proposed changes to two of OME's academic programs (Interphase and Seminar XL) and committed to considering specific proposals once a clearer understanding has been achieved. Related to these discussions, CUP received a letter from its Subcommittee on the Communication Requirement (SOCR) regarding the communication/writing component of the restructured Interphase program (renamed Interphase Edge). The committee looks forward to further discussions of these programs in the coming year.

CUP was one of a number of standing faculty committees that was updated on reorganization plans in the School of Humanities, Arts, and Social Sciences (SHASS). In response, members provided input to the School on issues related to undergraduate education and on a process for consultation. Since plans for the reorganization have continued to evolve, CUP anticipates further discussion regarding undergraduate education and the involved programs.

At various times during the year, CUP heard updates or provided input on other activities as they intersected with the committee's purview or touched on the undergraduate academic program. The committee reestablished its practice of meeting annually with the chancellor and met in November with chancellor Eric Grimson to discuss shared priorities and concerns. The chancellor returned to talk about the rapidly evolving plans related to *MITx*, edX, and the future of residential education. These issues will clearly carry over to the 2012–2013 agenda. Two CUP members served on a subcommittee charged by FPC with reviewing IAP and making recommendations regarding its role; this work will continue into the coming year. In addition, CUP heard an update and provided input to the Orientation Review Committee chair, professor Roe Smith, in the fall and subsequently heard a report on the recommendations of that group. The committee also heard recommendations from the Working Group on the Future of Campus Teaching and Learning Spaces, and received its annual updates from the Subcommittee on the Humanities, Arts, and Social Sciences (HASS) Requirement (SHR) and SOCR.

### ***Subcommittee on the Communication Requirement***

During 2011–2012, SOCR was cochaired by professors Lorna Gibson and Caspar Hare. The subcommittee engaged in a number of activities in its oversight of the undergraduate Communication Requirement (CR) at MIT, and met in alternate weeks throughout the academic year.

At the start of the previous academic year, the review and approval of Communication Intensive in the Humanities (CI-H) subjects moved from the now disbanded HASS Overview Committee to SOCR. This shift has allowed for more comprehensive and cohesive oversight of the CR as a whole. SOCR now reviews all CI-H and Communication Intensive in the Major (CI-M) proposals. The subcommittee has effectively managed the increased level of responsibility this year. SOCR will continue to consult with SHR for subject review and policy issues as appropriate.

SOCR finalized revised descriptions for CI-H and Communication Intensive in Humanities Writing (CI-HW) subjects and criteria for their review. Once the revised CI-H and CI-HW criteria were drafted, SOCR reviewed the criteria together to be certain they complement one another. There were two reasons for this review. First, the CI-HW and CI-H criteria had never been reviewed together. Second, the changes to the HASS Requirement allowed the subcommittee to develop CI-H criteria independent of the HASS Distribution (HASS-D) criteria. SOCR incorporated feedback on the criteria from the CI-H and CI-HW instructors who shared comments. In addition, the subcommittee has successfully used these revised criteria in the review of relicensing proposals for 41 CI-H/HW subjects.

Having defined CI-H and CI-HW criteria, SOCR also revisited testing and placement into the first CI subject for freshmen. In order to provide better guidance for determining placement based on the Freshman Essay Evaluation, the subcommittee articulated a stronger description as to which students should be required to take one of the Expository Writing subjects (designated as CI-HW) in their freshman year. In addition, the subcommittee reaffirmed its policy allowing a score of 5 on two advanced placement exams (English Literature and Composition, or English Language and Composition) to determine placement for the first CI subject. SOCR also approved the use of a score of 7 on the English Higher-level International Baccalaureate subject examination to determine placement for the first communication intensive subject.

SOCR concluded a two-year experiment for a substitution within the Course 6 CI-M curriculum. This substitution was approved as a permanent option for all Course 6 majors, thus reducing the number of student petitions to SOCR.

Two other items to which the subcommittee devoted some effort include the discussion of the proposed reorganization of units within SHASS and its intersection with the delivery of the CR, and the review of a proposal to modify the communication component of the Interphase Edge summer program offered by OME. Finally, SOCR completed extensive ongoing business, including the review and approval of proposals for 10 new CI subjects (seven CI-H and three CI-M); the review of student petitions and attendant policy issues; and the examination of the rates of noncompliance with the pace of the CR.

### ***Subcommittee on the Humanities, Arts, and Social Sciences Requirement***

This year, SHR continued its regular responsibilities related to oversight of this General Institute Requirement (GIR)—questions of policy related to the implementation of the revised HASS Requirement, and experimentation with the HASS Exploration Program (HEX) (formerly known as the First Year Focus Program). The subcommittee was chaired by professor Andrea Campbell in the fall and professor Patricia Tang in the spring, and met almost every two weeks during the academic year.

Oversight activities were varied. SHR reviewed over 100 subjects that count towards the HASS Requirement, in its second year reviewing proposals for new or significantly changed subjects and approving distribution categories. The subcommittee monitored enrollments in HASS-D categories, HASS-D subjects and concentrations. Members discussed the impact of a proposed reorganization of some units in SHASS on the HASS Requirement, and provided feedback to the School. SHR also began discussing the use of Undergraduate Research Opportunities Program (UROP) subjects taken for academic credit towards the HASS Requirement.

Starting in 2010–2011, CoC delegated to SHR the review of student petitions for subjects to count towards the HASS Requirement. The roughly 100 petitions reviewed during the most recent year fell into a few common areas. However, as might be expected with a change in requirements and oversight, two new types of petitions were seen this year. One type was a request to fulfill the revised distribution component instead of adhering to the HASS-D system; the subcommittee recommended that current students not be allowed to change their audit class, and it will consider more flexibility once the HASS-D system is phased out. The second type was a petition to use external credit towards the HASS Requirement. This was the subcommittee's first opportunity to review a petition of this kind since modifying the policy on external credit last year. SHR clarified its position that, in general, credit for subjects transferred from other institutions will not be allowed to count towards the three distribution subjects.

A majority of the committee's time was spent on HEX Program experimentation. SHR continued to assess the HEX Program and to discuss how these subjects might fit into the HASS GIR. This year, SHR introduced two new assessment activities and continued one existing effort to try to better understand the effect and role of HEX subjects. One new activity was the addition of three questions to the end-of-term subject evaluations for HEX subjects and a purposive sampling of other subjects (HASS-D and interdisciplinary within the humanities, arts, and social sciences). These questions were designed to determine how HEX subjects compare to interdisciplinary and single discipline subjects in their effect on the student experience. Subcommittee members had an interest in the instructors' perspective on the HEX Program structure and definition, student-faculty interactions, growth and sustainability, and role in the HASS Requirement. Members met with instructors and reported back to the committee. Lastly, SHR continued the HEX student survey (administered by the Teaching and Learning Laboratory@MIT from 2006 to 2009). SHR will continue discussions and assessment and make a final recommendation in fall 2014.

## Committee on Academic Performance

### *Petitions and Academic Actions*

The Committee on Academic Performance (CAP) reviewed 258 petitions this year. Last year's number was 282, and the average for the past five years is 284. Of this year's petitions, 222 (86%) were approved and 33 (13%) were denied. Four petitions were incomplete at the end of the year, and three were withdrawn by the student.

In 2011–2012, CAP issued 298 academic warnings. Last year's number was 281, and the average for the past five years is 308. Students required to withdraw totaled 30. Last year's number was 51, and the average for the past five years is 39. Details of this year's actions are given below.

### **CAP End-of-term Action Summary, 2011–2012**

| Year         | Fall 2011  |                      | Spring 2012 |                      |
|--------------|------------|----------------------|-------------|----------------------|
|              | Warnings   | Required withdrawals | Warnings    | Required withdrawals |
| Freshmen     | 35         | 2                    | 45          | 8                    |
| Sophomores   | 35         | 2                    | 51          | 2                    |
| Juniors      | 48         | 5                    | 31          | 4                    |
| Seniors      | 33         | 5                    | 20          | 2                    |
| <b>Total</b> | <b>151</b> | <b>14</b>            | <b>147</b>  | <b>16</b>            |

### *Policies and Procedures*

CAP is not primarily a policy-making committee. However, the committee discussed several issues during 2011–2012:

- Possible effects on academic performance of off-campus interviewing
- Efforts toward better synchronization between the MIT Student Information System (MITSIS) and the Stellar learning management system
- Continued monitoring of the readmission process
- Refinements of the End-of-term Review process, including Warning letters

During fall 2011 End-of-term Review, the committee noted an increased number of statements from students citing time spent in off-campus interviews as a cause of their failure to achieve a satisfactory term record. The committee asked the chair to investigate further. In a March meeting, Melanie Parker, director of the Global Education and Career Development (GECD) Center, acknowledged that off-campus interviewing can be problematic, though not much data is available. She offered to add questions about the issue to GECD's graduating student survey and to consult peer institutions. Her office aims to raise consciousness among students and empower them to negotiate interviews that do not damage their academic work. Since this is not primarily an academic matter, CAP will take no further action, but FPC will move in September to make Parker an ex officio member of the Committee on Student Life to pursue this and related questions.

More and more petitions for Late Adds and Late Drops this year demonstrated student confusion between the Stellar learning management system and WebSIS/MITSIS, the official registration database. Many students assumed that losing or gaining access to a Stellar class site meant that they were also dropped from or added to the official registration list. The chair's mention of this issue to Information Services and Technology (IS&T) leadership prompted a series of meetings between Eamon Kearns and Derek Jaeger of IS&T and CAP staff associate Stephen Pepper. They worked out a short-term solution in which IS&T will generate lists in the third week of the term that show subject mismatches between Stellar and MITSIS. Pepper will relay to home departments names of students who need to submit an Add form and contact students in Stellar sites who are not yet officially registered for the term. This should decrease the number of Late Add petitions and aid efforts to prevent "ghost students" from remaining on campus. In the new Stellar system, IS&T hopes to build real-time synchronization with MITSIS, providing instructors with more information as they decide whether to manually add a student to a class site. CAP considers it important to fix the current disconnect.

CAP monitors undergraduate readmissions, as mandated by Faculty Rules, Section 1.73.5. It delegates most of the process to Student Support Services (S3) and the CAP chair, but receives a report each term:

- Fall 2011: 75 completed applications; 51 (68%) approved and 24 (32%) denied. The Readmission Committee (within S3) made the vast majority of its recommendations unanimously. The CAP chair approved these recommendations after reviewing each case. There were, however, two split decisions in which the CAP chair ultimately voted with the majority and readmitted the students. There was also one appeal of a readmission denial. This case was medical in nature and, with the submission of new medical information and the recommendation of Mental Health and Counseling, ultimately was approved by the committee and the CAP chair.
- Spring 2012: 64 completed applications; 46 (72%) approved and 18 (28%) denied. All decisions were made based upon unanimous recommendations of the Readmission Committee approved by the CAP chair. There was one appeal of a readmission denial. The case was initially denied based on familial and financial concerns, but after submission of new information, the committee and the CAP chair reconsidered and approved the readmission.

In June 2010, Christopher Terman, then Course 6's undergraduate officer, suggested that the committee restructure its end-of-term meetings to review all of each department's students at one grades meeting, rather than separating fourth-year students from second- and third-year students. This continued to work well for all in 2011–2012 and is now standard operating procedure. Beginning in June 2012, with the ease and speed of electronic communication, the period between spring grades meetings and deferred action meetings was shortened from eight to five business days, plus an intervening weekend. This change still allows enough time for consultation among advisors, departments, students, and deans but allows all concerned to begin summer activities earlier. This tweak to the schedule worked well.

Concerns arose among members at the January end-of-term meetings about the tone and effect on students of CAP's Warning letters. The chair worked with associate dean David Randall of S3 and staff associate Pepper to draft a new version emphasizing that the committee's "primary objective is to help you improve your academic performance" and clarifying that Warning lasts for only one term. The full committee discussed a draft in April and approved the revised letter (see below) at the May 11 meeting. The revised letter was sent to students warned at the June end-of-term meetings.

Dear student:

The Committee on Academic Performance (CAP), which consists of six faculty and three students, recently met with your department to review your academic record for the past term and found your performance below that required for normal progress toward the degree. Therefore, you have been placed on Warning. A notation of this Warning will appear on your internal record but will not appear on your permanent transcript.

To help you focus your energies, the committee has decided that you cannot register in your next term for more than [usually four subjects, 48–51 units]. Students on Warning sometimes think they need to make up missing units by taking more than the normal load. This rarely succeeds. We urge you to discuss your situation with your advisor before Registration Day so that you can choose a realistic program. You may not register for an overload with the intention of dropping later. The committee will monitor your registration throughout the term to make sure that you comply with this limit.

Our experience has shown that lack of intellectual ability is seldom the cause of poor performance at MIT. Therefore, while the committee views your current situation with concern, we are optimistic about your capacity to improve your record during the coming term. A letter such as this cannot adequately address each individual's situation. Our primary objective is to help you improve your academic performance. We urge you to identify and begin dealing with obstacles to your success using the following MIT resources:

- Your academic advisor
- Deans in Student Support Services (617-253-4861, Room 5-104) for personal and academic issues
- Clinicians in the Medical Department (617-253-4481, E23) for medical and mental health issues

We encourage you to discuss your situation with your family as well, since we do not send them a copy of this letter.

Your Warning status lasts for one term. If during that term you pass at least 36 units with a term average of 3.1 or higher, then in the following term you will likely not be on Warning and will likely have no credit limit. This is the path followed by most students who receive a Warning like this one. However, if your record at the end of your next term is again below that required for normal progress toward the degree, the CAP may extend your Warning status for a second term or may require you to withdraw from MIT.

Further information about Warning is on the [CAP website](#). If you have any questions, please do not hesitate to contact Mr. Stephen Pepper, Staff Associate for the Committee on Academic Performance (617-253-4164, Room 7-104, [spepper@mit.edu](mailto:spepper@mit.edu)). A printed copy of this letter is being sent to your term address. You may view or change this address on WebSIS.

## Committee on Curricula

The Committee on Curricula (CoC) acts on proposals to create, revise, or remove undergraduate subjects; proposals to create, revise, or terminate undergraduate curricula; student applications for double majors; and petitions for substitutions for GIRs. During 2011–2012, the committee was chaired by professor Robert Berwick. The voting members consisted of six faculty (including the chair) and four student members. The committee met seven times during the fall term, four times during IAP, and seven times during the spring term. During the academic year, the committee acted upon 506 subject proposals, including proposals for 77 new subjects, and approved numerous minor changes to degree charts. The committee also approved the following major curricular changes:

- Course 2: Approved significant changes to the 2-A program, which included the introduction of newly designed subjects. Among the new subjects are several modular offerings.
- Course 6: Approved new research subjects designed to provide interested students with an option to go beyond a typical UROP experience to conduct focused research over the span of two terms. Each student who successfully completes the sequence will receive a departmental certificate of recognition.
- Course 7: Established a degree chart for Course 7-A to clarify the differences between that program and the Course 7 bachelor of science degree.
- Course 17: Approved a restructuring of the minor in Applied International Studies. This four-tier HASS minor now includes a research component.
- Course 21A: Approved a renumbering plan for its entire curriculum.

### Other actions:

- Following up on work done during the previous two years regarding Institute policies governing minors, CoC, in consultation with CUP, decided to leave current policy intact. During 2012–2013, CoC will review all current majors and minors to ensure that existing combinations of programs are in compliance with existing policy.
- Voted to uphold current policy regarding the rules governing HASS minors. During the previous year, SHASS had asked CoC to consider abolishing the restriction that limits students pursuing a HASS minor from counting all subjects in the minor toward the eight-subject HASS GIR.
- Approved scheduling guidelines, based on the faculty definition of units, to assist departments in determining the appropriate number of instructional hours to schedule for subjects that are offered during IAP or for less than a full term during the fall or spring.
- In keeping with its responsibility to seek reviews of interdisciplinary minors at least once every five years, CoC submitted requests to the sponsors of the minors in Astronomy and Biomedical Engineering to initiate those processes for 2012–2013.

- Fulfilled its charge to review and assess the viability of the governance experiment that was authorized upon the creation of the Energy Studies Minor in 2009. CoC's recommendation to terminate the experiment and establish a traditional governance mechanism for this minor was forwarded to CUP during the spring term.
- Conducted its biennial review of subjects that fulfill the Restricted Electives in Science and Technology GIR. The review included an examination of enrollment and audit data with respect to the subjects that fulfill that requirement.
- In taking a closer look at the Institute Laboratory Requirement, CoC recommended that departments not be permitted to create a Laboratory subject for which another full Laboratory subject is a prerequisite. This is consistent with the criteria of the requirement, which include an expectation that students should be able to complete the requirement within the first two years. As a result, two advanced subjects lost Institute Laboratory Requirement status, effective 2012–2013.
- Together with the Committee on Graduate Programs, CoC rejected a suggestion by CUP that a new category of subjects be established to include advanced undergraduate subjects and entry-level graduate subjects. After careful consideration, the committees concluded that the present mechanism of allowing graduate and undergraduate versions of subjects to coexist works well and is consistent with the existing governance structure.
- Completed a review of all undergraduate programs (majors and minors) to ensure that none included any graduate subjects.
- Requested and received reports from SOCR and SHR concerning petitions received and reviewed by those committees during 2010–2011. Reports will be requested on an annual basis going forward.
- Discussed naming conventions for flexible undergraduate degrees; further consideration will be deferred to the next academic year. CoC also engaged with departments in the Science Core to resolve outstanding issues regarding the management of subjects offered by Concourse and the Experimental Study Group; the process has not yet been concluded.

### **Committee on Discipline**

Acting in accordance with its purpose of adjudicating cases of alleged student misconduct that are brought to its attention, the Committee on Discipline (COD) held 13 hearings involving 12 respondents (one student was heard for two incidents in the same hearing). Four pending cases are expected to be resolved in the fall 2012 term. The hearings this year primarily involved issues of sexual misconduct and academic misconduct, with a few cases of disorderly conduct and dangerous objects/hazardous materials issues. Of the respondents, eight were undergraduate students, three were graduate students, and one was an alumnus. The respondents were primarily men, with one female respondent. In cases where the student was found responsible, sanctions included suspension and probation. Additionally, there were approximately 59

disciplinary warning letters created by or submitted to the Office of Student Citizenship (OSC). Primarily these were for academic misconduct, although some also addressed low-level property damage and disorderly conduct.

Including these low-level warning letters, the majority of the reported incidents this year were academic misconduct cases. While the hearing caseload increased from last year, many faculty, staff, and students have anecdotally indicated that many incidents are not reported to OSC, and the office is developing materials to increase the transparency of the process and to provide online information for faculty and students. Future plans also include evaluating the briefing COD receives and gathering an ad hoc committee to revisit the COD rules and regulations.

This year, two faculty members will conclude their service, including professor Robert Redwine, who has chaired the committee for two years. Professor Munther Dahleh has accepted the chair role for the next two-year term. There will be two new faculty and four new student members. All of the dean's representatives plan to return.

### **Committee on Graduate Programs**

The Committee on Graduate Programs (CGP), chaired by professor Robert Sauer, consulted on a broad array of issues impacting graduate education. The September meeting set forth a list of potential agenda items for AY2012, the majority of which were reviewed by the committee. As continuing members returned and new members were introduced, it was noted that the guiding philosophy behind the work of CGP is to assure that all stakeholders are considered when issues are brought to the committee for review and action, and that the policies set by CGP have an impact on the lives of individual students.

The committee continued a long-running examination of the H-level subject designation (October 2011), a topic which the committee first took up in AY2010, and was discussed subsequently at several meetings during AY2011. This year, the committee approved a final version of a clearer definition of H-level, which states that the determination of credit classification for each subject should be based on whether a subject qualifies for higher-level credit in one or more graduate degree programs, giving individual departments the latitude to make this assessment. The committee discussed many related issues during the course of the H-level review, including the origin and purpose of G-level vs. H-level distinction, and the prevalence of undergraduate subjects that "meet with" graduate subjects.

CGP reviewed and approved one motion (November 2011) that was later brought before the faculty: a proposal by the MIT Sloan School of Management PhD program to establish a new degree program, the master of science (SM) in management research. Professor Ezra Zuckerman, faculty chair of the MIT Sloan PhD program, made a case for a new SM program that would offer a degree with specification for the handful of students each year who are not able to complete the doctoral degree. The committee unanimously agreed to offer its support for the proposed SM in management research, with the caveat that it not be used to make the path to the PhD degree more stringent.

The committee also approved a request by the Graduate Program in Science Writing (February 2012) to add a course to its current degree requirements.

The MIT-WHOI Joint Program in Oceanography/Applied Ocean Science and Engineering proposed to the committee (March 2011) the possibility of engaging a small number (1–5) of special students to take courses in the ocean acoustic curriculum, which is part of the joint program, via video conferencing. The intention was to develop a national cohort of students in this highly specialized field. Considering the recent launch of *MITx*, the committee discussed the need to differentiate between credit given for online coursework vs. residential coursework, and expressed concerns that this proposal would essentially charge students (as special students) for the benefit of residential experience when the course would actually be taken online. The committee's main concern with the proposal was that this action, though impacting an extremely small number of students, would set a precedent for giving MIT academic credit for non-residential coursework. James Yoder, dean of the MIT-WHOI Joint Program, understood these concerns and proposed an alternate model that would allow the Woods Hole Oceanographic Institution to give its own institutional credit for the online course, rather than MIT credit. The committee and Dr. Yoder concluded that this Woods Hole credit model could be a pilot program to address the issue of offering the course to a broader community of external students while *MITx* and its surrounding policies are being established.

In March 2012, the committee reviewed the current medical leave policy and procedures for graduate students. Senior associate dean Blanche Staton proposed a change to the current system, which drops a student's registration retroactively, regardless of the actual start date of his/her medical leave, such that there is no subject history, or tuition payment, for the term. The committee approved a new policy which would give the Office of the Dean for Graduate Education (ODGE) increased flexibility in handling student medical leave cases; bring the graduate policy in line with practice on the undergraduate side, allow for matching dates and consistent records in the Registrar's Office, Student Financial Services, the International Students Office, and the Payroll Office; and ensure that the repayment clock on financial aid loans starts based on the actual leave date.

As a follow-up to the prior discussions about the implementation of a centralized graduate admissions system, the committee received an update from dean for graduate students Christine Ortiz (October 2011) on efforts to bring reform. Dean Ortiz presented historical enrollment trends at the Institute, leading up to a record 22,220 graduate applications in 2011 that were largely handled by a patchwork of heterogeneous systems that were burdensome to staff, faculty, and applicants. In response to recommendations made by the 2007 Student Systems Vision Project on Graduate Admissions and the 2009 Institute-wide Planning Task Force to adopt a centralized online paperless system, Dean Ortiz convened a task force to review the current systems and possible options for a new unified system. The task force recommended the adoption of the highly functional system developed by Electrical Engineering and Computer Science (EECS) faculty Frans Kaashoek and Robert Morris, and already used by EECS and many other departments.

The task force report suggested an Institute-wide migration to this system over three admissions cycles, while allowing programs to opt-in and commercial vendors to be phased out.

By November 2011, 10 programs (Chemical Engineering, Mechanical Engineering, Civil and Environmental Engineering, Brain and Cognitive Sciences, Microbiology/Computational and Systems Biology, Engineering Systems Division, Chemistry, Biology, and Physics) were in process to use a customized version of the EECS system, in addition to the five programs already using the system (EECS, the Department of Aeronautics and Astronautics, the Department of Mathematics, Leaders for Global Operations, and Computation for Design and Optimization). The committee felt that it might be prudent to wait until there is strong, broad-based support for the new system and proof that it works well before marshalling an active plan to end support of the online application provider CollegeNET.

The committee was briefed by the Institute Ombuds Office (February 2012) on trends in complaints surfacing within the graduate student community. Ombuds Toni Robinson and Mary Rowe presented a sobering insight into the rise in the number of issues concerning academic integrity, collegiality, competitiveness, responsible conduct of research, and student entrepreneurship.

The committee also heard an overview presentation by Deborah Leitch, senior director of special projects in the Office of the Executive Vice President and Treasurer, on the Interim Report of the Education and Research Cost Model Working Group. Ms. Leitch highlighted the fact that since the 1960s, graduate education has moved away from the level where it paid for itself due to sponsorship by federal funding and stressed that the big “take home” message for the committee should be that MIT needs to focus on the gap between graduate education tuition costs and funding.

### **Committee on Student Life**

The Committee on Student Life (CSL) focused on broad student life issues and also on some very focused topics. The broad issues of dining, sports, and student life in general indicated that progress has been made and experiments in progress should continue. Video blogs have been popular and effective, and it is hoped their creation and posting will continue.

The big focus issues were Walker Memorial, MIT2030, graduate student pay, and transportation.

Professor Martin Schmidt addressed CSL regarding progress on the Walker Memorial project, and the administration is trying to accommodate all the student groups that would be displaced by the project. The administration is awaiting the architect’s assessment of the feasibility of the project with regard to cost.

Executive vice president and treasurer Israel Ruiz made a presentation to CSL on the MIT2030 initiative several weeks before a much more detailed website was released, and he dispelled rumors about the MIT2030 plan. CSL can be a sounding board that should be used more often.

The Graduate Student Council made a presentation on graduate student pay, showing how MIT's success in attracting businesses (e.g., Novartis) to the area surrounding the campus has increased rents and decreased apartment vacancies. The graduate students presented data showing that dorm rates have experienced a corresponding increase. CSL was able to capture the issues and hopes to be helpful in advocating for a 4.5 percent raise for graduate students.

The graduate student transportation study group made a presentation on the need for more and better shuttle busses, and CSL was able to help with the economic justification: if only 10 percent of graduate students worked an extra hour five days per week, there would be approximately 10,000–20,000 more hours of research work per year because students would not feel pressure to catch the last buses home. This increased productivity would pay for expanded shuttle service many times over. The transportation study group made such an excellent presentation that CSL suggested they create a journal article, and together they wrote a letter to *The Tech* that describes their findings and the person-hours justification.

Students report that the food in dining dormitories is unsatisfactory. Student committee members contend that the quality of the food is significantly higher when senior administrators visit for a private dining hall meeting. CSL hopes to hold a meeting in the fall to assess the food quality and to ask diners for their opinions.

CSL remains interested in understanding how the administration utilizes the information the committee has collected, and would also like to explore its being granted decision-making power in certain areas (e.g., dining).

### **Committee on the Library System**

The work of the Committee on the Library System (CLS) has been dominated by three issues: the restoration of services that were cut due to budgetary constraint; contributions to the study of campus teaching and learning spaces; and continued support of the open access policy.

### **Budget Issues**

This year, the provost reported that the MIT Libraries received about 90% of the budget request from the General Institute Budget. This restored approximately 50% of the funding that had been cut due to the financial crisis. The main categories of expense are: salaries 49%, information resources 41%, and operations 10%. The Libraries also received additional funding for the following needs:

- To support student needs, particularly increased hours
- To make up the increase in journal prices, including replacing electronic backfiles
- To upgrade parts of the Libraries' technical infrastructure
- To develop new content in support of key initiatives: environment, cancer research, and energy
- To develop partnerships, e.g., the Harvard University repository and scan-on-demand service.

To inform the decision on when and where to reinstate open-hours, results of the 2011 library survey were used, as well as door counts. The overwhelming need was for later evening hours, and more weekend hours. In light of the significant progress made toward restoring lost services, the discussion of how to provide the best services with the leanest budget is likely to dominate the 2012–2013 CLS meetings, just as it did in 2011–2012.

### ***Campus Teaching and Learning Spaces***

A central role of the MIT Libraries is to provide learning and study spaces, and support. To this end, CLS participated in the Working Group on the Future of Campus Teaching and Learning Spaces. An important conclusion of the working group was that the real focus of campus teaching and learning spaces should be on faculty and student interactions. The idea of academic villages as an organizing structure was strongly encouraged, with the expectation that they would provide a bridge across schools and departments, rather than be limited to specific schools or laboratories. CLS sees that the Libraries can play a key role in facilitating academic villages. Another recommendation was to improve the ease with which faculty can use Academic Media Production Services, which is supported by the Libraries. A goal of the Libraries in 2012–2013 will be to develop a plan to respond to this need.

In order to address future Libraries needs, the consulting firm of Shepley Bulfinch was employed to consider spaces within the context of the MIT2030 capital planning process. There is a clear need for improved group study spaces, with good lighting (especially daylight), where students can “work alone together.” The most valuable spaces will be those that can be accessed at any time. Creativity is encouraged by flexible spaces where students can adjust to the need of the moment. Visual tools such as white boards also are important. Building 14 was identified as an example of a potential place for an academic village. MIT Libraries looks forward to continuing to play a key role in planning for new spaces throughout 2012–2013.

An immediate issue related to library space is the renovation of Barker Library. The renovations are ongoing, with completion expected by January 2013. While the renovation period will be difficult for the students that use Barker Library regularly, this infrastructure upgrade was needed and CLS is looking forward to the renewed space.

### ***Open Access Policy***

Implementation of the groundbreaking Open Access Policy has proceeded well. Work this year focused on three areas:

- Obtaining faculty papers
- Reasoning with publishers
- Developing a clearer vision of future next steps, strongly encouraged by the faculty

Regarding reasoning with publishers, this year an extended dialogue was held with the Institute of Electrical and Electronics Engineers (IEEE) and the American Chemical Society (ACS) over their open access policies. The push to improve their policies was supported by many IEEE Fellows on the MIT faculty. IEEE met requests, for the most part; however, negotiations continue on whether the final proof will be supplied for inclusion in DSpace, MIT's institutional repository to save, share, and search the Institute's digital research materials. Efforts with ACS included meeting with its president, Dr. Bassam Shakhshiri, to discuss ACS policy, which requires MIT faculty to opt out of submission to DSpace for 12 months. However, ACS has not yet agreed to change its policy to allow more immediate access.

Elsevier, the largest commercial publisher of academic journals, has the most problematic open access policy. A two-fold response to its policy is being pursued:

1. Communicate to Elsevier concerns and requests
2. Inform faculty with information on alternative journals with better open access policies

MIT faculty are not alone in concerns over open access policies and, in particular, Elsevier policies, and so an important aspect of CLS's approach in 2012–2013 will be to coordinate responses with other universities.

Open access has become a high-profile issue, and the faculty has encouraged CLS to be aggressive in pursuing the best policies possible. It should be noted that "open access" clearly has a wide range of meanings among MIT faculty. Therefore, the first need is to establish specific near-term goals that can be supported by all of the faculty. To organize CLS's response, it has established an Open Access Working Group, headed by professor Richard Holton (Philosophy). Professor Holton returns from sabbatical in fall 2012, and it is expected that the group will be active in 2012–2013.

CLS has also joined with other institutions in pressing for open access, and it is part of the newly formed Coalition of Open Access Policy Institutions.

## **Conclusions**

Those who run the MIT Libraries have done an extraordinary job of guiding the system through the budgetary crisis in a way that minimized the impact on students and faculty, while maintaining momentum in areas such as open access initiatives. CLS greatly appreciates the administration's response to the Libraries efforts, which was to provide a modest increase in the budget in order to restore services. With the Libraries staff, CLS has worked hard to see that those funds are used most effectively.

## **Committee on Nominations**

The Committee on Nominations met weekly from November 28 to March 2. The committee began the year by expanding its search process in various ways: adding a place on the survey where participants could suggest names for faculty offices; directly contacting deans, department heads, and committee chairs for suggestions; and gathering meeting time information from the committee chairs (in anticipation of questions from prospective committee members). The committee contacted approximately 45 people for service on 31 positions coming open, with a success rate of 72 percent. Six interim appointments were also made. Starting from a list of 80, the committee nominated professor Steven Hall as chair. The slate was presented at the April faculty meeting and voted in without changes in May.

## **Committee on Outside Professional Activities**

The Committee on Outside Professional Activities did not meet during the course of the year.

## **Committee on Undergraduate Admissions and Financial Aid**

The Committee on Undergraduate Admissions and Financial Aid (CUAFA) (chaired by professor Craig Steven Wilder) examined a number of issues related to admissions and financial aid policy. It took steps to monitor the effects of changes to the current meal plan system (required plans in certain housing, and pricing adjustments), phased increases in the student self-help component of financial aid packages, and made the decision to decrease the percentage of international students (from abroad) in the incoming class while treating international students in US high schools as domestic applicants.

The committee remains cautious about policy changes that can inflict unintended harm upon discrete populations of students. The committee has watched for negative effects on the yield or enrollment of vulnerable populations, including underrepresented minorities and international students, and any impact on campus life, including the clustering of students by economic or ethnic/racial background. CUAFA recognizes the need to understand the actual constraints operating on students. To this end, the committee initiated the MIT Undergraduate Cost of Living Survey—through Jagruti Patel and Gregory Harris in Institutional Research (Office of the Provost)—which updated a 2009 canvas and provided more recent and reliable data on the anticipated and hidden financial strains on MIT undergraduates.

CUAFA took up a request from the provost's office to consider further changes in policies governing the admission and financing of international students. The committee spent considerable time examining the complex issues involved in this charge. It submitted a written and oral report to the Enrollment Management Group in response to the provost's inquiry. In summary, the committee unanimously opposed further reductions to the population of international students from abroad or the creation of distinct pricing or financing structures for international students. CUAFA was especially concerned that such steps were inconsistent with the mission of the Institute and the pursuit of excellence, diversity, and accessibility.

CUAFA supervised a new initiative from the dean of admissions to expand faculty input in the admissions process. As a first step, the committee collaborated on the design and implementation of a faculty survey to provide the admissions office with the data to think in even more dynamic ways about the meanings of success for undergraduates at MIT and the characteristics/attributes that predict such successes. This is a multi-year process that will require continued deliberation and planning.

Finally, the CUAFA chair began a dialogue with the student representatives to encourage the MIT Undergraduate Association to take up the issue of student financial literacy in the rapidly changing market of higher education.

### **Edgerton Award Selection Committee**

The Edgerton Award Selection Committee, chaired by Professor Dahleh, received eight nominations for the award, and met on March 13, 2012, to select the winner. The committee announced at the April Institute faculty meeting that this year's award winner was Tanja Bosak, assistant professor in the Department of Earth, Atmospheric, and Planetary Sciences (EAPS).

Professor Bosak received her PhD in 2004 from the California Institute of Technology. After serving as a postdoctoral associate at Harvard University, she joined the EAPS faculty in 2007. During her time at MIT, Professor Bosak has applied cutting-edge techniques in modern microbiology, geology, and geochemistry to the study of contemporary microbial communities. She brings to this subject a unique combination of scientific imagination, physical reasoning, and experimental rigor. In her quest to understand what life was like on Earth billions of years ago, Professor Bosak has devised clever approaches, advancing scientists' understanding of some fundamental biological phenomena that shaped features of early Earth. For her work in this area, Professor Bosak was recently recognized by the American Geophysical Union with the prestigious Macelwane Medal, which recognizes significant contributions to the geophysical sciences by an outstanding young scientist.

As her students would attest, Professor Bosak is an outstanding instructor. Her group meetings are a popular forum, not just for her own group but also for a lively collection of interested students and postdoctoral researchers from across EAPS and other departments. Her mentorship of PhD students has proven exemplary.

Professor Bosak is recognized both for the groundbreaking work that she has accomplished and the potential she has demonstrated to continue to transform the field of geobiology.

### **Killian Faculty Achievement Award Selection Committee**

The 2011–2012 Killian Award Selection Committee, chaired by professor Susan Silbey, announced at the May Institute faculty meeting that its nomination selection was JoAnne Stubbe, Novartis professor of chemistry and professor of biology. Professor Stubbe is a superb scientist, internationally known for her research on the mechanisms and regulation of the enzymes ribonucleotide reductase (RNR), polyester synthase, and natural product deoxyribonucleic acid (DNA) cleavers, for which she has garnered a number of important awards and prizes in her long career as a biochemist working in this area of chemistry. In the last few years, she has received the National Academy Prize in Chemistry, the National Medal of Science, the Franklin Institute Award in Chemistry, and the Welch Award in Chemistry.

Although trained in physical organic chemistry, Professor Stubbe has spent the last thirty years redefining the field of enzymology. Her creativity and rigor in tackling significant problems at the interface of chemistry and biology have become the standard by which others in the field are measured.

Professor Stubbe is perhaps the top mechanistic biochemist of her generation. More than any other scientist in the world today, she has pioneered our understanding of the role of radicals in biology. Using a number of novel biochemical and spectroscopic methods, she uncovered the basic principles by which radicals are generated, transported to active sites, and implemented to drive enzymatic function.

Among Professor Stubbe's most notable contributions is her important work with RNR, a compelling demonstration of the power of chemical investigations to solve problems in biology. She explains with remarkable ingenuity and thoroughness the enzyme's impact on DNA repair processes, which are central to cancer research, as well as to producing environmentally friendly biodegradable polymers.

Some scientists have a tool and use it on many problems; other scientists have a problem and use many tools to unravel its secrets. Professor Stubbe is the latter. She has used biochemical reactions, nuclear magnetic resonance, laser spectroscopy, and other tools to elucidate the mechanism of RNR catalysis. When she began her work, it was believed that a radical mechanism was impossible because of the radical's chemical reactivity. Now, due to Professor Stubbe's work uncovering the intricate processes by which cells safely use free radicals, this mechanism is textbook material.

In addition to research, Professor Stubbe is an outstanding teacher, responsible for much of the biological chemistry curriculum in the Department of Chemistry. One of her nominators described her lectures as “inspirational.” Her impact on MIT’s graduate and undergraduate students and postdoctoral researchers is profound. She raises the bar, and then gives students the tools to jump over it.

Professor Stubbe is the quintessential MIT faculty member. In all aspects of her research and teaching, her approach is energetic, meticulous in its attention to detail, and uncompromising in its standards. Her discoveries are the result of elegant experimental design, deep chemical and biological insight, and a remarkable degree of focus, fueled by her scientific curiosity and desire to decipher nature’s secrets.

**Samuel M. Allen**  
**Chair of the MIT Faculty**  
**POSCO Professor of Physical Metallurgy**

**Aaron R. Weinberger**  
**Human Resources and Faculty Governance Administrator**