

Chair of the Faculty

Faculty Policy Committee

During the 2004–2005 academic year, the Faculty Policy Committee (FPC), chaired by Professor Rafael L. Bras, oversaw those aspects of educational and academic policy that are the specific responsibilities of the Faculty and provided faculty input toward policy development at the Institute. The committee met once with President Vest during the fall term and once with President Hockfield during the spring term. The FPC used these opportunities to convey faculty opinions on a variety of topics, including the Institute's budget, committee structure, and educational commons.

The FPC focused its efforts on the following three major agenda items:

- Faculty governance
- Minority recruitment and retention of graduate students and faculty
- International collaborations

White papers and/or position statements on each of the above topics were prepared for the *Faculty Newsletter* and have been presented to and discussed with Dr. Hockfield. Suggested are changes to the current Standing Committees of the Faculty and adding a standing committee to oversee requests for significant international collaborations. The FPC guiding principles regarding decisions to get involved in international collaborations were articulated to Dr. Hockfield.

The committee reviewed the proposed SB in biological engineering. This proposal was voted on and approved by the Faculty at the February 2005 Faculty Meeting. Other degree programs that were brought before the FPC were: an MEng in manufacturing, an SM in computation for design and optimization, and an SB in mechanical and ocean engineering. The proposed SB in mechanical and ocean engineering was driven by the major changes made in the departments of Mechanical Engineering and Ocean Engineering. The Department of Ocean Engineering merged with the Department of Mechanical Engineering in late fall 2004. The committee reviewed this merger process and met several times with members of the various committees who worked on this process.

Professor Bras also had nine former chairs of the Faculty attend an FPC meeting. This meeting was used to discuss and review the Faculty governance structure and the possible changes to be made to the structure.

Committee on the Undergraduate Program

The agenda of the Committee on the Undergraduate Program (CUP) during the 2004–2005 academic year was devoted to four main topics. The first order of business was to review the evolving proposal for a new undergraduate major in biological engineering. Working in conjunction with the Committee on Curricula, CUP ultimately endorsed the proposal for the creation of the new major. Part of the proposal was a request that CUP approve a program to manage enrollment in the new major during its start-up period.

A plan was agreed upon, and CUP licensed the Biological Engineering Division to limit enrollment in its major for a five-year period, with a review by CUP after the first two years (spring 2007). At the end of this five-year period (spring 2010), the license will expire, and it is expected that enrollment in the biological engineering major will be open to all interested MIT undergraduates.

The second topic was the proposed merger of Ocean Engineering with Mechanical Engineering and the impact of this proposal on undergraduate students in both departments. CUP held several meetings to which the various interested parties were invited. The committee took its mandate in this case to be threefold: to assure that current students majoring in Ocean Engineering would be adequately provided for; to assure that the new major would have a well-designed curriculum; and to assure that any new option that would be offered would give sufficient clarity and visibility to the ocean engineering component so that it would have an integrity that would be attractive to potential majors (including a program name that clearly identifies the major). CUP unanimously endorsed the plan that ultimately emerged. This review was conducted according to the new Guidelines for the Approval of New Undergraduate Programs adopted by the Faculty in spring 2003.

Thirdly, CUP was asked by the Task Force on the Undergraduate Educational Commons to conduct a review of all of the Alternative Freshman Programs with an eye to recommending criteria by which such programs ought to be reviewed, approved, and encouraged. Concourse, the Experimental Study Group, the Freshman Program in Media Arts and Sciences, and Terrascope (including Mission 12.00X) were each reviewed. Conversations with the faculty and staff responsible for each of these programs and discussions within CUP led to the submission of the *Report on Alternative Freshman Programs* to the task force.

Finally, after several years of discussion, CUP and the Committee on Student Life completed work on their *Report to the Faculty on Advising and Mentoring of Undergraduates*. The Faculty requested this report in May 2002. Members of the Academic Council, the undergraduate officers, and the Faculty Policy Committee discussed this report in spring 2005. Following its presentation, the Faculty accepted the report at the May 2005 Faculty Meeting. The Faculty requested that the chancellor and the chair of the Faculty oversee the implementation of the recommendations put forward in this report.

CUP has a variety of ongoing monitoring responsibilities. During AY2005, it continued to monitor the experimental Sophomore Exploratory Subject Option, freshman advising, the final phases of implementation of the communication requirement, and the undergraduate educational initiatives that have evolved out of MIT's relationship with Cambridge University.

The major in archaeology and materials (3-C), which had been run as a CUP-endorsed experiment for five years, was made permanent with a vote of the Faculty at its September 2004 meeting.

Subcommittee on the Communication Requirement

During AY2005, CUP's Subcommittee on the Communication Requirement (SOCR) was chaired again by professors Suzanne Flynn and Paul Penfield. SOCR continued its oversight of the communication requirement and focused its attention on structuring an assessment of the requirement. As part of this effort and while working closely with the dean for undergraduate education, an assessment advisory group was invited to MIT in early March to make recommendations on how to frame the assessment. During the summer of 2005 and through the 2005–2006 academic year, the subcommittee will work to implement recommendations made by the advisory group and initiate a full-scale assessment.

SOCR continued to interact with the HASS Overview Committee (HOC) on matters pertaining to the Communication Intensive subjects in the Humanities, Arts, and Social Sciences (CI-H) and collaborated with the departments in the ongoing development and implementation of Communication Intensive Subjects in the Major (CI-M). Both HOC and SOCR are considering how to best structure regular reviews of existing CI subjects, while continuing to consider new proposals.

SOCR members considered petitions from students seeking exemption to or adjustment of some aspect of the communication requirement. Petitions that demonstrated extenuating circumstances or compelling educational cause were approved.

The first class of students subject to the communication requirement graduated in June 2005, necessitating frequent reviews of the degree candidates to ensure graduating seniors had completed the requirement. SOCR cochair Professor Penfield retired at the end of the academic year.

Committee on Academic Performance

The Committee on Academic Performance (CAP) reviewed 327 petitions this year. Last year's number was 373, and the average for the past five years is 468. Of this year's petitions, 257 (79%) were approved, 43 (13%) were denied, and 27 (8%) have not yet been resolved.

CAP placed 256 students on warning. Last year's number was 338, and the average for the past five years is 340. Students required to withdraw totaled 48. Last year's number was 52; the average for the past five years is 36. Details of this year's actions are given in the table on the following page.

This year CAP's job was made easier by a particularly close and constructive working relationship between the committee and the staff representing Student Support Services and the Medical Department. Senior members of all three groups met together on several occasions to discuss policy issues, to simplify procedures, and—most importantly—to develop ways to share relevant information with the committee without violating a student's confidentiality. As a result, the committee's deliberations went more smoothly, and all concerned had more confidence in the wisdom of the final decisions.

CAP End-of-Term Action Summary, 2004–2005

Year	Fall 2004		Spring 2005	
	Warnings	Required Withdrawals	Warnings	Required Withdrawals
Freshmen	69	2	25	8
Sophomores	48	4	21	8
Juniors	30	4	17	4
Seniors	37	6	9	12
Total	184	16	72	32

CAP either modified old policies or established new ones in the following areas:

- The method of indicating communication requirement noncompliance on students' transcripts
- Obtaining retroactive credit by students after returning from a financial hold
- Late adding of a UROP subject
- Dealing with medical leaves at CAP end-of-term meetings
- Suspension of services to students required to withdraw
- Nonregistered students who take classes or live in the dorms

Committee on Curricula

The Committee on Curricula (COC) acts on proposals to create, revise, or cancel undergraduate subjects; to create, revise, or terminate undergraduate curricula; and on student petitions for second SB degrees and substitutions for the General Institute Requirements.

During the 2004–2005 academic year, COC analyzed and approved a new SB degree in biological engineering as well as a new minor in management (Course 15). The committee approved the merger of Course 13 Ocean Engineering into Course 2 Mechanical Engineering and approved major curriculum changes for Course 1 Civil and Environmental Engineering and Course 24 Linguistics and Philosophy. The committee also approved a new minor in Course 3-C Archaeology and Materials.

The committee approved 132 new subjects, including 6.131, an Institute lab; 1.101 and 1.102, each a half Institute lab; and 10 CI-H subjects. It also reviewed and approved 507 substantial changes to existing subjects, including 18.821 as the first Institute lab for Course 18 Mathematics, five SOCR–approved CI-M subjects, and 16 CI-H subjects.

Committee on Discipline

The Committee on Discipline (COD) held six hearings involving nine students. It heard charges related to academic dishonesty, alcohol and public safety violations, computer attacks, and fraudulent use of purchasing privilege with intent to deceive. The

demographic breakdown of respondents includes four men and five women. All cases heard this year involved undergraduate students.

Where sanctions were imposed, they ranged from formal probation through graduation to suspension to withholding the degree for two years. In addition, faculty members sent the Office of Student Discipline warning letters advising that they had taken disciplinary action against eight students.

COD continued to work on how to integrate various disciplinary systems under its charge. It also worked closely with the Special Committee on Academic Integrity to define and disseminate information regarding plagiarism. COD membership welcomed two new faculty members, one new dean's representative, and four new student members. The majority of the committee was composed of members who continued their service over a number of years.

Committee on Faculty–Administration

The Committee on Faculty–Administration (CFA), chaired by Professor Carl Wunsch, was requested by the chair of the Faculty to study the relationship of existing ad hoc committees and their interaction with the Standing Committees of the Faculty and evaluate the operations of the Faculty lunchroom in the Stata Center. The CFA, of its own volition, undertook a discussion of Faculty benefits, what they are, who controls them, and how they might change.

After some debate, it was concluded that a committee consisting of combined faculty and administration members was not an appropriate venue for discussion of Faculty governance issues. CFA constructed, with the very helpful input of Ms. Lydia Snover, a questionnaire for faculty members and senior teaching staff. There was a high rate of response (the facility is greatly valued by a majority), and a set of recommendations about the lunchroom was sent to the provost. Although some discussion took place, it became clear that Faculty benefits were under discussion elsewhere at the Institute. In addition, time constraints made it difficult to obtain a committee quorum, so no conclusions or recommendations were forthcoming.

Committee on the Library System

The Committee on the Library System (CLS) met five times during the 2004–2005 academic year. Discussions focused primarily on four areas: ongoing challenges to the Libraries' budget, scholarly communications issues, initiatives for a visual data bank, and the pressing need for new library facilities.

Budgeting received particular attention early in the year, as the committee became educated about expanding demand for library services (9 percent increase the prior academic year in visits to branch and divisional libraries, for a total of 500,000 transactions by 870,000 visitors), in the context of flat or reduced funding (2004–2005 support levels below the rate of inflation), and the continuing increase in costs for academic journals. Anticipating a slight improvement in the funds available, the committee was informed of Director Ann Wolpert's strategic plan.

In the complex area of scholarly communications, associate director for collections Ms. Carol Fleishauer continued to use the committee as a sounding board for her efforts to raise consciousness among MIT faculty in particular and academia in general about a range of interrelated problems, among them monopolistic publishing practices and the copyright agreements that fuel them. Ms. Fleishauer received faculty input on a new web site devoted to these issues, and the committee discussed how to respond to counterinitiatives such as the National Institutes of Health request (as of May 2005) for all principal investigators to submit the published results of their research to a free public database (PubMed). It was generally agreed that MIT can and should take a leadership position in these debates.

Committee chair Professor Caroline Jones kept the question of an Institute-wide visual databank on the agenda for much of the year, culminating in a subcommittee report that defines the roles of the Libraries (to advise on metadata and interface needs) and the Academic Computing Group (to produce the effective platform for beginning to test in case studies during AY2006). A subcommittee of CLS (Caroline Jones, Peter Perdue, and Gerald Schneider) arranged to meet to achieve a preliminary understanding of the potential for this initiative. Crucial input was provided by Mr. Steve Gass, associate director for public services, and Mr. Vijay Kumar, director of academic computing.

Studies and plans for various solutions to the Libraries' pressing facilities needs were discussed by the committee throughout the year, but little progress was made. The Visiting Committee members were made aware of the need for a new Engineering and Science library building to free space for a redefined Humanities facility, as well as the need for less reliance on offsite storage (which took another 65,000 volumes in 2004). In addition, Professor Jones informed the Visiting Committee of the general need for the Libraries to be repositioned in future capital campaigns as a crucial, separately endowed pillar of the Institute, rather than as a "cost sector" to be funded from the provost's discretionary funds on a short-term, yearly basis.

Committee on Outside Professional Activities

The Committee on Outside Professional Activities (COPA), chaired by Professor Rebecca Henderson, is charged to keep itself informed of potential conflicts of interest, counsel the interested parties, and report periodically to the Faculty new problems of potential conflicts of interest and recommend appropriate modifications of policies and procedures. During the 2004–2005 academic year, the committee did not meet.

Committee on Student Life

The Committee on Student Life (CSL) focused on two major projects. The first was the Report to the Faculty on Advising and Mentoring of Undergraduates. This report was commissioned by the Faculty in May 2002 to address issues of upper-class advising at the Institute. The final report was the outcome of a very productive collaboration between CSL and the Committee on the Undergraduate Program. It covers principles, issues, and recommendations to improve the advising system. Two overriding principles were the notion that students are guided through MIT by a *continuum of interactions* ranging from the formal to the informal and that students benefit from a *network of faculty and nonfaculty mentors*. A series of recommendations was made in the report.

While some of the recommendations are complicated (for example, rewarding faculty for good advising and limiting the number of advisees in some departments), many recommendations are solid and easy to implement. These include setting aside advising periods and training advisors. It is hoped that the chancellor will set up a working group to consider next steps, and that some recommendations will be implemented.

The report, summarized in the Faculty Newsletter (May 2005), was discussed with numerous groups including the Academic Council, the undergraduate officers, and the Faculty Policy Committee. The final report was presented to the Faculty at the May 18, 2005, Faculty Meeting. A resolution by the Faculty accepted the report and requested that the chancellor report back to the Faculty in May 2006 regarding steps taken.

A major goal of CSL has been to improve the amount and quality of interaction between students and faculty. In response to this, the committee worked to create a new web site—Interact at MIT—that has the goal of promoting student/faculty interaction. The site includes the first searchable database of all MIT faculty, featuring contact information, research information, and (optional) personal information. This database is groundbreaking at the Institute and will be useful for faculty, undergraduate and graduate students, postdoctoral students, and others. Another searchable database includes all MIT student clubs, and the site seeks to advise both students and faculty how to interact efficiently and effectively through a “Ten Tips” for successful interaction feature. Presentations of the site prototype have been met with very enthusiastic responses by students and faculty. The site will be launched in fall 2005.

Other Issues Considered

CSL welcomes requests for input on specific issues from student groups, the administration, and the Faculty. In response to such requests, the committee considered the following issues:

1. *Appointment of an administrator to address LBGT issues.* CSL felt that this was important, in accord with the reputation of MIT to maintain a transparent and welcoming policy toward all students. Interviews to fill this position are under way.
2. *Advising and mentoring for graduate students.* The committee is highly supportive of the excellent report by the Graduate Student Council concerning graduate student advising. CSL has offered assistance in working out how best to implement recommendations.
3. *Association of Women Students (AWS).* In a fascinating discussion, AWS presented their thoughts and concerns regarding being a female student at MIT. CSL is highly supportive of further efforts to address these issues.
4. *The Sisterhood.* This group presented their goal to get specific housing for female African American undergraduates at MIT. In view of a similar housing group for male students and in view of enhancing diversity at MIT, CSL is very supportive of this effort. It is presently being discussed further via a specific committee.
5. *MIT Medical.* Representatives of MIT Medical updated CSL on student health issues. CSL continues to be concerned that students and their families are not optimally served by MIT Medical and welcomes the input of the current task force to address medical care at MIT.

6. *International student issues.* CSL is concerned not only by increased complications faced by international students in obtaining a visa but even more by the difficult adjustment of students and their families to life at MIT.
7. *Fraternalities, Sororities, and Independent Living Groups (FSILGs).* The task force to address FSILGs presented their report to CSL for comment. CSL acknowledged the complex issues faced by FSILGs, including the question of what role these groups should play at MIT today.
8. *“Student Gateway.”* Creation of a “Student Gateway” portal on the MIT web site was discussed with the MIT webmaster. There is presently no single entry point by which students can access all relevant information.
9. *Sexual harassment.* The issue of sexual harassment has not been addressed at MIT for several years. CSL feels discussion and training would benefit the community.

Setting the CSL agenda is presently challenging, as it is heavily dependent on the CSL chair. At the request of Professor Gibson, incoming chair of the Faculty, the present CSL chair, Professor Sive, has agreed to serve an extra year, partly to address the issue of how best to set the CSL agenda and sustain its productivity in the longer term.

An “Information for Faculty” program will help inform faculty about issues of student life of which they may be ignorant. Further agenda items will be set over the summer and at the start of next year.

Committee on Nominations

The Committee on Nominations had two new members, and a new-to-the-committee chair joined four returning veterans for service on the committee during the past academic year. Owing to a retirement, a new staff associate was assigned to the committee in January of 2005.

During the fall semester, several vacancies appeared in the rosters of the Standing Committees of the Faculty. These openings were filled by the chair of the Committee on Nominations after consultation with the standing committee’s chair and with members of the committee. During the Independent Activities Period and the first half of the spring term, the committee met periodically to develop its slate of nominees for the April Faculty Meeting. To accomplish this task, the committee followed procedures that have been used in the past. In particular, the committee gathered input from some of the standing committee chairs and staff assistants, as well as from the current chair and the chair-elect of the Faculty. The committee also made extensive use of the self-generated faculty preference database provided by the administration. Committee members brought their own suggestions for nominees into the deliberations, based on personal context and past experience. A prioritized list was developed for each committee, and a Committee on Nominations member contacted potential candidates by phone or email until the slate was filled. A perception of strong interest in serving and a commitment to the task were significant in prioritizing the candidates. The committee was concerned about balanced membership for all of the committees in terms of gender and minority representation and in representation from the five Schools of the Institute. The committee did not preclude the consideration of young, untenured faculty members for service, but most members preferred to place lower priority on that sector of the Faculty community.

The slate of 30 nominees was presented at the April 20, 2005, Faculty Meeting. At the meeting it was noted that the Rules and Regulations of the Faculty provide a mechanism for submitting alternative nominations. It was also pointed out that the formal motion for approval of the slate asks that “each of the faculty on the following lists be appointed for the committee or office as specified,” whereas in the view of some faculty, the word “elected” should be used in place of “appointed.”

Three alternative nominations were properly introduced prior to the April 27, 2005, deadline. At the May 18, 2005, Faculty Meeting, two of the three alternates were elected by ballot, displacing one of the original-slate nominees for the Committee on Academic Performance and the Faculty Policy Committee respectively. The alternate nominee did not prevail in the ballot for Committee on Undergraduate Admissions and Financial Aid. All other committee slates were approved as originally introduced at the April meeting.

The committee met on May 23, 2005, to revisit the proceedings of the May Faculty Meeting and the events that preceded it. It was the unanimous view of the committee that existing guidelines and methodologies will need to be changed before the committee can engage meaningfully in its work next year.

Committee on Undergraduate Admissions and Financial Aid

The Committee on Undergraduate Admissions and Financial Aid (CUAFA), chaired by Professor Nigel H. M. Wilson, focused most of its attention during the year on the questions of how better to predict yield on admission offers and how to ensure that the bumper crop of freshmen in the class of 2008 will not lead to overcrowding next year. The motivation for both concerns was the unexpectedly large admissions yield in last year’s admissions cycle. The approach taken this year was to set a conservative admissions target and to assume a further yield increase over last year. The hope was that CUAFA would be able to draw from the admissions waiting list this year for the first time in several years. It appears that the admissions target may have been modestly exceeded for the class of 2009, but it is anticipated that the level of crowding should not be too severe. CUAFA has a better understanding of how the yield varies across the set of admitted students but has not yet moved to including this better understanding in the admissions process itself; the committee hopes to accomplish this over the next year. CUAFA is also convinced that it is now time for MIT to add new on-campus undergraduate housing so that the size of the undergraduate class can increase over the medium term.

Finally, CUAFA began a review of the financial aid process in light of the changes taking place among the policies of our peer universities. This process will continue next year.

Harold E. Edgerton Faculty Award Selection Committee

This year the Harold E. Edgerton Faculty Award Selection Committee received over a dozen very strong nominations from across the Institute. The dual attributes of groundbreaking research or scholarship together with educational innovation characterize a large number of our junior faculty. After careful consideration, the committee selected two truly outstanding individuals for the award: Professor

Emma Teng in Foreign Languages and Literatures and Professor Erik Demaine of the Department of Electrical Engineering and Computer Science.

Professor Teng is a prolific young scholar who has built her reputation by bringing together two separate fields of literary and cultural study—Chinese and Asian American—while also melding historical and literary perspectives. Her recent book, *Taiwan's Imagined Geography*, suggests a provocative and new view of the China-Taiwan relationship rooted in the history of Chinese colonialism and revealed through travel writing. Her current research and writing focus on representations of the “Eurasian” in the context of early 20th-century Chinese and Chinese-American literature and politics. On campus, Professor Teng has developed five new subject offerings, including Introduction to Asian American Studies, Traditional Chinese Literature: Poetry, Fiction, and Drama, and East Asian Cultures: From Zen to Pop. Her subjects are extremely popular with students, and her teaching incites strong enthusiasm for learning. She has given generously of her time and talent to serve as faculty advisor to a number of student groups, including serving as a founding advisor to the electronic student journal “E.merging: Voices from the New Diasporas” (<http://web.mit.edu/emerging/>).

Professor Demaine’s research focuses on the creation and analysis of computer algorithms in the areas of computational geometry, data structures, graph algorithms, and recreational algorithms. In much of his work, he elegantly combines the playful with the theoretical, and his work is accessible to experts and amateur enthusiasts alike. Professor Demaine has established an international reputation by solving a number of open problems that have defied solution for decades, as well as by breaking paths into new areas of research. Popularly, he is well known for his work on folding and computational origami and for creative puzzles based on these fields. Professor Demaine is a dynamic teacher who has developed two new subjects in data structures and computational geometry, substantially revised a third subject in advanced algorithms, and created additional offerings in building furniture from used books, as well as other productive activities. He has been extensively involved in outreach efforts exposing high school students and others to the excitement of computer science. Professor Demaine exudes an infectious excitement for research and education at all levels and for all audiences.

Killian Award Selection Committee

The James R. Killian Jr. Faculty Award Selection Committee, consisting of professors Dimitris Berstimas, Robert Griffin, Erich Ippen, Rosalind Picard, and Marcus Thompson (chair), announced the selection of Isadore Singer, Institute Professor and professor of mathematics, to receive this year’s highest faculty achievement award. Professor Singer is world renowned for work covering a broad spectrum of geometry, analysis, and algebra and is respected for contributing to more fields than any other living American mathematician. He is a member of the National Academy of Sciences, a recipient of the Bocher Prize of the American Mathematical Society, and, in 2004, the Abel Prize—the mathematical equivalent of the Nobel Prize. Professor Singer has played an important role in the formation of science policy at the national level. As a former vice president of the American Mathematical Society, his actions through the Mathematical Science Research Institute and the David Committee greatly influenced the funding for research.

As a member of the White House Council on Science and Technology, he has served as chairman of the National Research Council's Committee on Science, Engineering, and Public Policy. Still active as a classroom teacher after 50 years of service, Professor Singer still teaches freshman calculus.

Rafael L. Bras, Chair of the Faculty

Lily U. Burns, Staff Associate