

Chair of the Faculty

In Academic Year 2017, Professor Krishna Rajagopal (Department of Physics) served as chair of the faculty, Professor Leslie Kolodziejcki (Department of Electrical Engineering and Computer Science) served as associate chair, and Professor Christopher Capozzola (History Section) served as secretary. Professor Susan Silbey (Anthropology Department) served as chair-elect.

There were 1,040 faculty members during AY2017. Of these, 167 were assistant professors, 208 were associate professors, and 665 were full professors. In addition, there were 59 professors, post-tenure.

Eight Institute faculty meetings were held. These resulted in approval of a number of changes to *Rules and Regulations of the Faculty*, including the following:

- Aligning *Rules and Regulations* to reflect new terminology introduced by the Committee on Academic Performance (CAP) regarding undergraduate leave and return policies (sections 1.73.4, 1.73.5)
- Allowing departments to arrange advanced standing credit for their graduate students (section 2.32)
- Creating a new degree type of Master of Applied Science (MASc) for one-year professional master's degrees with no thesis requirement (sections 2.81, 2.85, 2.85.8)
- Aligning *Rules and Regulations* with the recommendations of the Faculty Policy Committee (FPC) Subcommittee on Sub-Term Subjects to establish term regulations regarding half-term subjects (sections 2.11, 2.41, 2.52, 2.53, 2.54, 2.61, 2.62.1, 2.62.3)
- Increasing the flexibility of the Institute Laboratory Requirement such that approved subjects with other than 12 and six units can be used toward fulfilling the requirement (section 2.84.a.iii)
- Adding an undergraduate student, a graduate student, and the director of Campus Planning (*ex officio*) to the roster of the Committee on Campus Planning (section 1.73.10)

The faculty also approved the creation of two undergraduate majors leading to SB degrees in chemistry and biology, and in computer science, economics, and data science, as well as two new MASc degree programs (data, economics, and development policy; and supply chain management).

Other important issues presented to the Faculty included a report on research activities; reports from the CAP (undergraduate leave and return practices), the FPC (sub-term subjects), and the Institute-wide Task Force on the Future of Libraries; a strategic review of MIT's international engagements; an update on the MIT Campaign for a Better World; The Engine, a newly established initiative focused on accelerating MIT's innovation ecosystem; the second SOLVE conference; and efforts to address the range of recommendations to improve the MIT community that have been received from many groups since the recommendations of the Black Students' Union and the Black Graduate

Student Association were shared with Academic Council in December 2015. In addition, the Faculty heard the standard annual reports on underrepresented minority faculty and graduate student recruitment and retention, tuition and financial aid, the Committee on Discipline's caseload and disciplinary trends for the previous academic year, and the slate of nominations for the associate chair, secretary, and the standing committees of the Faculty. The Faculty received updates on the Senior House turnaround process, the class action lawsuit filed in August 2016 regarding MIT's supplemental 401(k) plan, fundraising activity, the mission and goals of the Division of Student Life, the MIT Integrated Learning Initiative, the activities and approaches of MIT's Washington Office, and campus planning activities, including MIT's involvement in the John A. Volpe National Transportation Systems Center site, a preliminary plan for West Campus development, and a report from the Committee on Campus Planning. In March, the Faculty also had the opportunity to discuss concerns with and ask questions of the president and the chancellor regarding events related to the new US administration.

In April, Assistant Professor Amos Winter (Department of Mechanical Engineering) was recognized as the recipient of the Harold E. Edgerton Faculty Achievement Award, and in May, Professor Richard Schrock (Department of Chemistry) was named the winner of the James R. Killian Jr. Faculty Achievement Award. During AY2017, the Faculty remembered two colleagues with memorial resolutions: Susan Lindquist (Department of Biology) and Stephen Ross (MIT Sloan School of Management).

On behalf of the Faculty, the three officers met monthly with the Institute's senior administration and conducted a variety of activities. The officers, together with Provost Martin Schmidt, continued the long-held tradition of hosting informal monthly dinners for Institute faculty, known as Random Faculty Dinners. The officers also worked with Institutional Research on an analysis of the results of the AY2016 Faculty Quality of Life Survey, and reported to the Faculty on this in an article in the September/October 2016 issue of the Faculty Newsletter. Professor Leslie Kolodziejski, associate chair, led a pilot project to get anonymous feedback on graduate student advising by repurposing the existing infrastructure for end-of-term subject evaluations. Chancellor Cynthia Barnhart selected Professor Christopher Capozzola, secretary, to chair the ad hoc Working Group on Potential Post-Election Changes to Federal Law and Policy, which will continue beyond AY2017. As chair of the Faculty, Professor Rajagopal served as a member of Academic Council, the Academic Appointments Subgroup, and Deans' Group, as well as serving on the standing Institute Committee on Race and Diversity, the Enrollment Management Group, and the MITx Faculty Advisory Committee.

Faculty committees are often referred to by acronym, as follows:

- Faculty Policy Committee: FPC
- Committee on Academic Performance: CAP
- Committee on Campus Planning: CoCP
- Committee on Curricula: CoC
- Committee on Discipline: COD
- Committee on Graduate Programs: CGP
- Committee on the Library System: CLS

Committee on Nominations: CoN

Committee on Student Life: CSL

Committee on Undergraduate Admissions and Financial Aid: CUAFA

Committee on the Undergraduate Program: CUP

Subcommittee on the Communication Requirement: SOCR

Subcommittee on the Humanities Requirement: SHR

Faculty Policy Committee

Chaired by Professor Rajagopal, the Faculty Policy Committee (FPC) met on 17 Thursdays during the fall and spring terms to conduct consultative, oversight, and policy-making activities.

The committee reviewed several curricular issues this year, including proposals to create a new graduate degree type, Master of Applied Science; two new MASc programs in data and economics and development policy, and in supply chain management; and two new SB programs in chemistry and biology (Course 5-7), and in computer science, economics, and data science (Course 6-14). The FPC also reviewed proposals to allow departments to offer advanced standing credit for graduate subjects, and to permit greater flexibility in the Institute Laboratory Requirement. After discussion and debate, and in consultation with other relevant standing committees of the Faculty, the FPC approved these proposals and forwarded them to Faculty meetings for further discussion and votes. Before approving the proposal for a new MASc degree type, as requested by the CGP, the FPC engaged in a discussion with the provost and the chancellor to ensure that the committee was satisfied with its understanding of the checks and balances that are in place that would allow MASc proposals to be considered in the context of competing priorities. The oversight roles of the chancellor and provost were described to the FPC. These oversight roles are important, as is the role of academic departments and academic units as key growth limiters. The FPC, the provost and the chancellor reaffirmed that enthusiastic support from the relevant academic department(s) or unit(s) is a necessary prerequisite for moving forward with a new degree, since that is where many of the cumulative effects will be felt.

In addition, the FPC heard and was supportive of the findings and recommendations of the Working Group on Computational Thinking, charged in AY2016 by Professor Rajagopal and Dennis Freeman, dean for Undergraduate Education, with exploring the question of the meaning of “algorithmic reasoning” and “computational thinking” in the context of the education of MIT’s undergraduates across all five schools.

The FPC also heard from Professors Hazel Sive and Sanjay Sarma regarding the role of the MITx Faculty Advisory Committee and the development of MITx MicroMasters credential programs that are not pathways to MIT graduate degree programs. Relatedly, Professors Munther Dahleh, director of the Institute for Data, Systems, and Society (IDSS) and Devavrat Shah, director of the MIT Statistics and Data Science Center within IDSS, visited with the FPC to talk about a MITx MicroMasters program proposed by IDSS in data science and statistics that would also not be a pathway to an MIT master’s

degree, but *could* potentially be a pathway to a master's degree at another institution. Both of these briefings were informational only. The role of the FPC was solely to consider the issues involved and to make suggestions for improving the MicroMasters credential program in general and the IDSS proposal as a specific instance thereof.

The FPC shared the enthusiasm of Professors Dahleh and Shah for making the MIT approach to the topics in their proposal available to a broad audience at the master's level, offering the greatest possible reach for learners to access MIT curricula in this rapidly evolving field. The FPC had a spirited discussion of the pros and cons of offering an MITx MicroMasters that is not directly linked to an on-campus MIT graduate degree. It was noted that the commitment to a small number of MicroMasters recipients who come to MIT to receive advanced-standing credit for graduate-level subjects confers substantial value to the MicroMasters credential. Maintaining such a credential would ensure that the on-campus graduate program leadership would have a continued interest in sustaining MicroMasters online offerings.

The FPC made a recommendation to IDSS to explore whether any existing MIT graduate degree program might be willing to consider awarding advanced standing credit for corresponding graduate-level subjects that satisfy requirements of the graduate degree program. IDSS subsequently agreed that if an individual is admitted to the Social and Engineering Systems (SES) PhD program and has done sufficiently well in the MicroMasters coursework and comprehensive exam, this person will receive advanced standing for graduate-level subjects satisfying SES requirements. The FPC felt that this was an important improvement to the IDSS MicroMasters proposal.

In its role providing oversight of the faculty governance system, the FPC received a briefing from the assistant provost for administration on current issues pertaining to outside professional activities. The committee also received its annual report from the Committee on Campus Planning. The FPC agreed with the CoCP's proposal to expand its membership to include an undergraduate student, a graduate student, and (ex officio) the director of Campus Planning, and recommended that this be brought to a Faculty meeting for further discussion and a vote. The FPC approved housekeeping changes to *Rules and Regulations of the Faculty* regarding terminology changes from the AY2016 CAP report on undergraduate leave and return practices, and also received an update on the implementation of the Committee on Discipline rule changes that were instated during AY2016. The final report of the AY2016 FPC Subcommittee on Sub-Term Subjects was accepted by the FPC in November 2016 and made available to the community. The FPC—together with the Committees on Academic Performance, Curricula, Graduate Programs, and the Undergraduate Program—proposed modifications to *Rules and Regulations of the Faculty* to standardize expectations and practices regarding half-term subjects. These modifications were approved by the Faculty in March 2017.

The administration referred several policy issues to FPC. These included proposed updates to MIT's nondiscrimination and harassment policy and to the significant use section of *MIT Policies and Procedures*, as well as a proposed policy for faculty outside appointments at other institutions and a consideration of current policies regarding the appointment and service of Institute Professors. FPC provided valuable feedback on the suggested changes and policies to, respectively, the Office of the General Counsel, the Technology Licensing Office, and—for the last two—to the Office of the Provost.

To develop a broader context on Institute activities, the FPC invited a number of visitors on a wide range of key issues. These included reports from the Ad Hoc Task Force on the Future of Libraries and the Committee on Sexual Misconduct Prevention and Response, as well as from the dean of the School of Architecture and Planning on a proposed plan for west campus development. Other briefings included an overview of The Engine, a new initiative to accelerate MIT's innovation ecosystem, and updates from the registrar, the vice president and dean for student life, the dean of admissions and student financial services, and the associate provost for international activities. Professor Kolodziejski, associate chair and FPC member, briefed FPC on a pilot project to get anonymous feedback on graduate student advising by repurposing the existing infrastructure for end-of-term subject evaluations.

In discussions with the president, provost, and chair of the MIT Corporation, the committee expressed continuing faculty interest in campus planning, outside professional activities and conflicts of interest, the current capital campaign, and issues pertaining to federal research support and recruitment retention—of students, postdocs, faculty, and others—in the context of the turbulence brought on by the new US administration. The chair of the MIT Corporation also gave FPC members an overview of MIT's Visiting Committee program.

Professors Edward Roberts and Lawrence Sass completed their terms this year, and Professor Patrick Winston served during the spring semester in Professor Sass's place, as the latter was completing his residency at the Singapore University of Technology and Design. Professor Susan Silbey served during AY2017 as the chair-elect of the Faculty. Professors David Geltner and Georgia Perakis, together with Professor Rick Danheiser (associate chair of the Faculty) and Professor Craig Carter (secretary of the Faculty), were elected to join the FPC in AY2018.

Committee on Academic Performance

Scott Hughes, chair

Anna Wetterhorn, staff

The Committee on Academic Performance (CAP) concerns itself with the academic progress of undergraduate students at MIT. The work of the committee typically revolves around the consideration of petitions during the academic year to change a student's academic record (mostly petitions to allow the late dropping and adding of subjects), the review of students each semester who appear to be making insufficient academic progress, and the recommendation of SB degrees to the Faculty.

The CAP also makes recommendations to the Faculty on academic standards, the academic calendar, examinations, degree requirements, and grading. Pursuant to this last set of responsibilities, during AY2016 the CAP undertook a review of the policies and procedures for the withdrawal and readmission of undergraduate students upon request of the chancellor. The report of this review was shared with the community during spring 2016. In AY2017, the committee began implementing those recommendations within the report that were under its sole authority.

Petitions

The CAP reviewed 721 petitions this year. Last year's number was 506 and the average for the past 10 years is 368. We had hoped that increasing familiarity with the online add/drop process would reduce rather than increase the number of petitions. Unfortunately the number of petitions increased in AY2017 rather than decreasing. This may be attributed to the number of "failure to click" petitions increasing, as well as an administrative oversight in reaching out to students whose registration in the official registration system did not match class lists in the unofficial course management tool. Of this year's petitions, 624 (87%) were approved and 97 (13%) were denied. Ten-year averages are 321 approved (87%) and 46 denied (13%).

End of Term Academic Actions

In AY2017, 530 undergraduate students were flagged for review at the CAP's grades meetings, comprising approximately 12% of the student body. (As a general matter, a student is flagged for review if she or he has a term GPA of 3.0 or lower, or has registered for fewer than 36 units.) The CAP issued 195 academic warnings as a result of these reviews. Last year's number was 229, and the average for the past 10 years is 278. Students required to take an academic leave totaled 23. Last year's number was 15 and the average for the past 10 years is 33. Details of this year's actions are given below.

CAP End of Term Action Summary, AY2017

Year	Fall 2016		Spring 2017	
	Warnings	Required academic leaves	Warnings	Required academic leaves
First-Years	15	2	24	2
Sophomores	35	2	31	4
Juniors	18	2	26	5
Seniors	26	4	20	2
Total	94	10	101	13

The committee continued to send commendatory emails to students who completed their first term back from taking a leave with an academic record well above minimum expectations. The CAP sent seven such emails in fall 2016 and none in spring 2017, although Student Support Services sent several unofficial recognition emails to students who did well.

Degrees

In AY2017 the CAP recommended degrees as follows:

September 2016: 9 students, 9 majors

February 2017: 83 students, 92 majors

June 2017: 1,029 students, 1,197 majors

In June 2017, one single-deficiency degree—that is, recommendation of a degree despite a missing departmental requirement—was voted for Course 6. This is the first single-deficiency degree approved in the past three years.

Returning Students

Changes were made to the old withdrawal and readmission policies during AY2016. AY2017 was the first full academic year in which requests to return were evaluated with the recommendations made in the Review of the Undergraduate Withdrawal and Readmission Practices report.

Student Support Services reported returning student data to the committee in September 2016 and February 2017 as follows:

- Student Support Services received 49 completed requests for return from personal, medical, or required academic leave for fall 2016. Of these, 48 (98%) were approved and one (2%) was denied. Sixteen students returned under the new leave of absence category. Their returns were automatically processed without CAP approval.
- Student Support Services received 32 completed requests for return from personal, medical, or required academic leave for spring 2017. Of these, 31 (97%) were approved and one (3%) were denied. The CAP met on December 16, 2016 to review applications for three students on a second required academic leave. Two were approved and one was denied. Eighteen students returned under the new leave of absence category. Their returns were automatically processed without CAP approval.

The CAP learned that a student currently on personal leave intends to submit an application to return in fall 2017, following a leave that began in fall 2009. No coursework requirements were imposed on this student at the time of their leave. The student provided a detailed plan for return that included the idea of using MITx coursework to prepare for the rigors of MIT. The CAP discussed the student's plan and, though enthusiastic to see the eventual return application, made it clear that it does not intend for MITx courses to substitute for university-level coursework in other cases. In particular, if there had been a coursework requirement imposed on this student, MITx courses would not have substituted for university-level coursework taken elsewhere. The CAP's goal was simply to endorse the use of MITx as a pedagogical tool for preparing to return to MIT. A letter placed in the committee's archives reads, in part, "The CAP wishes to particularly emphasize that we will not accept MITx coursework as a substitute for classes elsewhere for future return applications. For most return applications, traditional coursework at another college or university will remain a more appropriate (and necessary) component of the process."

Policies and Procedures

"Failure to Click": Follow-up on Online Forms

The online add/drop/change form has now been in place for three full years. In AY2017, 260 petitions included a student statement that cited ignorance of the requirement that the form be sent to the registrar through a final step that was initiated by the student clicking on a "submit to registrar" link in the online form. (This is despite the fact that the registrar's staff sends individual emails the day before the deadline to all students with a pending form.) The figure in AY2016 was 147.

The CAP has named these “failure to click” petitions and has authorized the chair to approve them administratively where the evidence is clear. Such approval is given “with neglect,” which carries a fine and puts the student on notice that a similar future petition will likely not be approved.

The registrar continues to monitor the number of “failure to click” petitions, comparing it with the number of students who successfully complete an online add/drop/change form. Based on that data, she and the CAP have decided not to make further changes to the online process at this time.

Online Submission of Petitions

After more than a decade of start-and-stop efforts and a year of intensive collaboration among the CAP’s administrator, staff from the Registrar’s staff, and a team from Information Systems and Technology (IS&T), the online late add drop system (LAD) appeared on schedule in August 2015. Students began creating petitions for late add, late drop, and late change of status (grading, credit); their faculty advisors and instructors submitted statements online, indicating support or lack thereof; and the CAP administrator assembled these petitions into pdf documents for committee review. A few petitions (exceed credit limits, register late, continue on light load) are still on paper forms, but they represent a small fraction of the total.

Late add and drop has in general been working smoothly for students and faculty. The online system saves time and effort formerly devoted to moving pieces of paper around campus. The transition has temporarily increased the workload of the committee’s administrator as she waits for IS&T to build more sorting tools to help prepare petitions for each meeting. LAD is not intended to be a system of record: detailed petition information is imported into the CAP FileMaker database and paper copies of the completed petitions are kept on file.

Modular and Sub-Term Subjects

In AY2016 the Chair of the Faculty assembled a subcommittee of the Faculty Policy Committee to investigate subjects that met for less than a full term. The CAP endorsed the subcommittee’s proposed primary scenario, which defined four half-terms (H1, H2, H3, H4) and set add and drop dates and a final exam period for each. The final report was completed in October 2016 and the related proposed changes to *Rules and Regulations of the Faculty* were approved at the March 15, 2017 Institute Faculty meeting. The CAP will see the influence of these new rules during AY2018.

Listener Status

In previous years there was an increase in students petitioning to change a course from credit to listener instead of petitioning to late drop. In summer 2015, the websites of both the Registrar’s Office and the Office of the Dean for Graduate Education added a new web page defining listener status more clearly, hoping to discourage students from petitioning to change to listener (as opposed to a late drop). This year the CAP still saw a number of petitions of late change to listener status. The CAP typically denied these petitions and, in cases where a late drop would be more appropriate, the CAP administrator would reach out to the student and ask them to submit a late drop petition instead.

The CAP again approved late drop petitions for students who discovered after drop date that they would be charged per-unit tuition for listener subjects because they were at less than full-time status. A note in the CAP's AY2016 annual report stated that this was due to a change in procedure in Student Financial Services and that if such petitions arrived again, the committee may investigate. Since this occurred again in spring 2017, this may be something that the CAP investigates more deeply during AY2018.

Medical Leave and Hospitalization

In fall 2016, the ad hoc committee reviewing the medical leave and hospitalization policies released its recommendations. The CAP discussed the recommendations at its April 14, 2017 meeting. CAP members mildly disagreed with the wording in one of the recommendations regarding academic expectations as part of a medical leave. In response to this, the CAP wrote a letter to Chancellor Cynthia Barnhart and Dr. Cecilia Stuopis, director of MIT Medical, recommending a slight change to the wording.

Membership

The committee enjoyed a year of stable membership, with no changes during the year. The average attendance of the nine voting members at petition review and end-of-term meetings—scheduled a year in advance at fixed times—was eight for each of the fall and spring terms.

Committee on Campus Planning

Deborah Ancona, chair

During AY2017, the Faculty Committee on Campus Planning (CoCP) continued its work of trying to understand the Institute's planning process and to learn how we might provide useful input. The committee investigated the late stages of the Kendall Square Initiative, current plans for West Campus and for the Volpe Redevelopment Project, and met with key constituents such as Steven Marsh, managing director, real estate; Michael Owu, director, real estate; Reed Hilderbrand, landscape architects; Suzy Nelson, vice president and dean for student life; and Hashim Sarkis, dean, School of Architecture and Planning. The committee also provided input and got feedback on West Campus and Volpe.

MIT respondents to the Volpe survey and community meetings showed concern for more student, postdoctoral, and faculty housing, as well as academic spaces to maintain MIT's competitiveness in recruiting and retaining top talent. Interviews showed a desire for campus planning to result in spaces and buildings that represent the MIT identity and commitment to innovation.

The CoCP has six questions, comments, and recommendations based on its work this year and its desire to help the Institute make progress on maintaining competitiveness and addressing stakeholder needs.

Need to Communicate Needs and Opportunities

Currently, each time there is a new project (e.g., Kendall or Volpe), MIT faculty are asked for their input. However, faculty communicate the same basic needs each

time—student, postdoctoral, and faculty housing; an MIT hotel; maker spaces; and so on—whether they are appropriate for that site or not. At the same time, administrators make decisions about the use of new and existing space without explicit reference to a comprehensive set of needs, and opportunities to meet those needs.

The committee suggests that there be a wide-ranging assessment of all the needs that should be addressed by campus planning, a prioritization of those needs, and a compilation of all potential opportunities for development. This will facilitate global planning—rather than planning project-by-project—and optimize implementation. This will also let faculty know where key priorities might best be addressed. Much of this information exists already, but it has not been consolidated in a manner similar to Associate Provost Karen Gleason’s chart for priority projects for deferred maintenance.

Need for a Campus Plan

Once a needs- and opportunities assessment has been completed, the committee suggests that a comprehensive plan be developed matching critical needs with solutions, along with a timeline and funding suggestions. We also wonder whether creating an accessible dashboard, highlighting plans and progress on key priorities, could perhaps help with transparency.

Need to Change the Campus Planning Process

The campus planning process is currently fragmented across the Building Committee, the Institute Committee on Campus Planning, the Office of Campus Planning, the Faculty Committee on Campus Planning, and the MIT Investment Management Company (MITIMCo). Our observation is that there is often poor communication across these groups, a lack of transparent information sharing, overlapping mandates, decision making done late in the planning process, and a lack of clear accountability.

We suggest that the planning process be redesigned to deal with these issues. Perhaps the new director of campus planning can pull together a committee with representatives from each of the key groups to determine the roles and responsibilities for each group, how the groups will work together, and whether there should be both a director of campus planning and a campus architect. Also, perhaps there could be a separate design review committee with shifting membership as needed for particular projects. If desired, CoCP members could participate in this redesign.

Need for Faculty Education

The CoCP suggests that there be a coordinated effort to educate MIT faculty members about the process of campus planning and its current state. The planning process is complex and faculty members know less than they could. As mentioned previously, faculty is frequently asked for input, however, without education, the input is not as useful as it could be.

The CoCP plans to do presentations about the planning process at each School. The committee also wonders if, rather than asking faculty for input in a general and open forum, MIT should find better and more targeted mechanisms to get more representative ideas as well as specialized expertise.

Need for Financial Resources for Building Projects

There are many planning needs at MIT and insufficient funds for those projects under construction, much less those being considered. It appears that current fundraising has not met financing needs and other financing methods may be reaching limits. These financial limitations put stress on the system, inhibiting the ability to plan and go beyond immediate financial considerations in the planning process. Thus, the CoCP encourages the ongoing MIT Campaign for a Better World to increase its already strong focus on raising funds for current and future building priorities.

Need to Align the MIT Investment Management Company with Campus Interests

MITIMCo's focus is on maximizing return on investment, which is helpful to MIT's endowment and helps to cover our operating budget. However, there is not an equal voice raising faculty and other campus stakeholder concerns. For example, there was little faculty input into the Kendall Square Initiative until there was a faculty "rebellion." And even now, student groups do not feel as if their voices about the need for affordable graduate student and postdoc housing are being heard.

The CoCP asks how MITIMCo's focus and campus needs might be better aligned. MIT clearly needs return on its endowment, but it is also important to figure out ways that our campus not be seen as just a commercial investment but an investment in the MIT community.

Committee on Curricula

W. Craig Carter, chair

Pam Walcott, executive officer

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 concerning General Institute Requirements. The voting members consist of six faculty (including the chair) and four student members. The committee met six times during the fall term, five times during the Independent Activities Period (IAP) in January, and seven times during the spring term. During the academic year, the committee acted upon 468 subject proposals, including proposals for 103 new subjects, and approved numerous minor changes to degree charts. The committee approved the following major curricular changes:

Course 5: A new interdisciplinary minor in polymers and soft matter in conjunction with Courses 2, 3, 10, and 20.

Courses 5 and 7: A new joint major in chemistry and biology (Course 5-7).

Courses 6 and 14: A new joint major in computer science, economics, and data science (Course 6-14).

Course 12: Substantial revisions to the SB to reestablish defined tracks in order to provide better guidance to students. Approved substantial revisions to EAPS minor to align its core with that of the SB.

CMS: Substantial revisions to the SB and minor to better reflect the capstone experience and elective offerings.

The CoC approved a new inter-School minor, Environment and Sustainability, offered by the Environmental Solutions Initiative. The minor will receive academic oversight from a faculty committee with representation from all five Schools.

Other Actions

- Endorsed a CUP motion to revise Section 2.84.3 of *Rules and Regulations of the Faculty*, which governs the Institute Laboratory Requirement, such that approved subjects with other than 12 and six units can be used toward fulfilling the 12-unit requirement. The Faculty approved the motion at its April 2017 meeting.
- In conjunction with the CUP, approved revisions to the criteria for Institute Laboratory subjects published in the MIT Bulletin to reflect the updated requirement.
- Approved a proposal to divide Course 5's four modular laboratory subjects into discrete three- to six-unit subjects that would each run for a third of a term, some of which could be combined for CI-M or Institute Laboratory credit.
- Discussed the eligibility guidelines for a double major, focusing on two issues: the minimum GPA requirement and the practice of awarding financial aid to students who stay at MIT past eight terms in order to graduate with a double major. Plans to revise the Committee's guidelines and application language concerning GPA are in progress. The committee referred the latter issue to the Committee on Undergraduate Admissions and Financial Aid for consideration.
- Reviewed subject evaluation data on subjects for which students consistently spend significantly more time than expected, based on assigned units.
- In keeping with its responsibility to seek reviews of interdisciplinary minors at least once every five years, conducted a review of all interdisciplinary minors within the School of Humanities, Arts, and Social Sciences.
- Held numerous discussions on how much subject overlap should be permitted between a student's major and minor, and the practice of prohibiting specific program combinations. The committee is expected to continue the discussion in AY2018.
- Endorsed amendments to *Rules and Regulations of the Faculty* to clarify procedures concerning half-term subjects (H1, H2, H3, H4), based on recommendations made by the FPC Subcommittee on Sub-Term Subjects.
- Conducted its biennial review of subjects that fulfill the Restricted Electives in Science and Technology (REST) requirement.
- Continued to monitor developments with respect to the Independent Activities Period. The committee reviewed data concerning both academic and non-academic activity during IAP and shared the data with the same committees that had participated in the review of IAP (CGP, CUP, and FPC).
- Received reports from the Subcommittee on the Communication Requirement and the Subcommittee on the HASS Requirement concerning petitions received and reviewed by those committees.

Committee on Discipline

Suzanne Flynn, chair

Tessa McLain, executive officer

Reported Cases

There were 279 complaints brought to the attention of the Committee on Discipline (COD) in AY2017. Chaired by Professor Suzanne Flynn, the COD worked to resolve these complaints by adjudicating cases of alleged student misconduct and student organization misconduct. Of those 279 complaints, 230 (82%) were complaints alleging individual student misconduct and 49 (18%) were complaints alleging student organization misconduct. The two tables below summarize types of complaints during AY2017 compared to previous years.

Number of Individual Student Misconduct Complaints by Incident Type in AY2015, AY2016, and AY2017

Incident type	AY2015	AY2016	AY2017
Academic misconduct total	33	52	80
Cheating	15	15	47
Plagiarism	6	8	6
Unauthorized collaboration	10	22	22
Other academic misconduct	2	7	5
Personal misconduct total	190	192	144 [†]
Alcohol	86	100	58 [†]
Other drugs	11	12	13
Assault	1	2	7
Harassment (other than sexual) and stalking	9	10	6
Property damage	1	2	0
Disorderly conduct	6	8	15
Theft	6	9	4
Unauthorized access, improper use of MIT property	25	25	13
Fire safety, arson	13	4	5
Weapons, dangerous objects	1	2	2
Residence hall security or guest violations	9	4	9
Hazing	9	0	0
Institute expectations of student behavior/integrity	-*	6	9
Other	13	8	3
Title IX related cases total	9	11	6
Sexual harassment	0	3	1
Stalking (including nonsexual stalking)	-*	2	0
Nonconsensual sexual touching or penetration	-*	6	5
Intimate partner violence	-*	-*	0
Total	232	255	230

Note: Each complaint is only counted one time, even when more than one allegation exists.

*Category not calculated previously. Previously, these types of complaints were captured in other similar categories.

[†]Due to changes in the Good Samaritan Amnesty Policy (GSAP), the Office of Student Conduct/COD no longer process these cases, which explains the drop in alcohol and total numbers. For reference, during AY2016, there were 63 GSAP cases for individuals.

Number of Student Organization Misconduct Complaints by Incident Type in AY2015, AY2016, and AY2017

Incident type	AY2015	AY2016	AY2017
Alcohol	13	31	10
Other drugs	1	1	0
Exceeding occupancy	2	0	5
Fire safety	2	0	1
Hazing	6	5	0
Harassment (other than sexual)	3	0	1
Unauthorized roof access	3	3	-†
Disorderly conduct	1	3	0
Noise complaints	-*	13	15
Recruitment violations	-*	4	1
Social event policy violation (unregistered, no guest list, not checking IDs, etc.)	-*	-*	9
Other	2	2	7
Total	33	62	49

Note: Each case is counted one time, even when more than one allegation exists in a case.

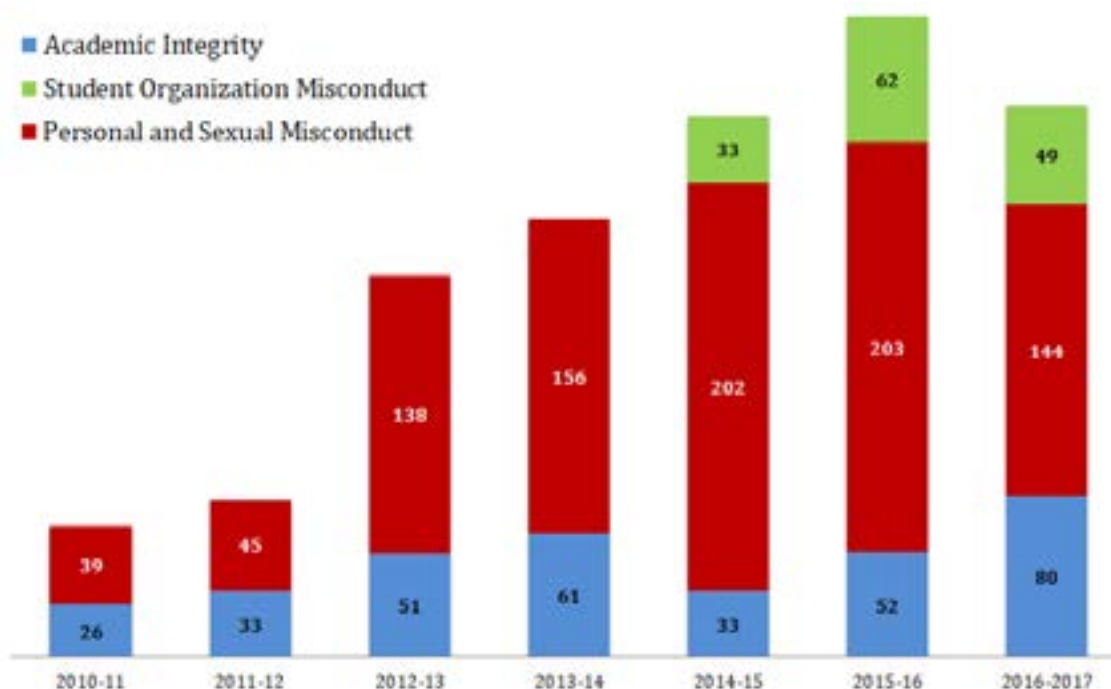
*Category not calculated previously.

†Now counted as social event policy violation.

Case Trend

The total number of reported cases was 10% lower in AY2017 than it was in AY2016. This is mainly due to the change in categorization and tracking of alcohol Good Samaritan Amnesty cases. Academic misconduct complaints against individual students increased 54%. Unauthorized access complaints, which usually involve “hacking” or “tours” decreased 48%.

Committee on Discipline Case Trend: Complaints by Type, July 2010 to June 2017



Case Resolutions

The COD utilizes a variety of resolution methods, described in the [Committee on Discipline Rules and Regulations](#). The COD's resolution methods in AY2017 are presented below and compared to previous academic years.

For the third year in a row, the COD was responsible for student organization misconduct. The COD continued its strong partnership with student organization coordinating groups (e.g., Interfraternity Council, Panhellenic Council, Association of Student Activities, etc.) to resolve most cases of alleged student organization misconduct by referring them to student-run judicial boards.

This was the second year that the COD used the new method for sexual misconduct and Title IX related complaints. All related cases were resolved using this method this year.

Number of Case Resolutions by Type in AY2015, AY2016, and AY2017

Resolution type	AY2015	AY2016	AY2017
COD administrative resolution	149	131	100
COD hearing	1	4	1
COD sanctioning panel	7	6	6
COD sexual misconduct hearing	-*	3	4
COD sexual misconduct sanctioning panel	-*	0	0
Faculty letters to file	18	35	63
Withdrawal of case/dismissal	4	20	19
Restorative justice/alternative dispute resolution	1	0	1
Case closed due to help seeking protocol	27	62	9 [‡]
Non-adjudicative resolution	38	15	19
Delegated to student-run judicial mechanism	13	35	36
Referred to other office	_ [†]	_ [†]	8
Cases pending (as of 6/30)	10	6	13
Total	268	317	279

*This was a new option in AY2016.

[†]Office of Student Conduct did not track this prior to AY2017.

[‡]Most of these went to CDSA and only a few were referred to the Office of Student Conduct because at the onset it was unclear if GSAP applied or not in the case.

Case Outcomes

COD strives to meet their educational philosophy of student accountability through intentional educational sanctions (e.g., substance abuse education, mentoring programs, projects, reflections, workshops, etc.). Through these structured sanctions, students learn how to correct their mistakes and are able to reflect on their own personal development. A small number of cases (4.35% in AY2017) require a student to be separated from the Institute, either temporarily or permanently. About 95% of cases are resolved without suspension or expulsion. This table shows sanctions assigned during AY2017, compared with previous years.

Number of Case Sanctions by Type in AY2015, AY2016, and AY2017

Sanction type	AY2015	AY2016	AY2017
Expulsion	0	3	2
Suspension or degree deferral	5	3	8
Removal from Institute housing (house or FSILG)	1	2	2
Housing relocation	0	0	2
Probation	38	35	34
COD letter to file	75	73	59
Substance abuse education or treatment	74	109	53
Restitution	6	3	1
Other educational sanctions or referrals	142	153	181
No contact order, directive to stay away from certain buildings	2	10	9
Faculty letter to file	18	35	63
Academic integrity seminar	15	15	5
Total	376	441	419

Note: It is common for the COD to assign more than one sanction in a case, so there are more sanctions than cases. Sanctions exclude all cases in which the respondent was found not responsible, the case was dismissed, the case was delegated to a student-run panel for action, or the case is still pending.

Additional Notes

In addition to responding to complaints of misconduct, the COD pursued a number of initiatives this year.

COD Sexual Misconduct Subcommittee

The COD Sexual Misconduct Subcommittee worked to increase training related to Title IX specific cases. Over the past two years, this subcommittee has developed expertise and consistency in hearing these types of cases and has received over 20 hours of training.

Additionally, the COD Sexual Misconduct Subcommittee met biweekly for the academic year. The purpose of the biweekly meetings was to examine the COD process for adjudicating sexual misconduct under the COD's new sexual misconduct rules and procedures (implemented in November 2015) and plan for the upcoming full program review that is to occur in AY2018. During fall 2016, the subcommittee conducted case study reviews of the cases it had completed. During spring 2017, the subcommittee developed a draft rubric to use as an internal document for the COD to consider when sanctioning.

Continued Training

The Office of Student Citizenship continued to provide briefings, trainings, and ongoing development activities to the members of the COD. Over 20 hours of such activity was provided to all members of the COD. Advanced topics included unconscious bias in decision making. In addition to standard training provided to all COD members, the members of the sexual misconduct subcommittee received an additional 18 hours of specialized training in issues related to sexual misconduct, more than any members of the COD have ever received before. The enhanced training included LGBT issues related to the COD's work, questioning techniques, and the neurobiology of alcohol-induced blackouts and the practical implications of this research for the COD. This increased training was well received.

Committee on Graduate Programs

Donca Steriade, chair

Jessica Landry, staff

The Committee on Graduate Programs (CGP), chaired by Professor Donca Steriade, consulted during AY2017 on an array of issues impacting graduate education.

New Degree Programs

During AY2017, the committee continued to spend the largest part of its time reviewing proposals for new degree programs. Most of these were professional master's programs that blend online and residential education. The committee had become acquainted with this model during the previous year's deliberations, when the Center for Transportation and Logistics proposed a new path to admission into its master's degree program in supply chain management via an "inverted" process: students who have taken a group of MITx courses in a certain field earn a MicroMasters credential in that field from MITx, and may then become eligible to apply to residential master's programs at MIT in the same field. Successful completion of the MicroMasters program allows the linked residential master's program to be significantly shorter, cutting time in residence, in certain cases, from 12 to as little as six months.

It was anticipated that this model will become popular with other units at MIT, especially those that offer professional programs. This was borne out during AY2017. In a related development, the committee endorsed a proposal by the chair of the faculty, Professor Krishna Rajagopal, to establish an umbrella degree that will bring together under one name (Master of Applied Science) and under the same regulations the growing category of thesis-less (mostly professional) master's degrees we anticipated will be proposed in coming years. Another proposal initiated by the chair of the faculty relates to this class of degrees. Rule 2.32 of *Rules and Regulations of the Faculty* allows academic departments to arrange advanced-standing credit for their graduate students. In addition to allowing departments to administer advanced-standing examinations, this will permit credit obtained upon successful completion of an MITx MicroMasters to become graduate credit for the corresponding residential master's program for those MicroMasters recipients who have been selected for admission to, and have enrolled in, the MIT master's program.

The CGP also approved changes to *Rules and Regulations of the Faculty* regarding half-term subjects, first presented during the previous academic year by Professor John Fernandez in the report of the FPC Subcommittee on Sub-Term Subjects. The CGP reviewed and approved new language in sections 2.10 (Calendar), 2.40 (Registration), 2.50 (Assignments and Examinations), and 2.60 (Grades) that formalizes rules governing half-term subjects.

The following individual proposals were reviewed during AY2017.

At its September 2016 meeting, the committee reviewed and approved a proposal from the Department of Economics and the Abdul Latif Jameel Poverty Action Lab (J-PAL) for a new blended online/residential master's degree in Data, Economics, and Development

Policy (DEDP). The path to admission to the master's program in DEDP will be via an MITx MicroMasters program in development economics. Students who perform exceptionally well in this program may be eligible to apply to continue at MIT in the corresponding Master of Applied Science program. The MicroMasters program was launched in February 2017; the MASc in DEDP program will launch in 2019.

At its October 2016 meeting, the committee met with Professor Yossi Sheffi from the Center for Transportation and Logistics (CTL), who presented a revised version of a proposal examined during the previous year for a blended master's degree in supply chain management (SCM). Sheffi sought approval for further developments in CTL's graduate programs, including the blended master's program in SCM. The CGP approved the proposal to introduce a thesis-less option in both the blended and the residential master's programs offered in SCM by the CTL. The CGP also approved plans to continue development of the blended SCM program, which had been only provisionally approved the year before. In the context of this proposal, the committee recommended that the CTL, which administers the SCM programs, adopt a revised policy for periodic review. The committee requested that the review panel include academics in the SCM field; that the review panel meet in separate sessions with the non-tenured teaching staff, graduate students, and administrative staff; and that the panel report directly to the dean of Engineering and the provost or members of MIT's administration selected by them.

The anticipated increase in proposals for new types of professional master's degrees prompted a request in spring 2016 from the faculty officers to the CGP to consider, and potentially develop, a proposal for an umbrella degree type for professional master's degrees without a thesis requirement, for review by the Faculty Policy Committee in fall 2016. After discussion at its May 2016 meeting, the CGP concluded that settling on a name and requirements for this potential new degree type seemed premature when the MIT Faculty had not yet had a chance to think about the long-term impact of the anticipated size of such a degree type on MIT. The committee asked that the MIT Faculty be consulted on the anticipated cumulative effect of these new professional degrees on campus life, and on MIT's resources, before the committee were to proceed with the adoption of a new degree type, citing concerns about possible dilution of requirements for MIT degrees, faculty and staff resources, funding structure of the professional programs, and housing and other student support systems. The subsequent discussions, including discussions with the FPC and discussions between FPC and the provost and chancellor, described to us in letters that were subsequently shown to the full Faculty, led to the aforementioned degree type of Master of Applied Science.

Degree Program Changes

At its February 2017 meeting, the CGP approved a proposal from the Transportation Education Committee to expand admissions and degree granting for the Master of Science in Transportation and PhD in Transportation programs to include the Department of Urban Studies and Planning (Course 11).

At its April 2017 meeting, the committee approved a proposal presented by the Department of Aeronautics and Astronautics (Course 16) to have its graduate program partner with the MIT-WHOI (Woods Hole Oceanographic Institution) Joint Program,

within Applied Ocean Sciences and Engineering. This partnership will provide prospective Joint Program students interested in applied physics and engineering the option of applying and matriculating through Course 16.

The committee also approved a proposal from the Department of Earth, Atmospheric and Planetary Sciences (EAPS) to offer biological oceanography as a degree. A degree in biological oceanography already is offered jointly by MIT and WHOI through the Joint Program. This change will provide students who have a strong oceanographic focus in their ocean biology, physiology, and ecology research with the option to apply and matriculate through Course 12. EAPS has partnered with the Joint Program for many years as a home department for students in other disciplinary elements of the MIT-WHOI Joint Program (chemical oceanography, physical oceanography, and marine geology and geophysics).

The CGP chair, acting on behalf of the committee, and in collaboration with the interim dean for graduate education, approved two minor thesis field changes: (1) a request from EAPS to change their doctoral thesis field title from “Climate Physics and Chemistry” to “Climate Science,” in order to be more inclusive of the interdisciplinary nature of the field and to better represent the scope of their degree program; and (2) a request from the Department of Mathematics to add “Mathematics and Computational Science” to the list of options for their PhD students.

Graduate Student Advising

CGP graduate student members Zoya Bylinskii and Noelle Held planned a continuation of the survey work they (along with former graduate student member Ran Li) had done during the previous academic year on best practices and student preferences in graduate advising. At the March 2017 meeting of the CGP they shared with the larger committee their plans for a new survey. We hope that the CGP can persuade them to continue to be involved with the survey work and to keep the committee informed of their findings.

Committee on the Library System

Adam Albright, chair

The work of the Committee on the Library System (CLS) in AY2017 was primarily concerned with digesting the results of the report of the Ad Hoc Task Force on the Future of Libraries, and offering guidance to those groups that are grappling with the issues raised in the report. The task force worked from summer 2015 until spring 2016 to review the roles that the library system currently plays at MIT and how this should evolve in the future. A preliminary report was issued in October 2016 for public comment, which ended in February 2017. Two faculty members of the CLS served on the task force, Adam Albright (Linguistics and Philosophy) and Jeff Ravel (History), as well as the director of Libraries, Chris Bourg.

In fall 2016, the committee was chaired by Professor Andrew Scott, and it met in September and October. In the spring, the committee was chaired by Professor Albright, and meetings were held in February and May.

The September 2016 meeting served as an introduction for new members of the committee, and was largely taken up with discussion of the forthcoming task force report. One major topic of discussion was the role that the CLS could play in engaging community feedback on the report (a concern that continued to come up in the October and February meetings). The committee also discussed the membership and tasks of ad hoc committees recommended in the report, including a committee on space and a committee on open access.

The October 2016 meeting provided additional background on the organization of the library system. Libraries staff members Tracy Gabridge, Nancy McGovern, and Christine Quirion explained the functions and organization of, respectively, the Academic and Community Engagement, Collections, and Information Technology and Digital Development directorates. These presentations provided new CLS members with a better understanding of what these directorates do and the challenges they face, while also providing an opportunity to discuss how their roles might change or be informed by the task force report.

The February 2017 meeting primarily consisted of an update from the space planning committee, given by Professor Rafi Segal (Architecture). The space planning committee also included CLS members Professor Ravel, Chris Bourg, and Tracy Gabridge. The committee discussed the vision of library space use that emerged in the task force report, as well as specific challenges involving Building 14. Professor Segal worked with two graduate students as well as members of the space planning committee to translate recommendations into space-related functions, to assess current system and space uses, and to develop an initial programmatic proposal for Building 14 to submit to the Office of the Provost. The MIT Libraries Visiting Committee met in March 2017. During these meetings, CLS members Albright and Ravel participated in a faculty breakfast and Professor Hal Abelson (Electrical Engineering and Computer Science) led a session called “Discovery and Use: Open Access Task Force.”

The May 2017 meeting began with further updates by Gabridge and Bourg on the status of Building 14 renovation planning, and a discussion of two options for coping with a decrease in space in Hayden Library. Bourg also provided information on a brand redesign in progress, and CLS members were invited to participate in related interviews with the design firm Pentagram over the summer. The remainder of the meeting was taken up with a discussion led by Libraries staff members Michelle Baildon and Gregory Eow concerning the work of the print curation group and questions that the group has been grappling with as it formulates guidelines and methods for curating print collections in the future.

In summary, the year was marked by a transition from the broad visions of the task force to thinking about how to implement these visions on numerous fronts. Although much of the detailed implementation work will be the job of specific ad hoc committees, CLS will need to play an active role in ensuring communication and engagement with the broader MIT community.

Committee on Nominations

Robert Jaffe, chair

Tami Kaplan, staff

The Committee on Nominations performed the majority of its work from October to February. In October, the committee conducted an annual survey of all faculty to identify service preferences for standing faculty and Institute committees. The committee contacted deans and committee chairs for suggestions, noting that some Schools consider Institute service as a factor in promotions, and updated materials to share with prospective committee members and officers. The committee made eight out-of-cycle (interim) appointments and nominated 28 faculty members for appointments beginning on July 1, 2017, with the slate including nominees from 21 academic units across all five Schools and from the Department of Athletics, Physical Education, and Recreation. The committee also led a process to nominate Professors Rick Danheiser (Chemistry) and W. Craig Carter (Materials Science and Engineering) as, respectively, associate chair and secretary of the faculty from 2017 to 2019, to join chair-elect Susan Silbey (Anthropology). The slate was presented at the March faculty meeting and unanimously adopted in May.

Committee on Student Life

Hazel Sive, chair

The Committee on Student Life (CSL) is concerned with the quality of the learning and living environment at MIT, with specific attention to issues of community. The duties of the CSL include (1) exercising general attention on the range, availability, and effectiveness of Institute-wide support services to students, and the formal and informal relationship among students, the Institute, and the Faculty; (2) considering proposals to change or modify policies pertinent to student life and making recommendations to the Faculty and the vice president and dean for Student Life; (3) encouraging innovation in programs regarding student life, particularly those involving faculty, including the coordination and review of initiatives; (4) interacting with other faculty committees and student governing organizations and with the Schools, departments, and so forth, on important issues concerning student life and community, and communicating with the MIT community about such issues; and (5) serving as the standing Faculty advisory body to the vice president and dean for Student Life.

In AY2017, the committee was chaired by Professor Hazel Sive (Biology), and comprised faculty and students from across the Institute, all deeply concerned with issues of student life. The committee met approximately every two weeks, for a total of 15 meetings. Agenda items were divided into actionable topics that include recommendations, and informational topics. The latter also frequently resulted in recommendations, but these are not detailed in this report.

Agenda

The agenda of the CSL is set by the chair, in consultation with the vice president and dean for student life and the committee.

Guests

Guests included student leaders, faculty, and senior administrators as follows (in alphabetical order):

- Professor Sandy Alexandre, associate head, East Campus
- Nichole Clarke, president, Association of Student Activities
- Arolyn Conwill, president, Graduate Student Council
- Kristen Covino, residential life area director, Senior House
- Angela Crews, vice president, Graduate Student Council
- Peter Cummings, executive director for administration, Division of Student Life
- John DiFava, chief of police
- Kate Farris, president, DormCon
- Dr. Shawn Ferullo, chief of orthopedics and student health, MIT Medical
- Maryanne Kirkbride, executive administrator, MindHandHeart
- Elizabeth Green, senior director for assessment and research, Division of Student Life
- Lisa Guay, treasurer, Association of Student Activities
- Judy “JJ” Jackson, diversity and inclusion officer, Office of the Provost
- Yuge Ji, vice president, DormCon
- Amanda Kedaigle, Graduate Student Council
- Sophia Liu, president, Undergraduate Association
- Ru Mehendale, Senior House executive team
- Sarah Melvin, Senior House executive team
- Professor Rob Miller, head, East Campus
- Jagruti Patel, senior director of special projects, Office of the Chancellor
- Professor Jay Scheib, head, Senior House
- Dr. Karen Singleton, chief, Mental Health Services
- Dr. Cecilia Stuopis, medical director and head, MIT Medical
- Jaren Wilcoxson, counsel, Office of the General Counsel
- The executive teams and many students from Senior House and East Campus

Note: References to these individuals throughout the remainder of the report do not mention their specific titles and affiliations. Please refer back to this list as needed.

Actionable Topics

Mechanism of Committee on Student Life Function

With the incoming vice president and dean for Student Life, Suzy Nelson, the CSL considered it an excellent time to revisit committee functioning. In particular, the committee wanted to revise the mechanism by which the agenda is set up. A specific grievance in the past has been previous lack of a “feeder agenda.” Significant progress was made this year. A key element of this success was the use of CSL by Dean Nelson for first analysis of DSL policies. Included in this was replacement of the DSL Policy Review Committee by the CSL.

Smoking in Dorm Rooms

The committee was invited to consider the question of whether MIT policy on smoking in residences should be changed. This consideration spanned the entire year. Current policy allows students to live in selected rooms or suites where smoking is allowed, which existed in Senior House and exists in East Campus. The CSL agreed to consider this question, as smoking clearly impacts the health of MIT students—and one focus of the committee is student wellbeing. However, the CSL supports student rights, and the topic of smoking clearly also falls into this framework. The committee considered smoking as a stand-alone question, unconnected to other student issues around campus or in the specific dorms. Many guests were invited into the discussion, including representatives of MIT Medical, Office of General Counsel, student leaders, students who smoke, and the house teams.

Over the course of extensive discussions, the CSL concluded that addressing the specific question of smoking in dorm rooms was less important than addressing the health risks to any MIT students who smoke, regardless of where they live. Although more data is necessary, a significant number of students coming to MIT may begin smoking at the Institute, and once they have started may have difficulty quitting, as nicotine is an addictive substance. This could be ameliorated by anti-smoking education for first-year students. For those students who do smoke, MIT should widely advertise smoking cessation programs. Therefore, the CSL suggests an expansion of anti-smoking and smoking cessation programs at MIT.

The CSL was split on whether to revise the MIT smoking-in-dorm-room policy. A significant minority believed that the current policy should be left in place, although it should be revisited regularly and better data gathered. A majority believed that MIT should phase out smoking in dorms, while implementing this in a way that respects student culture and opinion. If the MIT smoking policy should change, the CSL felt strongly that the mechanism used to carry it out must be sensitive to student interests and wellbeing. Specifically the CSL recommends that students be pivotal in devising a plan that would lead to eventual removal of smoking in dorm rooms. Thus any mechanism of change would require open dialogue with students, incorporating their ideas and recommendations. Care would need to be taken not to threaten dorm culture and other student freedoms. Most committee members agree that should the MIT policy on smoking in dorm rooms be revised, a phase-out process is optimal, as it would minimize stress for current students who smoke. During this time (and subsequently) supportive on-campus smoking cessation programs should be easily accessible to these students.

Addiction Treatment at MIT

The CSL is concerned that beyond smoking, addiction treatment and prevention are not being sufficiently addressed at MIT. Progress is being made through MIT Mental Health, as discussed with the director, Dr. Karen Singleton. She noted that progress would be made only if MIT addressed meeting the needs of the *entire community and involved campus-wide collaboration*.

Revised Marijuana Policy

Following legalization of recreational marijuana in Massachusetts, the CSL rewrote the marijuana policy that is published in the *Mind and Hand Book*. Since MIT receives federal money, the Institute must follow federal laws, which prohibit all marijuana use on campus, including medical usage. The changes made can be summarized as follows: marijuana is not legal on campus, but MIT will not dictate off campus legal use.

Association of Student Activities Club Membership Policies

Concerns were discussed regarding MIT clubs and memberships. Association leadership communicated issues with aggressive members, funding, and misappropriation of funds. Existing clubs may have a great majority of members who are not students. The CSL encouraged enforcing existing rules and regulations, as well as reviewing policies on membership and funding. CSL offered to give continued feedback to the Association of Student Activities.

Office of Student Citizenship

Last year the CSL recommended that student experience with disciplinary procedures be reviewed, including those that proceed through the Office of Student Citizenship. An external review of the Office of Student Citizenship was performed this year. CSL members met with the review panel to offer opinions and answer questions. It is recommended that the report of this panel be made available to CSL members.

Student Life Fee

Student leadership raised the inequity of student activities fees. The committee discussed the student life fee with Peter Cummings and identified CSL members available to sit on a separate committee to discuss the issue.

SafeRide

The question of SafeRide effectiveness was raised by the Undergraduate Association leadership, citing lack of reliability. Many students will walk home rather than wait for the shuttle. CSL expressed great concern for student safety. The topic was passed to Dean Nelson for her attention.

Dome Hacks

The CSL considered the uneasy atmosphere surrounding hacks. On the one hand, hacks are celebrated. On the other hand, some are extremely dangerous, especially related to the dome. The CSL recommends continued discussion of this topic.

Informational Topics

- Updates from Suzy Nelson (repeating)
- Senior House turnaround (Sarah Melvin and Ru Mehendale)
- Update on MIT Dining (Peter Cummings)
- DormCon priorities (Kate Farris and Yuge Ji)
- Undergraduate Association priorities (Sophia Liu)
- Graduate student childcare proposal (Amanda Kedaigle)
- Graduate Student Council priorities (Arolyn Conwill and Angela Crews)
- Information from the Quality of Life Survey (Elizabeth Green)
- Addressing diversity at MIT (Judy Jackson)

Committee on Undergraduate Admissions and Financial Aid

John M. Essigmann, chair

The Committee on Undergraduate Admissions and Financial Aid (CUAFA) had the following agenda for AY2017: (1) adjust our mission statement to reflect new MIT policies regarding the return of students to the Institute after a leave of absence, (2) propose a package of financial aid enhancements for the incoming Class of 2021, (3) develop a plan to reverse the downward trend in enrollment of Federal Pell Grant recipients, (4) reduce the financial burden on students who hold Pell or similar grants and need to reduce their course load below the unit minimum required by their grant, and (5) consider the financial aid implications of a Committee on Curriculum proposal to change MIT policies regarding GPA qualifications needed to obtain a double degree.

Revision of the Charge

Last year the Institute revised its policies that detail the process by which a student on leave formally reengages with the Institute. Previously, the term “readmission” was used in our charge, but that term elicited a measure of needless stress among students. To bring CUAFA and Admissions in line with the new policies, we voted to change the wording of our charge in *Rules and Regulations of the Faculty* from:

1.73.4

The Committee on Undergraduate Admissions and Financial Aid shall consist of:

- a. The Committee shall be responsible for formulating and reviewing policies on admission of all undergraduate students, including college transfers, except in cases of students applying for readmission, and on financial aid to students, including undergraduate scholarships, loans, and student employment.

to:

- a. The Committee shall be responsible for formulating and reviewing policies on admission of all undergraduate students, including college transfers, and on financial aid to students, including undergraduate scholarships, loans, and student employment.

The revised charge to CUFA was approved at the October 19, 2016 Institute Faculty Meeting.

Proposed FY2018 Financial Aid Enhancements and Analysis of the Class of 2021

One year ago, our financial aid budget rose 10.4% to \$114.2 million for FY2017. This was the largest increase in MIT history and likely contributed to a highest-ever 73.7% yield and a class of extraordinary diversity. This year, several financial aid enhancement options were seriously considered, and in the final analysis, a \$118.5 million package involving a 9.3% increase over last year's actual expenditures was adopted. (Note: In FY2017, actual expenditures were less than the projected budget.) This package involved a reduction of academic year self-help from \$5,500 to \$3,400 as well as a further reduction in the parental contribution. These reductions will benefit all students and should be attractive to families in the upper-middle income demographic, in which our yield has been slightly lower than expected in previous years.

Of 20,247 applicants, we admitted 1,452 and expect to enroll 1,100 in September 2017; the yield of 76% was once again an Institute historical high. Our admission rate was 7.2%, meaning that one of 14 applicants was admitted. Of the class, 46% will be women, 24% come from under-represented minority groups, 11% are international (7% living abroad and 4% living in the United States), and 18% are first-generation students. The number of students admitted was slightly lower than in AY2016. One contributing factor is the lower than desired number of undergraduate beds on campus, owing to the loss of beds in one residence hall due to emergency renovation and the decision of the administration to convert another undergraduate hall (Senior House) into graduate housing.

Reversing the Downward Trend in Enrollment of Pell Grant Recipients

Pell Grants are annual scholarships of up to \$5,920 given to low-income Americans by the US government. Eligibility is determined pursuant to a student and family filling out the Free Application for Federal Student Aid (FAFSA) application form. Eligibility for FAFSA is based on income, family size, and some family assets and, nationally, about 35% of college students receive Pell Grants. Among the top 200 US colleges, however, only 17% of matriculating students receive Pell Grants, which has put those schools under scrutiny from both the US Government and the media. In the past, MIT has had as many as 20% of its students on Pell Grants, but that number has been trending downward in recent years to the point that last year only 16% of our students were Pell recipients. Most scholars knowledgeable of the Pell criteria are critical of the ability of those criteria to reflect actual need among applicants. Nevertheless, while Pell numbers are widely considered to be an imperfect instrument, it is clear that finding a way to increase our number of Pell recipients would help provide an MIT education to students who otherwise might go elsewhere. As indicated above, our previous financial aid enhancements, while very generous, did not seemingly impact our Pell yield. CUFA spent this year thinking of non-financial methods to enhance our Pell yield.

This year we made an early and aggressive effort to identify students in our applicant pool who would later be awarded Pell grants by the government upon review of each student's FAFSA details. In other words, our financial aid experts have the skills needed to predict Pell recipients. By anticipating the Pell recipients, we were able to use Pell eligibility in our admissions criteria. At nearly all peer institutions, where

admissions and financial aid offices are under the same roof, sharing of a limited amount of information occurs if that information can serve the goal of registering Pell Grant receiving students. While seemingly logical, the practice has not been in place at MIT because of our passion to safeguard need-blind admissions. After discussion of the risks and benefits of enhanced collaboration between Student Financial Services and Admissions, CUAFA voted to try a collaborative experiment this year and the experiment seems to have worked. The percentage of our incoming first-year students receiving Pell Grants rose from 16% to 20% for the incoming class. So, by the admittedly imperfect Pell criteria, we are in a better position than we were a year ago and a larger than anticipated cohort of Pell Grant receiving students will be attending MIT next year.

Reducing the Financial Burden on Students Who Hold Pell or Similar Grants

Some external sources of financial support for undergraduates require full-time status throughout the semester. Outside scholarships are paid to the student up front so that the student can pay their bill to MIT. Unlike our peers, we treat a Pell Grant like an outside award and use it to reduce the self-help portion of the student's financial aid award. We are the only school that we are aware of that treats the Pell Grant in this way, which gives the benefit of the Pell Grant to the student, and not the institution. However, according to federal regulations, when a student's enrollment status drops below full-time, the Pell Grant is reduced. At MIT, therefore, when the Pell is reduced, there is less grant money to offset a student's self-help, and the amount of self-help in the student's award goes up by the amount of the Pell reduction. The student then receives a bill, which understandably results in stress, leading the student to Student Support Services, Student Financial Services, the Office of Minority Education, or other offices that support students in difficult situations. We have no central office to own this problem, nor do we have a uniform process to address the student's newfound need. Student Support Services brought this issue to the attention of CUAFA and asked for our help in crafting a path forward.

After studying the qualitative and quantitative dimensions of this problem, CUAFA recommended that we ask the chancellor to find the funds to make up any reduction in a Pell Grant (due to a class load less than full-time) with an MIT grant. Financially, we estimated that this would cost at most approximately \$50,000 per year (average of 25 students per semester, at a cost of \$1,000 per student). In our request to her we noted, however, that the magnitude of this subsidy is expected to decrease in the future, because of the aforementioned plan to decrease the self-help expectations on our students. The chancellor saw merit to our proposal and responded positively to it.

Financial Aid Implications of a Proposal to Change MIT Policies Regarding GPA Qualifications for a Double Degree

At present, there is a 4.0 GPA entry requirement to a double major, which some see as a barrier preventing students from exploration. Students and faculty members on the Committee on Curricula will possibly propose that we eliminate the GPA barrier (or lower it), which would provide opportunity and flexibility for students to explore new areas as they navigate their path through MIT. But the higher workload might cause some weaker students, students who enter MIT with fewer AP credits than others, or students who run into an unexpected personal bump in the road, to take longer to graduate. Those scenarios could put a financial aid burden on the student and the student's family. And, of course, MIT may be asked to reconsider financial aid packages, which are designed

to accommodate a four-year path to a degree. Because financial aid is involved, the Committee on Curricula asked CUFA to consider and report back on the pros and cons of a potential change in our current policy on the entry criteria for double majors.

CUFA debated this issue and decided not to support the proposal to lower the GPA requirement for the double major. In terms of process, students with a GPA lower than 4.0 can petition, with their advisor's approval, to be allowed to register for a second major. To give an idea of the scale of the issue, only 13 petitions have been submitted over the past two academic years, so the workload for case-by-case evaluation of qualifications does not seem onerous. Moreover, MIT is moving toward an increase in the number of flex majors and hybrid majors (e.g., Courses 6-14 and 5-7), which gives a diversity of experience in emerging fields without the risk of needing more than eight semesters to graduate. We acknowledge the advantage of double majors to students who want to major in a technical field as well as a humanities field, but do not know if there is evidence that two majors in technical fields show a post-graduation benefit to a student that outweighs the higher graduation GPA that the student would likely achieve if he or she put the same effort into a single major and, perhaps, UROP. The 4.0 GPA bar seems appropriately set to us in that it encourages stronger students to pursue the higher workload needed to major in two fields.

Double majors also potentially come with a higher cost to MIT, both with regard to the funds set aside for financial aid and with regard to pressure on our housing stock and other MIT facilities. Students who do double majors and run into difficulty typically ask for ninth or 10th semester financial aid and housing, which limits our ability to be generous to other students. Also, our four-year graduation rate would possibly go down, which could impact the way we are viewed by the outside world. Taken together, CUFA does not recommend that the GPA bar to entry into the double major be lowered. The status quo seems reasonable and, as indicated above, the process in place for evaluating the roughly seven petitions per year from students with lower GPAs seems appropriate and adequate.

Committee on the Undergraduate Program

Duane Boning, chair

Genevra Filaault, executive officer

During AY2017, the Committee on the Undergraduate Program (CUP) made decisions and recommendations on a number of matters related to MIT's undergraduate educational programs and provided input on a range of issues that cut across faculty and institutional governance. The committee was chaired by Professor Duane Boning and met on alternate weeks through the fall and spring terms.

The committee reviewed several new academic programs this year. The CUP endorsed two new SB degree programs: chemistry and biology (Course 5-7) and computer science, economics, and data science (Course 6-14). Both were subsequently approved by Faculty vote. In addition, the committee approved two new interdisciplinary minors: environment and sustainability, and polymers and soft matter.

In March, the committee made a motion to the Faculty to change the definition of the Institute laboratory requirement in *Rules and Regulations of the Faculty* to allow subjects of fewer than six units to be used to fulfill the requirement. Members thought that pedagogically, modules could work well for the goals of the requirement while providing flexibility for students and programs, preserving the goals of maintaining a major commitment of the students' attention and intensity, and also allowing the opportunity for an early laboratory experience. The motion passed at the April 2017 Faculty meeting.

The CUP approved experimental online version of 6.002 Circuits and Electronics for MIT residential students ran for the first time this fall as 6.S064 Special Subject: Circuits and Electronics. The instructors also requested that the committee consider allowing the experimental version of the subject to count toward the Restricted Electives in Science and Technology requirement, as does the regular version. After consultation with the Committee on Curricula, this request was approved. The CUP heard a preliminary report this spring from Professors Gerald Sussman (Electrical Engineering and Computer Science), Anant Agarwal (Electrical Engineering and Computer Science), and Anne Marshall (Teaching and Learning Laboratory) about what they learned from the assessment of the fall version of this experiment. The committee looks forward to continued discussion of this experiment next year.

As the theme of enrollment in majors arose in many CUP discussions and in several other venues this year, the committee decided to form a study group to understand trends and factors influencing major enrollments and student choice of major, and the implications of such decisions for students, departments, and faculty. Professor Jeffrey Grossman (Materials Science and Engineering) agreed to chair the group consisting of faculty from across the Institute. The study group began analyzing data and planning for collection of additional data in spring 2017 and will continue its work over the summer and report its preliminary findings next year.

In other efforts, the committee discussed and endorsed changes to *Rules and Regulations of the Faculty* to incorporate sub-term subjects. It heard from Professors Anette Hosoi (Mechanical Engineering) and Caitlin Mueller (Architecture) about the work and recommendations of the working group on computational thinking; and from School of Engineering dean Ian Waitz, Professor Ed Crawley (Aeronautics and Astronautics), and Amitava "Babi" Mitra (School of Engineering) about the new engineering education transition initiative. In addition, the CUP engaged in annual consultations with the chancellor and newly appointed vice chancellor, and with its Subcommittee on the Communication Requirement and Subcommittee on the HASS Requirement, which operated this year with the revised charge and membership composition approved by the CUP in fall 2016.

Acronyms used by the CUP's subcommittees:

Humanities, Arts, and Social Sciences: HASS

HASS Humanities: HASS-H

HASS Arts: HASS-A

HASS Social Sciences: HASS-S

HASS Elective: HASS-E

Communication Intensive in HASS: CI-H

Communication Intensive in HASS–Writing Focused: CI-HW

Communication Intensive in the Major: CI-M

Subcommittee on the Humanities, Arts, and Social Sciences Requirement

Anne McCants, chair

Patricia Fernandes, executive officer

The CUP’s Subcommittee on the HASS Requirement (SHR) reconvened during AY2017 with a new charge and membership structure. The subcommittee continued with its regular responsibilities related to the oversight of the HASS requirement. The subcommittee was chaired by Professor Anne McCants, and members met monthly during the year.

Oversight activities were varied. SHR staff and the chair reviewed 73 student petitions for substitutions within the HASS requirement. Of the 73 petitions, 48 were for Harvard and Wellesley cross-registered subjects. In addition to petitions, SHR approved a new HASS concentration in Russian language, and approved 45 proposals for new and revised subjects to count toward the HASS requirement. As part of the phase out of the psychology concentration in AY2015, SHR and the Department of Brain and Cognitive Sciences (BCS) agreed that a review of HASS designated BCS subjects should occur during AY2017. Following a detailed discussion during spring 2017, SHR agreed that these subjects should continue to be offered with HASS designation.

One of the subcommittee’s first agenda items of the year was to study how students are moving through the HASS requirement. SHR looked at the Classes of 2014, 2015, and 2016—the first cohorts to complete the HASS requirement under the revised distribution component. The subcommittee reviewed when students complete distribution subjects; the number of subjects students complete in each HASS category overall; and whether the subjects were 12-unit subjects, nine-unit subjects, or combined six-unit subjects. The subcommittee also looked at which HASS concentrations students complete. Some findings were: for each cohort, over 35% of students completed more than the required eight subjects; on average, students completed three HASS-H subjects, three HASS-S subjects, and two HASS-A subjects; about 80% of students completed a HASS-H in year one, about 80% of students completed a HASS-S by year two, and about 80% of students completed a HASS-A by the end of year three; and the highest enrolled HASS concentrations are economics (200+), global studies and languages (200+), and music (100+).

Following the student HASS audit review, SHR further reviewed the HASS-A category and analyzed enrollments, capacity, and variety in HASS-A subjects. The subcommittee found that students appear to have difficulty enrolling in popular HASS-A subjects earlier in their academic career. However, the Music and Theater Arts Section is adding four new lecturers next year to help add capacity in a number of their popular HASS-A subjects. Additionally, the subcommittee heard that many students express interest in traditional studio arts subjects (drawing, painting, sculpture, etc.), which are not offered

at MIT. The subcommittee considered various options for students to receive HASS-A credit for these types of subjects taken outside of MIT. Members agreed that SHR should now consider petitions for HASS-A credit from students who take these types of subjects through Harvard and Wellesley cross-registration.

SHR also began to discuss the current status of the HASS Exploration Program and whether it should continue as a recommended program to students. At this time, the subcommittee agreed that further discussion, including consultation with various stakeholders, is required before any final decisions are made.

Subcommittee on the Communication Requirement

James Buzard and Chris Kaiser, co-chairs

Kathleen MacArthur, executive officer

During AY2017, the CUP's Subcommittee on the Communication Requirement (SOCR) was co-chaired by Professors James Buzard (Literature Section) and Chris Kaiser (Biology). The subcommittee engaged in a number of activities in its oversight of the undergraduate communication requirement (CR) at MIT, including the review of 74 student petitions and the rate of student noncompliance with the pace of the CR.

SOCR reviewed and approved the Communication Intensive in the Major (CI-M) program for the new SB degree in computer science, economics, and data science (Course 6-14) and reaffirmed its approval for the CI-M program proposed for the SB degree in chemistry and biology (Course 5-7). Additionally, SOCR reviews all CI-H and CI-M proposals, including the review of new CI subjects and the relicensing of existing subjects. SOCR continues to consult with SHR when appropriate. This year SOCR reviewed proposals for 20 new CI subjects (nine CI-M and 11 CI-H). Two proposals for CI-M subjects were subsequently withdrawn due to changes in departments' plans. The subcommittee deferred its review of relicensing proposals for CI-H subjects while it considers a change to the process.

Much of the subcommittee's work this year was devoted to developing and piloting a new process for visiting departments to review their CI-M programs. SOCR has felt that it would be preferable to have occasion to consider CI-M programs holistically, rather than only reviewing proposals one by one. In AY2016, SOCR members agreed that learning more about current departmental CI-M programs would be beneficial. In fall 2016, members considered how to respectfully engage departments during a CIM program review, the process for the reviews, and the questions that would be asked. The goals for the visits are to learn more about a department's CI-M program and subjects, learn what a department considers important about communication for its majors, hear about challenges presented by the communication intensive subjects, and learn more about innovative pedagogy and good practices in communication instruction to be shared across the Institute. Representatives from SOCR had a successful first pilot visit with Course 3 on April 11. SOCR will continue the pilot next year

Harold E. Edgerton Faculty Achievement Award Selection Committee

Thomas Kochan, chair

Tami Kaplan, staff

The Harold E. Edgerton Faculty Achievement Award Selection Committee chose Amos Winter, assistant professor in the Department of Mechanical Engineering, as the recipient of the 2016–2017 Harold E. Edgerton Faculty Achievement Award.

Professor Winter received a bachelor of science in mechanical engineering from Tufts University and master of science and PhD degrees in mechanical engineering from MIT. He did postdoctoral research at the Singapore University of Technology and Design–MIT International Design Center and the Indian Institute of Technology Delhi, returning to MIT’s Department of Mechanical Engineering in July 2012 as assistant professor and director of the Global Engineering and Research Lab. Professor Winter is also co-founder and chief scientific advisor for the local MIT spin-off company, Global Research Innovation and Technology. As nominated by a senior faculty colleague, “Amos is an incredible young talent, an outstanding colleague and mentor who is inspiring our students and leading the global impact and reach of MIT’s efforts in affordable human-centric design and engineering.”

Professor Winter is a leader in global engineering, an emerging subdiscipline that seeks creative solutions to persistent challenges in the developing world. His research focuses on understanding the unique technical and socioeconomic constraints that underlie global issues, then adopting these constraints to motivate a research program that incorporates ideas from fundamental mechanics to novel machine design. Professor Winter uses the insights gained from this research to create high-performance, low-cost innovations that serve as product platforms appropriate for communities across the global economic spectrum. The technologies he has designed and implemented include the Leveraged Freedom Chair, a faster, more efficient, and low-cost wheelchair; prosthetic limbs; drip irrigation nozzles; and small-scale desalination plants. He has also commercialized emerging market solutions in the United States, and in doing so, has developed basic principles for this “reverse innovation” process.

Professor Winter co-authored an article with Dartmouth Business School professor Vijay Govindarajan in *Harvard Business Review* outlining these principles; the article was awarded the McKinsey Award in 2016 for the best article in *Harvard Business Review* during the previous year. In 2013, *MIT Technology Review* named him as one of the world’s top 35 innovators under the age of 35, and in 2012, he was a winner of the Rockefeller Foundation \$100,000 Innovation Challenge, as well as a winner of the \$100,000 Diamond Prize in the MassChallenge Startup Competition. Professor Winter is a founding member of the Engineering for Global Development Committee of the American Society of Mechanical Engineering, and he also helped create the organization’s new publication *DEMAND-ASME Global Development Review*.

Professor Winter’s students commend him for his enthusiasm and support, and his outstanding mentorship has led to notable successes. A team led by Professor Winter and one of his graduate students was awarded the USAID Desal Prize in 2015 for their

work on affordable and sustainable photovoltaic desalination. Another graduate student in his laboratory was awarded the 2016 \$30,000 Lemelson-MIT Student Inventor Award.

Continuing the legacy of Professor Harold E. Edgerton, this award honors achievement in research, teaching, and service by a non-tenured member of the faculty. The Selection Committee recognizes Professor Amos Winter for his creativity in designing critical but affordable products within the constraints found in emerging markets, and for his approachable style and advocacy on behalf of his students, as well as the infectious energy he imparts to them.

James R. Killian Jr. Faculty Achievement Award Selection Committee

Joseph Paradiso, chair

Tami Kaplan, staff

The James R. Killian Jr. Faculty Achievement Award Selection Committee selected Richard R. Schrock, F. G. Keyes Professor of Chemistry, as the recipient of the James R. Killian Jr. Faculty Achievement Award.

MIT has had the privilege of having Professor Schrock, an internationally renowned chemist, as a faculty member in the Department of Chemistry since he came to the Institute in 1975 as an assistant professor. He became a full professor in 1980 and was honored with the Frederick G. Keyes Professorship in 1989. Professor Schrock has to date mentored over 185 graduate students and postdocs—a testament to his superb skills in working with students—and he is approaching the publication of his 600th paper.

Professor Schrock's pioneering research efforts in inorganic and organometallic chemistry have defined the direction of the field and led to his receiving the 2005 Nobel Prize in Chemistry. Professor Schrock was recognized with this distinguished award for his instrumental role in the development and understanding of olefin metathesis, an important chemical reaction used in the synthesis of organic compounds. Olefin metathesis is applied regularly in the chemical industry to efficiently—and in a more environmentally sound way—produce pharmaceuticals, fuels, plastics, and many other substances.

Another major scientific contribution came in 2003, when Professor Schrock achieved the catalytic reduction of dinitrogen to ammonia under mild conditions for the first time. The development of such processes has the potential to improve the capability for successful small-farm agriculture in the developing world by creating a method to make fertilizer from molecular nitrogen in the air. In a series of beautiful experiments, he elucidated the individual steps in the catalytic cycle, which occur at a molybdenum center.

For over 35 years, Professor Schrock maintained a research group of 12 to 15 students and postdocs. He currently mentors a group of six postdocs and remains active in both research and teaching, including continuing to serve as one of the lecturers in freshman chemistry. He began this challenging teaching assignment in the early 1990s and returned to it after winning the Nobel Prize—exactly what we expect of outstanding MIT faculty who aim to inspire undergraduates to great achievements. It is said that Professor Schrock's relaxed demeanor and his instinctive understanding of the science make his lectures a joy to attend.

In addition to the Nobel Prize, Professor Schrock's achievements have been recognized with numerous awards. He has received the first American Chemical Society Award in Organometallic Chemistry, the American Chemical Society Award in Inorganic Chemistry, the August Wilhelm von Hofmann Medal from the German Chemical Society—to name but a few. In 2014, he was honored by the Swiss Chemical Society with the Paracelsus Prize, awarded biennially to an internationally outstanding scientist for lifetime achievements in chemical research. Professor Schrock is a member of both the American Academy of Arts and Sciences and the National Academy of Sciences, and he is also a foreign member of the Royal Society of London. In addition, he has served on numerous scientific advisory boards as well as the Harvard Board of Overseers. These are but a small sample of his many accomplishments.

We are delighted to have this opportunity to honor Professor Richard Schrock for these extraordinary contributions. A committee member commented that the Killian Award is more difficult to get than a Nobel Prize. Professor Schrock is a recipient more than worthy of both of these prestigious awards.

Krishna Rajagopal
Chair of the Faculty
Professor of Physics

Tami Kaplan
Faculty Governance Administrator