

The MIT Faculty Newsletter

Vol. XIV No. 1

September 2001

An Interview with Chancellor Phillip L. Clay

The following interview between the Faculty Newsletter (FNL) and Chancellor Phil Clay (PC) took place on August 10th of this year.

FNL: Why do you think MIT needs a chancellor?

PC: I think the strongest argument for a chancellor, beyond the large number of tasks needing attention, is the culture of one faculty and one mission. We do not have schools as freestanding separate entities unconcerned with what is happening in the rest of the Institute. We have a culture of one faculty. We take responsibility for the education of all students and ensure that our resource allocation reflects this commitment. We also have a culture that seeks to integrate the line between research and education. Increasingly, we integrate disciplinary lines to pursue important research challenges. Our education must complement this research. The chancellor assists the president in guaranteeing that the advancement of our educational mission and the opportunities for partnerships support our complete mission. The chancellor also leads initiatives to advance community and to enhance the commons.

FNL: And how do you see your role as different from your predecessor, Larry Bacow?

PC: There are some aspects of the position that are exactly the same as Larry's responsibilities. These involve overseeing graduate and undergraduate education including the implementation of the recommendations of the Task Force on Student Life and Learning and

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Is it Secret if it's on the Web?: Ted Postol and the DoD

Geoffrey Forden

On the evening of June 23rd, 1997, the Pentagon launched an interceptor missile from a Pacific Atoll at a group of incoming balloons, decoys, and a mock warhead. While the interceptor flew past those objects, it has collided head on with academic freedom, national security, and the first Amendment. At the center of this collision is Professor Theodore Postol, who is using a report written largely at Lincoln Laboratory to show that the 1997 test flight data casts significant doubt on whether or not the proposed national missile defense system will ever work. The cast of characters includes whistleblowers, declassified reports, Russian Websites, special agents, and lawyers who represent the MIT administration but not faculty members.

The primary goal of that first test flight was to gather data on the appearance of the various incoming objects. That data were then used to test a variety of guidance and control algorithms that future interceptors might use to discriminate the real warhead from decoys and home in on it. However, some scientists involved in those computer tests did not feel that they were going very well. When the interceptor's manufacturer told the Government it had succeeded in distinguishing real from fake warheads, TRW

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From The Faculty Chair

A Slippery Slope

Stephen C. Graves

As the faculty chair, I have the privilege to write a short column for each edition of the *Faculty Newsletter*. I have no specific agenda nor plans for how to use this opportunity, but do hope that I can use the space to provide something of interest and relevance to you, the faculty. As has been the past practice, I expect to address topical issues, to engage you in their consideration, and to seek your input and advice. I also hope we can have some columns devoted to recognizing outstanding deeds and services, celebrating accomplishments and successes, and helping to build community. Finally, as my term closes, I might have the nerve to provide some reflections and observations on our Institute, its people and its workings. Nevertheless, I am always open for suggestions – please let me know what you'd like to hear about; indeed, if you are so inclined, please write something for the *Newsletter*.

For this first issue, I'd like to talk about a quite unpleasant, and often tragic, issue: plagiarism. I served on the Committee on Discipline (COD) for the last five years; over this period we saw an increasing number of plagiarism cases, to the point where they are now a majority of the cases brought to the committee. Other universities are reporting similar trends. And everyone fears that what we see within our disciplinary systems is only the tip of the iceberg.

What is Happening?

Before getting too far, the number of cases seen within our disciplinary system is, thankfully, very small. The vast majority of our students understands and lives up to our academic norms. So I don't want to be over-alarmist, and I

don't mean to castigate our outstanding student body. Yet at the same time, I do want to bring attention to an increasing problem, and to note that we might be on a slippery slope. We are seeing more cases across a spectrum, ranging from the most blatant to more subtle instances of plagiarism.

At one extreme, a student might copy word for word from another published source, such as a textbook, with no citation or reference. The student might plagiarize an entire report, or just one or two sections. The student might change a few words and/or edit a few sentences so as to align or tune the plagiarized material with the rest of the report. Nevertheless, there is a clear and blatant intent to deceive by stealing the words of others and presenting them as one's own. At the other extreme, a student might take material from a cited reference, but then massage it so as to attempt to paraphrase the original source material. Yet the sentence structure remains the same, and many of the words are the same or are replaced by a common synonym. Often a student might compile a series of inserts of this form. For instance, for a literature review, a student might cover several references and then take a descriptive snippet from each. This also occurs in sections that review existing theory or knowledge, where a student borrows directly from a textbook. In these instances, many students don't seem to appreciate that they are stealing someone else's work.

The sources from which students plagiarize have grown, most notably with the Internet. Students borrow not just from textbooks but also from prior reports and from the Web. Many living groups maintain "bibles" in which a student might have access to a decade

worth of term papers and lab reports; in addition students can buy reports from Web-based services. And with the ease of cut-and-paste, students can take material off the Web and incorporate it directly into their documents.

Why is this Happening?

I think there are three main reasons why we are seeing more plagiarism at MIT.

First is *time pressure*. At the COD, we see students who seemingly are under tremendous pressure, with too much to do and too little time to do it. Taking someone else's work is a convenient short cut. With our technology and access to the Web, it's increasingly easy to do. And the students, especially when they are under pressure, make a judgment that they can get away with it. Indeed, I suspect a number of students do get away with it.

Second is a *lack of understanding* of what plagiarism is. Some students will contend that plagiarism occurs only when one copies word for word from another source. Another student will insist that there cannot be plagiarism if he or she has made a reference to the source; accordingly, a single citation would permit them to use someone else's words as if their own. We have also heard arguments that borrowing common knowledge, as might appear in a textbook, is not plagiarism, even if it is taken word for word. And some students view material on the Web as universally free to use, even if it is clearly copyrighted.

The third reason is a *lack of appreciation* of the severity of plagiarism within the academic community. Our scholarship rests on a core value of intellectual honesty. To plagiarize is "to

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steal and pass off as one's own (the ideas or words of another)." [*Webster's Seventh New Collegiate Dictionary*, Merriam Company, Springfield MA, 1963.] Any plagiarism is an act of dishonesty and theft, and weakens our institution. Yet we find students who don't appreciate how important this value is to us, and who regard plagiarism as just a "poor choice" on their parts. They regard it as a victimless crime, in which no one is really hurt: it was just an expedient way to accomplish a task, e. g., the completion of a report or an assignment. And it's easy to fix if only they had more time.

What should we be doing?

There is no simple solution. As a faculty we have a responsibility to monitor, understand and then address the increasing prevalence of plagiarism. Indeed, I think we are at a point where we need to act so as to curb the trend. There is too much at stake. I propose three types of actions.

First, we need to *raise awareness* across the faculty of the growing amount

of plagiarism, and the threat this poses to our core values. The faculty needs to discuss this within their teaching groups, their labs, and their departments. The faculty needs to understand how plagiarism arises and how much is occurring; we should be sharing our ideas and experiences at addressing the problem. The faculty needs to develop a common voice with which to speak about the problem and educate the community.

Second, we need to *communicate our values and expectations* to the students in as clear and strong terms as possible. We need to tell them what plagiarism is; we can no longer assume that they understand this from high school. And we need to explain to them why it is so important to us, a community of scholars. At the start of the semester, it is our responsibility to outline the requirements and criteria for our subjects, as well as our expectations for student conduct. We should take this opportunity to impress upon the students the importance of academic honesty and one's own

work, and how you distinguish your work from that of another. We also need to inform them of the consequences of any violations of our academic norms.

Third, we need to *remain vigilant*. The problem will not go away overnight. And students must know that there are consequences to their bad decisions. But uncovering an instance of plagiarism is often happenstance; and even then, it requires a lot of work to document. There are Web-based search tools that can help in some instances. But, more importantly, we need to watch for occurrences, at least as long as the trend continues, and as educators, we need to exploit any opportunities we have to teach our students about the problems of plagiarism.

I know this is not a very cheerful topic with which to start the term, but I do think it's time we put the issue on the table. I'd be interested in your thoughts and feedback on this topic.♣

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Teaching this fall? You should know ...

the faculty regulates examinations and assignments for all subjects.

Check the Web at <<http://web.mit.edu/faculty/termregs>> for more information on:

- Privacy and student information
- Academic honesty
- Prerequisite subjects for undergraduates
- Grading
- Class times
- The first and third weeks of the term
- Tests and academic exercises outside scheduled class times
- End-of-term assignments
- Final exams and end-of-term tests

Questions? Contact Faculty Chair Stephen Graves at x3-6602 or exam-termregs@mit.edu

Is it Secret if it's on the Web?: Ted Postol and the DoD

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scientist Nira Schwartz blew the whistle, claiming that such statements were fraudulent and that the data showed the exact opposite. This was not to be the only time serious allegations were made against the interceptor's manufacturer. For instance, nearly a year later a competing interceptor design was chosen – well ahead of schedule – amid allegations that TRW's design team had improperly obtained information from its competitor.

In response to Schwartz's claims of fraud, the Defense Criminal Investigative Service (DCIS) launched an inquiry and the Defense Department asked an independent team of scientists to review the data and the various claims. That group, known as the POET, for Phase One Engineering Team, consisted of scientists and engineers from around the country, including MIT's Lincoln Laboratory. Its report, classified as SECRET, supported TRW's claim that the interceptor could discriminate between real warheads and decoys; essentially refuting all of Dr. Schwartz's claims. The DCIS internal investigation, however, had become convinced that there was substantial truth to the allegations and continued its investigation. As a convenience for communicating with Dr. Schwartz, the investigators redacted various portions of the POET study and sent her an unclassified version so that they could continue discussions. It is this redacted report that forms the basis of the present controversy.

Charges that the national missile defense system was fatally flawed were widely reported in the media. Theodore Postol, professor of Science, Technology, and National Security Policy at MIT, saw the accounts and organized a daylong workshop at MIT's Security Studies Program to try to

understand the issues. During this workshop, Schwartz presented her claims and evidence to about 20 scientists and engineers from MIT and elsewhere. Her presentation included a discussion of the declassified POET report, which she left with Postol.

There was still a significant amount of information in the report, even after it had been redacted. So much information that some maintain that Postol should

data," and what are the responsibilities of an academic researcher, are important to anyone who applies scientific analysis to policy questions.

In the case of the POET report, Postol believed he had found significant evidence that the independent review had been less than thorough and that, in fact, the data showed fundamental physical problems in discriminating between decoys and real warheads. In

In the case of the POET report, Postol believed he had found significant evidence that the independent review had been less than thorough and that, in fact, the data showed fundamental physical problems in discriminating between decoys and real warheads. In the spring of 2000, he wrote a letter to then White House Chief of Staff John Podesta, spelling out his findings.

have realized it had been declassified by mistake. For instance, the relative brightness of the various incoming objects is shown as a function of time, including the time axis units, while the so-called power density – a mathematically transformed plot of the same data – had its axis removed since that was considered sensitive. Obviously, knowing the brightness data would allow a scientist to reconstruct the power density.

On the other hand, such inconsistencies in declassification are fairly common. An example, which is not involved in the Postol case, is the chemically powered Space-based Laser (SBL). The SBL's design power is considered secret yet the Defense Department openly publishes design rates of chemical consumption from which its power can be derived. These questions of what constitutes "inadvertently declassified

the spring of 2000, he wrote a letter to then White House Chief of Staff John Podesta, spelling out his findings. Postol concluded that TRW had selected specific time intervals of data that favored discrimination, discarded objects from the data set because they were too difficult to identify, and changed data and procedures to force the system to choose the correct object as the incoming warhead. Postol also wrote that the Defense Department changed later tests of the system by dropping decoys that would be too hard to correctly identify as decoys.

Within a week of writing that letter, Postol learned, unofficially, that the Defense Department had classified his entire letter as secret. The only official acknowledgement Postol received was six weeks later when three agents of the Defense Security Service visited MIT

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with a classified letter for Postol. From Postol's point of view, this letter represented a dilemma. So far, he had never received any classified briefings or, knowingly, other sensitive information on missile defense. All his research was based on applying his knowledge of physics and engineering to publicly available information. If he read the letter it might preclude him from speaking out on an important aspect of public policy that he believed had serious flaws and even misconduct. It would certainly prevent him from claiming that he had never read a classified document regarding the national missile defense. On the other hand, the Defense Department was presumably trying to inform him that the POET report had been improperly declassified.

Of course, by this time the redacted version of the POET report had been distributed around the world. The report and Postol's analysis were widely available on the Internet. On a practical level, there was nothing the Government could do to prevent people from reading them. Silencing Postol would not have any effect on foreign access to this information (a Russian Website was one of the places it was available) but it would stifle the US debate on the wisdom of this system. Postol decided not to read the letter and to continue discussing the flaws in the national missile defense system as he saw them. And because of the futility of the Defense Department in trying to stop dissemination of the report, Postol believed that the visit of the three agents had been to intimidate or trap him into not discussing his conclusions.

Representative Edward Markey, Democrat of the Massachusetts 7th congressional district, was concerned enough to ask the Government Accounting Office (GAO) to investigate

Postol's claims of intimidation. That investigation determined that the Defense Department agents who visited Postol were acting according to Department regulations regarding "derivative classified information," since they considered the POET report to have been improperly declassified. However, the GAO investigation did not evaluate the relevance of that standard when the report was widely available.

arms exporter and apply for a license. While not formally classifying information routinely taught in classes, the Government is creating new definitions of sensitive information.

Both these cases raise a number of vexing problems for the academic community. What obligations does a university have to enforce Government regulations that limit free inquiry? What exactly constitutes inadvertently

These issues extend far beyond the Postol case. The Government is, for instance, tightening export controls on satellite technology. Recently, Stanford University had to drop plans to launch a student-made satellite on a Russian launch vehicle. . . .

Most recently, the Defense Department wrote the MIT administration requesting, among other things, that MIT retrieve the POET report from Postol. Initially, President Vest indicated that MIT might have to take some initial steps to comply with the request since he felt bound by the contract establishing Lincoln Laboratory. However, in a meeting later with faculty and senior researchers at MIT's Security Studies Program, President Vest reaffirmed that MIT would never remove such research items from a member of the faculty. Still, many present disagreed with Vest's tactics and felt MIT should have taken a stronger initial position defending a faculty member's right to do research.

These issues extend far beyond the Postol case. The Government is, for instance, tightening export controls on satellite technology. Recently, Stanford University had to drop plans to launch a student-made satellite on a Russian launch vehicle; the Government was insisting that the school register as an

declassified information? Does the extent of a document's dissemination matter? How much does it matter that a document helps uncover fraud or other misdeeds?

All scientific research is enhanced by open and free debate. Such scrutiny not only finds innocent flaws in analyses but also detects and even deters scientific fraud. Of course, there are important and understandable reasons why some military research needs to forego the benefits of such scrutiny. You can judge for yourself the validity of Postol's analysis by studying the original POET report (it is available on the Web at http://www.fas.org/spp/starwars/program/news00/postol_051100.html) together with Postol's letters to the White House. However, if you do download this information, the Defense Department can ask the MIT administration to remove it from your computer.♣

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various other reports that deal with aspects of campus life, and the development of community – dining, athletics, etc. These are exactly the same as Larry’s responsibilities. Many of the projects to support these initiatives are in construction. If there is a difference, my role will be to support the programming that will make these capital projects and other initiatives achieve the goals for which they were developed. There are additional areas where we have to look at long-range planning. One of these is student mental health. We are taking a closer look at how we support student development including students who are at-risk and who need considerable support while at MIT. The issues that most students need help with are serious but not critical. They could be the normal issues expected from late adolescents going through a major transition. The issues include their way of dealing with stress, time management, relationships with other students, etc. Another part of the job is overseeing the crosscutting aspects of education and research. We have set a number of partnerships and initiatives involving dozens of faculty (e.g., Singapore, AGS, CMI, and others) that greatly expand our traditional teaching and research enterprise. They are not limited to just departments or schools but increasingly encompass a large part of our external profile.

FNL: Larry took a lead role in the area of campus construction, and he was quite visible. Do you see your role similarly?

PC: I think that is an area that will be different. All those differences have not been worked out, but I think it is fair to say that when Larry and Bob [Brown, Provost] and John [Curry, Executive Vice President] came into their positions a few years ago, we had a lot of things to sort out and get started. There was enough work in that for all three of them to play very substantial roles. Also, Larry’s background in real estate provided him an opportunity for special leadership in this area. Many of the projects that were critical then are now in the construction stage and under construction management. John will take the lead to complete these. My responsibility, and the responsibility of the student deans, is to work on the programming to ensure that when the freshmen arrive on campus next fall there is not only well-designed new housing, but there are a residential program and a residential orientation in place – an approach to the programming that is world-class and matches our world-class academic offering. We have a similar commitment to provide support for graduate student life. So, to that extent, I will focus more on programs than physical construction.

FNL: The chancellorship, at this Institute at least, seems to frequently be a stepping stone to the presidency of, by and large, some other institute. Any thoughts?

PC: Well, I think the record shows that there are many positions at MIT that have been stepping-stones to other things. We have had a number of deans, as well as some department heads, who became presidents. My own expectation is that this job is temporary and that I will return to teaching some time in the future. What I am giving up now is considerable: most of my engagement as a faculty member with students, though not all of it, and my direct involvement in research projects.

FNL: Do you have time to do research?

PC: I am playing the role of advisor or limited partner on some projects. I will not give that up, because there is that phrase, “He’s gone to administration,” which is a way of saying that as an academic, “He’s dead.” I am adamantly against that happening. So there will be some students every year who will be able to say, “He was my adviser. I took his seminar.” That will continue to happen.

FNL: I believe our industrial partnerships and relationships with foreign educational institutes, such as the MIT/Singapore Program, fall under your bailiwick.

PC: That is right. And keep in mind when the outside partners enter these agreements they are engaging with MIT, but they do not necessarily understand or respect the disciplinary boundaries. They are bringing a problem to us and believe we can help. We have to organize ourselves temporarily into projects, initiatives, partnerships, etc., to be responsive to that opportunity, even as we keep our educational enterprises in place. Our extensibility in this way is an asset. And that is bigger than a department. It is bigger than a school.

FNL: Specifically, how do you see your role in this area?

PC: It is important to ensure that these initiatives do not degrade or distort our core mission, rather that they enhance the Institute. We always should emerge from each of these major engagements better at some of the core functions of MIT. We now have several years’ experience with these initiatives and need to begin to reflect on them and assess their impact on us.

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FNL: And what about the MIT-industry consortiums? There's certainly concern on campus that we may be sacrificing fundamental research for industry partnerships that require more immediate output.

PC: I think the output varies, which is appropriate. Some projects do support or recognize more basic research. Others are more applied. The variety is good, and the faculty do have choices. The variety is good for educational purposes as well.

FNL: Are there any new initiatives with other countries or universities specifically on tap?

PC: I am sure there are individual departmental initiatives, but nothing imminent or Institute-wise to announce at this time. Let me outline some of the reasons for these efforts. First, faculty have an opportunity for exposure to colleagues, to engage in research, and to develop courses and educational activities with colleagues in other parts of the world. That is good for faculty, and it creates goodwill for MIT. It stimulates interest on the part of guest students from around the world for our graduate programs. The activities benefit our students. New courses are developed. It enhances our infrastructure. Our students get some interaction with students from other settings. These initiatives also bring enhancements to MIT, such as endowed chairs or a new laboratory or other space enhancements. We also gain the satisfaction that we have participated with a country or with a university in building educational infrastructure which will advance those economies and those countries, and expand educational opportunity to young people who might come to MIT. Our partners obviously benefit too. The partners get an engagement with MIT that helps them move more rapidly toward achieving their goals. Our educational partners use some of our features – organization, teaching, research mode, entrepreneurship – as models. In some cases we do not discourage this while in others, we emphasize that partners must develop their own models, and we can help them. What *we* do though may not necessarily be exactly the way *they* ought to do it. As long as we can identify good partners and interested faculty, whether it is industry or other countries or universities, where we can ensure that there is some combination where those benefits accrue, then I think these initiatives will be a good idea. I see them getting better and stronger. This will bring value for us. I understand that not all faculty members will recognize the benefits of a particular initiative, but I believe that is a communication problem. We have to do a better job of sharing

information about these initiatives, both for the purpose of collegiality and for guaranteeing that the lessons learned in one part of the Institute are available to other parts of the Institute. We may also need to find new models that work in the humanities and social sciences, for example.

FNL: The new Vice President for Research, Alice Gast, reports to you, doesn't she?

PC: Besides being colleagues on Academic Council, we have collective views on graduate students.

FNL: Do you think graduate students have been somewhat short-changed to this point?

PC: I believe the expectations of graduate students as well as the demographics of graduate enrollment at MIT are changing. For example, we now have a large number of traditional Master's students. We also have many more graduate students who are simply changing their registration from fourth-year undergraduate to fifth-year Master's students. Their graduate life experiences are rooted partly in their departments, and another part of it will be derived from a graduate student community that we want to enhance and support. This is true for the large fraction that is foreign students and are new to the US and for fifth-year students who make different demands than Ph.D. students, for example.

FNL: Why do you think there are so many more Master's candidates than there used to be?

PC: The answer is that departments have expanded enrollment. The Sloan School has had a policy of increasing their enrollment. Several engineering departments have created new Master's programs. These developments add numbers. There are some new degree programs that cross traditional boundaries. Additionally, there has been little overall shrinkage in the number of graduate students in the Ph.D. programs. I do not think we view the number as a source of special concern, but we do want to understand how we should configure community building to incorporate graduate students. We also want to improve financial aid for graduate students and above all, we want to maintain excellence.

FNL: Still, one place where the sheer number of graduate students has an important impact is in the time commitment

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of faculty. This is a concern expressed by outgoing Faculty Chair Steve Lerman last spring in the *Newsletter*. The more students we have, the larger the time commitment necessary from faculty.

PC: Well, there are trade-offs. I think there are some departments that will rely more on post-doctoral fellows and reduce the number of graduate students. There are other departments that will take the opposite approach. I am less worried about the number than what the trends mean in local settings and for the quality of the graduate student experience. If we maintain quality programs, then I am not going to worry too much about the number.

FNL: And what about the models of graduate students and graduate student funding? For years, graduate students have been the engines of the Institute; the Institute seemingly could not function without these graduate researchers. Do you think that model is changing?

PC: I think for each department there is probably a different story. There are some sources of funding which have shrunk, others that have grown. Some students are well-funded while many students - in professional programs, the humanities and social sciences, etc. - are less well-funded. We have gotten a substantial increase in industry funding, which has helped to open new fields of study. And, I think on balance that we have weathered the shifts well, but the continuation of our excellence requires increases in endowed graduate support so that graduate education is not distorted by the vagaries of funding.

FNL: Now let's move on to the subject of faculty quality of life. What are your thoughts in this area?

PC: Before addressing faculty quality of life, let me set some context. Our interest in faculty quality aims both to support our faculty here in better managing their family and personal lives (e.g., day care, housing, etc.) and also to enhance the infrastructure that supports their work. This is important, if faculty are to do their jobs. Success in this area is also important, if we are to recruit the best faculty. We have to be strategic about MIT's capacity to compete for the very best faculty in all fields and to compete not only for the faculty in the usual sense, but also in ways that will increase and enhance the number of women and minority faculty. We acknowledge that more needs to be done to address such issues as faculty housing, day care, faculty leave, and support for teaching and

research. Progress in these areas is a high priority item both because of the needs of our colleagues and because the lesser burden on faculty will make it possible for them to do their work.

FNL: You've been involved for years with these issues.

PC: Yes. I have worked on the junior faculty leave issue, and I am currently working on day care. We are looking for creative ideas to enhance the quality of faculty life in a variety of ways. This is something that is very important to the provost and me. I have mentioned specific areas like day care and faculty leaves and enhancing the teaching and research infrastructures. I also want to emphasize collegiality. At the end of the day, marginal differences in compensation, more affordable housing, or newer labs will not be nearly as important to faculty as the satisfaction they get from working with each other, having the best students available, and having a responsive and flexible work environment. As the challenges diminish, our colleagues will know that MIT is a partner with them in managing these changes. That is our mission. The concern for quality of life not only extends to faculty, but also includes staff and students as well.

FNL: And now you're very close to using the word "community." And the word community around here has always been a difficult one to define.

PC: I think community is one of those ambiguous words. I am using it to express the shared commitment to pursue research and learning in a supportive setting. We are part of a cherished institution, which we have inherited, and we own the obligation to enhance and pass on its prestigious legacy. Its value will need to be enhanced and freshened to keep it both satisfying for us while we are here and attractive to those who come to join us as faculty, students, and staff. We benefit when this community fabric is very strong. We do not benefit when we do not model community, when the social fabric is strained, or when people find that they have to go someplace else to get what they ought to be able to get from their colleagues and peers. In discussing community, I am trying to emphasize that there are some concrete things we can do that will make it possible for colleagues to like being here, to want to stay here, to want to give back to and strengthen the community.

FNL: How would you solicit faculty input on all these issues?

(Continued on next page)

An Interview with Chancellor Phillip L. Clay

Continued from preceding page

PC: I think all the members of Academic Council are committed to being accessible in both usual and unusual ways, and we want to encourage faculty to take advantage of the various opportunities for input or to initiate discussions on campus issues. There will be times when we will ask for suggestions. To give you one example, we have just released the draft of the report of the Mental Health Task Force. The task force report will emphasize the fact that we have an obligation to help students manage the stresses and strains and the choices and opportunities. The faculty, in a variety of ways, have communicated some of their concerns and some of their ideas to me and to others. One way of thinking about the issue of community is to talk about it over the next several weeks and come up with some ideas on how we can create a caring and open community that furthers the growth of students both intellectually and spiritually, where they feel a sense of cohesiveness, kinship, and trust.

FNL: Still, won't there be some need for educating the faculty in how to deal with these issues?

PC: The answer is yes. We will have to figure out ways to help faculty play the advising and mentoring roles for graduates and undergraduates. We need to find concrete help. That is a high priority item in the fall.

FNL: What about the whole issue of parking on campus?

PC: The limitation on parking is a combination of environmental limitations and the cost of parking facilities, Cambridge's own view of itself, and many space limitations near the campus.

FNL: It used to be \$25 a year.

PC: Well, I remember when it was \$7 a year, and I don't believe that covered the cost of actually producing stickers and paying parking lot attendants. I think paid parking – and unfortunately it is probably going to cost more as time passes and as we enhance the services and security – is here to stay.

I also think that part of our goal is to encourage people who can access public transportation to use it.

FNL: If I were to sum up the most overriding concern of students as expressed in the pages of the *Newsletter*, I'd say it's questions of faculty-student relationships, mentoring, and the like.

PC: It is a critical issue. I appreciate that faculty themselves are sometimes overwhelmed because of the many demands we make on them. I appreciate that part of what we have to do is to address the issue of what we are asking of our colleagues. No one can do everything. The core responsibilities of every faculty are to teach, do research, and contribute to the commons. If faculty members live forty-five minutes to an hour away from campus, because they cannot afford to live closer, and we are asking them to spend evening time with students and then asking them to travel halfway around the world three or four times a year and leave their families, that may be too much, even if they don't have small children. If we are asking them to create new courses that are more communications-intensive and if we are asking them to advise fraternities, work with students on campus activities, advise on theses work with fellows, this is an enormous request. I think we have to help faculty and departments sort out how to help faculty manage this. Not everybody is good at all things. If we want to encourage a faculty member who is enthusiastic and accepting of opportunities to work with students, we might expect less of her or him in other areas. If faculty members need to spend significant time in other parts of the world, we need to understand that they may not have as much time to advise fraternities. If some faculty members are great at listening and advising students on a wide range of things, we ought to see that they get some credit for this and some relief from other burdens. I firmly believe that if we play on people's strengths, focus on priorities, we can avoid burning out our faculty. We can make multiple challenges and make them manageable and exciting.♣

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A Kinder, Gentler MIT?

John Hildebidle

One of the hidden advantages of teaching literature is that you acquire a whole series of handy quotations. One favorite of mine comes from Wallace Stevens: “One’s ignorance is one’s chief asset.” I find that consoling whenever I deal with an auto mechanic or somebody on the help desk at I/S.

But now I turn to my least favorite substantial American poet, Walt Whitman: “Do I contradict myself? Very well then, I contradict myself.” Which is by way of introducing some thoughts on how we portray ourselves and MIT to our students.

I once attended a dinner at the Faculty Club, which gathered Freshman Advisors, and which addressed the issue of what could be done to improve the freshman year. I was delighted to hear one of my distinguished senior colleagues (thankfully, a biologist, no sentimental Humanist) propose the abolition of problem sets. As I recall the rebuttal (and it was loud and fervent, after an interval of shocked silence had ended) amounted to the argument that life is hell and we owe it to our students to prepare them for that. Much the same argument was presented by an alumnus, in a very recent number of *Technology Review*.

Having been raised in a staunch Calvinist tradition, I often remark on the judgmental rigor of science and technology. I have more than once argued, in these very pages, that we subject our students to terrible, even unethical pressure, with baneful impact on their health and dubious positive results on their learning curve in the subjects we teach. We seem convinced that unless someone fails the course, it just isn’t demanding enough. Now,

however, I want to argue that we are nicer than we let on.

I am prompted to this conclusion by the instance of one of my freshman advisees. S/he [I want to try to retain as much confidentiality as I can, even at the price of verbal awkwardness] had achieved a fall term record that prompted the considerations of the CAP, and a “warning” was duly issued (justly so, in my opinion; even the student admitted that s/he had simply not taken things seriously enough or logged the necessary hours battling with homework). During the spring term, I had little contact with him/her, except the occasional e-mail which, unsettlingly, announced a major involvement in more than one major undergraduate theatrical enterprise, and I was not surprised to receive a wealth of “Fifth Week Flags.” Sure enough, the results at the end of the term were just about identical to those in December. I talked with the student, with his/her mother, with a number of people in the ARC whose opinion and experience I have come to respect, and I could not help feeling that the student was facing an interruption in his/her MIT career.

Which, truth to tell, seemed a healthy thing. There was a level at which s/he simply did not want to face up to the demands of an MIT education. I seriously, if unsuccessfully, proposed to him/her that s/he plan some time off, no matter what the CAP did.

I entered the CAP chamber (all right, it was only the Bush Room) with considerable nervousness. I was asked for my recommendation, and I gave it. The Committee then deliberated – and continued the student’s probationary status.

The chair assured me that the Committee had required some half a dozen or so students to withdraw, that very morning. But in this case their judgment showed patience, charity, and a distinct willingness to “take a chance” on a very bright young person. All of which simply astonished me. Where was the firm, rigorous hand of Judgment?

All I am arguing, in a roundabout way, is that we communicate to students the sense that we are indifferent to their lives and psyches, committed to “Education by Ordeal,” and not in the least willing to “cut some slack.” A slightly digressive instance is grading on the curve. Ask the next group of students you encounter whether MIT courses are customarily curved. I guarantee they will say “yes.” I certainly believed that was the case, until Tom Greytak and Steve Lerman pointed out that grade curves are against the Rules of the Faculty. Ask students to cite one instance in their own experience, when a course was *not* curved, and they will give you a blank look.

Somehow we have spread abroad the misconception that we intend to “sort” them academically by more or less setting them at each others’ throats. A small but telling instance of the phenomenon I’m addressing: it’s not so much what we do (although surely that could take much tending and mending) as the way we do it, not so much the explicit as the implicit messages we communicate.

We are – shocking though it may be – kinder and gentler than we’d like to admit, it seems.✦

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New Kids on the Block: Observations on the Newest Generation of MIT Students

Marilee Jones

One of the great pleasures of working in Admissions is that I'm afforded a bird's eye view of American teenage culture. While the freshman application has changed little over time and 17-year-olds are always the same in some fundamental ways, the attitudes, values, and activities of our applicants do change quite dramatically each decade or so, heralding the arrival of a new generation. This shift has occurred again and the leading edge of this newest generation now fills all four undergraduate classes at MIT. These students are as different from us as we were from our parents' generation. Their characteristics bode well for society as a whole, but not necessarily for MIT as it is today. Their presence will provoke a reevaluation of our purpose and mission and they will challenge all of us adults to lead them in ways we are not expecting. They will change MIT as surely as MIT will change them. And I'm not sure we're ready for them.

The Generations

First, by way of background, let's consider the different generations represented at MIT today. A quick comparison of generational characteristics captures the obvious differences among them. I refer here to **Rocking the Ages: The Yankelovich Report on Generational Marketing**, Walker Smith and Anne Chirman, '97, which describes four twentieth-century generations: Matures, Baby Boomers, Generation X and Millennials. (N.B.: These generalizations are meant to capture the overall characteristics of the given population, not necessarily all individuals within it.)

The first group, labeled *Matures*, includes the World War II generation as well as the following Silent Generation.

Matures, made up of 61.8 million members born between 1909 and 1945, were affected most by the key markers of the Great Depression, the New Deal, World War II, the GI Bill. As a result, the key characteristics of this group are team work, commitment, sacrifice, discipline, financial and social conservatism. (They are also known to the following generation as "The Establishment.") Most of the senior administration at MIT is made up of Matures.

Baby Boomers, born between 1946 and 1964, are the largest single generation in US history at 77 million members. They were affected by Vietnam, TV, Woodstock, Watergate, and, of course, sex, drugs, and rock and roll. Boomers are characterized by idealism, individualism, self-improvement, high expectations and an intense self-centeredness. Most current faculty members are Boomers, as well as a little over half of all student services administrators, including the Dean of Admissions.

Generation X, born between 1965 and 1978, is the smallest population of the four at 52.4 million members. They were at the epicenter of the cultural meltdown brought about by the Baby Boomers in their effort to separate from the Matures. As a result, members of this cohort are characterized by pragmatism, diversity, entrepreneurial spirit, desire for a high quality of life, savvy. They were most affected by AIDS, MTV, PCs, divorce, the Internet. This resourceful and resilient generation created the dot com phenomenon. Nearly half of student services administrators are Gen Xers.

Millennials, the newest generation, are the subject of this article. Born after 1979, they will nearly eclipse the Baby Boomers in size at just under 77 million

members (and growing). The Yankelovich Report describes their markers as OJ, Monica Lewinsky and multi-culturalism. I would add the Columbine shootings to that list. Key characteristics of this group are neotraditionalism, ritual, optimism, technological adeptness, volunteerism, busyness.

We can see the presence and the impact of these different generations at MIT over time in Table #1. As you know, all varsity teams and activities at MIT have been started by students. The 60% increase in varsity team offerings between 1970 and 1990 was the direct result of Title 9 which mandated gender equity in athletic offerings in public schools. The doubling of MIT clubs between 1980 and 1990 came about as a result of Gen X students who, used to finding community through common interests, created a plethora of ECAs (extra curricular activities), quite a different model of community building from their Boomer predecessors who connected through larger social movements. The doubling again of clubs and activities between 1990 and 2000 indicates the recent presence of the Millennials. Though there is no way to actually know, I would posit that the number of ECAs carried per MIT student now is higher than in years past. Millennials, as we shall see, are extremely busy people.

While I agree with the Yankelovich summary of Millennials, I'd like to share my own observations of this new generation as seen through the MIT application process, through the changing trends in the essays, activities, letters of recommendations, interview reports. I preface this with the clear

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New Kids on the Block: Observations on MIT Students

Jones, from preceding page

Table 1

Varsity Teams and Clubs

<u>Entrance Year</u>	<u>Varsity Teams</u>	<u>Clubs/ Activities</u>
'60	21	60
'70	23	71
'80	31	80
'90	37	150
'00	41	356

understanding that I am discussing MIT applicants from the US (a specialized group to be sure). I am also generalizing like crazy, since we are now seeing just the leading edge of this amazing group, the peak number of which has just entered middle school.

- **They are idealistically pragmatic.** Combining the idealism of their Boomer parents and the pragmatism of the Gen Xers, these students really want to make the world a better place and, most importantly, they have a plan.

- **They are group centered.** As the population with the highest percentage of members in day care from an early age, they have learned good group skills, how to lead and follow as circumstances demand. They spend more time in groups and group activities than their predecessors.

- **They have no problem with authority.** These students have been raised in relative affluence in peacetime by Boomer parents. Most of their free time is spent in adult-supervised activities. They have little urge to push back against adults. In fact, they actually like adults. This is shocking to both Boomers and Gen Xers who still regard authority figures with suspicion, but Matures find a certain resonance with them.

- **They are attracted to large social movements,** very much like their Boomer parents, but look for ways to make their contributions on a local level, more like the Gen Xers. They are expected (even required) to volunteer in their communities, working side by side with adults who teach them competence and effectiveness. Consequently, they know how to work the system and they always have a Plan B. Many of our students have already made significant contributions to their communities while still in high school.

- **They are not as likely to study subjects for the pure pleasure of it,** not as likely to focus on one thing, because they are the busiest students in US history. The majority of my audiences this age seem to carry upwards from eight ECAs in high school, in addition to a stiff course load. (I wonder when these teens actually sleep.) They have essentially been trained to be generalists. Consider the tension created when MIT Mature, Boomer and Gen X faculty, who are living their passion, teach Millennials, who want to learn the material just well enough to get a good grade so they can move on to the other 17 activities they have to master that day. This has the makings of a classic generation gap.

- **They desire instant gratification.** A member of the Financial Services staff remarked recently that these kids “have never heard a busy signal.” They are used to surfing the Web and they prefer Instant Messaging to the phone for the sake of efficiency. (Why have a conversation with just one friend when you can speak with 8 simultaneously?) With Boomer parents who demand top service and strive to meet their childrens’ every need, these kids expect what they want when they want it from all of the adults in their lives.

- **They may not see or accept the consequences of their behavior.** Adults are always saving these kids. I see that top high school students who fail exams or miss deadlines due to outside commitments are regularly protected by their teachers and school personnel. Excuses are made, adults blame themselves rather than allow the student to accept the painful consequences that previous generations knew all too well. Parents do most of the negotiating with admissions offices now, regularly weighing in on every piece of the process on behalf of their busy children, taking on an almost eerie quality of parent-as-applicant. No surprise that students cheat more often, drop activities if they can’t win, cut corners. Their time is all carved up, given away to multiple and competing demands that please adults while the adults in their lives race to protect them from failure.

Is MIT a good match for this generation?

In many ways, we are a good match for them. These kids are hard workers, carrying up to a third more courses in high school than we did at their age, so the MIT workload isn’t as big an issue to them. They can balance competing demands. MIT is the firehose. They are diverse and require diversity. You can’t find a more diverse private university in the US than MIT. They can lead or follow as required, and there are plenty of opportunities to do both here. They desire relevant work. We’re all about relevance, eschewing ivory tower. They are intensely busy. Busy is our middle name.

But in many more ways I worry about the match. First, while these Millennials are busy, they are “diverse” busy, spreading their energies over many

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**New Kids on the Block:
Observations on MIT Students**

Jones, from preceding page

activities, not the “focused” busy of the classic Techie, who eats, sleeps, and dreams their passion. They desire structure when we are all about choice. They don’t consider “choice” to be a value as the Boomers and Gen Xers do. These kids were raised on the World Wide Web and 90 channels of cable. They do not need 30+ choices of living groups – they are busy...they just want a room. You can see the evidence for this attitude in Table #2, the chart listing the top reasons why admitted MIT applicants chose to enroll elsewhere. Last year, for the first time, housing and the quality of the campus, was the #3 reason why the students we worked so hard to admit went to other schools. This year, the quality of student life, which includes housing and campus issues, was #2 on that list. This generation is voting with its feet. The current housing system with its myriad choices and arcane rules, an artefact of the Boomer era, is no longer relevant to the students of today. MIT housing is changing just in time.

Most disturbing to me, though, is that the MIT Millennials, who have been raised on praise and positive reinforcement, are in for real culture shock. They have been groomed to high achievement, feted by their schools and communities, have starred in *USA Today* as well as in their local papers, have been cheered in their games by adults from both sides. They have nearly all earned at least state level distinction in something. Think about that for a second. What would it have taken to be the state’s best something when you were their age? It is a big deal and they could not have gotten that far without positive support from the adults in their lives. As we all know, there is very little of this at MIT, for any of us. These students come to MIT, ready for us to lead them and

Table 2

Why Admitted Freshmen Choose Not to Enroll

<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>
Academic concerns (lib arts)	Financial Aid	Academic concerns	Costs/ Academic concerns	Costs Academic concerns
Finances	Academic concerns (lib arts)	Location	Costs/ Academic concerns	Housing/
	Location	Costs	Diversity	

position them for the next logical progression of their lives and they quickly disengage from us because we do not recognize their specialness. These are not Boomers or Gen Xers who reacted to this phenomenon by angrily pushing MIT faculty and administrators away and creating their own islands of support. These students wonder why we glorify the Big Screw Award, why the only campus-wide community sentiment is IHTFP, why we tolerate the Tech Is Hell lifestyle. They wonder why they turned down Stanford to come here.

Why should we care or try to change?

It is no surprise that I am writing this as Dean of Admissions. Many faculty who have worked with the Admissions staff and with CUAFA know well that we are in a tough period in college admissions. Our competition (Harvard, Stanford, Princeton, Yale) is actively recruiting our kind of students – Techies – at a time when these students’ portfolios are now so balanced they are just as attractive to liberal arts schools as they are to us. And everywhere universities are buying top talent. In short, we now

have to work aggressively just to continue to hold our base. To make things worse, Millennials require a sense of the larger community that can readily be found at our competitor schools. MIT, with its focus on the individual, without a sense of campus-wide community, looks pale in comparison, like an outlier, to these kids. MIT will need to adapt in some ways if we are to continue to enroll the best students of our type in the world.

What they need from us

Millennials need MIT. Despite their good qualities, and there are many, these stunning young people need to learn to think analytically and to question more. They need a sense of context to help them sort through the dizzying mass of information they confuse for knowledge. And closer to this Boomer’s heart, they need to realize that actions have consequences, so that in the future they will be less likely to hand over their privacy – and ours – for the sake of efficient consumer service. (They don’t call these kids “the Abercrombie generation” for nothing.)

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New Kids on the Block: Observations on MIT Students

Jones, from preceding page

Whether we acknowledge it or not, we adults at MIT do act “in loco parentis,” playing a major role in the lives of our students. Just as we expect them to meet our needs regarding deadlines, class participation, attention to detail, etc., they need specific things from us in order to thrive here.

- **They need to understand the rules.** For example, we can’t assume that they actually know what is considered cheating these days. It is possible that they do not realize that pulling something off of the Web and not citing the source is a bad thing. I understand that cheating cases of this sort have escalated in the past three years at MIT, so I encourage you to clearly define your rules at the beginning of each semester, describe the repercussions of violating your rules and then follow through if violation happens. Remember that most adults in their lives cave in to them easily, so they will push back hard. Stand firm through all of their excuses and whining. Eventually they will realize that you mean business and they’ll comply because Millennials generally want to obey the rules.

- **They need to hear about MIT’s history and relevance in the world and to be reminded why they are here.** This is a big one. These students know that they are special and they have a sense that MIT is, too. Yet, once they arrive on campus, they never again hear about why MIT is so famous. I believe that this is one of the reasons why generations of bright-eyed MIT students, the best in the world, have become disconnected, often cynical, by the end of their freshman year. It is not the workload alone, but a total lack of inspiration. This past spring I spoke at a leadership seminar on campus. One of the students told me, in passing, that he

had not been doing well in an advanced course taken by many freshmen until the professor spent an entire class on the many ways that MIT specifically advanced that particular field, describing the history, the people, the same labs operational on campus today. The student was energized when he realized that he was part of that legacy. He saw the relevance of the material. He concluded the semester with an “A” and the confirmed desire to become a scientist. There is a great lesson here for everyone who teaches at this remarkable place. Our competition tells its students that one day they will inherit the world as it is. We need to tell our students that one day they will fix the world on behalf of the others who can’t. This is not only the truth. It is the clarion call to this generation, the mother ship calling the baby ships home. I believe that if we remind our students on a regular basis that we fix this world, we do what others think is impossible, we “apply science for the benefit of humankind” as MIT was founded to do, and they are part of that effort, IHTFP will dissolve within five years. And the best of our kind of student will continue to come to MIT for another generation.

- **They need to be involved in decision making, but they need for us to make the final decisions.** We Boomers in particular have a tendency toward consensus even when consensus is inappropriate. They don’t want us to be friends. They want us to lead.

- **They need praise and positive feedback.** At MIT, we put too much stock in perspiration and not enough in inspiration. Because we think

Table 3

MIT Faculty By Generation Type

<u>Matures (1909-1944)</u>	<u>Boomers (1945-1964)</u>	<u>Generation X (1964-1979)</u>
285	502	164

analytically for a living, it is often hard to keep that skill, designed for the world of ideas, from spilling into our social discourse. We can inadvertently become critical of ourselves and of others. These students serve to remind us that we adults hold a special responsibility to encourage these future leaders of the world with words of kindness as we teach them the ropes.

- **They need to be allies with us.** MIT undergraduates have long existed in what I call a Lord of the Flies World in which, without adult intervention and engagement, they create their own rules and live with more danger than we might imagine. These new students will increasingly find this to be unacceptable because they are used to alliance with adults. Many of us will need to be more open to such alliance opportunities as Millennials enroll in force over the next decade.

From my point of view, the future looks bright. If we assume our natural role as the wise elders of this community during their tenure at MIT, and if we apprentice them well, the world will be in good hands with these Millennials. Not only will this huge population of very hard workers who care about community do good things in their lives, they will never let Social Security fail. And that should help us all sleep a lot better tonight.✦

[Marilee Jones can be reached at marilee@mit.edu]

Savings Opportunities When Traveling

Ellen Sico



The MIT Travel Program is geared to highlight savings opportunities from preferred travel suppliers for Official MIT Business for both MIT faculty and staff, as well as visitors coming to MIT. More details can be found on the MIT Travel Website <<http://web.mit.edu/www/travel.htm>>.

MIT TRAVEL AGENCIES

(In order to take advantage of any airline or rail discount, your reservations must be made through one of MIT's two travel agencies listed below.)

The Travel Collaborative

120 Beacon Street
Somerville MA 02143-4369
Main number (617) 497-7400
New Clients (617) 497-8196

Navigant International

40 Broad Street
Boston MA 02109
Main number (617) 451-4200

AIRLINE DISCOUNTS

American Airlines/TWA

21% Domestic
21% International Full Coach or
Business Class Fares
17% International (all other)

Continental/Northwest

23% Domestic
5% Domestic Hub Fares
23% International Full Coach
or Business Class Fares
15% All Commutair Flights

U S Airways

Shuttle tickets (round trip)
BOS-NYC/ NYC-DC \$162
BOS-DC \$330.00
24% Domestic & International
15% Metrojet

AMTRAK ACELA EXPRESS/ METROLINER

30% Business Class Fares
BOS to NYC, Philly,
Baltimore & DC or
DC & NYC

CAR RENTALS

*(Decline all optional insurances if
Domestic. Some city surcharges
may apply)*

Budget
Corp ID# T240202
1-800-527-0700 US
1-800-472-3325 International
Government rates apply with the
exception of Camb MA:
Compact \$38
Intermediate \$39
Full Size \$41
Luxury \$69
Minivan \$79
15-Passenger \$84.99

Alamo

Corp ID# BX106683
1-800-732-3232
Domestic
Compact \$36
Midsize \$38
Full-Size \$40
Premium \$51
Luxury \$57
Minivan \$57
(lower rates apply in Florida)
International 10% (flat rate)

HOTEL DIRECTORY

*(Some rates are subject to
availability and blackout dates
may apply. Always ask if a lower
promotional rate is available.)*

Local Hotels

Ask for the MIT rate
University Pk Hotel @ MIT
20 Sidney Street, Cambridge
617-577-0200
\$199 9/1-12/14/01
\$179 12/15-12/31/01

Camb Ctr Residence Inn
6 Cambridge Center, Camb
617-349-0700
\$197 5-11 nights 9/1-12/31/01
\$164 12-29 nights
\$132 30+ nights

Cambridge Marriott
2 Cambridge Center, Camb
617-494-6600
\$229 9/1-12/31/01

Holiday Inn Exp & Suites
250 Monsignor O'Brien Hwy
Camb 617-577-7600
\$159 9/1-11/15/01
\$115 11/16-12/31/01

Hyatt Regency
575 Memorial Drive, Camb
617-492-4377
\$229 9/1-12/31/01

Royal Sonesta Hotel
5 Cambridge Pkwy, Camb
617-806-4255
mention code "R-MIT"
\$193 9/1-9/3/01
\$209 9/4-11/15/01
\$179 11/16-12/31/01

Sheraton Commander
16 Garden St, Camb
617-547-4800
\$195 9/1-11/18/01
\$160 11/19-12/31/01

Holiday Inn
30 Washington Street
Somerville
617-628-1000
\$159 9/1-10/31/01
\$115 11/1-12/31/01

Days Hotel
1234 Soldiers Field Rd, Bos
617-933-4607
\$135 9/1-10/31/01
\$115 11/1-4/30/02
\$135 5/1-6/30/02

The Eliot Suite Hotel
370 Commonwealth Ave
Boston 617-267-1607
\$230 9/1-12/31/01

MIT Endicott House
80 Haven St, Dedham
781-251-6363
\$230 Complete Meeting Pkg
\$72 Day Meeting Pkg

Ask for the Harvard/Ivy Plus Rate

Harvard Square Hotel
110 Mount Auburn St, Camb
617-864-5200
\$179 9/1/01-6/30/02

The Inn At Harvard
1201 Mass Ave, Camb
617-491-2222
\$229 9/1/01-6/30/02

Double Tree Guest Suites
400 Soldiers Field Rd, Bos
617-783-0090
\$195 9/1/01-6/30/02

Ask for the Ivy Plus Rate

Colonnade Hotel
120 Huntington Ave, Bos
617-424-7000
\$199 9/1-11/15/01
\$179 11/16-12/31/01

Club Quarters
*(Rates vary depending on room
category weekday/weekend
add'l person \$13)*

Domestic Reservations
212-575-0006
London Reservations
171-666-1616

Ask for the MIT Rate

Boston
161 Devonshire St
\$139-\$219/\$76-\$136

Chicago
111 West Adams St
\$114-\$185/\$56-\$96

London
7-12 Gracechurch
109-179 pounds/49-89

24 Ludgate Hill
109-179 pounds/49-89

New York City
52 William Street
\$145-\$239/\$76-\$136
(high season add \$10)

40 West 45th Street
\$125-192/\$76-\$116
(high season add \$10)

Philadelphia
1628 Chestnut at 17th St
\$99-\$169/\$56-\$96

Washington DC
839 17th St NW
low season
\$89-\$145/\$56-\$96
high season
\$112-\$179/\$76-\$136

Out of State

Ask for the John Hopkins Rate

Baltimore
Inn at the Colonnade
4 West University Pkwy
410-554-7592
\$129 9/1-12/30/01

Ask for the Univ of Chicago Rate

Chicago
Hotel Inter-Continental
505 N Michigan Ave
312-944-4100
\$175 9/1-12/31/01

Ask for the Ivy Plus Rate

Ithaca
The Statler Hotel
11 East Ave
607-254-2588
\$103 9/1/01-6/30/02
\$130 View

Los Angeles
The Regal Biltmore Hotel
506 South Grand Ave
213-624-1011
\$159 9/1-12/31/01

New Haven
Omni New Haven Hotel at Yale
155 Temple St
203-772-6664
\$119 9/1/01-6/30/02

New York City
Empire Hotel
44 West 63rd St
212-265-7400
reference a/c# 6310
\$175 9/1-9/4/01
\$195 9/5-12/29/01

Metropolitan Hotel
569 Lexington Ave at 51st St
212-350-6161
\$169 9/1-9/3/01
\$239 9/4-12/31/01

Raleigh-Durham
Holiday Inn
4810 Old Page Rd
919-941-6000
\$129 9/1-12/31/01 weekday
\$59 weekend

San Francisco
Mark Hopkins Inter-Continental
One Nob Hill
415-392-3434
ID# 9301028
\$215 9/1/01-6/30/02

Ask for the Stanford Rate

Palo Alto
Sheraton Palo Alto
625 El Camino Real
650-328-2800
\$179 9/1-12/31/01

Stanford Terrace Inn
531 Stanford Ave
650-857-0333
\$155 9/1-12/31/01

*Ask for the Columbia University
Rate*

New York City
The Lucerne
79th Street & Broadway
212-875-1000 x80
\$185 9/1-12/31/01 ID# 119

The Mayflower
15 Central Pk West (61st St)
212-265-0060
\$165 Single 9/1-12/31/01

*[Ellen Sico can be reached at
esico@mit.edu]*

Thanks to the Faculty from the Alumni Association

Louis Alexander

Every year a large number of faculty members go out of their way to make presentations to gatherings of MIT alumni both here on campus and in various settings around the world. This past year was certainly no exception, with 111 faculty and senior administrators taking part in these programs.

The Alumni Association cannot stress enough its deep thanks to all of you who have helped us, who continue to help us, and to those who would like to be a part of our programs but who for one reason or another have not been able to participate.

Clearly, without the support we receive from you, a key part of our relationship with alumni would not exist, for it is contact with you, the MIT faculty, that is the number one request we receive from our population. Let us extend a hearty thank you to all of the faculty, and especially to the ones listed below who made presentations for one of the many Association programs held this past year. [*Louis Alexander can be reached at lalexan@mit.edu*]

Tom Allen GM '66
 Stephen Ansolabehere
 Dante Anzolini
 Dan Ariely
 Lawrence Bacow '72 EC
 Arthur Baggeroer EE '68
 Larry Benedict
 Suzanne Berger
 Richard Binzel
 Sam Bowring
 William Brace '46 OE
 Robert Brown
 Louis Bucciarelli AA '66
 Claude Canizares
 Qingyan Chen
 Joel Clark ML '72
 Phillip Clay CP '75
 Charles Cooney NT '70
 Joseph Coughlin
 Ernest Cravalho
 William Cutter
 Alexander d'Arbeloff '49 MG
 Jesus Del Alamo
 Michael Dertouzos EE '64
 John Dower
 Thomas Eagar '72 ML
 Elfatih Eltahir CE '93
 Alan Epstein '70 AA
 Shaoul Ezekiel AA '68
 Edward Farhi
 Yoel Fink '00
 Suzanne Flynn '83 CH
 Ernest Frankel OE '60
 Fred Frey
 Robert Griffin
 Linda Griffith
 Eric Grimson MA '80

Jon Gruber '87 EC
 Paula Hammond '84 CH
 Fred Harris
 Jerry Hausman
 Michael Hawley '93
 Diana Henderson
 Philip Herr CP '59
 Neville Hogan ME '77
 Nancy Hopkins
 Franz Hover ME '89
 Richard Hynes LI '71
 Hiroshi Ishii EE '65
 Sandy Jap
 Henry Jenkins
 Leslie P. Kaelbling
 Nancy Kanwisher '80 PS
 Marc Kastner
 S. Jay Keyser HM
 Alvin Kibel
 Eric Lander
 Robert Langer CH '74
 F. Thomson Leighton MA '81
 Steven Lerman '72 CE
 Donald Lessard
 Stephen Lippard CM '65
 Andrew Lippman '71 EE
 Andrew Lo
 Richard Locke PO '89
 Tom Magnanti
 Alec Marantz PL '81
 David Marks
 Charles Marshall
 Earl Miller
 David Mindell HU '96
 William Mitchell
 Shigeru Miyagawa
 Mario Molina

Kenneth Morse '68 PO
 Joel Moses MA '67
 Takehiko Nagakura
 Elly Nedivi
 Dava Newman AA '89
 Rosalind W. Picard
 Ron Prinn CM '71
 David Ralston
 Robert Redwine
 Margery Resnick
 Heather Cox Richardson
 Harriet Ritvo
 Richard Samuels PO '80
 Ram Sasisekharan
 Richard Schmalensee '65 EC
 Henrik Schmidt
 Michael Schrage
 Norbert Schulz
 Harald Schwalbe
 Andrew Scott
 Bob Simha CP '57
 Alexander Slocum '82 ME
 Janet Sonenberg
 S. Mark Spearing
 Jeffrey Steinfeld '62 CM
 Peter Stone
 Timothy Swager
 Lester Thurow HM '91
 Sam Ting
 Franz-Josef Ulm
 Kim Vandiver OE '69
 Charles Vest HM
 Eric von Hippel ME '68
 Robert Weinberg '64 LI
 Rainer Weiss '55 PH
 Elizabeth Wood CP '97
 Maria Zuber

Since you've been gone . . .

Janet Snover

Here are some administrative news items that were announced over the summer (and where you can read more about them):

Provost Robert A. Brown announced that Professor Alice P. Gast has been appointed MIT's new Vice President for Research, Associate Provost, and the Robert T. Haslam Professor of Chemical Engineering. Formerly the Associate Chair of the Chemical Engineering department at Stanford, Dr. Gast is an expert on complex fluids and colloids.

In her new role, Dr. Gast will coordinate policy regarding research and graduate education and oversee MIT's large inter-School laboratories. She will work with the Provost in coordinating these areas through the budget process and through the planning, assignment, and utilization of space. She also will report to Chancellor Phillip L. Clay on matters of graduate education policy. (*Tech Talk* 7/18/01)

Dr. Vest and the presidents of 27 other leading colleges and universities produced a set of guidelines that are geared toward reducing institutional variances in student financial aid reviews. The principles are consistent with MIT's long-standing commitment to need-based financial aid and need-blind admissions.

The guidelines, entitled "A Consensus Approach to Need Analysis," are intended to make it easier for families to identify the best match for their college-bound students based on an institution's educational programs, rather than on the financial aid package it offers. The group was chaired by Cornell University President Hunter B. Rawlings III, and some of the other participating schools include Yale, Stanford, the University of Chicago, Wellesley College, Columbia, and the University of Pennsylvania. (*Tech Talk* 7/18/01)

The start-up/pilot phase of MIT's OpenCourseWare initiative will receive grants of \$5.5 million from both the Andrew W. Mellon Foundation and the William and Flora Hewlett Foundation. OpenCourseWare, which was announced in April, will make nearly all of the Institute's course materials available for free on the World Wide Web over the next 10 years. (*Tech Talk* 4/11/01 and 7/18/01)

On July 1, the Educational Media Creation Center, MIT Video Productions, and Streaming Media and Compression Services merged into a new organization called Academic Media Production Services, or AMPS. Reporting to Assistant Provost Vijay Kumar, AMPS will serve as a "one-stop shop" to bring instructional and Web design, video production, and digitization and compression into one central organization. An advisory

group of faculty and administrators will provide strategic guidance to AMPS. (*Tech Talk* 7/18/01)

Effective July 1, further adjustments have been made to many telephone and network monthly rates and one-time fees. Some charges increased and some decreased; rates for some services were combined into a single rate; and quantity discount plans were eliminated. Further rate changes are not anticipated for the next two years. For detailed information on all telephone and networking rates, please go to <http://mit.edu/is/tel/pricing.html>.

For this academic year, the fee for a regular commuter parking pass increased to \$420 from \$390 last year. This increase keeps the parking subsidy rate comparable to the MBTA Pass program subsidy rate.

The new Web Barton MIT Libraries catalog, Ex Libris Aleph 500, was launched on July 9, and implementation is proceeding well. Information on using the new system is available at all Library locations and on the Libraries' Website <http://libraries.mit.edu/>. Scheduled for a January 2002 release is a text-only Web browser that will make Barton accessible through telnet via Lynx. ♣
[Janet Snover can be reached at jsnover@mit.edu]

Provost Announces Request for Nominations for Margaret MacVicar Faculty Fellows

The Margaret MacVicar Faculty Fellows Program was established in 1991 to recognize and enhance undergraduate teaching at MIT. This program honors the life and contributions of our late colleague, Margaret MacVicar, who was dean for Undergraduate Education. Any member of the MIT community may submit nominations.

The nomination should be a substantial case. Along with three supporting letters from students, it

should include a nominating letter documenting the contributions of the nominee, three supporting letters from faculty, a curriculum vitae of the nominee and an endorsement by his or her department head. *Nominations should be submitted to Provost Robert A. Brown no later than Friday, October 27, 2001* (mail to 5-208). If you have any questions about the nomination process, please contact Helen Samuels, 8-0310, <hwsamuel@mit.edu>, 5-208.

All tenured, full-time members of the regular faculty are eligible for appointment as a MacVicar Faculty Fellow. In addition, the Advisory Committee will consider three-year MacVicar Faculty Fellowships for junior faculty. These are convertible to regular ten-year MacVicar Faculty Fellowships if tenure occurs. A MacVicar Faculty Fellow may simultaneously be the holder of a named professorship.♣



Faculty Volunteers Wanted for Phonathon

Bryan Tamburro

Every fall, Graduate Alumni Programs (GAP) contacts department heads to volunteer their time, staff and students to help their department raise money and reconnect with alumni. You may be wondering why GAP wants you to pick up the phone and ask your alumni for money. First of all, let's be clear: Calling alumni from your department to ask for gifts is no easy job. It takes some training, skill and knowledge – but it may be one of the most important things you can do for your department.

The MIT Alumni Fund and your department have two goals: to broaden our base of support and to secure the largest gifts possible. It may surprise you when we say that the first goal is by far the most important.

If you ask million-dollar donors when they gave their first gift, you'll find that many did it in response to a caller – and that first time they probably gave less

than \$100. While some alumni will give only small amounts their entire lives, if we get as many annual fund donors as possible, we can identify alumni who will make larger gifts each year. By making the people you call feel good about their gifts and the giving experience, you can start them on a lifetime commitment of financial support to MIT.

Does that mean we value donors of small gifts as much as those who make large gifts? Yes. There is strength in numbers of donors, regardless of gift size. Some alumni only choose to make a gift once they realize how many of their former classmates are already giving. More importantly, many alumni give money because they have a relationship with MIT and your department. Even though we do solicit constituents through the mail, a letter can't really build a relationship. A phone call is interactive. You can present specific compelling reasons for the

contribution, and you can adapt these reasons for each call you make. In addition, your phone call may be the only direct, personal interaction the prospect will have with MIT the entire year. This gives us a chance to do other things as well, like update our information on them and update them on us.

We cannot emphasize enough that the phonathons are critical to the success of annual fund dollars accessible to each department. Last year, phonathons raised over \$242,199 from 2,301 alumni.

We want to build on our past success and this year we have made changes to the phonathon program, including hands-on training and more reference materials to make the calls easier, which should make it much more effective than previous years. Our success depends on your involvement. We look forward to working with you this fall.♣

[Bryan Tamburro can be reached at tamburro@mit.edu]

Construction Update

Construction Proceeds on the MIT Building Program

Ruth T. Davis

Progress on the Institute's plan to enhance the physical environment continued during the summer months. The following is an update on the major projects underway.

The Ray and Maria Stata Center for Computer, Information and Intelligence Sciences. Design development proceeded, while construction continued on the underground garage. Construction of the slurry wall was completed in October 2000. The reinforced concrete structure for the below-grade facilities should be finished by September 2001.

Simmons Hall. Excavation began on this 10-story undergraduate dormitory on Vassar Street in October. The dormitory was designed to include space for activities to support and enhance student life. The award-winning design features several atria, an exercise room, study areas, a cafeteria, and a multi-purpose room. The project is on schedule for fall 2002 occupancy.

Albert and Barrie Zesiger Sports and Fitness Center. Construction of Phase I of this project began in September and will complete MIT's 25-year athletic and recreation plan. This first phase includes a 50-meter Olympic pool and instructional pools with spectator seating for 500, a health and fitness area, six squash courts, a multi-activity court, administrative offices, and renovated general and team locker rooms. The schematic design is complete for Phase II of the project, which will eventually replace Rockwell Cage and provide

additional athletic facilities. The project is scheduled for completion in June 2002.

224 Albany Street graduate dormitory. The conversion of Building NW30 from an early twentieth-century mill building to efficiency apartment-style housing for 120 graduate students began in July 2000. Kitchen facilities, sleeping alcoves, and individual baths



224 Albany Street Graduate Dormitory

will be provided. Construction was completed in August 2001.

70 Sidney and Pacific Street dormitory. The construction of student housing, which began in January, continues on the fast track. The steel structure is almost complete and the building, which will house approximately 700 students, will be occupied next summer.

Vassar Street Utilities. The installation of underground utilities to support the Stata Center, 224 Albany Street, Building NW30, the Zesiger Sports and Fitness Center, and Simmons Hall continues. Water mains in support

of Simmons Hall are installed to the east end of the site. Chilled water, fire protection water, telephone and electric duct banks are progressing west from Steinbrenner Stadium to Audrey Street. Telephone and electric duct banks are complete to NW30 while the chilled water is scheduled to be completed this coming summer. Steam piping is installed from Massachusetts Avenue west to Building NW13 and will be placed over the roof at NW13 and NW14.

Dreyfus Chemistry Building. The multi-phase renovation of Building 18 continues. During this infrastructure renewal project, all labs, support, and office spaces will be renovated in vertical phases from one end of the building to the other while the building is two-thirds occupied. This project will provide a more

efficient, safe, and code-compliant layout, address energy conservation issues, and will repair and upgrade the exposed concrete skin. Expected completion is summer of 2003.

In order to minimize disruption to the community and to keep people informed, Facilities has launched both a construction impact mitigation program and a comprehensive communications effort. Construction updates continue to be published in *Tech Talk* and *The Tech*. This August, an expanded Website <<http://web.mit.edu/evolving>> premiered.♣

[Ruth T. Davis can be reached at rtdavis@mit.edu]

From The Libraries

How Decisions are Made on Building Library Collections

Ruth K. Seidman

Faculty members often ask us how the MIT Libraries go about building collections. How do we decide what books and journals to purchase?

Each of the divisional (e.g., Science) and branch (e.g., Music) libraries has subject specialist librarians who are responsible for building portions of the library collections. Currently there are 26 librarians responsible for 49 subject categories, ranging from Aeronautics/Astronautics to Women's and Men's Studies. These librarians and their specialties are listed on the Libraries' Website at <http://libraries.mit.edu/subjects/experts.html>. We encourage those faculty members who do not know their subject specialist librarians to take a look at this list and be in touch with the librarians in fields of interest to them.

These librarians each manage collections, both print and electronic, in their areas of expertise. Many bring subject background to their jobs. Others have developed familiarity with the literature of their fields through extensive experience. All have training and experience in library and information science. The subject librarians assess the changing needs of library users, evaluate the strengths and weaknesses of existing collections, decide what materials need preservation or replacement, and select items for transfer to storage. Within their budgets they decide what to buy and what not to buy.

The subject categories and the decisions made within each category are developed according to the teaching and research needs of MIT. Librarians learn about the special emphases of MIT

through contact with faculty, researchers, and students and by keeping current on research trends and curriculum developments taking place on the campus. Selection decisions are also based on the librarian's knowledge of the discipline itself, its major contributors, and its publication patterns.

Many tools are used in the selection process. Subject specialists follow publishers' catalogs and announcements as well as Web pages of professional societies and other publishers. Some of the books are purchased through an approval plan, through which a vendor regularly sends new books according to profiles developed by the MIT Libraries; the subject selectors then have an opportunity to look at the books themselves to decide on whether or not to purchase them for the collection. Librarians also follow book reviews, some specifically for academic libraries and some from scholarly publications.

In scholarly fields publishers often announce books long before they are published; if they do not receive enough advance orders, they may cancel the publication. This is one reason for the importance of the publishers' advance announcements. It is also a factor in the time that may elapse between when a faculty member has seen an announcement and when the book is actually published and sent to the library. The Libraries make every effort to process new materials in a timely manner.

Some of the considerations in choosing a book, in addition to the basic criteria discussed above, are how the title fits into the strengths of the existing collection, how often similar materials

are being used, and whether the current material in the collection is sufficiently up to date. Other questions asked: Is the author a recognized authority in the field, is the publisher reputable, is there an MIT connection, what is the cost, and is the book at an appropriate level for MIT's needs?

Faculty input into the selection process is encouraged. A suggested purchase form is available online, <http://libraries.mit.edu/mitonly/purchase.html>, and as a paper form at library reference desks. Faculty members often send book announcements and reviews to their subject librarians. Some academic departments have faculty library committees and others have particular faculty members who follow library developments for the department and stay in contact with their subject specialists. Library subject specialists also make a point of keeping up informal contacts with their academic departments. Many librarians are on e-mail lists with their departments as well.

The subject librarians all work at the reference desks in their divisional and branch libraries; this provides a very good source of information on what materials are being used by faculty, students, and researchers, as well as classroom needs and research trends.

It is important that the collection keeps up with and sometimes even anticipates changes in teaching and research so that good support can be provided to the MIT community. We follow the research specialties of new faculty, changes in core requirements, new degree programs, grant proposals, and emerging research areas of the labs and centers.

(Continued on next page)

How Decisions are Made on Building Library Collections

Seidman, from preceding page

MIT's emphasis on interdisciplinary teaching and research is reflected in the subject organization of collection development. Several of the subject fields, such as those of Energy, Environment, and Transportation, are interdisciplinary. It should also be noted that there is regular and frequent consultation among library subject specialists, and among collections managers for the various libraries.

Journals constitute a very important part of the collection, particularly in science and engineering. With the increased ease of access to bibliographic citations online, the MIT Libraries are experiencing more requests than ever for titles to which we do not subscribe. The subject selectors continuously reassess existing subscriptions in order to free up funds for new titles. Purchasing electronic versions of the entire output of large commercial and society publishers has helped, but funds are finite and the choices at times seem infinite.

With the advent of electronic publishing, collection specialists must consider what is available online, particularly in journals and databases. Selection decisions now involve the question of what to purchase electronically, what in print, and what in both formats. The development of the MIT Libraries' electronic holdings was dealt with in detail by Associate Director for Collection Services Carol Fleishauer, in the *MIT Faculty Newsletter*, January/February 2000, pp. 10-11, "Digital Information Resources Brought to your Desktop" <<http://tute.mit.edu:8001/afs/athena/org/f/fnl/www/fnl123.pdf>>.

In the MIT Libraries, electronic titles constituted 4% of the journal collection in FY99, 12.6% in FY00, and 25% in FY01. Many of the titles in electronic format continue to be available in paper format as well. At present, the Libraries are making available to the MIT community 232 electronic databases and

3146 electronic journal titles.

Hand in hand with the services offered, the development of a strong collection is what makes an academic library valuable to its institution. Building the collection in an academic library is challenging and exciting work. The needs of the entire community must be served, evolving research fields covered, and a print/electronic balance kept in mind. In addition, financial considerations, the amount of space available, and staff time to select and process materials all set parameters.

Input from the faculty is very important in contributing to collection decisions. We welcome your specific recommendations as well as information on new research and teaching directions. It is the Libraries' goal to continue to build a high quality collection of greatest relevance to the MIT community.✦

[Ruth K. Seidman can be reached at rks@mit.edu]



WEB-DOCS: Desktop Document Delivery

The MIT Libraries are pleased to offer this new electronic delivery service to all members of the MIT Community.

- WEB-DOCS delivers articles from library collections directly to your desktop, saving you a trip to the library.

- Pages are scanned and delivered via the Web as high-quality images in PDF format for printing or saving.

- An e-mail message alerts you that your order is ready; you simply click on the link and log on to access your documents.

- The cost of \$6 per article corresponds to the charge for a

standard photocopy, but cuts days off campus mail delivery.

If you are interested in WEB-DOCS, click on: <http://libraries.mit.edu/docs/webdocs_intro.html>.

Send questions or comments to web-docs@mit.edu.

rks

MIT Web Certificates Ensure Many Conveniences

Lee Ridgway

In providing information technology resources to MIT, particularly over the Internet and the Web, Information Systems (IS) gives high priority to security and authentication. The current preferred mechanism for secure access to sensitive or MIT-only Web pages is through Web certificates. These provide authentication and set up a secure connection to ensure the privacy of transactions to MIT's secure Web services, both from MITnet and through an outside Internet Service Provider (ISP).

For several years, the server <<http://tute.mit.edu>> was used to restrict access to MIT Web pages. To provide more consistent secure access, IS is decommissioning tute.mit.edu, and migrating pages served by it to certificate-controlled access on the server <<https://web.mit.edu>> (note the "s" in https://).

Support for tute.mit.edu will end on September 30, 2001. If your department or office uses tute.mit.edu to restrict access to Web pages, or if you have pages referring to tute.mit.edu, those links should be updated to <<https://web.mit.edu>> as soon as possible.

Documentation for making such changes is at: <<http://web.mit.edu/cwis/web/htaccess-usage.shtml>>.

MIT certificate-based services include the Benefits Office where you *will be able to review and change your benefits during the Open Enrollment period*, CaseTracker for the IS Help Desk, ECAT and SAPweb for purchasing, and WebSIS for student academic and personal information. *Coming this fall, many central offices Websites will require MIT certificates when displaying MIT restricted information. The MIT Travel Office has updated its Website, already. You may wish to visit the Website <<http://mit.edu/cao/www/travel.htm>> in advance of September 30th.*

Among the benefits of certificates is convenience. Once you have your set of certificates on the computer you wish to use, you can get to any of MIT's secure Web services for which you are authorized, from anywhere in the world. Without certificates, you would probably need a different username and password for each application, and you would not have a secure, encrypted connection over the Internet.

MIT personal certificates are set to expire periodically, based upon when the certificate was acquired. Periodic expiration of certificates helps maintain security by ensuring that only current MIT faculty, students, and staff are in the system. If you have a personal certificate that has expired, you will not be able to use any of MIT's secure Web applications until you get a new personal certificate.

To check the expiration date on your personal certificate, go to the Web page at <<http://web.mit.edu/is/help/cert/certexp.html>>.

To get a new personal certificate, go to the Web page at <<http://web.mit.edu/is/help/cert/>> and click on Get MIT Personal Certificate.

If you need help with certificates, contact the IS Business Liaison Team at x2-1177 or business-help@mit.edu.

Related *i/s* newsletter articles on the Web: "Farewell tute" – <<http://web.mit.edu/is/isnews/v16/n05/160511.html>>; "Personal Certificate Renewal" – <<http://web.mit.edu/is/isnews/v16/n05/160509.html>>.♣

[Lee Ridgway can be reached at ridgway@mit.edu]

Academic Computing Resources for You and Your Students

Lee Ridgway

Academic Computing at MIT provides a rich environment to promote varied uses of educational technology for teaching and learning. A robust infrastructure of facilities, systems, and services is in place to support a diverse spectrum of educational goals. For an overview and links to detailed information about Academic Computing, see <<http://web.mit.edu/acs/>>.

Resources for Faculty

Academic Computing maintains the following resources to help faculty and their assistants understand and implement educational technology in their courses.

People Who Can Help You

The Academic Computing Faculty Liaisons help faculty and other instructional staff use educational technology in their teaching. They can:

- help you get started in learning about educational media, the Athena computing environment, and the campus network (MITnet);
- assist you in locating appropriate software for your courses;
- direct you to resources for writing your own courseware, and creating multimedia and hypermedia materials;
- offer expertise to support the use of technology in your teaching, including use of the Web and other network-based applications.

You can contact the Faculty Liaisons in the following ways:

Home page: <<http://web.mit.edu/acs/fl.html>>

Offices: N42 (211 Mass. Ave)

Phone: x3-0115

E-mail: f_1@mit.edu

Academic Media Production Service (AMPS)

MIT-AMPS (Academic Media Production Services) is a “one-stop shop”

for instructional design and Web design, video production, and digitization and compression. AMPS services for MIT faculty and programs are through three groups:

- MIT Video Productions (MVP) provides analog and digital video productions to the MIT community.
- Streaming Media and Compression Services (SMCS) supports the production and distribution of digital video content over the Internet in a variety of formats.
- The Educational Media Creation Center (EMCC) provides assistance in designing, creating and supporting Web-based educational environments.

For more information about these services and how to contact them, go to <<http://web.mit.edu/amps/>>.

Print and Web Resources

A brochure, *Educational Computing Resources at MIT*, was recently mailed to all faculty. It outlines a variety of resources available on campus. For a Web version see <<http://web.mit.edu/acs/instr-comp.html>>.

The *Electronic Teaching Toolkit* at <<http://web.mit.edu/faculty/ett>> contains links to electronic resources that can assist faculty in preparing and conducting classes.

The *Academic Web Page Creation Guide* at <<http://web.mit.edu/acs/webguide/>> was developed to assist faculty and TAs in creating course Web pages.

The Insider, published three times a year with news from Academic Computing for faculty and TAs, may be received on paper or viewed online at <<http://web.mit.edu/acs/insider>>.

Other Activities and Initiatives

Crosstalk, a forum sponsored by Academic Computing and the Dean of Students and Undergraduate Education,

brings together interested faculty for discussions, presentations, and feedback to Information Systems on a variety of topics. For more information see <<http://web.mit.edu/acs/crosstalk.html>>.

Proposals for support of educational computing initiatives may be submitted to Academic Computing. Details are available at <<http://web.mit.edu/acs/guidelines.html>>.

An Institute-wide Council on Educational Technology (MITCET), chaired by the provost and another faculty member, has taken up the issues identified in the 1997 report of a previous, similar council. It is considering new strategic directions, evaluating opportunities, and fostering discussion of continuing programs.

Athena Clusters, Tools, and Software

The Athena system is a centrally managed, scalable, secure, campus-wide computing environment consisting of networked client workstations, servers, and printers available to MIT students and faculty to help them achieve their academic goals.

On campus, 20 general-purpose clusters house over 400 Unix workstations, while several departments and other facilities maintain their own clusters. Athena course tools include:

- electronic “course lockers” for storing course materials;
- electronic tools for delivering course materials, including Web pages, mailing lists, and conferencing systems;
- software for use by students and faculty in doing the actual work of the course;
- software for communication among students and between students and instructors;
- cross-disciplinary and specialized applications: ArcInfo, ArcView,

(Continued on next page)

Academic Computing Resources for You

Ridgway, from preceding page

FrameMaker, Mathematica, Matlab, Maple, Molecular Simulations, SAS, SPlus, Tecplot, and Xess;

- standard compilers, Web browsers, communication tools.

For links to detailed information, see the Athena home page at <http://web.mit.edu/is/athena>.

For a comprehensive list of Athena software, see *What Runs Where* at <http://web.mit.edu/acs/whereruns.html>.

Classrooms and Other Facilities

Facilities for preparation and delivery of educational technology include:

- four fully electronic classrooms, with an Athena workstation at each desk;
- 16 classrooms with an instructor's Athena workstation and projector;
- over 20 classrooms with an MITnet drop and projection for a carry-in computer;
- over 80 additional classrooms with an MITnet drop;
- two New Media Center facilities for preparing multimedia materials;
- wireless network access from over 200 centrally managed classrooms.

For information on electronic classroom locations, equipment, and reservations, see <http://registrar.mit.edu/schedule/eclass.html>.

For information about the New Media Center facilities, see <http://web.mit.edu/nmc>.

Resources for Students

To help MIT students use Athena successfully, Information Systems offers a comprehensive series of "minicourses" on a variety of Athena-related topics. These courses are scheduled frequently throughout the academic year.

During Orientation week, incoming freshman, graduate, and transfer students have the opportunity to attend two basic courses:

Athena: First Course

Working on Athena: Files and Unix

By offering these courses before classes start, new MIT students can become familiar with Athena before they receive their first problem sets and paper assignments.

During the year, IS schedules minicourses for all levels of users. Minicourses are held the first six weeks of each semester, the week after Thanksgiving and spring break, and during IAP. Days and times are Monday through Thursday at noon, 7 pm, and 8 pm. All sessions are in Room 3-343. No registration is necessary and minicourses are free.

We encourage you to remind your students to take advantage of this excellent opportunity to learn more about the computer system that will be part of their MIT experience. Minicourses are free and no registration is necessary: just show up!

Below is a listing and brief description of the full slate of minicourses. The two basic courses, Athena: First Course, and Working on Athena, are suggested as pre-requisites for the other courses. [See the next page for the Fall 2001 schedule.] For current and future schedules, and contact information for the Athena Training Group, go to <http://web.mit.edu/minidev>.

Athena Minicourses

Athena: First Course (First)

Our new introduction to the Athena academic computing environment: what you can do on Athena, your account, finding help, and other basics. Also includes E-mail, Zephyr, WebSIS, and Residential Computing.

Suggested pre-requisite: None

Working on Athena: Files and Unix (Working)

Just the basics: files, directories, setting permissions, job control, and more. What every new user should know about Unix, Athena's operating system.

Suggested pre-requisite: First Course

Word Processing Options: (WPO)

A survey of the text-editing and word-processing packages available on Athena: FrameMaker, LaTeX, EZ, Emacs. Pick the right tool for the right job.

EZ

Introduction to EZ, a combination text editor and formatter, with text-editing commands that are similar to Emacs. As a formatter, it is menu-driven and easy to learn, in the popular style of the "What You See Is (pretty much) What You Get" packages.

FrameMaker (Frame)

FrameMaker is a powerful word-processing and document preparation package available on Athena.

LaTeX

An introduction to Latex, a widely-used text formatter for converting a text file into an attractive, professional-looking document. It is a powerful and flexible program, with the capability to typeset many foreign characters and very complex mathematical text.

Serious Emacs (Ser Emacs)

The text editor introduced in First Course has many useful features not covered in that course. This course is a must for anyone who uses Emacs more than an hour or two each week.

Suggested pre-requisites: Emacs on-line tutorial, some Emacs experience

FrameMaker Thesis (Frame Ths)

FrameMaker, with a special template, can be used to produce an MIT thesis that meets all Institute formatting requirements.

Suggested pre-requisites: Frame, some FrameMaker experience

Latex Thesis (Latex Ths)

Using the Latex text formatter to produce a fully-featured thesis that meets all MIT format requirements.

Suggested pre-requisites: Latex, some Latex experience

Academic Computing Resources for You

Ridgway, from preceding page

Math Software Overview (MSO)

A survey of major mathematics and graphing packages available on Athena.

Matlab

An interactive program for scientific and engineering numeric calculation. Applications include: matrix manipulation, digital signal processing, and 3-dimensional graphics.

Maple

A mathematics program that can perform numerical and symbolic calculations, including formal and numerical integration, solving algebraic or transcendental systems and differential

equations, and series expansion and matrix manipulation. It also has extensive graphics capabilities.

Xess

A powerful and easy-to-learn spreadsheet, with a full range of mathematical, statistical, matrix, and string functions. It will be useful for scientific and engineering computations, as well as to general and financial users.

Information Resources on Athena (Info Res)

A survey of the communications, help, and other resources available on Athena.

HTML – Making a WWW Home Page

Covers the basic features of HTML (Hyper-Text Mark-up Language), the language of the World Wide Web, as well as the steps needed to post your own Web page on Athena.

Customization on Athena (Dotfiles)

Intended for the intermediate-level Athena user, this course will discuss the Athena login sequence and the user-configuration files (dotfiles) that affect it, as well as changes users can make to those and other files to customize their working environment.

Suggested pre-requisites: some Athena (or other X Windows) experience

Athena Minicourses*

	Mon	Tue	Wed	Thurs
noon	Sept 10 MSO	Sept 11 Matlab	Sept 12 Maple	Sept 13 Xess
7pm	MSO	MSO	Xess	Xess
8pm	Matlab	Matlab	Maple	Maple
noon	Sept 17 Holiday	Sept 18 First	Sept 19 Working	Sept 20 WPO
7pm	No classes	First	First	Latex
8pm	Working	Working	Working	Frame
noon	Sept 24 Ser Emacs	Sept 25 Dotfiles	Sept 26 HTML	Sept 27 Info Res
7pm	Ser Emacs	Ser Emacs	HTML	HTML
8pm	Dotfiles	Dotfiles	Info Res	Info Res
noon	Oct 1 Frame	Oct 2 Latex	Oct 3 Frame Ths	Oct 4 Latex Ths
7pm	Frame	Frame	Latex	Latex
8pm	Frame Ths	Frame Ths	Latex Ths	Latex Ths
noon	Oct 8 Holiday	Oct 9 Matlab	Oct 10 Xess	Oct 11 Maple
7pm	No class	Matlab	Matlab	Maple
8pm		Xess	Maple	Xess
noon	Oct 15 First	Oct 16 Working	Oct 17 Latex	Oct 18 Frame
7pm	First	First	Latex	Frame
8pm	Working	Working	Latex Ths	Frame Ths

*All Minicourses are presented in Room 3-343. Athena® is a registered trademark of the Massachusetts Institute of Technology.

Student Leaders Report

Undergraduate Association

Hey Buddy, Can You Spare Some Time?

Jaime Devereaux

My freshman year, I mistakingly managed to avoid contact with my professors and now I regret the opportunities I missed. For example, I took a class in chemistry to fulfill part of my core science requirement. I must admit that the subject matter alone didn't get me to the class every other day, but it was the ability of the professor to relate to the students. Even in a lecture hall of 300 people, he managed to draw in students by playing some music or giving a tidbit of history that related to the day's lecture topic. Though I enjoyed the class, at times I was confused by the material. I was somewhat intimidated as a freshman and I didn't make an effort to talk to him. He offered office hours, but I often chose to attend those of the TA instead, feeling that I should practically have a degree in Material Science and Engineering before I went to talk to this "Mt. Everest of intellect."

I have since been able to talk informally with my chemistry professor. Our topics have ranged from discussing the techniques he used in his class to the Cambridge/MIT Exchange Program. He gave me the perspective of a faculty member on a number of issues at MIT.

It took me two years to realize the importance of faculty and students interacting outside the classroom. Mine is not an unusual case. Many students do not converse with professors until they take a UROP where they work closely with faculty, or perhaps in a small class or seminar where talking is necessary. There are even some who make it through four or five years without having much interaction at all.

In an ideal MIT community, faculty and students should feel comfortable talking to each other about topics outside of the classroom domain. I understand that it may seem difficult from the faculty perspective, because while you try to get closer to your students by offering your time in office hours, you may not see the reciprocal attempts made by students. This is due to the current climate of the MIT community; early in a student's MIT experience there are few strong examples of students and faculty seen together outside of the classroom. Though MIT advertises their great faculty-to-student ratio, this is not taken advantage of in the freshman program. It makes it hard for freshmen coming into a new environment to know what is considered acceptable. This is what needs to

(Continued on next page)

Graduate Student Council

The Changing Needs of Graduate Students

Dilan Seneviratne

A new academic year, another year to keep working on closing the gap between what is absolutely needed and what is currently available for graduate students.

The graduate student mindset and their graduate school lifestyles are constantly changing ones. Accepting this continuous change and adapting and catering for these needs can be very challenging.

In most respects, graduate students' needs and ambitions differ greatly from their undergraduate counterparts. This makes the adapting and catering for student needs even more difficult. The Graduate Student Council (GSC), the closest link for the bulk of 5,700 graduate students, identifies and brings to the fore most of these demands by identifying the needs and setting up the foundations to help graduate students achieve and satisfy those needs. With the assistance of the MIT administration, the GSC helps the Institute better guide and address graduate student needs.

Given the importance of adapting to those needs, we need a truly collective effort. Along with the main administrative branches, faculty have a big role to play in helping and assisting the graduate students achieve their targets.

Sampling a set of graduate students reveals a series of common beliefs and ambitions: Coming to graduate school, especially to a highly prestigious one like MIT, is a means of enabling them to gain a greater thrust in propelling them in their future careers. Most of the students look for quick throughput, to enable them to begin their careers early.

A comparison of students graduating from grad school over the last decade indicates that what were generally termed "alternative" careers in the past (e.g., management consulting, finance, patent law, venture capital) are now main stream career options for most graduate students. The reason is simple: independence and startup culture being the norm, there is an ever-increasing demand for talented individuals with a wide scope. High-paying industries like finance and consulting are also in the constant hunt for such people.

Students are constantly looking for ways to add value to themselves. This is evidenced by the large demand for places in Sloan School courses, increasing interest in programs like TPP (Technology and Policy Program), and demand for interdisciplinary research. Essentially, it is about learning

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Hey Buddy, Can You Spare Some Time?

Devereaux, from preceding page

change. Students should learn to take advantage of talking with faculty before their junior and senior years. This will take a community shift, but each one of you can help make this happen. To do this I ask you to make it a part of your lives to actively seek out students. If each of you reached just three or four students, each undergraduate could know at least one professor outside the context of the lab or the classroom. This would make faculty and student relationships the rule, rather than the exception.

Some of the obvious things that students can gain by spending time with

interesting, diverse people. Some can offer a good conversation about the news, or a tutorial in a language that you have wanted to learn. You might find someone who plays in a jazz band (your passion) who needs a new saxophone player (your specialty). Or, if jazz isn't your thing, you could gain a tennis partner twice a week. You may meet a student who is very interested in your research and is dedicated to your UROP because they see you each day and know you are interested in what they are doing.

When a student comes to ask you for a recommendation, you will know more

used on students, rather than wasted while you wait for no one to show up.

I realize that this cannot be a one-way street. Students must be willing to meet faculty halfway to have this vision become a reality. Some groups have taken steps to facilitate the faculty/student interaction. Student Class Councils hold mixer events and certain living groups hold dinners and invite faculty members to attend. The UA and the Office of the Dean for Student Life created a series of "Stochastic Student Dinners" to have faculty, administrators, staff, and students gather in one place to talk about issues at MIT over a good meal. The Faculty Committee on Student Life Affairs is also looking at ways to encourage good relations between faculty and students. I hope that each of you will think about getting involved with any of these groups or you might even try some simple steps on your own. You could eat lunch with a group of students at Lobdell or Walker once a week, become involved with a living group, go out to a dinner with some students, attend Fall Festival and Spring Weekend events, or invite your class to see an LSC movie with you.

I know this does require some time, which is a precious commodity at MIT. I don't ask that you give more than you are able. Both faculty and students are in a balancing act to make each aspect of their life fit, but this is important to our community and we need to take some action. We can accomplish a lot by taking one step at a time. Many small efforts compounded with each other will create a large effect. This is a needed change on our campus that will go a long way in both shaping students and enriching your own lives. ❖

[Jaime Devereaux can be reached at jaime@mit.edu]

... early in a student's MIT experience there are few strong examples of students and faculty seen together outside of the classroom. Though MIT advertises their great faculty-to-student ratio, this is not taken advantage of in the freshman program. It makes it hard for freshmen coming into a new environment to know what is considered acceptable. This is what needs to change. Students should learn to take advantage of talking with faculty before their junior and senior years.

faculty are that we can find UROPs we are interested in, have more enjoyable classes, get career advice, or have someone to go to for a recommendation when we are applying to grad school. Though less obvious, but arguably the more important benefits to students, are a faster integration into the MIT community and increased opportunities for intellectual growth.

Faculty can also gain from this. I think that those of you who often talk with undergraduates would agree with me when I say that undergraduates are very

than just their grade in your class; you will know that they are a nationally-ranked athlete and an established musician, in addition to maintaining top grades. You will not know this from their resume alone, but because you saw them compete or perform in concert. Once students see that you are interested in them as individuals they will be less likely to skip class or sleep through it (with the exception of days when problem sets are due.) Students will be less intimidated and therefore more likely to attend your office hours. Your office hours will be better

The Changing Needs of Graduate Students

Seneviratne, from Page 28

other fields, participating in courses outside their departments, and learning about the business environment. The result, is that increasingly students spend less time on their main research. Furthermore, students are looking to graduate quickly so that they can engage in the New Economy.

Student lifestyles have also evolved a great deal. Nowadays, graduate students are more extroverted, looking to engage in a host of extracurricular activities. Engaging in extra curricular activities offers students the opportunity to network and socialize with fellow students, alumni(ae), and the few faculty who venture out to meet students.

In line with this new "style," there is a striking point in how students select their graduate school. Long gone are the days when a graduate school was selected purely based on prestige. Nowadays, it is about finding a graduate school that offers a good balance between study, research, and student life. A healthy stipend, availability of funding at the start, good advising, convenient and comfortable accommodations, a vibrant social life, the ability to network and interact with future trendsetters, are some of the key points pondered before selections are made. Students who come to graduate school at MIT are fully aware of the other opportunities that are available to them. It is no secret that other universities with reputable graduate schools such as Stanford and Northwestern offer higher stipends and better standards of living. That is why these schools continue to attract more and more bright students away from MIT. It also has to be remembered that students opt to attend graduate school at the expense of working in industry. It is easy for students to drop out, if things do not go their way in graduate school.

The additional 125 beds this year (the new Warehouse residence, formerly called NW30) and up to 650 available next year (at the Sydney/Pacific residence) will no doubt alleviate the housing problems of new arrivals. Indeed, this is a positive step in confirming MIT's commitment towards improving the difficult housing situation faced by graduate students. A great deal of perseverance and collective effort will be required to ensure that the new buildings do indeed cater to students especially with regards to amenities and community-building. This has been satisfactorily done in the case of the Warehouse residence and the basic design of Sydney/Pacific. We have to ensure that student input continues to be considered as construction of Sydney/Pacific steams ahead. Similarly, the completion of the new athletic facility will help improve MIT's image of offering students more facilities outside of the laboratory.

Preparing students to face the outside world is one of the issues in which the GSC is directly involved. The Academics, Research and Careers Committee of the GSC organizes Professional Development Seminars (PDS) aimed at highlighting the current career trends, identifying the career choices available, and discussing the skills required for various fields. The Graduate Leadership Program is another positive activity. This year the GSC, together with support from the Graduate Students Office, Residential and Student Life Programs (RLSLP) and Graduate Administrators, developed a Leadership Program for graduate students. A group of 70 student leaders involved with various student groups will participate in the first session. It is hoped that this idea of providing opportunities for professional development can be

expanded and be made available to the larger graduate student body. There is no doubt how beneficial this can be.

In addition, the GSC organizes the annual graduate career fair at MIT in an effort to bring together employers and students under one roof. This has proven to be a great service for graduate students, with last year's event attracting nearly 2000 graduate students and over 350 companies. This year's career fair will take place on the 20th and 21st of September.

The need for the GSC to organize these events stems from the fact that there are no staff members at MIT fully dedicated to catering to graduate students and their career needs. This is a rather surprising and disappointing situation, given that graduate students constitute more than half the student population, yet lack administrative support in certain critical areas, like career assistance. This point has been raised over and over again in the past, with only limited action.

While the Office of Career Services and Pre-professional Advising (OCSA) has made efforts and carried through with having one dedicated person dealing with graduate students, this is by no means sufficient. In fact, a comprehensive review of graduate student career needs and trends, and identifying ways to effectively cater for those needs, is necessary.

Grad School 101, which was started last year, will be held again this year during the fall semester. Moderated by Dr. Ike Colbert, dean for Graduate Students, and Professor Steve Lerman, former chair of the faculty, the series of four seminars will address some of the critical issues facing students in graduate school. We strongly recommend new graduate students attend these seminars and your assistance in informing them

(Continued on next page)

The Changing Needs of Graduate Students

Seneviratne, from preceding page

about them will be most appreciated. There is nothing better than being well prepared!

This year, the GSC also initiated a couple of programs to help new students. The mentoring program for incoming international students is one of them. The program involves pairing up an incoming international student with a current MIT student and also an MIT alumnus. This has been hugely popular, with nearly half the incoming international students participating in the program. Another new program is the MIT airport shuttle service for newly arriving graduate students. This is aimed at ensuring new students arrive at their graduate residence trouble-free. Both these programs will go a long way toward promoting a favorable first impression of MIT to the new students.

On a different note, it is no secret that it is the graduate students who help the faculty carry out the research which in turn helps build the image of MIT. That is why attracting the best and the brightest is important. It is also no secret that attracting the best and the brightest graduate students to MIT is a challenge. As was mentioned above, graduate students now look for

many things other than just repute. As the cost of living continues to increase (spiraling rents being a major factor) stipend increases are still necessary. While there have been some substantial increases in the past two years, MIT is still not in the same league as other institutions such as Stanford and Northwestern in terms of providing a stipend based on the cost of living in their respective areas. Subsidizing health and dental insurance (when and if that is made available for graduate students) will help improve MIT's ranking in the "student compensation" league.

I'll wrap up with a quick mention of some events coming up in the next year where we would really like to see faculty participation. Run4Kids <<http://www.run4kids.com>> is a charity run (open to everyone, young and old) scheduled for the 23rd of September, with proceeds going to charities dealing with kids. We hope you will join us with your families. Then there will be the Infinite Buffet (a buffet along the infinite corridor), another family event being planned for the 27th of October. In the spring semester we are planning for an Institute-wide exhibition of MIT

research (Research Expo) presented by various research groups. We will be soliciting your input on this in the coming weeks. We hope you'll be part of this unique exhibition. Also in the planning is a conference on developmental issues for third world countries. This is planned for next April. In addition, there will be a number of social and networking events. Some are technology-specific, such as those organized by TechLink <<http://web.mit.edu/techlink>>. Others will simply be opportunities to socialize with students, alumni and alumnae. Whichever of these you intend to participate in, students will be eagerly awaiting to meet you!

Finally, it is clear that there is a fair bit of work to be done in order to make the graduate experience at MIT truly enjoyable and in line with some of the other competitor schools. Some courage on the part of the faculty in understanding the demands and needs of the new-generation graduate student will go a long way towards achieving that goal. I invite you to help create a cutting-edge graduate student experience!♣
[Dilan Seneviratne can be reached at dilan@mit.edu]

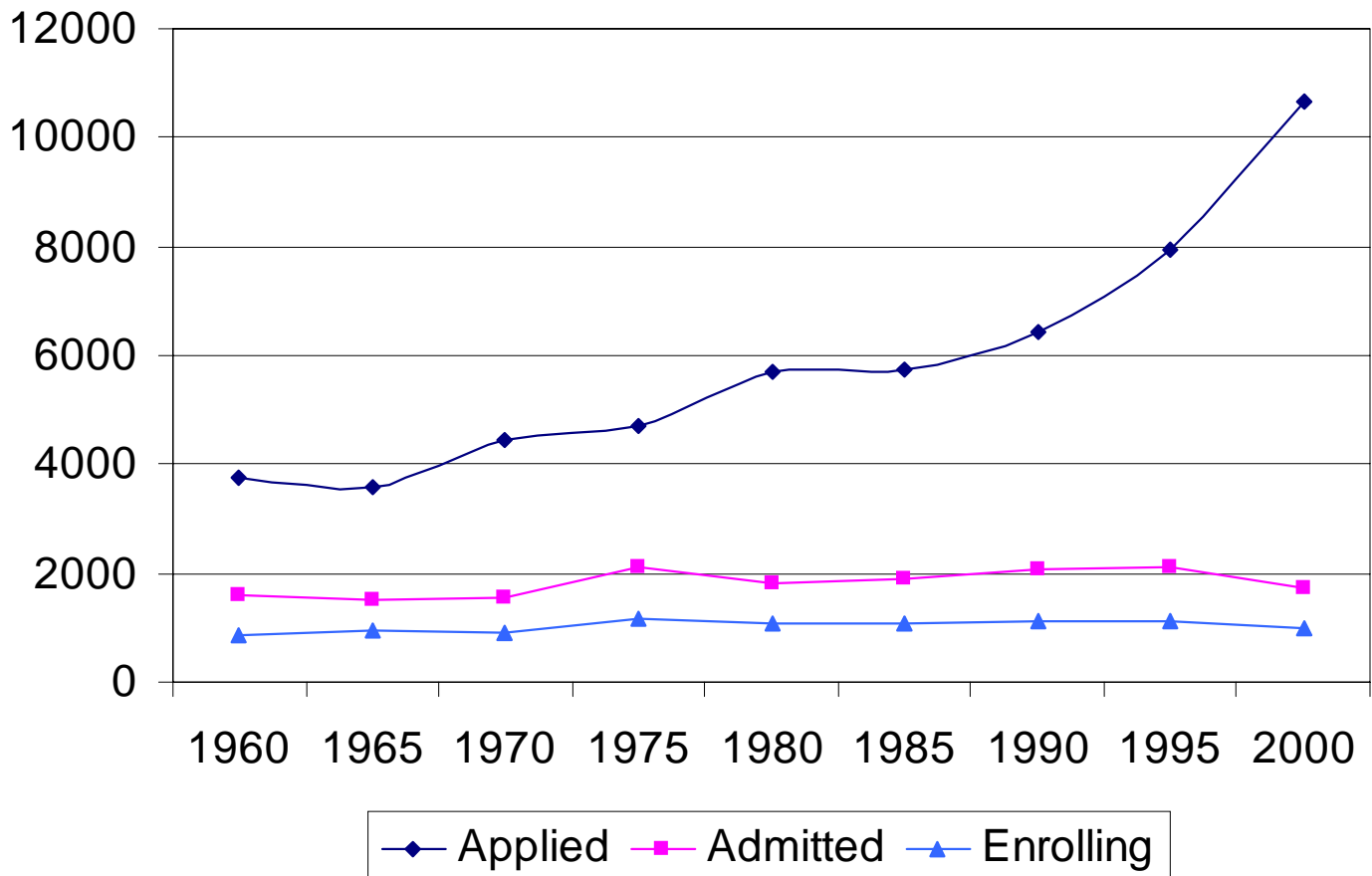
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Faculty Invited to Ashdown Centennial Ball

- 100th anniversary of the construction of the building that is now Ashdown House.
- Saturday, September 28, 8pm at the Avery Allen Ashdown House, 305 Memorial Drive.
- Sponsored by: Ashdown House, the Large Event Fund, The Dean for Student Life, and the Graduate Student Council.
- A celebration of graduate residential life featuring house history, dancing, international groups, and food.
- All faculty are welcome to attend. RSVP not required.
- Contact: Jenny Farver, AHEC Chair ahec-chair@mit.edu; 617.225.9770

M.I.T. Numbers

MIT Enrollment History



<u>Year</u>	<u>Applied</u>	<u>Admitted</u>	<u>Enrolling</u>
1960	3745	1582	857
1965	3580	1532	929
1970	4460	1537	896
1975	4726	2106	1154
1980	5677	1809	1081
1985	5743	1885	1061
1990	6423	2051	1101
1995	7958	2112	1118
2000	10672	1729	1012

From: *New Kids on the Block: Observations on the Newest Generation of MIT Students* (See Page 12)