

# The MIT Faculty Newsletter

Vol. X No. 1

September 1997

## "I Have Truly Found Paradise" Ad Hoc Group Aims To Reframe "IHFP"

Stephan L. Chorover, Woodie C. Flowers,  
Stella E. Humphries

**O**n August 8, some three dozen colleagues gathered to informally explore what could be done to improve the quality of the undergraduate experience at MIT. Our aim is to take a proactive, campus-wide, grass-roots approach to educational innovation, while supporting and extending ongoing efforts to improve the quality of the learning environment at MIT.

Each of us has personal reasons for feeling compelled to act in this moment. Many signs of mounting pressure for change from within the Institute are evident from a review of *Newsletter* editorials and articles during the past year.

Anyone looking for a significant external signal that education "the MIT way" is seen as lagging behind the needs of a changing society need only note the recent award of \$200M by the Olin Foundation to Babson College to create a new school of engineering. Why not MIT? According to an account in *The New York Times* of June 6, 1997: "Joseph Bordogna, acting deputy director of the National Science Foundation explained: 'MIT has been invested heavily in the old paradigm – you take a frontier of new knowledge and break it into pieces. But engineering is becoming integrative. And it's important to have some kind of experimentation going on in that area.'"

The good news? This is a timely challenge for MIT. We can and must renew and strengthen the Institute's established leadership role in science-based undergraduate education.

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## TEACH TALK

### Efforts to Improve Teaching Gain Momentum

#### Math's Three-Part Program Provides a Coordinated Effort

Lori Breslow

**W**ith the start of the school year, we have much news to report on efforts to improve teaching and learning at MIT.

In the spring, as part of the reorganization of Undergraduate Academic Affairs led by Dean Kip Hodges, the Teaching and Learning Laboratory (TLL) was born. TLL will expand upon the work of its predecessor, the Teaching Resource Network. It will create new, innovative programs to help MIT faculty improve their teaching, provide services for students to assist them in strengthening their learning skills, and undertake studies on learning in science, engineering, and technology in order to apply that research to actual classroom practice. For more information, please check the TLL Home Page [<http://web.mit.edu/odsue/tll>] which will be available within the month.

There are also new goings-on with "Teach Talk." With this edition of the *Faculty Newsletter*, we begin a feature called "Problems, Pitfalls, Booby Traps, and Surprises in Teaching." We'll describe common teaching situations that pose challenges to MIT instructors. Then we'll gather suggestions from faculty about how to handle these dilemmas, and report back the results of our research in the following "Teach Talk" column.

The scenario, "They're Not Paying Attention" (see Page 9), is the first of this series.

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## Editorial

# Re-inventing Ourselves (continued)

### If Not Us, Who?

Another academic year is upon us. Forces only somewhat within our control continue to impact the Institute and all of higher education in America. Federal budget cuts, reduced money for R&D, potential sponsors more interested in the bottom line than education are some of the most obvious.

Yet perhaps of greatest significance for MIT was the endowment late last spring of \$200M by the Olin Foundation to Babson College to create a new school of engineering. When asked "Why not MIT?" the answer forthcoming was precise and to the point: "MIT has been invested heavily in the old paradigm..." said Acting Deputy Director of the National Science Foundation Joseph Bordogna. "...it's important to have some kind of experimentation going on in that [engineering] area."

Late last summer, an ad hoc group of faculty and administrators met informally to explore what could be done to improve the quality of the undergraduate experience at MIT. Our lead article reports the results of that gathering ("I Have Truly Found Paradise," Page 1). We strongly encourage our colleagues to participate in that discussion by contacting group members and by expressing opinions through the pages of the *Faculty Newsletter*.

A more formalized approach to a similar issue was the establishment last year of the faculty-based Task Force on Student Life and Learning. A

preliminary report of its work can be found on Page 15, with a Special Edition of the *Faculty Newsletter* devoted entirely to the Task Force to appear shortly.

Several other articles in this issue of the *Newsletter* also deal with undergraduate education. Our regular series "Teach Talk" (Page 1) is introducing a new feature "Problems, Pitfalls, Booby Traps, and Surprises in Teaching," there's a piece on facing teaching dilemmas (Page 10), and both of our M.I.T. Numbers pages are excerpts from the 1997 Survey of Parents of Enrolled Undergraduates.

As a research Institute, MIT remains unparalleled. Yet significant and perhaps even radical change is necessary for the undergraduate program to maintain equal stature. Attempting to redefine "IHTFP" is an excellent and essential place to start.

### Newsletter Ready To Go On-line

With this issue, the electronic component of the *Faculty Newsletter* is ready to go. Our homepage [<http://web.mit.edu/fnl>] will be up and running by press time (or shortly thereafter).

Although very much still a work-in-progress, the FNL website will eventually feature:

- The current issue of the *Newsletter*;
- Archives of all past issues;

**We will continue to publish the printed version of the *Faculty Newsletter*. There are no plans to do away with it.**

- A faculty bulletin board;
- Full-text committee reports;
- Supporting documents and links to related websites;
- Links to faculty departments, laboratories, etc.;
- Expanded *Newsletter* features unavailable in the printed edition (sound, video, full-color).

We will continue to publish the printed version of the *Faculty Newsletter*. There are no plans to do away with it.

Initially, our website will be restricted to those with Athena accounts. After a period of time, if the consensus of the faculty is such, the site will be opened to the rest of the planet.

We encourage you to visit us electronically – and sincerely hope for your input. This is your *Faculty Newsletter* and your website: help us make them what you'd like to see.

#### Editorial Committee

[The *Faculty Newsletter* can be reached by e-mail at [fnl@mit.edu](mailto:fnl@mit.edu); by mail at Bldg. 38-160; by telephone at 253-7303; or by FAX at 253-0458]

From The Faculty Chair**Keeping Faculty Involved**

Lotte Bailyn

**T**he new academic year promises to be an eventful one for MIT. The Institute is undergoing a rethinking of what it is about in many different directions. The first report from the Task Force on Life and Learning is due to appear [see Page 15]; a number of new initiatives are on foot to rethink the undergraduate curriculum, including the new communications experiments voted on last year; the Council on Educational Technology is considering alternative ways to transmit knowledge to our students which may lead to a different on-campus learning experience. And, in preparation for a possible campaign in the future, a number of different constituencies are rethinking what an MIT education means as we enter the twenty-first century.

Though institutions are slow to change, and probably should be, these initiatives in the end may have an impact on all of us. So one question is how the faculty can stay involved in these deliberations. There are some obvious means: contributing to the *Faculty Newsletter*, attending faculty meetings (3rd Wednesday of most months at 3:15), going to Chuck Vest's Town Meeting (October 31, 12-2), working on Institute committees.

There are also some less obvious ways to keep informed about and join the debate. One theme that is emerging from some of these efforts is the theme of community. To what extent is MIT a community with a purpose and vision that is more than an aggregation of individual departments and labs? This question tends to center on the freshman year, since the assumption is made that thereafter all students, and all faculty, have their primary commitment to their departments.

The freshman year is important, and much thought is being put into how to improve it: from R/O week, to freshman advising and freshman seminars, to the nature of the first-year curriculum. But the question is broader than the freshman year, for it directs attention to the dangers of local optimization at the expense of the whole.

follow-up the afternoon of September 22.

During the orientation, those who came mixed across departments and schools. I hope they have forged sufficient ties to continue this interaction and will enlarge their circle of Institute-wide acquaintances, perhaps by attendance at Jay Keyser's monthly dinners for a

**The freshman year is important, and much thought is being put into how to improve it: from R/O week, to freshman advising and freshman seminars, to the nature of the first-year curriculum. But the question is broader than the freshman year, for it directs attention to the dangers of local optimization at the expense of the whole.**

MIT is a centralized university, different from many others. It combines into its core not only the basic disciplines of science and engineering, but also social science and the humanities, including the performing arts, as well as management, architecture, and urban planning, which in many other universities reside in separate graduate professional schools. This wide spread makes the integration complicated, but also more interesting and potentially more fruitful, for both students and faculty. So we need to consider the centrifugal forces that are pushing us apart and see whether we are ready to recommit to MIT as a centralized institution.

We have just greeted probably our largest incoming cohort of new faculty. About half came to our initial two-day orientation, and we hoped to have an even larger percentage for our first

random set of faculty. And I hope they will help us think through other means by which to enhance the meaning for every faculty person of the larger MIT community. By joining in these discussions, all members of the faculty can have a voice in the future development of MIT.♣

[Lotte Bailyn can be reached at [lbailyn@mit.edu](mailto:lbailyn@mit.edu)]

**Faculty Meetings  
1997-98 AY**

October 15, 1997  
November 18, 1997  
December 17, 1997  
February 18, 1998  
March 18, 1998  
April 15, 1998  
May 20, 1998

All meetings are held in  
Room 10-250 at 3:15 pm.

## In Memoriam

# Martin Diskin

Jean Jackson

*On August 3, Professor of Anthropology Martin Diskin died after a long illness. Unique even among MIT faculty, Prof. Diskin will be sorely missed. The following was presented at his memorial service.*

**August 24, 1997**

I adored Martin. Many of us did. He had such a sense of humor, was such a good friend, was so generous, had such a sure moral compass.... Our offices have abutted since 1972. Losing him has been especially apparent when I'm in my office...there's a palpable force there, entreating me to do I don't know what...I want to knock on the door, but no one's home. I look through the opening where the fan is, but the fan is never turned on, the lights are never on, the custodian never finds waste in the trashcan. His life would end in six years, he and Vilunya were originally told in 1971. So we were fortunate. But in another sense it is a life very prematurely cut off, for he had so much more to do.

Martin was not perfect. He had his faults. But he was a hero. Let me tell you why.

Martin projected a quiet dignity and a reassuring calmness. While no Buddha, he was, as they said in the 70s, centered; he never made those around him nervous – quite the opposite. His passions, which were powerful, were expressed in an understated manner.

Martin was alive; he had a zest for life greatly appreciated by those around him. He and Vilunya had many friends, and he cared for them all from somewhere deep inside of him.

He had a marvelous sense of humor. He'd poke fun at himself. With an

absolutely deadpan face he'd say something like, "yes, you're right. I'll have that done by tomorrow." Something in his manner - a too-solemn nod, a blink that was a little long, would tell you that no way would he have it done, no way.

Martin was no *Candide*. He detested some people because of what they did to other people. Some friends became friends no longer; Martin had a clear sense of who he wanted to be friends with, and people change. Martin didn't want to hurt people. When he found that people were being needlessly hurt, he not only became upset, he took action. He was very good at noticing sham, cant, hypocrisy, and self-serving, fake, liberal guilt.

Yet he had a generosity of spirit towards everyone. This could lead to, in the eyes of some of his friends, an unwarranted optimism. But his faith in the peace process and the people of El Salvador, his faith in the advisability of helping people come together and act collectively, his faith that people could determine what is *really* in their best interests never faltered. This faith is a wonderful legacy he left us. We all become apathetic and cynical; when we do, we can remember Martin's faith; he is the best example I can think of of that kind of faith instantiated in a real person.

Many people admired this outlook and sought to emulate it. Lisa Rofel, a former colleague of ours, said that Martin had been a model for her of how to see the world, and how to act rather than simply react – with cynicism, and pessimism about whether anyone can do anything that will change anything. Martin had a wellspring of hope in him and a passion about injustice that came across to all of us – his students, his

many academic colleagues in Latin America, the prisoners in El Salvador jails, the immigrants who were being hounded by the Immigration and Naturalization Service.

He brought a clear sense of ethics and justice to his work and teaching. An important goal for Martin, especially in his teaching, was to connect what you're doing in your research to the real world, in his case, connecting it to human rights issues. He used anthropology as a tool for illuminating injustice. Through his work in El Salvador he was a pioneer in what is now called the anthropology of human rights. At a time when it wasn't really fashionable, Martin was using ethnography to reveal death squads, torture, injustice, broken promises concerning land reform – revealing the effects of U.S. foreign policy at a grass-roots level.

He was a superb example of the "public anthropologist," writing Op-Eds and similar kinds of journalism. He spoke at innumerable church and other community groups throughout New England. In the sense of Margaret Mead (although their politics were very different) he sought to bring anthropological insights to the public, to speak to them in ways they would understand. He worked to make the impact of U.S. foreign policy, especially in Nicaragua and El Salvador, visible to people in this country. To show them the effects of the way their money was spent – billions – effects like political repression, hunger, injustice, a growing gap between the rich and the poor.

He represented an engaged anthropology at its best. He was a North American anthropologist beloved and  
(Continued on next page)

## Martin Diskin

*Jackson, from preceding page*

respected by his colleagues in Latin America.

He had a generosity of spirit, a gentleness that was immensely attractive. I've always imagined that some of those on the other side also had good opinions of him; felt that here was a man they could talk to, here was a principled man, here was a man who thought deeply. I also imagine he changed some of those minds, or at least succeeded in making some of them feel ashamed and uncomfortable.

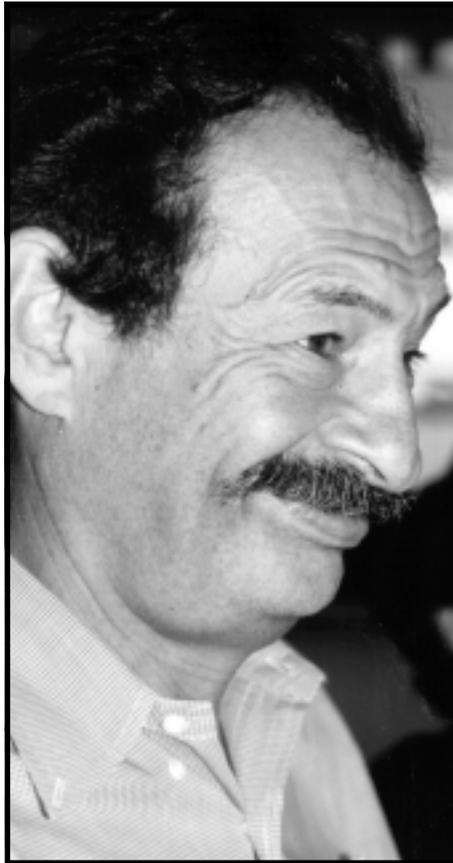
What can we learn from his life as a man dealing with catastrophic illness? Apart from the illness itself, he had everything going for him.

He had a network of family and friends who loved him and expressed that love in a million ways. If you don't have this, I don't know how you can get it; if you do, you've got something priceless.

Throughout his illness I never detected a hint of self pity. Never a whine. Never a whimper of "why me?" – which is a very reasonable question to ask.

He worked. He worked to the end. Reynolds Price, a famous writer who wrote a book called *A Whole New Life* about his struggle with spinal cancer, says that work mutes the "painful cries from the self." The last time I spoke with Martin, the Wednesday before he died, he talked about his book in progress. Upbeat, optimistic in a measured way, to the end. When something socked him in the teeth he expressed his agony - he did not deny what was happening to him – but then would come the dignified, "let's see how we can handle this." The courage, the steady-eyed ability to look at the maelstrom coming and say "there is a way to go through this," were impressive.

So far as I know, he had no deep religious faith to sustain him. But he had spirit, and it shone through to all of us. It's with us today, right here, right now.



Martin was good at letting go of hurts and injustices to him. He did not forget them – indeed, Martin had a very long memory – but he was not the kind to remain actively angry, to brood about how people had failed him. In other words, Martin handled well the losses that are inevitable in everyone's life, even though in his case some of them were formidable.

And the optimism I mentioned above, the buoyancy that was in no way denial, in no way neglect nor resignation, must have sustained him in innumerable ways. The road he traveled was full of perils, pain, torture, potential sources of despair at every mile. But he met each challenge head on, always looking for ways to get through it, calling on his humor, his family, his inner sources of strength.

One way to put it is that Martin chose life. He lived it to the fullest. Living with the threats that were his constant

companions, he came to savor life all the more, to take pleasure from the living, the embodied living that made him a treat to be around. A lot of pleasure for Martin came from having produced, or personally chosen, something pleasurable: coffee, the music of the guitar or Veracruz harp, rum, a well-told joke, fine wine, freshly-baked bread, a purple Vilunya Folk Art rug on his office floor, a vibrant orange flower on the hibiscus plant in his office, a tropical sunset, a garden, a house, a marriage, two marvelous children....

The humor helped, I am convinced, in a million ways. As did his humility, a genuine humility because it came from a genuine respect for other people. He was the opposite of the pompous, puffed-up scholar, the pretentious gadfly pontificating about what was wrong with the world. While this quality undoubtedly helped secure him the best possible attention from health care professionals, I'm sure it helped in a general way as well. No petulance during that horrible time when his sinuses were operated on, or recovering from the spleen surgery, or going through the at times terrifying bone marrow transplant.

He was no martyr. Martyrs expect payoffs, in this world or the next, and Martin was a million miles from this. He was no victim, either. In a paradoxical way, he both fought his illness and accepted it – accepted that this was what was happening to him, but not in the sense of giving in to it.

Martin did not rage. Rage in someone going through what Martin went through is understandable; and sometimes it might help, I don't know. But Martin's route was a different one. As he said many times, when you find yourself in a very bad way, one of the things you learn is that everyone has problems, serious problems.

*(Continued on next page)*

**Martin Diskin***Jackson, from preceding page*

Finally, he had hope. I'm going to say something you won't like, especially given that we're at MIT, in the belly of the rationality beast. There's some intriguing recent research that finds that mental health depends on having illusions. True, depressives sometimes have "distorted cognitions," but this research finds that depressed people often see things more accurately than mentally healthy people. However, when you see how things *really* are, when the rare opportunity comes along, you don't seize it. And opportunities do come along, albeit rarely in the kinds of situations Martin worked in.

This idea goes against a great deal of our received wisdom from the Enlightenment; that knowledge is power, knowledge is health. And I believe it is. But the *accompanying* received wisdom – that emotions distort – they cloud perception – that the nonrational aspects of existence are defective or in need of rationalization, is questionable. For look at Martin: not only did his optimism allow him to see and grab opportunities when they presented themselves, allow him to have the conviction and courage to do all that he did, but look at all the people he inspired to similar feats. Students and activists –

maybe even a State Department agent or two! Look at all they did, and continue to do.

I've had innumerable discussions with people about Martin's buoyancy, his optimism, his ability to see the good in the present and the possibilities for good in the future. And I am convinced this buoyancy helped him in his fight against leukemia, helped him stay with us for as long as he did. I don't know how you get to where he was, but he was the best possible argument for why that's a good place to get to.✚

*[Jean Jackson can be reached at jjackson@mit.edu]*



## The Faculty Lunchroom

**Joel Moses**

**I**n August, Chuck Vest and I attended a meeting of about 30 faculty and staff members, largely arranged by Woodie Flowers, and held at the home of Bob Metcalfe, the current chair of the Alumni/Alumnae Association [see Page 1]. One of the major issues that arose at the meeting was the desire for additional community-oriented spaces, both for the faculty and for the students. This reminded me that a key goal of the Faculty Lunchroom is to foster a community at MIT, the community of faculty.

The Faculty Club played this role decades ago when the faculty size was smaller and faculty life was less hectic than it is now. The Faculty Club terminated its general service a few years

ago. The Faculty Lunchroom, which was started in 1991, and is now located in the Blue Room on the second floor of

**...a key goal of the Faculty Lunchroom is to foster a community at MIT, the community of faculty.**

Walker, currently serves 8-10 percent of the faculty on an average day during the academic year. The price of a buffet-style meal has been maintained at \$3 for several years. The quality of the food increased when we moved the Lunchroom to Walker, as has the average attendance.

What makes the Faculty Lunchroom special is that faculty members from various departments sit around tables conversing with each other. Just as in the Faculty Club years ago, some tables seem to be populated by members of just one department. But there are many other tables where there is a mix of faculty from different departments and schools.

One of the advantages of an administrative position at MIT is being continually reminded how interesting and exciting the MIT faculty is. You should take advantage of the opportunity to find this out for yourself in the Faculty Lunchroom.✚

*[Joel Moses can be reached at moses@mit.edu]*

## TEACH TALK

### **Efforts to Improve Teaching Gain Momentum**

*Breslow, from Page 1*

Finally, we also want to use “Teach Talk” to highlight some of the efforts to improve teaching and learning that are being undertaken in individual departments at the Institute. This column is the first of these reports; it will focus on a three-pronged approach developed by the Mathematics Department to improve the skills of the department’s teaching assistants.

•••••

A group of mathematics graduate students gathers around a table in the Math Department headquarters watching a videotape of a recitation being taught by a fellow graduate student. Some watch with intent interest, a few take notes, others seem to be anxious for the tape to end. In other words, these students are not very different from the typical undergraduates they will face shortly in recitation classes of their own.

When the tape is finished, Professor Haynes Miller, who is leading the group in a discussion on how to teach a recitation effectively, asks for the students’ reactions to what they have just seen. Often, the first comments are on the instructor’s delivery: How animated he was, if he spoke loudly and clearly enough, or if he made sufficient eye contact with the students.

Then, the discussion turns to the subject of the lesson itself, focusing on whether or not the problem was set up well, and if it was developed in such a way that the instructor was able to get at the concepts and/or skills he wanted the students to learn. Here the conversation quickly veers off into the complexities of mathematics, and Professor Miller needs to bring the group back to a discussion of pedagogy.

#### **New TAs Practice Their Teaching**

This is the first session of a three-session microteaching workshop in which participants will eventually prepare and

deliver a mini-lesson (usually not more than 10 minutes long) to this same group. This first session is devoted to introducing students to the concept of microteaching, instructing them on how to give and receive feedback, and showing them videotapes of MIT recitation instructors to allow them practice in critiquing.

In the remaining two sessions, each person delivers his or her presentation as the rest of the group is asked to pretend they are typical MIT undergraduates and to react accordingly. (This may be the hardest part of microteaching for the participants!) The “microteacher” then gets feedback on his or her performance from the other students, from Math faculty who attend the sessions, and from a teaching consultant. Each microteaching lesson is videotaped, and the person is given the tape to view. The tapes are only available to the individual although the participants are urged to watch themselves with colleagues or friends who are likely to be much less critical of their performance than they are.

The department began holding microteaching workshops twice yearly (at the beginning of each semester) for all its graduate students in January 1995; last year it made microteaching available to its postdocs as well. Midway through the semester, the department brings each group of students back together for lunch – a kind of “class reunion” – to see how they are faring in the classroom.

#### **Mentors Work with Novice Instructors**

But microteaching is only one of several activities the Mathematics Department has put into place to improve the quality of instruction in the department.

“There was the general feeling that something should be done to strengthen our teaching,” said Professor Michael Artin, who as Chairman of the Undergraduate Committee was instrumental in putting the program in

place. “We had at least two goals in mind – to improve teaching by direct intervention and to raise the consciousness of the importance of teaching.” (In the first years, Professor James Propp organized and facilitated the microteaching workshops, and they were supported, in part, by the office of Curriculum Development and Faculty Support headed by Dean Peggy Enders.)

Along with microteaching, the department also began to pair soon-to-be recitation instructors with TAs currently in the classroom in a kind of mentorship arrangement, and videotaped an entire class of every new TA, providing him or her with a review of that tape.

According to Professor Miller, mentorships are arranged, to the extent possible, on the basis of “personality and style.” After pairing new TAs with seasoned veterans, the trainees are required to attend several classes taught by their mentors. The new teachers are then asked to teach at least half an hour themselves. (Some of the new people sit in on more classes and/or teach longer.)

Ioanid Rosu was a trainee in the program and then “graduated” to become a mentor himself; he has guided five trainees over the last several years. By his own admission, he puts the people assigned to him through a rigorous process.

“I believe that teaching is different from understanding,” he explained, “but I don’t tell math graduate students that because I’ve found they don’t believe me.” Instead, he has his trainees lead a recitation for 15 minutes, which shows them just how demanding teaching can be, and then he provides more training. Finally, the new people teach either a half or a whole recitation, but not before they have practiced what they are going to do in the classroom over and over again with him.

*(Continued on next page)*

## Efforts to Improve Teaching Gain Momentum

*Breslow, from preceding page*

"I'm very picky," he confessed, "I point out all the little things they do wrong." But the opportunity to watch a good recitation instructor in action, to practice what has been learned in principle, and to receive extensive, precise feedback all strengthen the new TA's ability to be effective in the classroom.

### Videotaping Allows TAs to See Themselves in Action

Rosu was also videotaped, the third piece of the Math Department's program. "I was definitely bad at the beginning," he said of his own teaching. "I wasn't communicating at all with the students. I was lecturing instead of interacting. It felt different on the inside from how it looked on the outside."

Rosu credits Professor Arthur Mattuck with improving his teaching. Professor Mattuck began the videotape program in the Math Department in the 1970s as soon as videotape cameras became widely accessible. He immediately recognized the contribution video could make to the teaching process.

"I had been doing classroom observations for a number of years," he explained, "but I found people often didn't believe the feedback I was giving them. Obviously, with videotape they can see for themselves what I've observed."

Professor Mattuck also credits videotape with the ability to allow the reviewer to be extremely specific in his or her feedback. "If I point out to a new instructor that she asks vague questions, she may or may not relate to what I'm saying. But if I can tell her that 23 minutes into the videotape, she posed a question the students didn't understand, and she can see the puzzled look on those students' faces, then she has something definite to focus on."

Although Professor Mattuck is known for not mincing words in his critiques, the students gain much from his feedback. "Professor Mattuck's critique is careful, critical, and right," Rosu said, putting particular stress on the last characteristic.

## Problems, Pitfalls, Booby Traps, and Surprises in Teaching

### "They're Not Paying Attention"

**Y**ou teach a large lecture in the morning to a class of 400 students, most of whom are freshmen. Every class, there are at least several students who are (pick from the following): (a) sleeping, (b) eating, (c) reading the newspaper. What do you do? Do you handle all three behaviors the same way, or does your reaction change depending upon what the students are doing? Will it matter if it is the same students who are eating, sleeping, reading during each class period or different ones? Does the fact that the class meets in the morning play a role in the way you handle the situation? Would you respond differently if the students weren't freshmen?

*[Please send your responses to the Faculty Newsletter at 38-160; e-mail: fnl@mit.edu.]*

### Teaching Becomes "Respectable"

While the Department has not done an overall assessment of the program, written evaluations of the microteaching workshops, for example, are consistently good. David Carlton, a fourth-year doctoral student, explains, "You learn some things in microteaching that you wouldn't have known before." In fact, Carlton has taken what he learned, and used it as the basis to innovate further: He organizes all the students in his recitations in groups and has them work together throughout the class period on problems he assigns. Carlton was recently invited by the Math Department to give a short talk on this method of recitation teaching.

But even if precise data has yet to be collected on the efficacy of these efforts, according to Department Chairman David Benney, "It's a program that seems to be working. The TAs feel better about going into the classroom."

(According to Professor Benney, another valuable by-product of these activities is that Math Department students who are on the academic job market can point to definite efforts they've undertaken to improve their teaching, and they can provide specific evidence [e.g., their

classroom videotape] of their teaching skills. As more universities demand proof of teaching ability as part of the hiring process, this can give MIT graduates a competitive edge.)

Arthur Mattuck echoes Professor Benney's estimation of these efforts. "Because of these activities," he said, "teaching is now accepted as something to talk about – even among the faculty. Microteaching, mentoring, and videotaping have all made teaching a respectable subject to discuss in the department."

The experience of Rebecca Goldin, who went through a microteaching workshop this fall, supports Professors Benney's and Mattuck's sense of the positive effects the Math Department's efforts have had. Talking with Professor Miller after the workshop, Goldin recounted how she had asked one of her fellow graduate students to come to observe her recitation, and a third colleague had asked her to sit in on his class. "I don't think that would have happened if we hadn't all gone through microteaching," she said. "Many of us are paying more attention to our teaching now; we really want to improve."❖

*[Lori Breslow can be reached at lbreslow@mit.edu]*

# Facing A Teaching Dilemma? Let “PROF” Guide You

Miriam Rosalyn Diamond

**W**hen opening discussions on faculty-student interactions, I often suggest some general guidelines for how best to respond to the array of complex situations that can arise around teaching. These guidelines – that of Professionalism, Reliability, Open-mindedness, and Fairness (“PROF”) – can provide direction in choosing a mode of action. They are useful in evaluating the issues involved and the options available.

## Professionalism

The example you set and the way you interact with students have a strong impact on the educational process. Projecting a professional demeanor and behaving with integrity are critical components of being an effective educator. For instance, let a student know if you are uncomfortable providing a reference letter for him or her.

Honesty is another important aspect of professionalism. Have you ever made an error during lecture, or not had information handy when a student asked a complex question? These awkward situations can actually be transformed into opportunities to model how to learn from errors or locate the resources to search out answers to difficult questions. Don’t be hesitant to admit if you made a mistake or can’t answer a question.

It is also essential to be clear about your role and responsibilities. Know the boundaries of your position as a faculty member. You may be an instructor, role model, academic advisor, or career mentor. Your job is not that of a best friend, surrogate parent, or therapist. Accordingly, it is important to know when and where to refer students who need help beyond your area of expertise.

If a student seems to require assistance outside your realm, communicate

concern and refer him or her to the appropriate resource (such as the Office of Counseling and Support Services). Contact these resources directly if you are apprehensive about a student’s stress level or well being.

**It is also essential to be clear about your role and responsibilities. Know the boundaries of your position as a faculty member. ...Your job is not that of a best friend, surrogate parent, or therapist.**

## Reliability

It is important to be prompt, available, and approachable. For example, you should return examinations, problem sets, and assignments as soon as possible, providing ample information in your comments, because research has shown that one of the keys to successful learning is immediate, unambiguous feedback.

Avoid making statements while the semester is in session that may mislead students about what their final grades or final standing in the class will be. You may let students know their *current* standing/grade in the class. Make it clear that marks can and do change, pending future class performance and the final determination of grades.

Availability to provide assistance is critical. Make sure you are holding office hours when and where stated. If students do not make use of this resource, find out why.

Be accessible. You can chat with students who arrive early to class or

remain behind to “check in” on how things are going with them. Encourage questions – and answer them – during classes.

## Open-mindedness

Your classroom should be a comfortable place. It is important to create an atmosphere that is welcoming and safe for any student – regardless of age, gender, sexual preference, physical appearance, ethnic or cultural background. Try to avoid jokes or metaphors that might offend. If you feel uneasy around a particular student, discuss the matter with a resource person or colleague to ascertain why and the best way to proceed.

It is wise to encourage students to tell you if they find something about the class to be offensive. If you realize you have said something that could be construed as insulting, apologize and take the opportunity to learn from the experience.

## Fairness

Make sure you have clear standards for the evaluation of students’ work, that the students understand what the criteria are, and that you apply them fairly. You may also need to consider how to balance the needs of one student with your responsibilities to the class as a whole. For example, what criteria should you use to decide if one student can have more time than the rest of the class to finish an assignment?

In addition to following the “PROF” guidelines, remember that you are not alone when facing a teaching dilemma. Consult a colleague about your concerns, or contact specialists at the Institute (such as counselors, ombudspople, or the TLL staff) who are available to advise you.♣

*[Miriam Rosalyn Diamond can be reached at mdiamond@mit.edu]*

# Conflicts of Interest Arising From Personal Relationships

Mary Rowe

From time to time one hears of students or staff attracted to their teachers or supervisors, and vice versa. Sometimes this attraction leads to a sexual relationship. Occasionally one also hears of a senior or junior person who makes an implicit or explicit quid pro quo offer - or who is interpreted as having done so. Such situations involving a senior and junior person are always complicated. If they do involve a sexual relationship, they may, under MIT policy, represent a conflict of interest (and, of course, may represent harassment).

MIT does not have a blanket policy forbidding sexual relationships between senior and junior people in educational or work settings, but does have a policy obliging faculty and staff to avoid conflicts of interest and to seek advice about potential conflicts of interest. The policy includes statements that "Potential conflicts of interest of a particularly sensitive nature may arise out of sexual relationships, especially in the context of educational and employment supervision and evaluation... (and)... anyone with a personal interest that may have the potential for conflict with the interests and welfare of the Institute should seek advice and guidance..." (*Policies and Procedures 4.4*)

Several senior faculty suggested that I write this article, citing two reasons. One is to let people know what MIT's policy is on these matters. The second is to present examples of how such relationships may present problems for those involved, as well as for others in the workplace, classroom, or lab.

If you are asked for advice, you might wish to discuss the following ways in which a personal relationship might conflict with an individual's responsibilities as a teacher and/or supervisor:

- A student who is known (or thought to be) in a relationship with the supervisor may have his or her work evaluated differently by others in the field, since people sometimes attribute all good ideas or results to the senior person in the relationship.

- Sometimes the relationship causes the student to doubt his or her own abilities and performance – the relationship may actually undermine the self-confidence of the junior person.

- Recommendations and grades may become suspect or professionally inappropriate.

- Colleagues of either party may become uncomfortable and resentful and may complain, if they believe there is favoritism or if they are offended by some aspect of the relationship.

- Professional relationships may be permanently damaged. This is especially common with fellow students.

- The relationship frequently is known, even when the two people have been very discreet. Many relationships are first observed away from MIT, so career damage may occur in wider circles as well as within the community.

- A senior person needs to be clear about the difference between a junior person's "consenting" to sexual activity and that person's actual willingness to be involved. Junior people at MIT often mention that they are profoundly unwilling to say no to supervisors who have influence over their careers.

- Any person in such a relationship should consider that even willing relationships can lead to harassment complaints: for example, from peers of the junior person, or from one of the parties when a relationship breaks up.

- There are also sometimes-subtle problems of loss of respect and trust that should be considered by all senior people. For example, students who would like to consult a faculty member about work, or about problems of their own, sometimes report that they do not feel comfortable doing so if that person is perceived to be in a relationship with a student. (In fact, because these problems are so real, it is important to try to discourage gossip about the personal relationships of others.)

If someone finds that he or she is attracted to a student, a teacher, an employee, or a supervisor, it is possible to seek advice off the record (see *Policies and Procedures 4.4*).

There are often reasonable ways to avoid the conflicts of interest cited above. Most of us know happy marriages or long-term relationships that have resulted from people falling in love with someone who supervises or reports to them.

The basic guideline is this: People should find an orderly and timely way to disengage from the supervisor/supervisee relationship if they want to pursue the personal relationship. For example, a TA might hold off on asking out a student until the relevant course has ended. A responsible faculty member who is falling in love might work out some way to find appropriate alternate supervision for the junior person, or might wait until graduation to pursue the personal relationship. When approached in a timely fashion, department heads can often help to see that this happens in a supportive way for all concerned.

While people involved in a sexual relationship frequently seem unaware of effects on others at work or in the classroom, most faculty and staff I know take such matters very seriously. There are, however, a wide variety of opinions on these matters. For example, senior faculty and staff have recently expressed these thoughts to me:

- Both parties have an obligation to seek advice but it is mainly the responsibility of the senior person to avoid conflicts of interest and preserve the professional/educational relationship.

- "Consenting relationships" are private business and only private business.

- Relations between faculty and undergraduates are even more serious than those with graduate students; (some think they are never appropriate, even if there is no element of supervision).

- Some conflicts of interest that arise from sexual relationships with a supervisor are so serious that they cannot be managed – all such relationships should simply be avoided.

Perhaps readers of the *Newsletter* can help add to this discussion.♣

[Mary Rowe can be reached at [mrowe@mit.edu](mailto:mrowe@mit.edu)]

### Ad Hoc Group Aims To Reframe "IHFP"

*Chorover, et al., from Page 1*

Toward this end, we envisage people from all sectors of the MIT community engaging in open discussion of what we want and need. As a start, we invited several dozen faculty and administration colleagues to join us. Although we had to restrict the numbers simply for logistic reasons, the intention remains to engage everyone who has a commitment to educational innovation.

The responses were overwhelmingly encouraging, with almost all of the invitees expressing both support for the effort and an interest in attending the meeting.

Despite vacation conflicts and other scheduling problems a diverse group of more than 30 senior faculty members, administrators, and others attended the meeting, including the chair of the faculty (and her two immediate predecessors), the chair of the special CUP Committee on the First Year Program, the co-chairs of the Presidential Task Force on Student Life and Learning, and the chairman of the MIT Corporation.

The meeting was hosted by Bob Metcalfe '68 – President of the MIT Alumni/ae Association – at his home on Beacon Street in Boston.

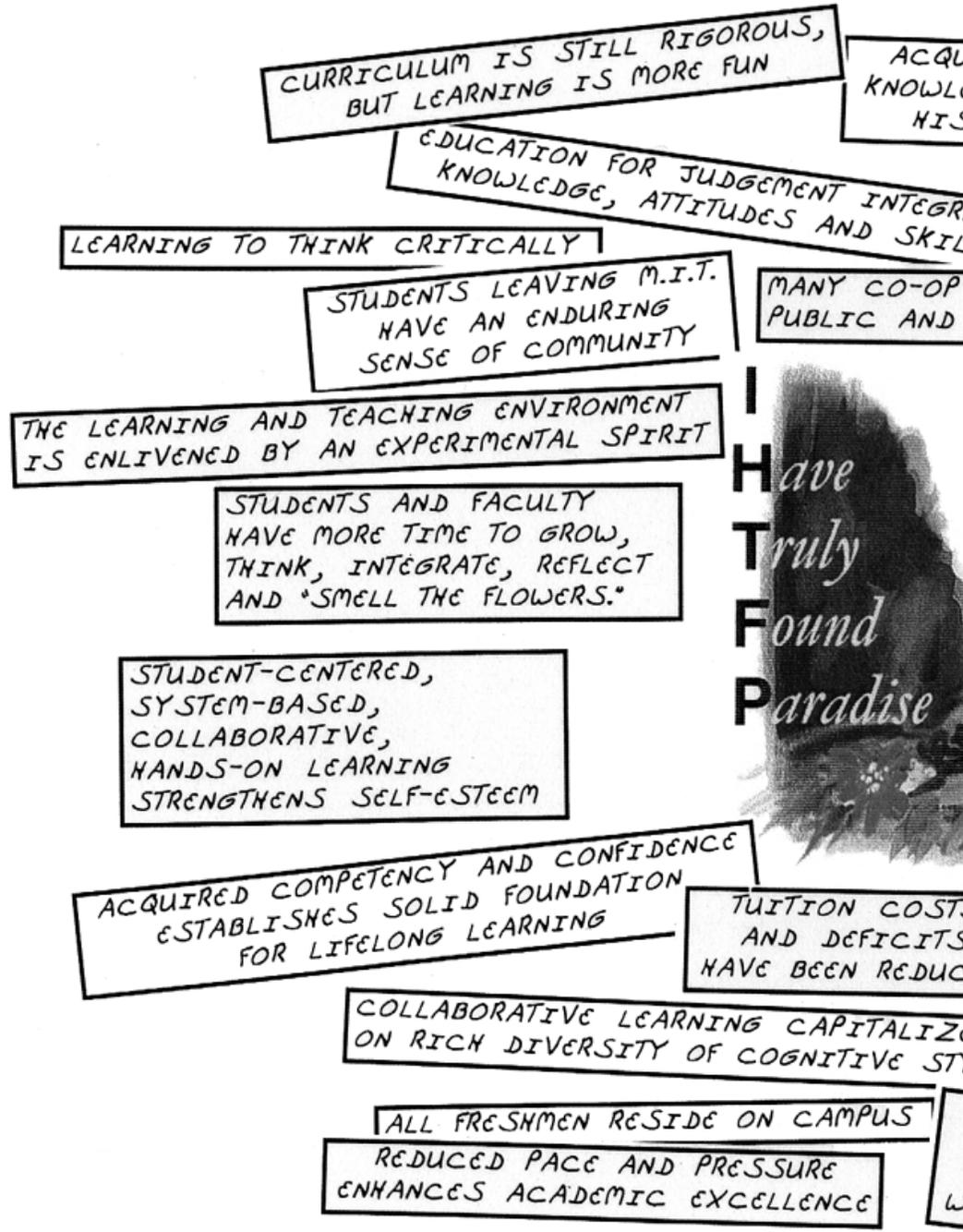
The meeting began with participants briefly describing their personal visions of what MIT undergraduate education would be like if it could be described as "paradise." The ensuing discussion was lively and productive. It engendered a striking general consensus regarding desiderata (see "centerfold" for a selection of representative expressions).

There was a remarkable degree of agreement among us on the need to build a community of learning that values the development of the whole-person; a community that deliberately and explicitly fosters a psychosocial

environment within which individuals can mature into responsible, self-actualized adults while pursuing an academically rigorous education. The refrain "we must not lose the 'brightness

in the eyes' of incoming students" puts it most succinctly – that spark of enthusiasm and anticipation of great things must be nurtured and not allowed to go out.

### Some Thoughts on



As a first step to making this a reality, the group identified four themes around which to focus further dialogue and activities:

- (1) Designing And Implementing Educational Experiments;
- (2) Building Community;
- (3) Developing A Vision For MIT Through 2020;
- (4) Linking With Ongoing, Complementary Activities.

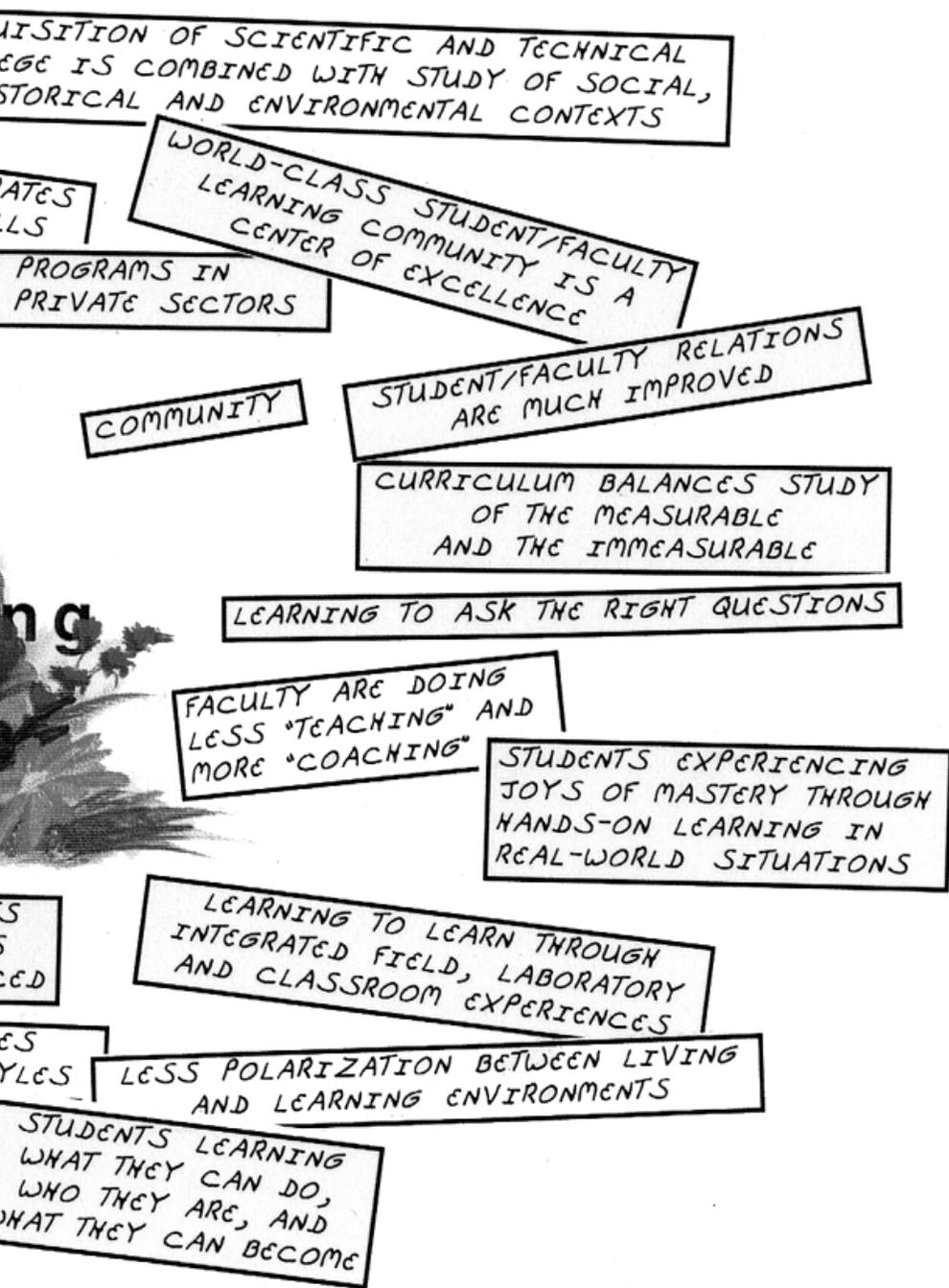
Over lunch, President Vest and Provost Moses joined the conversation. Together with the rest of us, they committed themselves to working in one or more of the foregoing areas. All of us agreed that we must keep the ongoing process open. None of this is cast in stone.

There is much to be done. We see the Beacon Street meeting as the beginning of something whose spirit might be likened to that of a "barnraising." As members of a highly diverse academic community, we are coming together to cooperate with each other around a common purpose; to develop a shared vision of what needs to be done; to pitch in where it's needed, when it's needed, to make it happen. If our experience thus far is any indication, educational innovation – like barnraising – can be a joyful kind of hard work. It follows that we'll also plan to eat some good food, dance, and have fun. So please – join us.

We need your input. If you are interested in learning more, if you think you'd like to become involved, if you have comments, if you have questions, please contact us directly at <barnraising@mit.edu>, or send them to the Newsletter <fnl@mit.edu>; Bldg. 38-160.✦

[Stephan L. Chorover can be reached at chorover@mit.edu; Woodie C. Flowers can be reached at flowers@mit.edu; Stella E. Humphries can be reached at stellah@mit.edu]

Reframing "IHTFP"

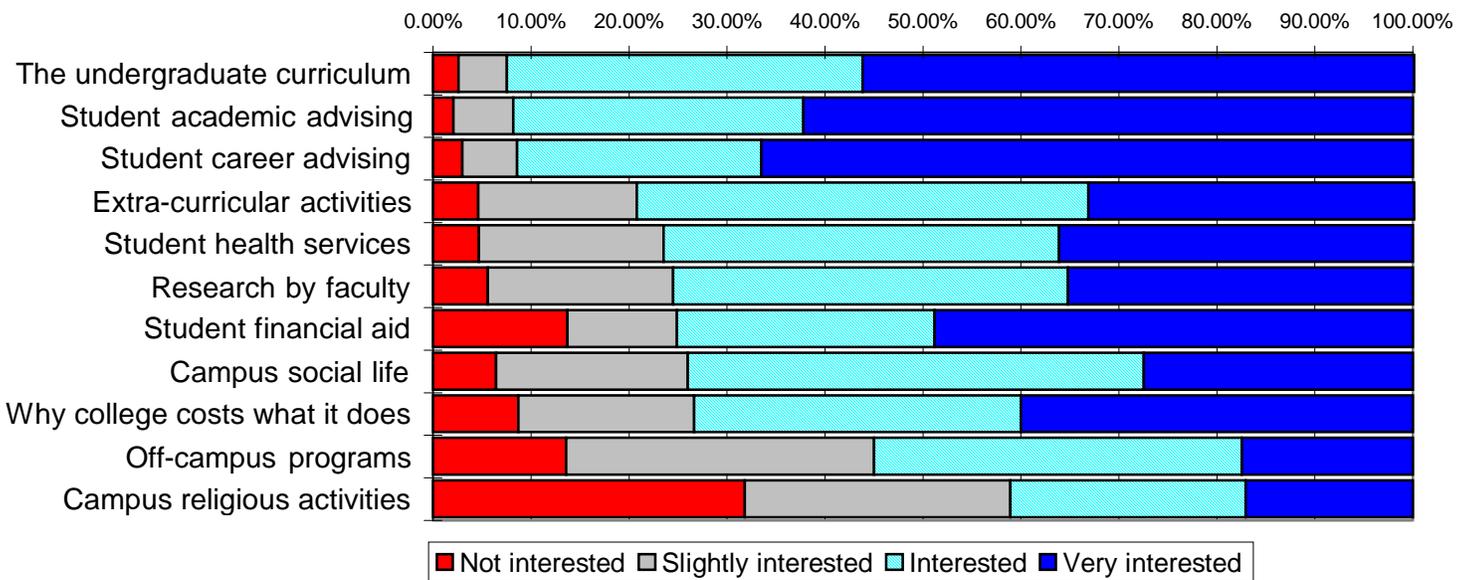


MIT Faculty and Staff	
	1996-97
Professors	557
Associate Professors	168
Assistant Professors	171
Senior Lecturers and Lecturers	367
Instructors	114
Adjunct Faculty	11
Teaching Assistants and Graduate Instructors	666

# M.I.T. Numbers

## from the 1997 Survey of Parents of Enrolled Undergraduates

**Parents interest in attending presentations while visiting campus**



How interested are parents in attending presentations while visiting campus?						
	Not interested	Slightly interested	Interested	Very interested	n =	Composite interested
The undergraduate curriculum	2.60%	4.90%	36.30%	56.30%	967	92.60%
Student academic advising	2.10%	6.10%	29.60%	62.20%	953	91.80%
Student career advising	3.00%	5.60%	24.90%	66.50%	967	91.40%
Extra-curricular activities	4.60%	16.20%	46.10%	33.20%	953	79.30%
Student health services	4.70%	18.80%	40.40%	36.10%	940	76.50%
Research by faculty	5.60%	18.90%	40.30%	35.20%	946	75.50%
Student financial aid	13.70%	11.20%	26.30%	48.80%	950	75.10%
Campus social life	6.40%	19.60%	46.50%	27.50%	957	74.00%
Why college costs what it does	8.70%	17.90%	33.40%	40.00%	932	73.40%
Off-campus programs	13.60%	31.40%	37.50%	17.50%	929	55.00%
Campus religious activities	31.80%	27.10%	24.00%	17.10%	943	41.10%

Source: MIT Planning Office

Task Force on Student Life and Learning

## Survey of Faculty Results Available Junior Faculty Workshop Held

Traci Trotzer Considine

*A special edition of the Faculty Newsletter, scheduled for publication during the next few weeks, will feature the complete results of the recent Task Force Survey of Faculty, and a summary of the discussions held at the junior faculty workshop. This article is a brief summary of the work of the Task Force to date, and an overview of the Faculty Survey.*

The Task Force on Student Life and Learning was charged last fall by President Vest to review the educational processes of the Institute and the interaction between student life and learning as MIT moves forward into the next century. During the first year of its efforts, the Task Force solicited broad input to help identify fundamental educational challenges and opportunities facing MIT that would likely have long-term implications for MIT's educational mission.

Through meetings, correspondence, focused interviews, and workshops, the Task Force gathered input from undergraduate and graduate students, alumni/ae, parents, Institute executives

and administrators, and government and industry representatives.

The Task Force sought particularly to solicit the insight and perspective of the faculty regarding the role and future of MIT. In addition to meeting and corresponding with individuals, committees, department heads, and school councils, the Task Force sponsored an IAP junior faculty workshop and sent, to all MIT faculty and teaching and instructional staff, an exploratory survey intended to solicit and focus input on student life and learning issues.

Participants in the junior faculty workshop discussed the following issues:

- MIT's reputation;
- personal goals of faculty members and how they relate to MIT's educational mission;
- forces for change likely to affect MIT over the next 20-30 years and their implications for MIT;
- elements of the job description of an MIT faculty member;
- quality of the undergraduate and graduate student experience at MIT and how to enhance it; and

• definition of a well-educated person in the twenty-first century.

The Task Force survey of faculty included questions on the following issues:

- fundamental values of the Institute;
- key external factors likely to influence MIT;
- potential effects of international trends and globalization on MIT;
- elements defining a well-educated individual;
- how information technologies may affect the pedagogy of teaching;
- relationship between teaching and research;
- faculty responsibility for the intellectual and personal development of students outside of research and classroom activities;
- factors driving pace and pressure at MIT;
- types of contact faculty have with students; and
- barriers preventing more informal student/faculty contact.✦

*[Traci Trotzer Considine can be reached at [traci@mit.edu](mailto:traci@mit.edu)]*

*from the Task Force Survey of Faculty*  
**Table 7: Interaction between teaching and research**

Interaction between teaching and research	Number of answers (total of 106)	% of respondees providing this answer
Positive	91	85.8%
Unsure	6	5.7%
Neutral	5	4.7%
Negative	4	3.8%

# Memorandum

September, 1997

**To:** Members of the Faculty (via *Faculty Newsletter*)  
**From:** William J. Hecht '61  
Executive Vice President and CEO  
MIT Association of Alumni and Alumnae  
**Subj:** **Opportunities for Faculty-Alumni interaction**

**W**ould you like a change from a “normal” classroom? Do you have a favorite subject you would like to talk about to a willing audience? Do you travel to different places, U.S. or abroad? Would you like to?

If the answer to any of these is yes, consider meeting with alumni through one of the programs of the Association of Alumni and Alumnae of MIT – in particular, those under the umbrella of the Association’s **Alumni Continuing Education Program**. Our main purpose is to offer alumni the chance to “go back to school” and participate in intellectually stimulating seminars led by MIT faculty.

The **Speakers Bureau** (SPB) contains a database which centralizes our efforts as we provide faculty speakers to MIT alumni clubs and other Association programs. The SPB lists faculty, alumni and staff who are interested in meeting and speaking to alumni throughout the United States and the world. We welcome your suggestions of faculty and staff who would be interested and effective in such an arena, as well as topics which you or your department think are timely and important. Through better coordination and tracking of speakers, we will avoid overlap of requests and overuse of a few well-known individuals. Through better outreach we can identify and involve new speakers - the stars of tomorrow, of which MIT has many.

The SPB Web page: [<http://web.mit.edu/alum/www/Geo/Edu/>] lists potential speakers and upcoming events, so alumni groups can review and request appropriate speakers. The page also has a form with which to suggest additional speakers. We would like to add to this “pool” on an ongoing basis.

Clubs are asked to request speakers directly from the Speakers’ Bureau, and to provide lead-time (3-4 months if possible) and flexibility for arrangements. Clubs typically invite faculty to talk about their courses, research, new initiatives at the Institute – in short, the things that make MIT a special place. Whether at a fall kick-off event, or a spring annual meeting, the audience will be a general one of alumni and guests, and may include applicants, admitted or current students, and parents.

The **Alumni Travel Program** offers a variety of exciting, educational trips to alumni and other members of the MIT Community (about 25 trips each year). To enrich the travelers’ experience, the Travel Program invites MIT faculty to lecture during these one-two week programs, which go all over the world. The program also hosts joint events with domestic and international MIT Club members as itineraries permit.

Specifically, the Travel Program needs faculty members who would be interested in lecturing on programs going to the following destinations: Danube River cruise (includes Istanbul), late June; Alaska, August; the Galapagos Islands, October; Eastern Europe, October; and Hong Kong, December. The faculty member’s airfare, tour cost, and some spending money will be provided by the Travel Program.

One of the first trips of 1997 was hosted by Professor Emeritus Dr. Donald R. F. Harleman CE '50. Of his experience, Dr. Harleman explains, “I have very much enjoyed sharing my knowledge of the Panama Canal by lecturing on cruises with MIT alumni. More importantly, I have made some wonderful friends by arranging on-board social gatherings with the alumni group. I heartily recommend this to my faculty colleagues.” Dr. Harleman will travel once again for the Travel Program, leading an alumni group through the canals of Europe in September, 1998.

**MIT On The Road**, the newest offering of the Association's educational efforts, will combine several speakers and a senior officer (on various topics related to an overall theme) in a one-day seminar-based program projected to go to three or four sites annually, including one non-U.S. destination. This year, Colorado, Florida, and New York are planned, with an international program in Lisbon in July of 1998. Seminars in this program are intended to be interactive learning opportunities rather than "just" lecture presentations.

Various School and Department-related programs round out the mix. Professional society gatherings, Class reunion activities on and off campus, along with the annual on-campus Technology Day in June and fall Family Weekend, provide other wonderful opportunities for faculty-alumni interaction.

Our intent is to provide a range of alumni programs with educational content, of quality and intellectual level consistent with the Institute's reputation, which encourage and strengthen Alumni ties with the Institute. Ultimately these programs may expand to regional programs, seminars, mini-reunions, and distance learning initiatives using electronic and audio-visual means.

**Benefits to you and your departments include:**

- travel to cities and countries to which you might not otherwise go
- travel expenses paid by the Alumni Association, or coverage for an extra stay if already on Institute or other travel (MIT guidelines apply)
- promoting your department and its/your work
- meeting with prior students/advisees
- building a network of alumni contacts
- experiencing the interesting challenge of adult learners – different from students
- a change of pace during a business trip
- satisfaction from providing an important service for MIT and its alumni

**I'm interested, what should I do?**

Contact us for more information, or to tell us about you, your expertise, what you would like to talk about, and your travel – planned or future. Use the web page: or e-mail us at <alumnilearn@mit.edu>.

**Speakers Bureau and MIT On The Road:** Bob Blake HM: Room 10-110; 3-8243; Fax: 8-6211; <rblake@mit.edu> or Catherine Brentani: 3-8248; Fax: 8-6211; <brentani@mit.edu>.

**Alumni Travel Program:** Melissa Chapman: Room 10-110; 3-8265, Fax: 8-6211; or <mchapman@mit.edu>.

**Response/Suggestion form**

A suggestion form is available, either from the contacts above, our Web page, or via e-mail at <alumnilearn@mit.edu>. Return it with your own information, circulate one among those faculty you think would be interested, or suggest names and let us follow up. If you would like someone to talk with faculty at departmental events or meetings, we will be glad to make a brief presentation and answer questions. We want by these means to learn who is interested in talking with alumni in some way and to give them an opportunity to do so. We welcome your participation, and hope you will be interested in joining us! Thanks for your consideration.

# MIT Corporate Relations: The ILP Turns 50!

Thomas R. Moebus

In 1948, MIT developed a new model for working with industry - the Industrial Liaison Program (ILP). Founded by MIT President James Killian, the ILP was the brainchild of Eger Murphree from the Standard Oil Company of New Jersey. His idea was to start an exclusive “club” of companies interested in hiring MIT graduates. The first program of its kind at any university, the Industrial Liaison Program served to bring industry closer to MIT and to raise money for the Institute at the same time.

In 1998 we celebrate the 50th anniversary of the Industrial Liaison Program with a special Conference series, a set of publications and, most importantly, with a renewal of the mission of the ILP to help create mutually beneficial relationships between MIT and industry.

We commemorate this important anniversary at a time of continued strengthening of MIT’s ties with industry. Industry-sponsored research at MIT is growing rapidly. At \$80 million in the last academic year, it constitutes the largest segment of on-campus research. Technology licensing revenues are at an all-time high at more than \$20 million, and great credit is due to the Technology Licensing Office for this achievement. Overall, industry’s financial support of MIT through research sponsorship, corporate gifts, and technology licensing revenues, and including in-kind gifts, exceeds \$150 million per year.

MIT’s drive for even closer ties with industry is fueled financially by the need for new sources of research revenues, intellectually by the demands of a new generation of MIT students, and philosophically by a changing Institute mission in the post-Cold War era.

This article, the first in a series addressing MIT’s expanding relationship with industry, will outline the role of the Office of Corporate Relations (OCR) through the activities of Corporate Development, the Industrial Liaison Program, and other OCR staff.

The Office of Corporate Relations was founded nearly 10 years ago when President Paul Gray expanded the mission of the Industrial Liaison Program beyond fee-for-service. In December 1988, President Gray informed the Academic Council of these changes: “...the Liaison Program has been given greater responsibility to coordinate MIT’s relations with corporations, and to take a larger role in developing corporate gifts and grants as well as fees-for-service.”

The new mission called for the newly formed Office of Corporate Relations to be responsible for the expansion of MIT’s relationships with industry, to assist faculty in raising funds to support their own research initiatives, and to help the Institute as a whole to maintain and increase gifts from corporations to support MIT’s overall educational and research goals.

The organizational structure of the Office of Corporate Relations reflects the change in mission. Three groups within OCR work directly with industry and MIT faculty: the Industrial Liaison Program, Corporate Development, and New Business Development. Other OCR staff provide the products and services and administrative support to the organization as a whole.

The Office of Corporate Relations is committed to strengthening MIT’s ties with industry through a five-part strategy:

- to help MIT develop new partnerships (large alliances) with a few selected corporations;

- to assist faculty with fund-raising initiatives (including in recent years a number of interesting new international programs);

- to maintain and strengthen the membership of the Industrial Liaison Program;

- to deliver the highest quality services and products to our clients and faculty;

- to maintain the best team for industry relations in higher education.

As a result of both faculty and Corporate Development staff efforts, three new corporate partnerships have been launched within the last three years, and several others are in the incubation stage. Amgen, Merck, and Ford have all made significant multi-year commitments to MIT to sponsor research and educational and technology transfer activities. MIT is still learning about the process of building such partnerships, in large part because they demand management, coordination, and effort beyond that of more traditional, smaller-scale programs. For example, more than 70 faculty members have been involved in some way in the design of the Ford-MIT collaboration.

For Corporate Relations, the largest growth area in supporting faculty initiatives has been the creation of several new international programs. In the past few years, new programs for research, education, and institutional capacity building have been launched in Argentina, Malaysia, Spain, Singapore, and Thailand, each with its own character. Still others are being investigated.

As opportunities have been identified, Corporate Relations staff have worked hand in hand with senior faculty on these efforts, assisting with fund-raising and industry linkages, and providing administrative and communications support.

*(Continued on next page)*

## MIT Corporate Relations: The ILP Turns 50!

*Moebus, from preceding page*

While Corporate Development in particular has been instrumental in the partnership and international efforts, both Development and ILP staff have been active in increasing MIT's corporate research revenues. Many consortium memberships are a direct result of interactions orchestrated through the ILP. Typically, the sponsorship of MIT research (both consortia and individual projects) is introduced as an important objective within the ILP membership.

in the 1980s, have been infrequent in recent years, as have larger gifts to programs like Project Athena and Leaders for Manufacturing.

Information about MIT continues to be an important asset and perceived benefit of ILP membership. The ILP Home Page [<http://ilp.mit.edu>] provides a wide array of information sources both to our member companies and to the MIT community. A searchable database of faculty research and expertise, our

can say that MIT is the envy of all these schools in terms of our ability to work with the faculty to reach out effectively to industry.

MIT's leadership in the field of university-industry relationships is a direct result of a combination of factors: MIT's worldwide reputation as an outstanding research and educational institute; a stellar faculty and research staff; topnotch students avidly sought by industry; and a deep commitment on

### INDUSTRY SUPPORT (FY 93-97)

	FY97	FY96	FY95	FY94	FY93
<b>ILP-Fees</b>	\$7,869,000	\$7,256,000	\$7,691,000	\$7,850,000	\$7,570,000
# of members (includes Affiliates)	210	209	209	202	207
<b>Corporate Gifts</b>	\$30,345,000	\$28,527,000	\$34,233,000	\$27,696,000	\$25,203,000
<b>Industry-Sponsored Research</b>	\$80,193,000	\$67,164,000	\$56,120,000	\$59,117,000	\$62,069,000
<b>Technology Licensing</b>	\$21,211,000	\$10,173,000	\$7,931,000	\$8,700,000	\$9,306,000
<b>Gifts-In-Kind</b>	\$11,059,000	\$8,363,000	\$6,357,000	\$6,593,000	\$4,292,000
<b>Total Industry Support</b>	<b>\$150,677,000</b>	<b>\$121,483,000</b>	<b>\$112,332,000</b>	<b>\$109,956,000</b>	<b>\$108,440,000</b>

Roughly 50 percent of ILP member companies fund research at MIT at the level of around \$250,000 per year per company.

Interviews with CEOs conducted in 1996 as part of the MIT Council for Industrial Relationships indicated that industry's view of universities is shifting from a philanthropic to a value-received perspective. In this context, the gift stream to MIT from industry has remained relatively steady at roughly \$30 million per year. Much of this revenue also comes in the form of grants to support research and in general support for faculty and students. Corporate-named professorships, so popular especially among Japanese companies

monthly magazine, *THE MIT REPORT*; survey reports on various technologies; and our conference series, Technology and the Corporation, are all designed to attract further corporate interest in the MIT community.

We are fortunate to have a team within the Office of Corporate Relations which is well grounded in technology, industrial practice, and MIT culture. Among the professional staff, more than 2/3 have MIT degrees and average 15 years of industrial experience. The average MIT service of all OCR staff is 8 years. Having attended conferences of Corporate Relations people from the Ivy universities (with MIT and Stanford) I

the part of the administration, faculty, and staff to work with industry.

The Office of Corporate Relations dedicates itself to its mission to help develop new partnerships, to market international and other initiatives, and to maintain the Industrial Liaison Program as an important vehicle to fuel MIT's continuing growth in industrial programs. After 50 years of service to the Institute, its faculty and the industrial community, Corporate Relations is more ready than ever to innovate and work with the faculty to create the MIT of the next century.♣

*[Thomas R. Moebus can be reached at [moebus@ilp.mit.edu](mailto:moebus@ilp.mit.edu)]*

# Academic Computing Resources at MIT

M. S. Vijay Kumar

New and returning faculty will want to become aware of the academic computing support activities and opportunities that are offered by MIT's Information Systems (IS).

## Academic Computing at MIT

The scope of the Academic Computing Practice includes: providing the infrastructure for using information technology (IT) in education, primarily through the Athena computing environment; facilitating better understanding of the role of IT in education; and influencing positive educational transformations through IT.

Academic Computing's role in serving MIT's educational agenda is achieved through a variety of engagement and support strategies, ranging from the material – equipment, software and technical assistance to faculty projects – to the “spiritual” – creating opportunities for information exchange, pointing to resources elsewhere, and ensuring that departmental and local initiatives are consistent and compatible with the infrastructure and with Institute priorities.

The paragraphs below identify some of the key academic computing resources, initiatives, and opportunities; the sidebar lists URLs that lead to further information on the Web, and contact information for your questions. We hope that you will take advantage of our offerings, and we look forward to working with you during the coming academic year.

### Faculty Liaisons

Four faculty liaisons are available to assist with all aspects of incorporating information technology into your MIT subjects. If you need central file space (a “course locker”) for storing course-related materials, a class mailing list, conferencing system, or Web page, this

is the place to come. Liaisons will work with you, one-on-one, to discuss IT as it relates to education; for example, writing HTML, transferring files from one computer to another, finding out what resources are available on MITnet and on the Internet. The FLs can also help you locate software for use in teaching or in class administration (electronic grading, communication, dissemination of problem sets and handouts, etc.). The Faculty Liaisons have experience in multimedia, programming, and graphic design, and can give some assistance if you are considering writing your own courseware. If you are unsure of what to do about a technology problem, or if you need help reviewing your options in using a resource such as the Web, the FLs can explain the choices and help you select the best path. They can also direct you to other resources within Information Systems.

### *The Insider* – The Academic Computing Newsletter

Our quarterly newsletter contains articles about new hardware and software in the academic computing realm. It also covers innovative pedagogical uses of technology and courseware development at MIT. You may read the online version, or subscribe to the paper version by sending e-mail to <f\_l@mit.edu>.

### The Athena Computing Environment

Athena is an integral part of the MIT educational experience. All undergraduates and most graduate students have accounts.

Athena offers several proven ways for faculty to work more closely with their students: electronic mail; the Zephyr interactive message system; NEOS (the Networked Educational Online System) for electronic submission, exchange, annotation, grading and return of assignments and course handouts; and

OLTA (On-Line Teaching Assistant). Many classes also make use of MIT-developed or third-party educational software on Athena as part of their curriculum.

To help MIT students make the most of Athena, IS presents a comprehensive series of one-hour “minicourses” on the Athena system and software. These courses are scheduled frequently throughout the academic year. No registration is necessary, and they are free. A full listing and brief description of the minicourses is on the Web (see sidebar for URL and a list of minicourse topics).

During R/O week, new freshman, graduate, and transfer students could attend four basic courses: Introduction to Athena, Working on Athena, Basic Word Processing and Electronic Mail, and Advanced Word Processing with EZ. These courses help new students become familiar with the system before classes start and before they receive their first assignments and problem sets.

During the coming year, IS schedules minicourses for all levels of users: the first six weeks of each semester, the week after Thanksgiving and spring break, and during IAP. Courses are offered Monday through Thursday, at noon, 7 pm, and 8 pm, in Room 3-343.

We encourage you to remind your students to take advantage of this excellent opportunity to learn more about the computer system that will be a major part of their MIT experience.

### Electronic Classrooms

Three electronic classrooms, with Athena workstations at each desk and an instructor machine attached to a projection system, can be reserved for lectures and labs. Also, a number of lecture halls are equipped with an instructor's Athena workstation

*(Continued on next page)*

## Academic Computing Resources at MIT

*Kumar, from preceding page*

connected to a projector, and many classrooms of all sizes have MITnet drops to which you can connect a Macintosh or PC. LCD panels for computer display may be reserved from Audio Visual Services (x3-2808). Electronic classrooms are reserved

### Athena Minicourse Topics

Introduction to Athena  
 Basic Word Processing (and Electronic Mail)  
 Working on Athena  
 Advanced Word Processing: EZ  
 Advanced Word Processing: LATEX  
 Serious Emacs  
 Latex Thesis  
 Introduction to FrameMaker  
 FrameMaker for Your Thesis  
 Information Resources on Athena  
 HTML – Making a WWW Home Page  
 Math Software Overview  
 Maple  
 Matlab  
 Xess  
 Customization on Athena (Dotfiles)

through the Schedules Office. One Athena public cluster, 4-035, contains 20 SGI Indy's and can be reserved for classes needing that particular platform; to reserve Room 4-035, send e-mail to <eclass@mit.edu>.

### Crosstalk Forum

Crosstalk is a periodic forum on "Technology, Teaching, and Learning", initiated by Academic Computing in

collaboration with the Office of the Dean of Students and Undergraduate Education. The forum provides opportunities for examining and articulating the role of IT in teaching, identifying aggregated technology needs, and exploring the synergy of solutions. Overall, Crosstalk facilitates the growth of a community of practice to constructively further the Institute's educational technology agenda.

Crosstalk will continue this fall. Presentations and discussions are planned on a variety of topics, including Web-based course environments, applications and requirements of the Next Generation Internet for MIT, and recommendations of the Council on Educational Technology and the Task Force on Student Life and Learning.

For information on dates and locations, send e-mail to <nschmidt@mit.edu> asking to be added to the mailing list, or see the Crosstalk Web page.

### Proposals for Academic Computing Support

As part of this year's Athena hardware renewal process, our strategy for academic departments is to provide support for departmental educational computing initiatives in a manner that encourages innovation and that is responsive to changing needs. To this end, IS and Academic Computing has invited proposals from departments. At this time, hardware grants are mostly for Athena workstations, but other platforms are not excluded where warranted. Other support needs, such as applications development, will be addressed based on the needs of individual projects and available resources. A diverse set of projects, varying in scope and application area, have been selected for support through this initiative. They include: development of an intelligent, interactive tutorial for incoming freshmen to

### URLs and Contact Information

#### Academic Computing at MIT

<http://web.mit.edu/acs/www/>

#### Faculty Liaisons

<http://web.mit.edu/acs/www/fl.html>  
 x3-0115  
 f\_1@mit.edu

#### The Insider

<http://web.mit.edu/acs/www/insider/insider.html>

#### Athena Computing Environment

<http://web.mit.edu/acs/www/ac-athena.html>

#### Athena Minicourses

<http://web.mit.edu/minidev/>

#### Electronic Classrooms

<http://web.mit.edu/acs/www/eclassrooms.html>  
 x3-4788  
 schedule@mit.edu

#### Crosstalk Forum

<http://web.mit.edu/acs/www/crosstalk.html>

#### Project Proposals

<http://web.mit.edu/acs/www/guidelines.html>

strengthen their pre-calculus skills (Prof. David Pritchard); a database on black scientists (Prof. Kenneth Manning); support of two undergraduate subjects in chemistry involving visualization (Profs. Christopher Cummins and Larry Stern).♣

*[M. S. Vijay Kumar can be reached at [vkumar@mit.edu](mailto:vkumar@mit.edu)]*

**MIT Benefits Office****Retirement and Investment Fair  
Features Lo and Scudder**

**H**ow to Lose a Million Dollars on Wall Street Without Really Trying: *The Pitfalls and Opportunities in Today's Stock Market* will be Professor Andrew W. Lo's keynote presentation at this year's Retirement and Investment Fair on October 16<sup>th</sup>. "We are very pleased to have Professor Lo of the Sloan School give our keynote address," states Marianne Howard, director of Personnel for Benefits and Systems. Professor Lo teaches courses on Investments, Financial Engineering, and Advanced Financial Economics at the Sloan School. Additionally, Professor Lo taught a faculty mini-course titled *Finance Made Difficult*, which was both well attended and very well received.

Portfolio Manager of the MIT Retirement Plan's fixed and variable fund, David Scudder, Partner of Wellington Management will be

		Schedule
9 am	Social Security	Making the Most of Social Security
10	Vanguard	The Index Fund Advantage
11	TIAA-CREF	Choosing Your Investment Mix
12	<b>Professor Lo</b>	<i>How to Lose a Million Dollars on Wall Street Without Really Trying: The Pitfalls and Opportunities in the Stock Market</i>
1:30 pm	<b>David Scudder</b>	<b>Managing the MIT Retirement Plan Accounts</b>
3	Prudential	Your Income Options at Retirement
4	Fidelity	Asset Allocation

reviewing the investments, discussing the guidelines and giving us an update on the performance of the MIT Retirement Plan funds. Following the presentation, attendees will have the opportunity to ask questions. This is the second year David Scudder has participated in the Retirement and Investment Fair. Last year his popular presentation gave those in attendance

insight into the investment process and provided timely information to MIT Retirement Plan members.

You will also have the opportunity to learn about Social Security from Francine Koliass or attend presentations by Fidelity, Vanguard, TIAA-CREF and Prudential. Company representatives will be available all day to answer your questions.♣

**Tax Change Update****Elimination of Success Tax**

**T**he Taxpayer Relief Act of 1997 eliminated the excess distribution and accumulation excise taxes of 15% often referred to as the success tax. The excise tax will not be levied for retirement accumulations at death nor on excess distributions received either as a series of periodic payments or as a lump sum distribution. The Small Business Job Protection Act of 1996 eliminated this tax for excess distributions in 1997, 1998, and 1999, but did not eliminate the excise tax for excess accumulations at death.

**IRA Enhancements**

IRAs will be more attractive starting next year. The Taxpayer Relief Act includes the following changes:

**Easier Spousal IRA Eligibility**

Your MIT plan participation will not bar your spouse from contributing to his or her deductible IRA providing your joint income is less than \$150,000 and your spouse qualifies for a deductible IRA.

**Withdrawals for First-time Home and Education Not Subject to Penalty Tax**

The 10% early withdrawal penalty tax on IRAs will no longer apply to distributions of up to \$10,000 from an IRA to cover expenses of a first-time home purchase. The home can be purchased for the taxpayer, the taxpayer's spouse, any child, grandchild or parent of the taxpayer or the taxpayer's spouse. There is a lifetime limit of \$10,000. In addition, the penalty tax will not apply for withdrawals used to pay for qualified

higher education expenses. These expenses include tuition, fees, books, supplies, and equipment required for attendance at eligible higher educational institutions or certain vocational schools.

**Roth IRAs**

Roth IRAs will allow individuals with adjusted gross incomes of less than \$95,000 if single or \$150,000 if married filing jointly to make annual non-deductible contributions to an IRA of \$2,000 (\$4,000 per married couple). All amounts may be withdrawn tax-free and without a 10% penalty fee if held for five years. There is a phase-in for single taxpayers with an adjusted gross income between \$95,000 and \$110,000, or for married taxpayers with an income between \$150,000 and \$160,000.♣

# Letters

To The Faculty Newsletter:

I have read with interest the articles on undergraduate education, particularly those by Lidsky and Lightman. They seem to contain an underlying theme (or at least I have read an underlying theme into those articles). The theme seems to be to emphasize fundamentals, and to give the students the opportunity to practice using the fundamentals. I am sure that most of us agree.

However, I feel that it may be of interest to try to determine just what the "fundamentals" seem to be to each of several constituencies. An explicit consensus on what makes up the "fundamentals" would seem to be a useful first step in examining our educational program.

**Eugene E. Covert**  
**T. Wilson Professor of Aeronautics,**  
**Emeritus**

To The Faculty Newsletter:

On several occasions, I have felt that our re-engineered systems, from Purchasing to the Mail, have severely degraded the professional quality of life at MIT. Not being shy, I e-voiced my frustrations to the people in charge of running this place, who have been very responsive. I typically would receive "the real story," along with some details on what's happening in general.

Based on my experiences, I think it would be good if the *Faculty Newsletter* had a "Back Page" for Q&A about Institute issues. There could even be a special page dedicated to Reengineering.

In particular, Reengineering needs to be continually marketed to the faculty, else we suffer from severe apathy and

misinformation. Telling the faculty to come to meetings or see the Web page is no way to market your product. I personally like to read my mail in bed, or soak in the tub with a nice steamy pile of memos and technical journals.

Perception is 99% of the truth, so a constant feature of the Reengineering page should be a glimpse at the project plan and financial investment/return status.

I hope these suggestions are helpful.

**Prof.-it-took-6-days-to-get-an-e-rec-  
 out-under-SAP Slocum**  
**Alexander H. Slocum**  
**D'Arbelloff Associate Professor of**  
**Mechanical Engineering**



## **A Brief Personal Note on Lightman's "MIT Education in the Age of Information"**

**Henry M. Paynter**

I wish to add two thoughts relevant to the very end of Prof. Lightman's Essay [Vol. IX No. 5, May 1997].

1) Four decades ago I was deeply involved as a "Lightning Empiricist" using high-speed Philbrick electronic analog computers (sic) to analyze and design complex engineering systems. Often these cases required several hundred operational amplifiers and dozens of widely-variable adjustable parameters, with operating sessions lasting a full day or more. To explain

why this frantic activity brought "sweat to the brow," I soon learned that my own long-term, sustained decision-rate was limited to no more than one bit per second (or the equivalent to 5-8 words per minute). One notes that this corresponds to Lightman's 1880s law office and foreshadows our present information-overload.

2) Then a decade later our MIT Group was involved in a fully-automated research experimentation under the rubric Project Entelechon. One lasting outcome

of this effort was the discovery that to "learn" at the maximum rate required "failing" half the time. While our automata were untroubled by this fact it clearly seems in direct conflict with human desires and the rewards attending "high grades." Perhaps we should indeed expect half our current e-mail messages to be prefaced "Please disregard my previous message."!♣

[Henry M. Paynter is Professor of Mechanical Engineering, Emeritus]

# M.I.T. Numbers

## from the 1997 Survey of Parents of Enrolled Undergraduates

**Issues that concern parents about their child's life at MIT**

