

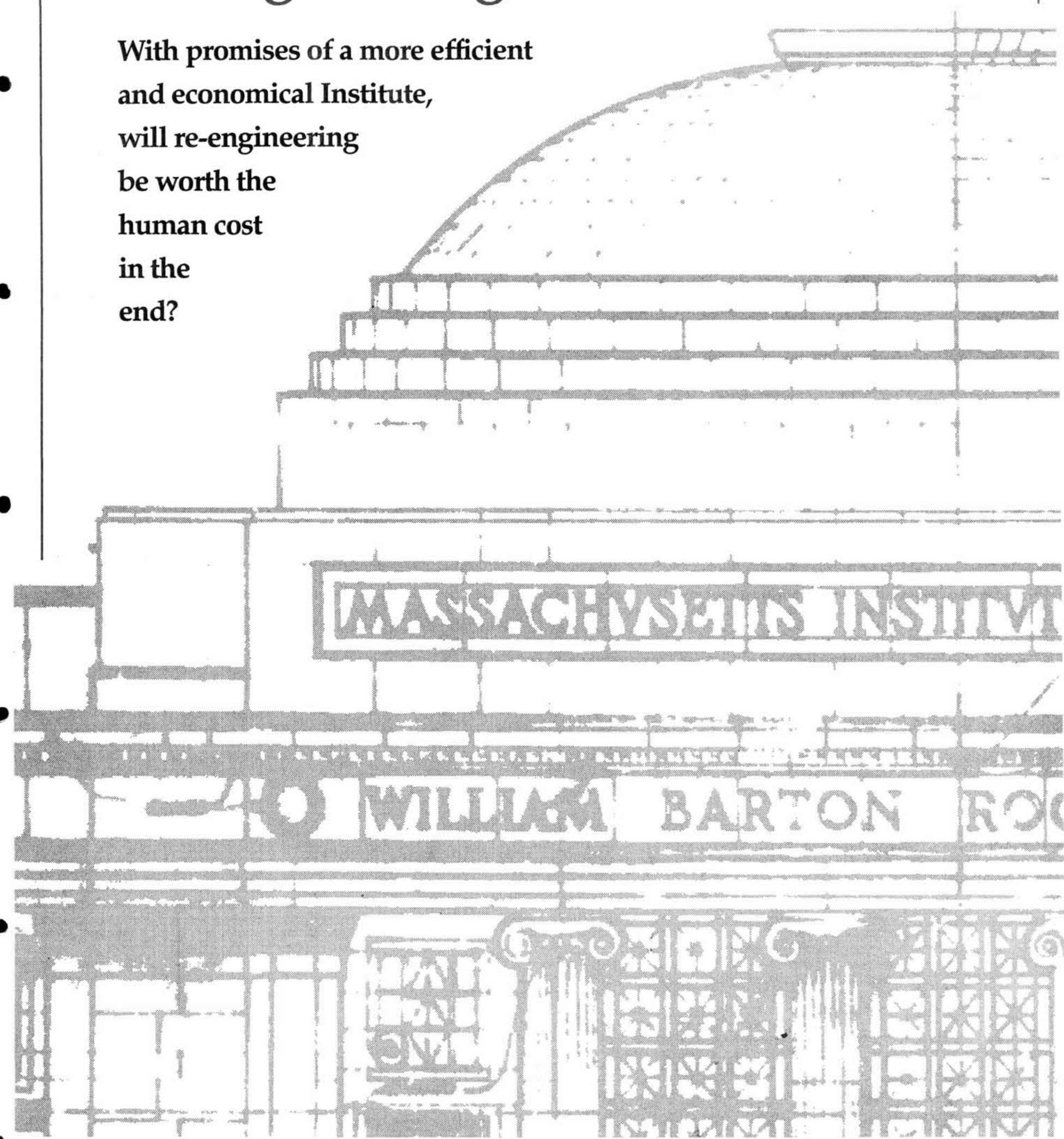
IN *R* REVIEW

the year

February 6, 1996

Re-engineering MIT

With promises of a more efficient and economical Institute, will re-engineering be worth the human cost in the end?



Taking a step back and a look ahead

By Eva Moy

In the rat race of everyday life, every once in a while we need to take a step back to examine what we're doing and why. Re-engineering is this process of self-analysis, and the changes are often more than just cosmetic or organizational. Companies and universities alike are re-thinking not just individual processes, but the structure and interaction between entire processes.

One theme this year has been change in the face of budgetary constraints. With cuts in federal funding, individual researchers have had to spend more time scrambling for money. This belt-tightening was felt Institute-wide, from the Lowell Institute School's departure and the Undergraduate Research Opportunities Program's uncertain future to student publications' struggle against financial collapse and employee layoffs' inevitability.

Safety was also at the forefront of events in 1995. The year saw metal detectors put in place outside some parties.

After-hours building access was limited to holders of the MIT Card. Threats from the Unabomber and the radiation poisoning of a researcher served as further reminders that personal safety is always at risk.

Still, not all the news was bad. The Institute celebrated its newest Nobel Laureates, Mario Molina and Pugwash, and toasted the achievements of the Media Laboratory's first ten years. The year saw both the opening of the Tang Center and renovation of the old chemistry buildings. MIT bid farewell to many senior administrators and welcomed a new provost and many new deans.

Of course, the re-engineering effort did not directly address all the events and issues MIT faced this year, but it will affect everyone in some way. The project extends to almost every service at MIT, from mail delivery to laboratory supplies to student services. While some changes have already been implemented, others are just getting underway.

It will be hard for the Institute to measure the degree of

success of re-engineering. What is the tradeoff between its effect on the individuals and the benefit to the entire system? Is the MIT Card's utility worth its risk to privacy? Is the layoff of loyal employees worth the benefits of working in stronger teams?

In bringing you this *Year in Review*, *The Tech* has tried to do some re-engineering of its own. We tried to take a broader look at the Institute than we can in our regular issues; we hope that the stories in these pages offer a good hard look at the Institute and how it can change for better or worse.

One day, the re-engineering teams at MIT will submit their final reports and make their final recommendations. But the process of self-evaluation continues after the official process ends, and we will not know whether we have succeeded until we take a step back again and look at what we have done. In the meantime, enjoy this 11th annual *Year in Review*, and welcome to the 116th volume of *The Tech*.

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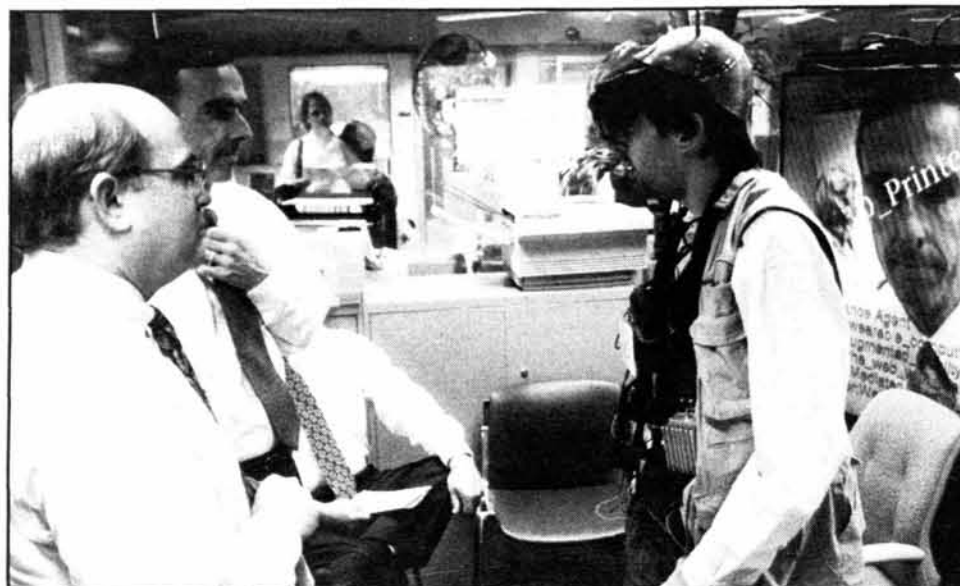
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Cover: Eva Moy, Dan McGuire, Thomas R. Karlo, Ramy A. Arnaout



Steve Mann demonstrates his wearable computer and video camera during celebrations of the Media Lab's 10th anniversary.



David W. Lewinneck '97 fenced against a Harvard opponent last December.

The Year in Review

An annual supplement to *The Tech*
February 6, 1996

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Task force looks at conflict in ROTC, Institute policy

By Stacey E. Blau

The ROTC task force, formed in October to review ROTC's policy of discrimination against homosexuals, is scheduled to recommend to the faculty in March a course of action for the Institute.

The Institute's non-discrimination policy — protecting MIT students, faculty, and staff from discrimination based on sexual orientation — directly conflicts with the ROTC policy.

"This is a very emotional issue," said Assistant for Government Relations in the Office of the President Sarah E. Gallop. "There is a very strong sentiment that ROTC has a lot of value."

MIT boasts the country's oldest Army ROTC unit, established in 1917, and many would be upset to see it go, she said.

A faculty resolution in 1990 created the impetus for the formation of a working group to monitor the progress of change to the Department of Defense's policy on gays in the military.

The task force represents the final stage of the evaluation process. At the end of the working group's five-year term, the task force was created with the charge of gathering information and community input on ROTC. Based on their recommendation, the MIT faculty will decide in March whether to keep ROTC at MIT.

President Charles M. Vest appointed Professor of Management Stephen C. Graves to chair the task force.

In addition to Graves and Gallop, the task force's members include Professor of the History of Science Kenneth R. Manning, Professor of Ocean Engineering J. Kim Vandiver PhD '75, and Professor of History and Baker House Housemaster William B. Watson. Since its inception, the group has added an additional faculty member, Professor of Biology Lisa A. Steiner, and two students, Alan E. Pierson '96 and Frank P. Tipton G.

Task force enters input phase

The task force is currently switching from gathering information to soliciting community input.

"Individual task force members are going to hear different things and react in different ways," but informed community debate will play a vital role in the decision process, Graves said.

The task force has gotten a jump start on its input-gathering. During most of the group's weekly meetings over the past few months, "we've been accompanied by a guest" who contributes to the discussion, Graves said.

The task force met with members of the ROTC Oversight Committee and Gays, Lesbians, Bisexuals, Transgenders, and Friends at MIT. It also met with students at an Undergraduate Association Council meeting in November.

In addition to forums, the task force plans to meet with members of ROTC division and a subset of the Corporation, including chairman Paul E. Gray '54. The Corporation will make the ultimate decision on ROTC's fate.

The task force's homepage, <http://web.mit.edu/committees/rotc/>, includes a history of ROTC, the 1990 Faculty Resolution, Vest's charge to the task force, a list of the working group's activities, and MIT's statement of nondiscrimination.

Task force lays out options

At the end of January, the task force drew up an interim report on its work "to disseminate the information we have so far on the issue," Graves said. "Our hope is to put out information that provides a basis for people to learn about the issue — why this is an important issue for MIT."

The report laid out a range of options on what could be done with MIT's ROTC program: maintain the status quo, sever all ties to ROTC, postpone action until the courts have ruled on DoD policy, create an arms-length relationship with ROTC, or bar ROTC from MIT but create cross-town arrangements with other ROTC programs.

"The task force at this point hasn't started to argue or talk about actual recommendations," Graves said. The committee is lis-

tening to what groups have to say, but "we're not trying to make judgments on the arguments."

In selecting people for the committee, "we've sort of avoided people who came to us with a mission. We looked for people with an open mind to try to figure out what was the best thing for MIT to do."

Faculty will likely vote in April

"I feel we're reasonably on schedule. But the next month is obviously very, very critical in terms of engaging the community and gaining their input," Graves said.

The task force is planning to present a final report and recommend a course of action at the March faculty meeting. The faculty will discuss the report and recommendation and likely vote on the options at its April meeting. The faculty's recommendation will be voted on subsequently by the Corporation.

The 1990 faculty resolution stipulated that the task force work "with the expectation that inadequate progress [of the government] toward eliminating the DoD policy" will result in "making ROTC unavailable to students beginning with the class entering in 1998."

But Vandiver said that the faculty's 1990 opinion is "in no way binding. The faculty will amend it to do whatever it wants to do."

When the resolution was passed, the faculty was "poorly informed" about the "very, very divisive" issue of ROTC, Vandiver said. At the time, there was no clear-cut

opinion shared by the faculty on what should be done with ROTC.

"I think it's hard to say at this point if there will be the same divisiveness and anger," Graves said. "So far we haven't seen any, but to the extent that the debate and decision become more imminent, there is the potential for increasing tension."

"We have yet to find a win-win solution that makes everyone happy. I don't think that exists," he said. "In looking at what other universities have done, I don't think they've found a totally satisfactory solution."

Outside factors won't affect MIT

Some recent policy changes in the DoD could threaten funding to universities that drop ROTC. About 20 percent of MIT's research funding comes from the DoD.

But MIT officials have roundly denied that any such threat will influence MIT's ultimate decision concerning ROTC.

"There is no relationship between ROTC and DoD funding," said former Provost Mark S. Wrighton, who chaired the working group before he left MIT last spring to become chancellor of Washington University.

The main funding concern centers around the financial support that the current 102 ROTC students receive and the potential impact of the decision on their scholarships.

Vandiver said that the elimination of ROTC would not adversely affect the financial status of current ROTC students. "MIT would have to take up the financial slack" for ROTC students, he said.

Last February, Harvard University announced it would cease direct financial support of the ROTC program at the end of last year because the program's policy on homosexuals violates Harvard's non-discrimination policy.

Harvard used to pay MIT about \$130,000 each year to allow Harvard students to participate in the ROTC program at MIT. The school now pays the MIT ROTC fee with unsolicited alumni donations earmarked for the program, enabling eligible Harvard students to continue to participate in the program.

Harvard's decision will have no impact on MIT's policy, Gallop said. The Institute is concerned solely with how ROTC "is impacting on students at MIT," she said.

Task force picks up from working group

The task force picks up after the working group, which spent five years examining ROTC.

Through surveys, meetings, policy endorsements, and advertisements, the working group worked "for the reversal of the policy" against homosexuals, until the Clinton Administration's 1993 "don't ask, don't tell" decision, Gallop said.

At the time the working group was formed, members of the military could be asked about their sexual orientation and be dismissed from the military if they were gay.

In January 1993, President Clinton announced the federal government's new policy, which protects members of the military from being questioned about their sexual orientation but does not ban discrimination against homosexuals in the military.

After that announcement, the group did nothing to oppose actively the government's policy on homosexuals in the military, Gallop said. Instead, it observed the implementation of the policy, she said.

It would have been "imprudent to act" before seeing how the new policy works, Gallop said.



A new Army ROTC cadet rappels near Building 33.

January

8

Provost Mark S. Wrighton announces that MIT will close the Lowell Institute School, an extension program that has offered evening technical subjects in MIT classrooms since 1903, as part of a review of the Institute's education priorities.

9

The Strategic Housing Planning Committee recommends that Senior House remain an undergraduate dormitory and that Ashdown House, currently a graduate dormitory, be converted for limited undergraduate use. The

committee also recommends building a graduate student dormitory near University Park. The announcement sparks an emergency meeting of the Graduate Student Council.

10

MIT establishes the Dr. Martin Luther King Jr. Visiting Professor Program, meant to help attract minority scholars in science, engineering, and technology.

13

Adrian B. Danieli '97 and Peter H. Tsang '95 face arson complaints at a Third District Court magistrate's hearing. A

MacGregor House fire in late November 1994 prompted the Campus Police to file the complaints.

14

William H. Ramsey '51, who directed the Minority Introduction to Engineering and Science program as executive director of engineering special programs, dies at age 67.

27

U.S. Attorney Donald K. Stearns decides not to appeal to a federal court judge's dismissal of the wire fraud case against David M. LaMacchia '95. In 1994, LaMacchia was alleged to have facilitated the

illegal copying and worldwide distribution of over \$1 million of copyrighted software through a server he ran on an Athena workstation.



Leo Osgood, Jr.

February

1

Leo Osgood Jr., associate professor in the Athletic Department, assumes the position of dean of the Office of Minority Education. Osgood is also the head basketball coach and the dean-on-call for the Office of Undergraduate Education and Student Affairs.

Harvard University announces it will cease direct financial support of the ROTC program at the end of the academic year. Harvard had paid MIT about \$130,000 each year to allow Harvard students to participate in ROTC at MIT. The

The Re-engineering of MIT

Long term effort aims to reduce deficit and to streamline processes

By Shang-Lin Chuang and Dan McGuire

Unless we change the rules, we are merely rearranging the deck chairs on the Titanic. We cannot achieve breakthroughs in performance by cutting fat or automating existing processes," said Michael M. Hammer '68 about re-engineering in an article in the *Harvard Business Review*. MIT, burdened by a budget shortfall, brought in Hammer for a re-engineering workshop in November 1993 that kicked off the Institute's cost-cutting re-engineering effort.

The gap between income and expenditures — measured last year at \$9.17 million — is cause for worry, and President Charles M. Vest emphasized re-engineering as the only solution to the Institute's huge budget deficit.

"We will succeed," Vest said in the beginning of last year. "We have not talked about what to do if we do not succeed. We do not have Plan B in our hip pocket."

According to Director of Finance John A. Currie '57, the Institute has already spent \$10.6 million on the re-engineering project and is expected to put in \$20 million more. Since re-engineering is still in the implementation stage, the promised savings of \$40 million each year — the driving force behind the re-engineering project — have yet to be fully realized.

Re-engineering prompted by deficit

In a letter written to the community, Vest described the budget gap as "a serious problem regarding MIT's finances... that is growing rapidly."

Multiple factors have contributed to the deficit, among them MIT's attempt to reduce the rate of growth of tuition, the increasing need for financial aid, federal research funding and changes in reimbursement rules, and expensive new services like information technology used in education and research.

Operating expenses need to be reduced by \$25 million "in order to keep our expenditures matched to our resources," Vest said.

Most of MIT's operating budget is used to pay salaries, wages, and staff benefits, so this is where most of the cuts need to be made, he said.

Vest announced in late 1993 that 400 employees will be cut from the payroll, and the faculty will be reduced through attrition over the next 10 years.

But as re-engineering has progressed, that number has risen. "If you ... find at the end you can provide better service ... and in the long term you find that you may be able to do that with 500 to 600 less people, we're certainly not going to stop" cutting at 400

people, said Senior Vice-President William R. Dickson '56.

"We expect a lot of people will choose to retire," Dickson said. "Our fondest hope is that people would leave because they wanted to leave," he said. "I'm not naive enough to think that we'll be able to do this without laying somebody off, but I want to minimize that as much as possible."

Teams to take the task

An initial core team, sponsored by Dickson and led by Vice President for Information Systems James D. Bruce ScD '60, looked at the Institute and decided to concentrate their work in five areas. (see sidebar) The team also chose CSC Index, Inc., an outside re-engineering consulting firm known for its radical and thorough approach to restructuring, to advise MIT on its re-engineering effort.

Re-engineering teams, released in waves and composed of interdepartmental personnel, split up into two groups — assessment and redesign. The assessment team is responsible for identifying faulty processes that can be changed while the redesign team creates models for specific administrative processes, Bruce said.

Each redesign team completes its work in about 12 weeks, then reports to the steering committee, composed of MIT's vice presidents. The steering committee is responsible for making all the final decisions in the re-engineering project, Bruce said.

Once a redesign plan is approved, it is turned over to an implementation team, which will set up pilot tests.

Early initiatives include OLS, mail

Re-engineering efforts in mail and supplies sought to reduce wasteful expenses.

The supplier consolidation team, charged with examining the way the Institute purchases everything from copy paper to temporary help, was the first real re-engineering team. It was charged both with revising MIT's supply chain and getting people excited about the possibilities of the project.

We were "coming up with initiatives that would put money on the table quickly," in three to six months, said Diane M. Devlin, the director of office computing and the captain of the team.

MIT hopes to reduce costs by purchasing items in bulk to get volume discounts. Looking at temporary services was a good way to start because, collectively, MIT used almost every temporary agency in the area, Devlin said. Saving money by trimming down to just a few companies "seemed very much like a no-brainer," she said.

MIT departments will save \$180,000 a year by routing temporary services through one vendor and negotiating lower markup rates in exchange for volume, said Audit Manager Robert N. Clark Jr., who is coordinating the benefits measurement analysis of the re-engineering effort.

More sweeping changes in materials acquisition were met with opposition, culminating in a protest across from Lobby 7. "We knew this was going to be very difficult, and it was," Devlin said.

The team decided to close the Office of Laboratory Supplies, after looking at trends in the industry and the cost of maintaining a vendor internal to MIT. Instead, the Institute began to route all purchasing operations through a few large vendors.

"It's been inconvenient, but it hasn't exactly shut us down," said Ann Sacra G, who works in the lab of Associate Professor of Chemistry Mounji G. Bawendi. "It's slowed things down a little bit, and things you should be able to get the same day you now can get in a day or two."

Devlin attributed some problems to communication issues, noting that usage of the new system was much higher than initially forecasted.

The Institute seems to be saving money through the arrangement. Clark said that initial estimates of savings are around 13 percent on laboratory supplies, although that number does not include more complex issues like space saved, personnel costs, and infrastructure changes.

The mail team, which was already deep into the planning stage when the re-engineering effort kicked off, was also incorporated into the project.

Peggy Guyer, the new manager of mail services, was charged to reorganize the system that the Institute uses to deliver and sort mail. "We are probably two-thirds to three-quarters of the way through [getting] the distributed mail centers [running]," she said. The new mail centers are "the first stage of the redesign and probably the most controversial one."

The mail center provoked complaints from faculty. "They replaced those efficient people who hustled mail to all of the offices. Now what happens is everyone must go to the mail room to get his or her mail," said Professor of Electrical Engineering and Computer Science James L. Kirtley Jr '67 in the *MIT Faculty Newsletter*.

Kirtley said that the new process of mail delivery, while it may save money on the books, actually requires more people hours to send staff to retrieve mail. He also said that having a public mail room is a potential security hazard.

The tradeoff is between using available manpower to deliver mail or sort outgoing mail. "The Institute will save a lot of money" by removing the 140 independent — and expensive — postage meters on campus and metering mail at a central facility, Guyer said.

Services use teams for efficiency

But evaluating the supplies process is only part of the solution. There has been a movement toward changing the way that the Institute handles service work. Two areas, custodial services and mail, have embraced the concept of working in teams.

Teams are typically groups of workers who draw up their own plans for how to complete a specified body of work, with the goal of using time more efficiently.

The custodial services redesign group began running a team-based pilot program in January which ran for eight weeks. "At the conclusion of the pilot we had learned a lot. We saw where we needed work, and we also saw the benefits," said Karen A. Nilsson, the assistant director of the Campus Activities Complex and the leader of the custodial services team.

The new team-based custodial process transfers cleaning responsibilities from "custodians doing individual work to custodians working in teams of eight to 10 working in clusters of buildings," Nilsson said. Right now, the custodians are divided into 26 teams.

"In the past we had supervisors who supervised. Now supervisors are a resource for the team," Nilson said. "It's really a shift of the role of the supervisor."

The teams are working well, said Operations Supervisor for Building Services

I'm not naive enough to think that we'll be able to do this without laying somebody off, but I want to minimize that as much as possible.

William R. Dixon '66

program, which discriminates against students on the basis of their sexual orientation, violates Harvard's and MIT's non-discrimination policies.

Martin R. Friedmann MARCH '93, a former graduate student in architecture, takes his own life. Friedmann, although he was not enrolled at MIT at the time of his death, worked at the Media Laboratory.

2

No major housing changes will occur soon, said Dean for Undergraduate Education and Student Affairs Arthur C. Smith. The statement softens recommendations made in January by

the Strategic Housing Planning Committee, that said no dormitories would be entirely converted from graduate to undergraduate housing or vice versa.

Nearly 200 scientists and government officials, including Presidential Science Adviser John H. Gibbons, meet today in the Bartos Theater at the Media Laboratory to discuss the nation's science policy and the government's budget plan, which was submitted to Congress Feb. 6.

10

The Institute's 21st annual cele-

bration of the life of Dr. Martin Luther King Jr. takes place; the theme is "The Trumpet of Conscience: Dr. Martin Luther King's Contract with America." The featured speaker is A. Leon Higginbotham Jr., chief judge emeritus of the U.S. Court of Appeals for the Third Circuit and Public Service Professor of Jurisprudence at Harvard University.

22

Members of the Physical Plant rescue team and two MIT students are the first on the scene of a fatal state police helicopter crash at the Harvard Yacht Club, directly across Memorial Drive from the Sloan School of Management. All four passen-

gers — two state police troopers and two telephone company technicians — are killed in the crash.

A House of Representatives appropriations subcommittee cuts undergraduate scholarships by \$130 million in fiscal year 1995. The measure will affect neither current recipients nor MIT's tuition and self-help rate increases, said Stanley G. Hudson, director of student financial aid.

28

Joseph J. Snyder, a former treasurer of MIT and a life member of the MIT Corporation, dies at age 87. Snyder is credited with

having made investments during the 1950s that have helped MIT deal with post-Cold War cuts in federally-funded research.

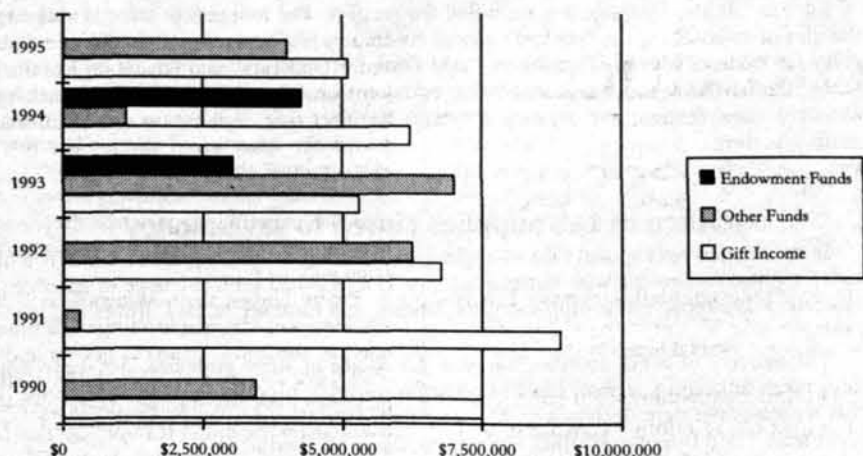
March

4

The importance of community service in Jewish life is the topic of a discussion sponsored by the newly formed MIT Jewish Service Corps. Rep. Barney Frank (D-Mass.) and Visiting Associate Professor of the Department of Brain and Cognitive Sciences Jeremy M. Wolfe are the talk's featured speakers.

FILLING THE GAP

Gift income, income from Institute funds, and even the endowment are used to meet operating expenses.



Austin H. Petzke. "There was an adjustment period ... but that was really minor."

Mail services also began to implement work teams. Shifts of mail workers were put in teams to deliver and sort.

Core team looks to automate functions

After putting in place a basic infrastructure for the Institute, the core team went on to revise the way the administration works. Central to this was the automation of a lot of

the Institute's functions and the creation of a computerized data warehouse that will hold much of the Institute's transaction data. Centralizing data into one efficient and accessible system will hopefully cut redundant information and transition time between different departments.

The work of re-engineering teams may increase the number of MITNet users by up to 2,000, said Marilyn A. McMillan, director of Information Systems Planning and leader

of the information technology transformation team.

One manifestation of this drive is the revised appointments processing system. Stephen D. Scarano, assistant to the vice president for information systems and leader of the the appointments process team, is working on a new program to reduce the time needed to put a person in a job, which currently can take up to several weeks.

With the new system, "literally, as long as the information is available, you can bring [the time needed to make an appointment] down to a matter of a few days, if not hours if you wanted to rush one through," Scarano said.

Although the appointments system still acts primarily as an interface to MIT's older mainframe computers, the system will connect to the new data warehouse. "On a nightly basis we take data updated in the central personnel database and send it to the data warehouse," Scarano said.

The data warehouse will directly interface with transaction systems like the registrar's office or the bursar's office, said Susan Minai-Azary, director of information technology integration and head of the infrastructure readiness team, which is responsible for planning and

implementing the software needed to create and access the warehouse.

"There is an expense in that the Institute was supporting five database technologies," said Minai-Azary. With the Oracle-based data warehouse and the movement of most other transaction systems to Oracle, the Institute will save money in support costs and there will be less need for competing systems.

In flux, teams unclear of final goals

While the present status of re-engineering is fairly easy to ascertain, the future actions of the effort remain somewhat hazy. Some teams, like the information technology infrastructure team and the mail team are still implementing their projects.

The student services re-engineering teams could make far ranging changes in the way the Institute handles student affairs. Started in late January, the teams have gotten off to a slow start. The current goals of the team are aimed at renovating outdated procedures and consolidating many student services under one roof — or at least making them accessible with one-stop access.

Student services re-engineering teams began organizing in September, with some preliminary work done in 1994 and earlier in 1995, said Rosalind H. Williams, dean for undergraduate education and a member of the re-engineering steering committee. Williams, who was appointed dean only on June 12, needed some time to get up to speed on the re-engineering effort.

Although the student services teams are still catching up, other teams are now in the midst of implementing and evaluating their re-engineering efforts.

The appointments system is still being built. While its current state is "more than a pilot," the new system is "a pre-general community release," Scarano said.

What we have now is just "the first step in implementing a total appointments process solution," he said. "The next steps would be to extend the functionality to other types of positions" like clerical positions, research associateships, and teaching assistants.

The mail system also has more work to do as well. The central mail facility which handles all outbound mail is scheduled to open March 1, and all distributed mail centers by April 30, Guyer said.

The information technology infrastructure team is also proceeding with its work. "Originally we thought we would be in effect for a year, pick [products for the new MIT information infrastructure], and go away," Minai-Azary said. "At this point as I look upon the other re-engineering projects I wonder, 'When is a good point for us to end?' I don't know; it's a good question," she said.

Where's the savings?

The \$1 billion-plus budget of the Institute sometimes makes it a challenge to

Outside re-engineering efforts share goals, but vary in approach

By Jennifer Lane

MIT isn't the only institution feeling the pinch of federal spending cuts and embarking on the quest for efficiency. Many other universities and companies have begun similar re-engineering efforts, and some colleges are even keeping an eye on what MIT does.

The impetus behind re-engineering efforts appears constant across geographical lines. Like MIT, colleges such as Stanford University "feel the need to become more efficient ... both because of budget concerns in Washington, and the general importance of efficiency to an academic enterprise," said Vice Provost for Institutional Planning at Stanford Geoffrey M. Cox.

Carnegie-Mellon University was prompted by cut costs, increased scrutiny from regulatory agencies, and "the realization that we'd made very few administrative changes over last 20 to 30 years," said Carnegie-Mellon Process Engineer Linda E. Schmidt.

"I think we're all trying to head toward the same place ... lower costs associated with efficient processes," said the director of the business management group at Yale University, Dean Plummer. "[Yale's] core mission is teaching and research with service to the community being very important as well. Administrative costs drag on that mission, so we've historically been looking to manage those costs," Plummer said.

Colleges have different approaches

MIT has launched several efforts at once, while Stanford, Yale, and CMU have all chosen to address a few departments or processes at a time. Yale is watching MIT's re-engineering with great interest, Plummer said. "You folks are way out in front of where we are in a number of things."

Ahead or not, MIT's total approach is more costly than the individual approach. Stanford administrators hope that "each new investment will pay for itself," Cox said.

CMU has also decided "to look at individual processes and re-engineer as we see the need," Schmidt said. They currently have two re-engineering processes in the implementation stage and one in the design phase. It already "feels like everything is being changed, so we're thinking of not starting any more until those are completed," Schmidt said.

Different areas re-engineered

Across the board, the first item on everyone's lists seems to be replacing outdated computing systems.

Stanford began with its computing system, hoping that the renovations will result in people being able to work more efficiently. "Our re-engineering efforts are focusing primarily on the business functions, such as financial transactions, research administration, [and] grant and contract administration," Cox said.

Beyond cutting administrative costs, Yale's "other driver is having more financial information available to us in flexible, meaningful ways," Plummer said. "We've been putting emphasis on having business components work smarter, because they need better tools."

"In the area of management and professional staff and faculty, these streamlining initiatives and enhancements of financial initiatives are long overdue," Plummer said. "We have a data warehouse underway that increases access to financial information, but until we address underlying systems, we can't reach goals that everyone shares for business in the future."

Continues on next page



US Rep. Barney Frank

9

US News & World Report ranks the Sloan School of Management and the School of Engineering the best in their fields in its annual survey of

graduate schools nationwide. Engineering has rated No. 1 for six consecutive years.

11

Institute Professor John M. Deutch '61, at the time serving as deputy secretary of defense, accepts the president's nomination to become director of the CIA. In January he had said, "it would be presumptuous to suggest that I will be involved in the running of any organization whose initials are not DoD."

13

Students disagree on a proposed intermediate grading system at an Undergraduate Association Council open forum. The forum

was meant to introduce a report and background on the proposal and to give the Committee on Academic Performance student input.

20

An electrical fire in the Ashdown House lounge forces an evacuation of the graduate dormitory. An electrical component in a fish tank ignited, setting fire to pieces of paper scattered underneath the tank and the wooden frame supporting it. The fish are not injured.

23

In an election marked by unusually high voter turnout, undergraduates choose Carrie

R. Muh '96 and Erik S. Balsley '96 to be the next Undergraduate Association president and vice president. An election referendum shows that a large majority of students are opposed to any change in MIT's grading system.

29

The first \$500,000 Lemelson-MIT Prize is awarded to William J. Bolander of General Motors for his work in automotive technology. William R. Hewlett SM '36 and David Packard, founders of the Hewlett-Packard Company, are given lifetime achievement awards. The awards are part of a \$6.5 million program at MIT funded by Lemelson.

April

1

A new agreement between the Dormitory Council and the Department of Housing and Food Services early this month keeps Baker House and Next House dining halls open through the term. The plan assures the short-term survival of the dining halls, which face an uncertain future amid continuing revenue losses.

2

This week the Department of Housing and Food Services instructs dormitory desks to stop accepting the MIT Card as collateral for items loaned by

Continued from previous page

evaluate the cost of some items. The thorough implementation of something as far-reaching as re-engineering has made it even more difficult. Evaluating savings not only requires a quantification of savings in labor and space, but also an intensive look at how Institute dollars are being spent.

The project is made even more complex by the fact that some of the original estimates of re-engineering savings did not pan out for a variety of reasons. A 1993 estimate that the Institute would have a budget surplus of \$2.7 million dollars next year — after a string of years with deficits — did not occur.

"We shall most likely have another deficit next year," said Provost Joel Moses PhD '67. "One reason why the projection in 1993 was too optimistic is the continuing downward pressure on what the government auditors have allowed us to charge in various overhead categories," he said.

While "it is too early in the process for me to throw out specific numbers or even estimates ... there is sufficient evidence that many of the redesigns, in principle, are going to end up saving MIT money, and there is no question from my analysis that ... the redesign processes are certainly going to save MIT money," Clark said.

In buying a cheaper beaker for his department, for example, "that is just a savings to the MIT customer," Clark said. "That

is just looking at the one element of price; that is not encompassing everything," he said.

"There is still an infrastructure that MIT has to support. There were some people who were being supported by the prices that OLS was charging," he said. Those individuals have been placed on the administrative budget. "Issues of freed up space have not been quantified here either," he said.

While the cost of the space that OLS occupied was not charged to MIT customers through the prices of products, there was still a cost for maintaining the OLS facility. The fact that this space is now freed up for other uses show that we need to establish a clear methodology for recognizing the value of space, Clark said.

"I don't think we'll ever be able to put our arms around all" of the issues involved, Clark said. "It's going to be a new way of thinking."

"We are establishing some templates so at any point in the future we will be able to take a snapshot and measure the effectiveness, savings, and quality of service of the redesigns," Clark said.

"Even though some of the numbers are not yet totally clear, I am encouraged that some of the changes that might appear radical are very positive steps," Clark said. "Doing business in the old ways is not going to cut it if MIT is going to stay in the forefront of education, research, and technology."

HEAD COUNT

The number of people employed by MIT has remained relatively constant over the years, but it may drop soon.

	Administrative Staff	Research Staff	Total
1990	1260	150	1410
1991	1287	164	1451
1992	1284	166	1450
1993	1300	172	1472
1994	1301	157	1458
1995	1285	162	1447

Re-engineering projects elsewhere

Continued from previous page

Yale began its re-engineering efforts a year-and-a-half ago by examining its student services, with a standing goal of fully integrating admission and financial services, Plummer said. This effort is only now nearing completion.

They next moved to the organization and technological support of administrative functions, Plummer said. "What Yale is considering now is the relation between procurement and contracts, human resources, and payroll components of administration."

CMU first looked at acquisitions, purchases, and accounts payable, then began facilities design and renovation processes, Schmidt said. They later began a re-engineering effort to change their student services.

Student involvement in the re-engineer-

ing process at other schools has been minimal so far. Yale sought student input in the re-engineering of its student services, but not in that of administrative systems, Plummer said. At Stanford, which has only begun to address student services, students have not really been involved yet.

Carnegie-Mellon incorporated student input in their enrollment re-engineering effort, placing two students on the design team. Beyond this one effort, students have not been affected by the re-engineering process, Schmidt said.

In their initial re-engineering efforts, the various colleges agree that the immediate community was initially receptive to changes made to improve efficiency and service. Lately more and more things are changing, and "we're getting pushed back by the community," Schmidt said.

Student services teams announce plans

On Jan. 16, the student services redesign team introduced a number of proposals involving the centralization of the many separate parts of student services.

On Jan. 30, the assessment team rolled out its plan. The assessment team is studying the idea of establishing the "student services center as a physical place ... [with] one-door entry for students who have questions," said Dean for Undergraduate Education Rosalind H. Williams. The team is also discussing revising research associateships and teaching assistant appointments, and creating a system for electronic registration and electronic grade reporting.

Office of Lab Supplies closed to save money

In an effort to save money, the re-engineering steering committee closed the Office of Lab Supplies, replacing it with outside vendors. The OLS had been in charge of supplying laboratory apparatus, office supplies, gas cylinders, and furniture to MIT offices and laboratories.

The delivery of office supplies has been the source of some problems, but some labs have taken to keeping a small stock of common scientific supplies on hand. "My hope is that we made the right decisions for the long term even though it was problematic in the short term," said Director of Office Computing Diane M. Devlin.

The supplier consolidation team plans to introduce an electronic catalog that will allow departments to order products from their desktop. The team is also planning on implementing an Institute purchasing card, which will be issued by American Express.

Custodial services revamped

The operation of custodial services has been changed to consolidate groups of workers. Previously, custodial employees worked individually, managed by a supervisor. Now they are assigned to teams of eight to ten. Each team is responsible for specific buildings and can be contacted by departments through electronic mail.

Twenty-six custodial teams are now handling building cleaning and maintenance. "Right now we are fully rolled out," said Assistant to the Director for Special Services Karen A. Nilsson.

"Our role is to ensure that we continue new service, and that means monitoring, touching base with our customers, and continual training," Nilsson said.

Mail team sets up new distribution centers

The mail services team's new mail distribution process may undergo further revisions in light of complaints about the new system. The team had set up distributed mail centers where faculty and staff could pick up their mail, replacing the old system in which their mail was delivered to them. But when people complained about wasting time going to the mail centers, the team reconvened before preparing to open more distributed mail centers, said Manager of Mail Services Penny Guyer.

As part of a re-engineering initiative to educate workers, MIT postal workers completed training in the shipping of hazardous materials two weeks ago. Workers are also being trained to take over the bulk mailing operation that used to be handled through Graphic Arts.

Guyer is working with mail-order catalog vendors to clean up their mailing lists, reducing junk mail for the Institute. "The progress will be slow but sure on that," she said.

Guyer plans to put out bids this spring for companies to handle international and out-bound mail. The amount of mail MIT sends will allow it to get significant discounts, she said.

Information technology looks to share info

Hoping to facilitate the flow of information between departments, the information infrastructure team is developing a data warehouse to accept and coordinate data from different areas, facilitating data sharing across campus.

A future tool could give users read-only access to data in the warehouse, Guyver said. "Sophisticated users could use the tool to look at data [in the warehouse] without an application being written each time."

Appointments team develops new software

The appointments team is finishing up the first version of software that would allow people to schedule interviews and other appointments at MIT more efficiently. With the new software, information is sent over the network rather than through interdepartmental mail. Transactions that took six weeks to process now take six hours.

The software has already undergone a limited test in the Sloan School of Management and will be released to some test departments shortly. "Release one of the system will allow us to process new appointments. Release two will allow us to process all applications," said Assistant for the Vice President for Information Systems Stephen D. Scarano.

the desk. The new policy comes one day after Housing and Food Services Director Lawrence E. Maguire received a report describing security risks of the card system.

The Committee on Academic Performance proposes a three-year intermediate grade experiment this week that allows faculty members to assign internal pluses and minuses to letter grades, but would limit their use to within MIT. Faculty and students are split over the plan.

3

Perry N. Finley '92 dies. His sister, Tiffany J. Finley '97,

refuses to comment on the circumstances of his death.

10

Provost Mark S. Wrighton is announced as the next chancellor of Washington University in St. Louis, Mo., effective July 1. A former head of the Department of Chemistry, Wrighton served as provost for almost five years.

The Undergraduate Association Council previews proposals that will be part of "a completely brand-new UA constitution," according to then UA President-elect Carrie R. Muh '96. By trimming the UA Council, the council hopes to

give its members more responsibility, making them more likely to participate and come to meetings.

Cambridge Mayor Kenneth Reeves convenes a subcommittee to convince the Institute to reverse its decision to close the Lowell Institute School, an MIT program that has offered evening technical courses on campus since 1903. The committee was formed after about 15 people approached the council saying that they had benefitted from Lowell.

11

The team consisting of Henry L. Cohn '95, Adam W.

Meyerson '97, and Thomas Weston '96 places third in this year's annual William Lowell Putnam Mathematical Competition, administered last December. Ruth Britto-Pacumio '96 also reaps honors



Barbara J. Souter G

by winning the Elizabeth Lowell Putnam Prize, awarded to the highest-scoring female each year.

Former Associate Dean for Residence and Campus Activities James R. Tewhey files a civil lawsuit against the Institute and several employees in Middlesex Superior Court. The suit is the latest response to a harassment case against Tewhey that prompted him to leave MIT in 1993.

12

Barbara J. Souter G is elected president of the Graduate Student Council on the platform of graduate housing and input

Aramark faces scrutiny as contract is up for renewal

By A. Arif Husain

Food service is a touchy subject on campus — a balance between providing convenient, inexpensive, and palatable foods while maintaining such a system within its budgetary constraints.

It's a challenge of providing "the right service, in the right place, at the right price," said Aramark General Manager Robert McBurney.

Although much of last year's focus on food services was related to the re-engineering movement, other issues also drew concern.

Aramark, MIT's food service provider, was up for renewal this year. Despite overwhelming criticism from students, the Department of Housing and Food Services opted to grant Aramark a one-year extension until June 1997.

The decision was made to allow "all debates and information to get clarified [so that] we are in a position to make the best deal with a contractor," said Director of HFS Larry E. Maguire.

Food service at MIT represents a \$9 million market. Aramark, formerly ARA, has been providing food services at MIT since 1986.

An Undergraduate Association survey conducted last spring showed that nearly 60 percent of respondents objected to keeping Aramark as a food service provider.

Maguire will work with the Institute

Committee on Student Affairs to obtain student input in the planning process. The CSA will base its considerations on such student input and will encourage students to voice their opinions.

The committee has looked at options ranging from mandatory meal plans, changes in dormitory dining halls, and new food delivery and carry-out services.

Dining halls reconsidered

Dormitory-based dining halls have traditionally run a deficit. Although dining facilities at MacGregor House and McCormick Hall were closed in 1992, students are working hard to keep the ones at Baker House and Next House in operation.

Both dormitory dining halls are still losing money, but are no plans to close them, said Aramark General Manager Robert McBurney.

Before the transition, Baker Dining was losing \$10,000 per month. It subsequently cut its losses in half last year, and has continued to improve this year, said Baker Dining Committee Chair Albert Hsu '96.

The CSA will evaluate among their considerations the possibility of reopening other dormitory dining halls.

The dining hall is a crucial part of a dormitory's residential environment, said MacGregor Housemaster Munther A. Dahleh. "It will have a strong social impact in the dorm [by allowing] students to interact in a more relaxed environment."

Aramark focuses on PR

In an effort to improve student relations, Aramark hired student managers and an Undergraduate Research Opportunities Program intern.

Aramark hopes to facilitate "a personal connection between the students and the food service itself," said intern Dingli Chen '99.

Chen has been involved with planning various public relations projects and conducting small-scale student surveys. The results of the surveys were mostly negative, although Chen felt that students were honest and took the surveys seriously.

In addition, Aramark is considering converting Networks into a franchised restaurant, Chen said. One possibility is Manchu Wok, a Chinese restaurant which has been successful with Aramark at other schools.

Chen decided on a Chinese restaurant because Aramark has been accused of not having a lot of variety, she said. Also, with a large Asian population on campus, Chen felt a Chinese restaurant would be received well.

Students dismayed by layoff

In a time when Aramark was trying to improve its public relations, the layoff of an

employee late November was met with contempt from students.

Eddie Cogliano was manager of the MacGregor convenience store. Last year he had been removed from the Next House dining hall and Fast Eddie's convenience store in Tang Hall.

The decision to fire Cogliano was for "financial reasons," McBurney said. The change will help provide better services at a reduced cost, he added.

In response, Hsu and Next House resident Brian A. D'Amato '96 drafted a report to the Office of Housing and Food Services regarding what they felt was wrongdoing.

The report cited the MacGregor convenience store as one of only four Aramark operations which yield a profit, and credited Cogliano with the store's success.

The response argued that without Cogliano's receptivity to student input, such profits could not have been achieved.

"[Cogliano] was easily the most responsive Aramark employee to students," Hsu said.

Furthermore, Cogliano had a stake in the maintenance of Baker's dining hall, and influenced many renovations in Pritchett Lounge on East Campus, the report said.

The MacGregor store is now student managed, and the task of ordering products for the store was taken over by other Aramark employees.

Associate Director of Food Services John T. McNeill had "very strong feelings" about McBurney's decision, but said that food services does not have license to contest it.

"Until it affects service, we can have no say in how [Aramark] hires or fires, no matter what our feelings happen to be," he said.

McNeill said his major concern is that "business continues as usual."

... the layoff of an Aramark employee late November was met with contempt from students.

Libraries improve computer system, exchange with Harvard

By Angela Liao

In response to the various student needs and budget cuts, the MIT Libraries have gone through several changes this year in both personnel and services. These include a new computer system, shorter hours, and an exchange program with Harvard.

Director of Libraries Jay K. Lucker retired in August after 20 years of service.

Ann J. Wolpert, executive director of library and information services at the Harvard Business School since 1993, was appointed and assumed her duties in early January.

"The major challenge facing all research libraries now is managing the transition to a world where more and more information will be delivered electronically rather than in print on paper," said Carol Fleishauer, then-acting director of Libraries.

Wolpert "sees changes which will move our libraries to libraries of the future, with emphasis in computers and communication technology," said Provost Joel Moses PhD '67, who made the appointment.

Libraries advance electronic services

Before Wolpert assumed office, then-acting co-directors Fleishauer and David S.

Ferriero took steps to improve traditional services and develop new electronic services for students.

Over the summer, the libraries began using a new computer system, said MIT Libraries' associate director for systems and planning Greg Anderson.

The \$360,000 system is the result of a five-year-long collaboration between the Libraries and I/S to improve public access, said Anderson who is also the director for information/technology discovery for Information Systems.

The new system is more powerful, has more sophisticated indexing, searching, and processing capabilities, and has a structure superior to the old GEAC 8000 system, Anderson said.

The changeover will culminate in the development of a client/server system for MIT Libraries. That part of the new system, also a joint effort between MIT and GEAC, will be in place by next summer, Anderson said.

Hayden hours, subscriptions cut

Because of financial cuts, the Charles M. Hayden Memorial Library's hours were cut down from the traditional 24-hour a day schedule. The library now closes promptly



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The Hayden Memorial Library now closes at midnight.

Continues on page 11

into dean searches. Patrick S. Wojdowski G is elected vice president, and Randy D. Weinstein G and Gregory E. Penn G are voted secretary and treasurer, respectively.

16

Hanna H. Gray, president emeritus of the University of Chicago, is chosen this week as the the Commencement speaker for the ceremonies on June 9 ceremonies. Gray, a distinguished history scholar, is a former provost at Yale University and a former dean at Northwestern University.

20

The 10th annual Mr. Spring

Weekend contest, sponsored by the Women's Independent Living Group, kicks off a series of Spring Weekend events that entertain students while winning local charities over \$7,000.

21

The independent living group Epsilon Theta files a court complaint against the national fraternity Sigma Nu to defend the use of its name. For historical reasons, Returning to campus after a 20-year hiatus, Sigma Nu intends to name its recently chartered MIT chapter "Epsilon Theta of Sigma Nu." The group is also expecting to move into a new house near Kenmore Square this fall.

With his machine Alleluia, Hyoseok Yang '97 wins this year's Introduction to Design (2.70) contest. After two nights of competition in front of packed crowds in 26-100, Yang's machine captures the top spot in a field of about 160 machines. This year's contest is titled Pebble Beach after the famous California golf course.

27

Members of the MIT community observe Yom HaShoah, Holocaust Remembrance Day, honoring the memories of the victims of the Holocaust with a memorial service, a remem-

brance exhibit, and a photographic montage. The commemorative activities were organized by students of the Jewish religious group Hillel.

May

2

Matthew H. Braun '93, a system programmer for the Distributed Computing and Network Services division of Information Systems, receives the Big Screw Award. The contest, sponsored by the MIT chapter of the Alpha Phi Omega national service fraternity, awards the most deserving faculty member with a 3-foot-

long, left-hand threaded aluminum screw.

3

MIT holds the second re-engineering town meeting in Kresge Auditorium, a year-and-a-half after the first one. President Charles M. Vest and other senior administrators review the progress of the Institute's re-engineering effort and answer questions from employees in attendance.

After a divisive debate, the Undergraduate Association Council rejects a constitution that would have implemented changes across the entire organization and instead passes an

Federal funding cuts Institute predicts difficult but bearable times ahead

By Orli G. Bahcall

Half a decade after the collapse of the Soviet Union, the budgetary fallout of the end of the Cold War continues to force research universities to tighten their belts. Once plentiful federal dollars have become scarce; a changing economy has made schools rethink their educational goals.

The intensity of past year's budget-balancing debate has spelled continuing uncertainty for the Institute, which receives upwards of \$270

million in direct federal funding each year. "This has been a very unusual year," said MIT Washington Office Director John C. Crowley. "It's impossible to predict how this budget [debate] will conclude."

But after the chaos of 1995, administrators predict MIT's formidable research reputation will help it avoid drastic cuts. Still, they say, the Institute will not only have to adapt to dwindling funds, especially for graduate training, but continue to adapt its educational program around the shifting needs of the country.

Amidst uncertainty, hope

Overall, the budget appropriations battles in the capitol left MIT relatively unscathed. Most of Institute's primary donor agencies, including the Department of Energy and the National Institutes of Health, have been funded through to the end of this year.

However, a few are still "subject to the budget process" — including the National Science Foundation, the Environmental Protection Agency, and NASA.

These agencies may now have to "bar the award of new funds for proposals that

have been prepared for the next round," Crowley said. "This will disrupt support for graduate research, and faculty trying to establish their research. Those programs interrupted will have no funds to pursue their research."

But amidst this uncertainty and turbulence lies a glimmer of hope. "Relative to everything else within discretionary spending, Republican majorities have identified university research as a priority," Crowley said. "They have attempted to accord it special treatment, while trying to squeeze other things."

"Despite the enormously difficult political pressures, [I sense a] recognition of the long term value of university research, and need for stability in the system. This is broadly recognized by the leadership in Congress and Senate," Crowley said.

Like the status of the budget in 1995, the prognosis is unclear. "Next year's prospects

are still unpredictable," Crowley said. "The seven-year balanced budget plan could inflict strong cuts in university research, [to the extent that even Congress's] priorities will be sharply reduced."

If one thing is certain, though, it is that "MIT will have to work a lot harder to keep its funding level where it is," said Office of Sponsored Programs Director Julie T. Norris.

MIT's funding may depend on its record

MIT is one of many institutions trying to project what will happen if the Republican seven-year balanced budget plan goes through. When the American Association of Universities projected the effects of the proposed budget cuts on research programs, the feeling was that research programs overall would be cut about 32 percent in the budget-balancing process. This would be about an \$81 million cut for MIT, Norris said.

But Norris does not believe that the loss will be this drastic, because when it comes to federal research, MIT is anything but an average institution. The cuts will not be distributed equally among all places of research, she said.

As always, funding is given first to those places doing the best work. The quality of MIT will keep it above water, even if it means more suffering for others, Norris said. And recent history bears that view out: In the past few years, MIT research expenditures have indeed been maintained above those of other leading research institutions.

If the Institute "were to lose [\$81 million] MIT would be a different kind of institution," Norris said. The Institute would see "less research, [which] translates to fewer students. The equipment faculty use probably wouldn't be replaced with new state of the art equipment."

"The government, in looking at savings, tends to look less at reduction of costs [and more at] the transfer of those costs to an

Relative to everything else within discretionary spending, Republican majorities have identified university research as a priority. ... They have attempted to accord it special treatment, while trying to squeeze other things.

John C. Crowley

institution," Norris said. The Institute will probably see the transfer of a lot of research's administration costs to the institutions.

Graduate students might not be so lucky

But even the strength of MIT's record may not be enough to save it from cuts to graduate programs, say administrators and researchers alike.

"I fear that the government attitude may be changing for providing support for graduate students," Norris said. The trend in grad-

Continues on next page

Despite the enormously difficult political pressures, there seems to be a recognition in Washington of the long-term value of university research and the need for stability in the budget funding system.

Federal Budget Cuts Slow Research Funding

While thousands of furloughed government workers followed news of federal budget haggling with apprehension, the Institute was only minimally affected by the second of two federal government shutdowns in December.

No MIT employee was furloughed or laid off as a result of the shutdown, although some contracts were put on hold because contacts at federal agencies could not be reached, according to Director of the Office of Sponsored Programs Julie T. Norris. A OSP study found that the 17-day shutdown did cost the Institute \$11.6 million in research funding. The office based the assessment on the awards that were expected to have come in during the shutdown.

Assuming that expenses have remained unchanged, MIT also has spent about one million dollars in the month since the shutdown, Norris said.

But the shutdown did not prompt much faculty reaction, largely because many projects enjoy a three-month funding leeway. That means faculty members with grants from federal agencies who have not yet received their 1996 funding can continue to spend until about March under a pre-funding allowance, which gives researchers the funding needed to begin projects before an actual award has come in from an agency, Norris said.

MIT assumes the risk if the funding does not come through, in which case some of MIT's unrestricted resources would go to pay for the lost pre-funding expenditures. OSP is dealing with this situation by pre-funding projects which seem likely candidates for funding in the future, Norris said. In the past, OSP has successfully pre-

dicted the likelihood of projects being funded, she said.

As a result, MIT is now asking for fewer guarantees from the agencies, simply because during the shutdown there was nobody researchers could call for information or guarantees about the funding, Norris said. "If we can't get the information, we assume that we have to take on the risk," she said.

Fortunately, the shutdown came at a time that is not particularly crucial to research funding, Norris said. The end of December is a "low time for starting research projects," Norris said. "The number of new awards and new starts are as light" as they get all year, she said. The traditional time for starting new projects and receiving research grants is October, the start of the fiscal year, she said. Numbers of awards are also high during February, the standard start date for a frequent sponsor of MIT research, the National Institutes of Health.

MIT can absorb the impact of the delayed funding better than smaller schools, Norris said. "I have talked to some in the past couple of weeks, and they are more worried." They have to consider laying off student employees because they "literally do not have the cash" to take the risk of pre-funding, Norris said. But MIT will not lay off anyone, she said.

"We support people. Of course, if we do not get the payments, we will have a real problem, but every big institution is doing the same thing," Norris said. Until federal budget relations become cordial, "we are just running the risk more than usual."

—Orli G. Bahcall

amendment to the current constitution that reduces the size of the body by half.

The Senate Select Committee on Intelligence votes unanimously to recommend the confirmation of Institute Professor John M. Deutch '61 as Director of the CIA.

5

Several dormitories settle on faculty members to fill vacant Housemaster posts. Halston W. Taylor, head coach of the men's track and cross country teams, and his wife Cathy will leave Random Hall to be the new housemasters at Burton-Conner. Associate Professor of



Munther Dahleh

Electrical Engineering and Computer Science Munther A. Dahleh and his wife Jinane accept the post at MacGregor. Associate Professor of

Literature Henry Jenkins and his wife Cynthia agree to become the housemasters of Senior House.

9

Nobel laureate Phillip A. Sharp, Head of the Department of Biology, is reported as a potential target of the Unabomber, the letter-bomber who has sent 16 mail bombs over the last 17 years. The Boston Globe reports that Richard J. Roberts of New England Biolabs, Inc., who shared a Nobel with Sharp, is also a potential target.

15

Dean for Undergraduate

Education and Student Affairs Arthur C. Smith is honored at the 1995 Awards Convocation

with the presentation of a new Institute award bearing his name.



THOMAS R. KARLO

Sailing Master Harold L. Brown accepts the Gordon Y. Billard Award at the Institute Awards Convocation.

Continued from previous page

uate funding reflects the preference in getting research done by an employee over training a student, Norris said. "I see the real future in training of the students. I remain convinced that MIT will stay very competitive — will continue to be great research institution" of the next century.

"It is clear that the budget cuts will have an impact" on the Graduate School, said Graduate School Dean J. David Litster Ph.D. '65. The cuts will reduce the number of graduate students.

"So far in most of the hard sciences and engineering, graduate students get supported," Litster said. But under the cuts, fewer students would be supported. Although MIT's reputation attracts students, they will decide based on whether they can get support.

While the exact outcome of research funding is uncertain, the impact of the funding cuts on MIT as a whole and on the Graduate School can already be assessed. "One thing will clearly happen, there will be a big impact on our TAs," Litster said. MIT will "probably no longer be able to take the tuition we charge as a fringe benefit." That would raise the cost of the graduate research assistant contract substantially.

Future lies in multidisciplinary programs

All the economic and political changes stress the need to look elsewhere for funds. Traditionally researches look toward agencies like the NSF, NIH, DOE, and the Department of Defense for funding, Norris said. The Institute now needs to expand this base and search for more non-traditional funding. In addition, there remains a need "to look at new basic research funding, at corporate support for developing programs, at foundations."

Part of looking elsewhere will involve realigning MIT's educational mission to fit national views. To this end, Dean of the School of Engineering Robert A. Brown believes the proliferation of more professional programs is just what MIT needs.

Degree programs like the newly created Program in System Design and Management are "creating new kinds of masters degrees geared more toward people going into industry."

MIT will see that "as these programs develop there becomes more of a demand for those who want to go to industry [and] desire more professional training," Brown said.

"The agencies are looking at multi- and interdepartmental research, [as well as] targeted research that meets national needs," Norris said. There has been a been a "big push across the country for programs that tie research to national industry, and MIT has been a leader in this." That usefulness helps net funding.

What the outcome of federal budget tightening and MIT's response will be for the Institute in 1996 is still unclear. "It is hard to predict where we are going to end up," Litster said. "My guess is that things are not going to be a disaster, as the most pessimistic people will tell you, but they are going to be difficult. We can adjust to changes as long as they don't happen too rapidly. If things happen slowly enough, we can figure out ways around them."

Cost cutting forces Lowell to move

By Yaron Koren

Last year's decision to move the Lowell Institute School from MIT to Northeastern University effective July 1, 1996 created much controversy among MIT faculty and the Cambridge community.

The Lowell Institute offers evening instruction in technical subjects such as electronics, computer applications, and engineering. A tradition at MIT since 1902, the school is geared toward adult residents of Boston and Cambridge.

Classes are held in MIT's classrooms and laboratories. There are currently about 1,000 students.

The decision to close LIS was made last January by former provost Mark Wrighton as part of the Institute's cost-cutting efforts.

After months of negotiation, the final contract was signed mid-September by Northeastern President John A. Curry and John Lowell, the sole trustee of the Lowell Institute (an educational funding group) and a grandson of its founder.

The school was planned to close in July but will instead join Northeastern's School of Engineering Technology at that time, with classes starting in the fall.

Northeastern, which already has a technological night school program, will merge those classes with the LIS classes under the Lowell name. According to NU Provost Michael Baer, many of the Lowell School's current instructors will be retained.

"In this era of constraint we must make some difficult decisions about what we will do and what resources will be directed to such efforts in order to sustain excellence in our core missions," Wrighton said.

Feelings about move are mixed

Northeastern officials are enthusiastic about the acquisition. Baer said that he expected the majority of the Lowell School's current students to stay with the program after the move.

The director of Northeastern's School of Engineering Technology, Charles W. Finn PhD '71, said the move is "a fantastic synergy. I'm very excited about it."

Finn added that many LIS instructors are also professors at Northeastern during the day.

Lowell himself called the move to Northeastern "a wonderful fit."

But the moving of the Lowell School came as a shock and a disappointment to many MIT administrators connected with the school.

None seemed more upset than Bruce D. Wedlock '56, a lecturer in the Department of Electrical Engineering and Computer Science, and for 22 years the director of the Lowell Institute. Wedlock was skeptical about the future quality of the school. The decision was misguided, he said. "Wrighton left a legacy of a lot of angry people."

"I have yet to talk to anyone at MIT ... who thinks the closing was a good idea."

Bruce D. Wedlock

"I have yet to talk to anyone at MIT, faculty to hourly employee, who thinks the closing was a good idea," Wedlock said.

"It obviously won't be the same thing. I don't want to sound negative, but Northeastern isn't MIT," Wedlock said.

Cambridge City Council members were also upset by the closing. The Lowell School has until now served as the most inexpensive source for adult technical education to Cambridge residents. Tuition is \$300 to

\$400 per class, compared to about \$1,000 at Harvard's adult education school, the Extension School.

LIS has also served as a channel of communication and outreach between MIT and Cambridge, a bright spot in an otherwise rocky relationship typified by a perceived aloofness on the part of the MIT administration.

John Pitkin, a concerned Cambridge resident, said that there will

be a tremendous consensus that the moving "is not a wise move."

Mayor asks MIT to keep Lowell

In April, Cambridge Mayor Kenneth Reeves formed a subcommittee that met with MIT officials to try to convince them to reverse the Lowell School decision.

The discussions turned out to be fruitless. The subcommittee could not pin down from Institute officials "a really logical and rational reason why they couldn't continue the program," said subcommittee member and Cambridge City Councillor Katherine Triantafyllou.

The desperate council proposed to buy land from the campus and maintain the school independently of MIT starting July. The proposal was defeated 5 to 3.

Northeastern's administrators, aware of the strong feelings of the Council and many Cambridge residents against moving the school, have tried to paint the move as a positive one. Charles Finn noted that NU is "only a couple of stops on the subway down from the old location."

"I have assured the city council, through the MIT provost, that we will make every possible effort to [reach] Cambridge residents and to the students currently in the program," Finn said. At the time of the decision to move the school, Finn suggested creating special scholarships for Cambridge residents to defray the higher cost of the NU program.

But Northeastern officials may be facing a losing battle. "There will be a tremendous consensus that [the closing] is not a wise move," Pitkin said.

Wedlock added that his observations dur-

ing the transfer process had left him unimpressed with NU's educational facilities.

"Instruction at computer terminals is rarely done at NU, where it was the normal mode at LIS," he said. "Computing is taught in a classroom, and the students go to the computer lab and work on their own without even a TA."

He added that "the well-equipped EECS labs are another example of an exceptional teaching environment that NU doesn't duplicate."

Some disagree over perceptions

Many disgruntled residents have questioned decision to eliminate the Lowell School from MIT. Wrighton cited cost-cutting as part of the effort to eliminate non-essential services during a time of tight budgets.

LIS uses 1,000 square feet of classroom space a night, and its use of MIT classrooms and the Athena network amounts to little overhead, since these are in lower demand during the evening.

The Lowell Institute shoulders most of the cost of maintaining the school. MIT is required to contribute only \$100,000 a year to cover Wedlock's salary-related costs.

In fact, last spring John Lowell offered to increase the Lowell Institute's annual endowment to the school by \$100,000 to cover MIT's expenditures.

But the offer was rejected by Wrighton, who said that a decision had been made. Wrighton stepped down as provost last summer in moving to Washington University, and has not publicly commented about the closing since.

Some speculated that Wrighton's decision came more than anything else from a belief that LIS, a community trade school, did not fit well into MIT's general image as a prestigious, selective institution. As former Cambridge resident David Blackwell put it, "eliminating the Lowell School... makes



The Lowell Clock on the 77 Mass. Ave. entrance to the Infinite Corridor.

[MIT's] perceived elitism very real."

Wedlock agreed. MIT "is more focused on winning a Nobel Prize than educating highly motivated students at the level of LIS. I mentioned the question of elitism to a number of highly-placed friends at the Institute, and none denied that concept" relative to Wrighton.

Whatever the reason, next fall, for the first time in years, community residents looking to MIT for a technical education will have to look elsewhere.

30

Senior Week Activities begin. The activities, which run through Commencement, include a free party at Jillian Pool Hall, an event with comedians in Lobdell Court, and a Boston Harbor boat cruise, all of which are aimed at allowing seniors a chance to enjoy their last few weeks at MIT.

June

8

A House of Representatives subcommittee approves a plan to eliminate funding for MIT's Bates Linear Accelerator and

four other nuclear physics particle accelerators next year.

Thomas D. Cabot, a life member emeritus and the longest serving member of the MIT Corporation, dies at the age of 98.

George P. Panteleyev G, a graduate student in the MIT-Woods Hole Oceanographic Engineering, is lost overboard during a research trip on the Ob River in Siberia. He is presumed dead.

Dean of the School of Engineering Joel Moses PhD '67 is confirmed as the Institute's next provost by the

Corporation Executive Committee. Moses succeeds Mark S. Wrighton, who steps down today to become chancellor of Washington University in St. Louis, Mo.

9

Killian Court hosts MIT's 129th Commencement exercises, bringing together 1,794 graduates and an estimated 8,000 relatives and guests. A total of 2,026 degrees, 961 undergraduate and 1,065 advanced, are awarded from the Institute's five schools and 21 academic departments.

12

Professor of Writing Rosalind



A graduate receives his diploma from President Charles M. Vest.

H. Williams is named the joint new dean for undergraduate education and student affairs by President Charles M. Vest. Williams replaces current UESA Dean Arthur C. Smith, who will retire at the end of the summer after five years in the position.

20

The House Science Committee reverses a June 8 subcommittee vote and approves funding next year for MIT's Bates Linear Accelerator Center and four other nuclear

Publications continue despite lack of funds, staff

By Stacey E. Blau

Although all campus publications have a goal of publishing issues they think are of interest to the campus, a number of them have not been able to do so in the past year due to a lack of resources and support.

While the self-billed MIT-Wellesley journal of rational discourse *Counterpoint* has managed to pull back from the brink, the *Course Evaluation Guide* has had to retreat online for survival; although *Rune* is back from a nine-month hiatus with a new issue, *How to Get Around MIT* has not been published this year and may be in more serious trouble.

The two main problems experienced by the four — lack of money and lack of staff — were mostly long-standing problems for the publications. This past year simply proved the breaking point for them, forcing them to scale back the extent of their production.

Counterpoint bounces back

Like many student-run publications, *Counterpoint* is suffering most from lack of staff, said its outgoing Editor in Chief Han Y. Huang G. "The paper was going to die over the summer," when Huang and Publisher Richard Y. Lee '97 "were the only staff, basically," he said. "Our most important [fall] goal was recruitment. The results were fair, and I think the paper will continue" to publish, he said.

But the fall got off to an unfavorable start when copies of *Counterpoint*'s rush issue were trashed in the Student Center and Lobby 7, the second time that issues had been vandalized in the past year. Nearly all 4,500 copies of the magazine's Feb. 1995 issue were stolen and never recovered. But "getting trashed did not hinder us," Huang said. "It was more a symptom of what was being done right" with the articles in the issue. *Counterpoint* used the incident to its advantage by publicizing it, he said.

Earlier in the semester, *Counterpoint* had been considering publishing biweekly. "We thought it would be an interesting way to gain visibility," Huang said. But "we don't have the staff to guarantee quality issues every two weeks."

"We turn down a lot of articles — over half, actually," Huang said, explaining why issues of *Counterpoint* generally contain only a few articles. "We're more a journal than a newspaper, so it's quality that's more important."

Counterpoint had also been suffering from financial problems but has now recovered, Huang said; "We have enough so that we can publish monthly." But the journal still does not have the money to buy computers on which to produce its issues.

"We do our work on Athena using Framemaker," Huang said. While the magazine would appreciate the comfort of having

its own computers, "first we need an office to put the computers in," he said. Staff meetings take place at the Technology Community Association office, at Athena clusters, or in 1-132, a room that Counterpoint has reserved for use Monday evenings.

The arrangement is far from perfect, Huang said. "You pick up a lot around an office. People come to hang out and talk," Huang said. Without an office, staff members don't get the same chance to interact, which weakens the paper. "They stay home until we call a meeting," he said.

Now at Roxbury Community College, Former Assistant Dean for Residence and Campus Activities Susan D. Allen "gave us the runaround with computers and office space. The least she could do is help get us an office," Huang said. "Everyone remembers the publications" when they think back about college, he said. "The deans should realize that *Counterpoint* is really visible."

CEG forced to retreat online

Money was also a concern for the CEG, as financial problems pushed it to abandon paper publication and move exclusively online this year.

In large part because of rising paper costs, recent guides have run deficits of several thousand dollars. That shortfall has exhausted the surplus generated in previous years for printing. Moving online saved the CEG the usual printing costs of \$8,000 to \$10,000 per run, said Associate Editor Federico Bernal '97, a former editor in chief of the CEG.

Students may "be somewhat unhappy,

"We [will] ask the deans for donations" to offset the costs of the guide, Norton said, "but we likely will not get that money. The problem is last semester's guide is not finished" because some reviews of classes remain unwritten, and the deans are consequently unwilling to shell out more money, she said. "We hopefully should get some, but it may be less" than in previous years, Norton said. "Money is definitely a problem right now."

While a few hundred copies of the spring and fall 1996 issues will be printed to distribute to living groups and other major organizations to ensure hard-copy access, the guide will stay a primarily online publication.

Improvements will be made in the next month or so to the spring 1996

guide so that students can sort information by course, a specific professor or teaching assistant, or as it relates to a certain degree, advantages possible only through the computerized version, Bernal said.

Norton said that the CEG is in good shape for producing its fall 1996 edition. "We have a lot of writers. We're doing well," Norton said. "I'm pretty confident we'll get it out on time," she said.

After hiatus, Rune back on track

Although *Rune* does not have any dire problems at this point," according to Literary Editor John M. Dykes '96, "we are currently behind schedule in putting out a new issue. This is probably our most pressing problem."

One reason for the delay has been lack of seasoned staff members in layout. "The layout people of previous years have moved on, leaving a novice layout team to work on our latest issue," Dykes said.

In the past, "layout was done by a very small core of *Rune*'s members," Dykes said. "The burden of organizing layout, scanning images, and entering the written works fell upon the shoulders of a couple of people." Despite this system's efficiency, "the problem with [it] ... was that others never learned the skills necessary to do

layout," Dykes said. So "when the previous year's layout people moved on, we ran in to some problems," Dykes said.

"We are also experimenting with a slightly more decentralized administrative structure, which has taken some time to get used to," Dykes said.

To prevent the problem from recurring, the magazine is trying to involve "everyone

in some part of layout and design. Art editors are working on scanning in images [and] literary editors are entering written works," Dykes said. "Everyone will have a voice in the final layout design."

The most recent printing was the *Rune* Spring Supplement of 1995, "which was a small booklet printed and distributed at the end of spring term 1995. It was meant to supplement *Rune* 16, published in fall of 1994," Dykes said.

While *Rune* is not facing serious financial problems, "finances are very, very tight," Dykes said. "However, MIT has supported us quite well in past years."

"We are hoping to have the next issue of *Rune* on the stands" in the next few weeks, Dykes said. "Things are coming along smoothly."

HowtoGAMIT not published

HowtoGAMIT, an exhaustive guide to student life and culture and MIT lore, is facing a more dismal situation. Because of a lack of funding and staff support, *HowtoGAMIT* was not published this summer and may never be printed again, said former editors.

"Basically, it's dead," said Traci L. Williams '95, a former *HowtoGAMIT* editor. "Right now, no one wants to write it."

The TCA, which oversees the production of *HowtoGAMIT*, just does not have the funds to cover the publishing costs, Williams said.

One problem in funding the guide is the cost needed to provide free copies to freshmen, the guide's primary audience, said TCA President Ameet Singh '96. TCA did not obtain enough money from advertisements this year to offset the cost of the free copies.

HowtoGAMIT has had problems recruiting staff members in the past, Williams said. Two years ago, the guide was in danger of folding, but was saved when an electronic mail request for help by Williams succeeded in recruiting about 20 people for the fall 1994 edition.

But when Williams solicited help for the guide last spring, no such response was forthcoming. "No one has shown any desire to work," for this year's guide, Williams said.

"It's depressing to know that the last two years have been such a struggle," Williams said. "I think [the guide] provided a way to organize all the information that seemed relevant about the campus. ... It was a great resource."

There were plans at the start of the year to put *HowtoGAMIT* on the World-Wide Web. The guide "would be easy to maintain, and there would be no cost in doing so," Singh said. But those plans have yet to come to fruition.

TCA's debt has decreased from approximately \$10,000 two years ago to about \$2,000, Singh said. This may make available the funding necessary to resume paper publication.

But the shortage of enthusiasm for *HowtoGAMIT* remains a problem. More people are needed "to keep it updated so that it is actually a useful product," Singh said.

We're more a journal than a newspaper, so it's quality that's more important.

Outgoing Counterpoint Editor in Chief Han Y. Huang G

While a few hundred copies of the spring and fall 1996 issues will be printed to distribute to living groups to ensure hard-copy access, the CEG's money problems will likely keep the guide almost exclusively online for some time to come.

but this is the best we can do at this point," said Christopher E. Yang '99, editor in chief of the Spring 1996 guide.

"We will probably not go back to hard copy" for this fall's issue, said current Co-Editor in Chief Heather M. Norton '96. The CEG's money problems will likely keep the guide almost exclusively online for some time to come.

physics particle accelerators around the country.

25

Kristen E. Finnegan G dies unexpectedly of a heart condition. Finnegan was a doctoral student studying the history, theory, and criticism of art and architecture.

29

The MIT Solar Electric Vehicle Team's car races to victory in Sunrayce '95, a 1,150-mile solar car race from Indiana to Colorado. The MIT car, named Manta for its flat, sleek shape, beat out 37 collegiate competitors from around North America in the nine-day race.

July

1

As part of its continuing money-saving effort, the Re-engineering Steering Committee closes the Office of Lab Supplies. Services offered by the OLS will be replaced by those offered by outside vendors. Community response ranges from indifference to outrage.

18

President Charles M. Vest warns in an address that proposed federal budget cuts could affect not only university education and research, but industry and the competitiveness of the United States.

August

14

Post-doctoral researcher Yuqing Li is contaminated with an estimated 579 microcuries of Phosphorous 32, just under the federal acceptable yearly one-time exposure limit of 600 microcuries. The Radiation Protection Office confiscates and takes inventory of the radioactive materials, but the Center for Cancer Research lab continues to operate as usual.

17

Professor Emeritus of Physics George Bekefi, who retired this

summer after 38 years of teaching and research, dies after a battle with leukemia at the age of 70. Bekefi is best known for

his accomplishments in the field of plasma physics, specifically in the production of high-powered microwave generators.



Counterpoint's rush issue was trashed by unidentified saboteurs.

UROP Revisited

A year after the worst crisis in its history, the embattled program isn't doing too badly — yet

By Ramy A. Arnaout

Last year at this time the Undergraduate Research Opportunities Program was still reeling from the most financially disastrous summer of its 26-year history. Starting July of 1994, unexpected changes in federal funding guidelines had effectively doubled hiring costs, threatening the jobs of hundreds of students across campus.

UROP's plight was the cover story of last year's Year in Review; but since then, news of the embattled program has been surprisingly quiet. It turns out that while UROP is not out of the woods yet, it hasn't done nearly as badly as it had feared.

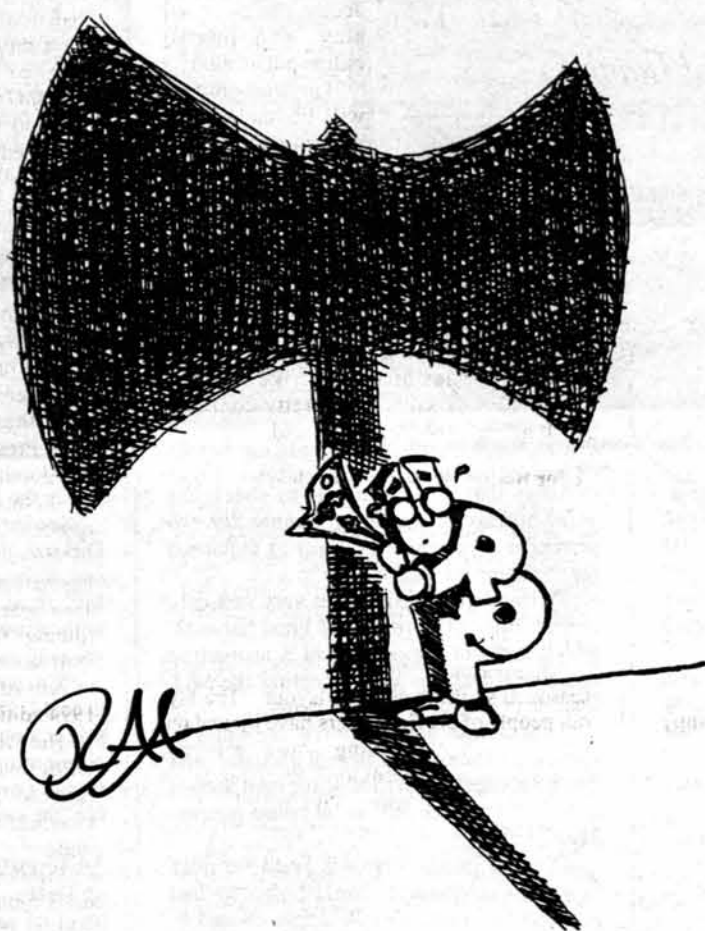
The UROP office said overall involvement is down only about 20 percent, short of the 40 or 50 percent it had predicted last summer. That decrease is "considerably less than we thought," said UROP Director Norma G. McGovern. Spring UROP participation declined just 13 percent as hundreds of students sidestepped the funding issue entirely by taking projects for credit instead of for pay, she said.

Summer participation was also better than expected, down about 20 percent to 700 students, "which is not terribly dramatic," McGovern said. "That's fairly healthy, since there were 900 the two years before and over a thousand the year before that." Numbers for the fall term showed a similar trend: 1,000 compared with about 1,100 in past years, with the pay/credit split roughly in line with previous years at about 60/40.

Some departments and programs have remained more or less immune from the effects of the rules changes, McGovern said. For example, the number UROP students in the Department of Material Science and Engineering has remained fairly constant, according to departmental UROP coordinator David K. Roylance. Even with the higher overhead charges, "UROPs are still quite economical compared to research assistants," he said. "If funding was available for the project in the first place, having a UROP on the project doesn't add all that much to

the overall budget," he said, although he acknowledged that a few of his fellow researchers disagree.

However, the federal rule changes — meant to correct what the General Accounting Office called "lax oversight practices" — bit harshly into most departments as supervisors tried to stretch research dollars further than they could go,



forcing students to look elsewhere for employment. The Department of Biology simply stopped funding term-time UROP projects in order to save money for the summer, when students often need it more to pay for housing.

Maybe it's not so bad

The situation could have been far worse, McGovern said. She credits faculty members' monetary generosity for helping avert the predicted disaster, although donations — like the class gift of the Class of 1995 — also played an important part. "The amount of money we have has been growing nicely this year," she said.

It is too soon to tell whether continued increase in faculty money will compensate for last year's crisis; statistics from the fall semester will not be available until the end of the fiscal year in July.

But there is a hint that things might not be as rosy as they seem. While faculty spending on UROP students has been increasing steadily in the past few years — from \$2.8 million in FY 1986 up steadily to an all-time high of \$4.5 million in 1994 — it dropped in 1995 to \$4.3 million, McGovern said. That financial year included the summer and fall of 1994, which was the first funding period under the new cuts. It is unclear whether the drop was caused by new federal guidelines or the general tightening of governmental purse strings, she said.

And FY 1995 might not have been a good yardstick anyway, McGovern said. A summer infusion of \$1 million from MIT's endowment fund to UROP largely offset the effects of the federal rules changes in 1994; the past year has seen no such gift. "A 22-year trend of increase stopped dead," McGovern said. "Is it going to drop again? Is it going to stabilize? I don't know." The trend won't be clear until this year's figures are available in July. "What kicked in [last year] and what we can't really predict is the extent to which the faculty will chip in," she said.

But then again...

Even if the funding shortfall stops at 20 percent, UROP's outlook is still not quite cheerful. The numbers for fall 1995 technically rose 11 percent compared with fall 1994 — 1,000 students, up from 899 in 1994 — but this trend is misleading, McGovern said. Fall 1994 was the first term after the federal rules changes went into effect; as a result, UROP involvement was down nearly 30 percent over the previous fall, 1993. An 11 percent improvement over last year is therefore still nearly a 20 percent decrease over UROP's fairer days, she said.

The upshot is that involvement is "up a little bit over last year, so that's encouraging; but that's just another way of saying we're getting used to [the shortfall] being 20 percent," McGovern said. Right now, "we're living a little bit too much hand to mouth."

Is there hope in Washington of changing the rules back? Not much, McGovern said, at least not right now. "There's always chaos down there," she said. This has been especially true in the past few months, when government shutdowns and other more nationally serious funding concerns have been vying for legislators' attention [see page 8].

A year after the crisis the prognosis for UROP looks about as good as can be expected. "The program is alive," McGovern said. "[But] are we doing great? No." A full 80 percent of students hold a UROP sometime during their undergraduate career. Whether that figure can hold up against the budget axe remains to be seen.

Grads now have access to Harvard libraries

Continued from page 7

at midnight and opens at 8 a.m. weekdays and Saturdays and at noon on Sundays.

The shortening of hours is a result of long-term cuts. "For the past three years, each department has been asked to reduce their budget by 2 percent a year," Ferriero said. "At some point, something had to give."

Student reaction to the closing was relatively low-key, according to Anand Mehta G, a student services re-engineering team member. "I'm not sure how many people actually used the library after midnight," he said.

Returning to a 24-hour schedule is "possible, but not something I see as very likely to happen," Ferriero said.

MIT, Harvard agree on exchange

In addition to the new systems and changes in services, faculty, research staff, and graduate students from MIT and Harvard University now have free limited access to both universities' libraries as of the beginning of September. Undergraduates from MIT and Harvard are not entitled to the new exchange borrowing privileges.

"We are very excited about this agreement," Ferriero said. The Institute has been working toward having such an exchange for the past 130 years and has been seriously negotiating an agreement for the last 20 years.

Qualifying members of the MIT community must go to an MIT Libraries reference desk for approval for privileges at Harvard libraries. Once approved, applicants will receive Harvard borrowing cards. Literature describing the details of the exchange process are available at the Hayden Library's circulation desk.

The borrowing privileges extend to Harvard's 12 undergraduate libraries and MIT's 12 libraries. Cross-registered students, including undergraduates, are entitled to full privileges at Harvard libraries.

Undergraduate students are excluded from this exchange program. "That's the way Harvard wants it," Ferriero said. MIT might work towards setting up an undergraduate exchange in the future, he said.

The current exchange program is up for evaluation at the end of its first year.

23

Issues of the MIT-Wellesley publication *Counterpoint* are stolen from the Infinite Corridor and Student center around midnight. Editor Han Y. Huang G suspects the culprit is "a disgruntled fraternity" that was not pleased by its description in the article "Wherever You May Roam: A Frank Guide to ILCs at MIT."

24

President Charles M. Vest, incoming Dean for Undergraduate Education and Student Affairs Rosalind H. Williams, and Undergraduate Association President Carrie R. Muh '96 welcome the fresh-

men to MIT at the annual freshman convocation. Professor of Biology Eric Lander delivers the keynote speech.

25

For the first time, a student, Catherine D. Conley '96, delivers the Killian Kick-Off keynote address. Conley, Dormitory Council President Dhaya Lakshminarayanan '96, and Chair of the Women's Conference Stephanie A. Sparvero '96 also address the class of 1999.

Because of a grading change, only 17 percent of the freshman taking the Freshman Essay Evaluation pass the test, down

from 48 percent last year. The Writing Requirement Office decided to raise the passing grade on the exam.

27

The computerized housing lottery is delayed an hour, causing much frustration among freshmen who had flocked to the Athena clusters to enter their dormitory preferences.

29

Graduate student residence and orientation kicks off with events aimed at easing the 1,200 newcomers into MIT life. A Red Sox game and a cruise of Boston Harbor are among the main events of graduate R/O.



Catherine D. Conley '96

30

Students choose physical education and humanities distribution classes in separate Athena-based lotteries. Also, for the first time, a lottery is used to regulate enrollment in select oversubscribed science and humanities classes.

A Ford minivan carrying two members of Tau Epsilon Phi collides with a Chrysler station wagon at the intersection of Amherst Street and Massachusetts Avenue. Neither the drivers nor the passengers are hurt.

Card convenience, security examined

By Ifung Lu

A number of new services were added to the MIT Card's repertoire this past year. The card, which also serves as the main form of identification for students, allows holders to charge purchases to meal and auxiliary accounts, check out material from campus libraries, open doors to dormitories and other campus buildings, and access campus parking lots.

But the consolidation of so many functions onto one card has raised a number of security concerns, many of which have yet to be resolved.

Students, faculty, and staff gained access to more fiscal services than ever in 1995 when this year's card took effect on Sept. 28. The two-year-old card — which previously covered just dining services and Domino's Pizza purchases — now allows holders to charge new transactions to its expanded Multiplan combined meal and auxiliary declining balance account.

Such new charges include use of laundry machines in dormitories fitted with card readers, payment for photocopies made at Graphic Arts, and purchases from the 24-Hour coffeehouse and from campus vending machines, said MIT Card Office Manager Lucy A. Barrera.

In addition to simplifying these financial transactions, the MIT Card also began use as a key card for buildings other than just students' dormitories this year, operating a new security system of card readers on doors around campus.

The key-card system started out on east campus as part of a pilot program to test ways of increasing general campus security. The program began late last spring, when people working on the pilot project buildings approached the Campus Police about increasing security in those buildings, leading to discussions with the Campus Police and Physical Plant.

The east campus program, which was fully implemented at the end of last semester, mandated the installation of card readers on Buildings E23, E25, and 66 and on the Medical Center. Only cardholders were allowed access to the high-traffic doors in these buildings when the doors are locked in the evening.

This kind of card access "is a very commonly used system at universities," said Chief of Police Anne P. Glavin, because it "maintains convenience and ease of access but limits access for people who don't belong there."

Card security sparks concerns

The consolidation of a such a large amount of information in a single system has sparked student concern over the potential for misuse. Specific questions about Institute offices monitoring card transactions have some card users worried.

The system does have the capability to record entrances into dormitories, said Associate Director of Housing and Food Services Kenneth R. Wisentaner, though he added that "we will not be tracking" students.

Although the card readers on doors are

not monitored, itemized records of Val-dine transactions are kept in case of account disputes. The Department of Housing and Food Services has not officially decided how long to keep these records, but Wisentaner estimated that the data would be maintained for one academic year.

Parking lot usage is also recorded and kept for a two-year period, according to Glavin. The CPs use this information "for parking and traffic enforcement" and long-range parking planning, she said.

To maintain data security, these functions are coordinated on a dedicated computer system that is not tied into the MIT network, Wisentaner said. The CPs can access only parking data, and the Office of Housing and Food Services can access only Val-dine accounts, he said.

Wisentaner believes that the system is safe from hacking. "The system we use is an excellent system," he said.

Although the level of security provided by the dedicated computer system may be high, Andre M. DeHon G, a graduate student in electrical engineering and computer science, concluded in a report last year that the level of security provided by the Card is not very good.

The data on an MIT Card could be compromised whenever students surrender possession of the card, DeHon said. Dormitories are one of several such places where this could happen: Five of the nine undergraduate dor-

mitories that allow students to check out video and sports equipment require them to surrender a current MIT Card as collateral for the items loaned.

DeHon's report was taken very seriously by the Office of Housing and Food Services, which sent out a memo April 3 instructing dormitory desks to stop accepting the MIT Card as collateral for loaned items.

That action was reversed on April 7, however, when the Office of Housing and Food Services decided to leave card security issue up to each individual house government.

Director of Housing and Food Services Lawrence E. Maguire realized after he had sent out the memo that he ought instead to work out the plan with the Dormitory Council, Barrera said. The MIT Card Office still disapproves of using the card as collat-

Students should protect cards

Because the MIT Card is used for financial transactions, it is possible for someone to steal a student's card number and use it to make charges to that student's account. Housing and Food Services would hold the student responsible for the bill unless the student had reported the card missing, Associate Director of Food Services John T. McNeill said.

In order to avoid problems, Andre M. DeHon G, who raised concerns about the MIT Card security in a report last year, suggests several steps cardholders can take:

- Avoid using the card in readers of questionable origin (at parties, for example) and in public vending machines.

- Consider whether the convenience of a meal plan or auxiliary account is balanced by the security provided by the current system.

- Never loan your card, and do not give your card to someone else as collateral if you can avoid it.

To those especially concerned about security, DeHon suggests removing the secure data from cards that will leave a cardholder's possession.

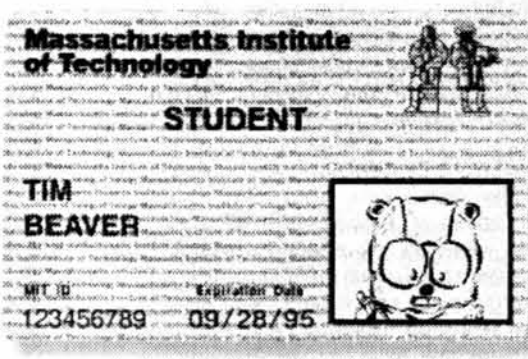
By reporting a lost MIT Card and obtaining a replacement, students can erase the data from the old card and use it exclusively as collateral, DeHon said.

—Ifung Lu



A card reader with a student's comment stuck on the top.

SHARON YOUNG PONG



THOMAS R. KARLO

eral in the long run, she said.

Senior Vice President William R. Dickson '56 also disagrees with the current use of the card. Dickson is in charge of the MIT Card Steering Committee, which deals with issues and concerns surrounding the growing use of the card.

"I'm not in favor of using the card as collateral," Dickson said, although he would prefer not to see an Institute-wide policy eliminating this practice. "Student groups should govern themselves as much as possible," he said.

An all-purpose Card has its risks

DeHon, however, maintains that "the level of security provided by the Card is laughable." One of his main objectives in writing the report was to debunk the myth that the MIT Card is difficult to duplicate.

The magnetic strip encodes information including a student's MIT ID number and a secret code that identifies the card as belonging to a particular student. This is, however, an improvement over previous cards: In prior years, the security number of all successive cards issued by the MIT Card Office could be predicted from a single compromised card.

Now a new security number is randomly generated and placed onto a replacement card when a student reports a lost or stolen card. But students whose cards have been compromised without their knowledge are still vulnerable, DeHon said.

DeHon applauds the card office for the



This minivan, driven by a Tau Epsilon Phi member, crashed on Massachusetts

September

1

The Coop announces that Barnes & Noble Bookstores

will manage store operations for the Harvard Cooperative Society as part of major restructuring. The restructuring also aims to make the Kendall Square Coop the

finest technical bookstore in the nation.

About 300 fourth through sixth grade Cambridge public school students descend on MIT for the fourth annual City Days festival. Over 800 MIT students, 75 percent of whom are freshmen, participate in the event.

Faculty, research staff, and graduate students from MIT and Harvard University gain free limited access to both universities' libraries, but undergraduates from MIT and Harvard are not included in the exchange borrowing agreement.

John N. Krikelis '97 dies when his motorcycle crashes into a telephone pole in Raynham, a town near Plymouth. Krikelis, 21, was not wearing a helmet. A native of Greece, Krikelis was a brother of Delta Upsilon.

3

ected to Building E51, is scheduled to open this fall. Located at the corner of Amherst and Wadsworth



The Kendall Square Coop.

Forty-five members of the Sigma Kappa sorority take residence in Ashdown House. The move is aimed at reducing undergraduate crowding, a high priority in the administration.

6

The Sloan School of Management's new 45,000-square-foot Tang Center, con-

change but maintains that "there's still plenty of room for improvement."

"Equipment to duplicate or synthesize MIT Cards can be readily obtained for less than \$500 and requires no technical expertise to operate. The technically inclined can put together suitable equipment at a much lower cost," DeHon wrote.

To copy a card, the data on it must be read and stored until it can be written onto a blank card — or an expired ATM card or a strip of magnetic tape on an index card. The data required to duplicate a card "can be captured accurately in seconds on a portable device that costs as little as \$15," DeHon said.

The data on a card could be stolen whenever a student surrenders possession of the card. This could happen both accidentally, when a student loses the card or passes the card through an unauthorized card reader, or voluntarily, when a student uses the card as collateral in exchange for a video or for sports equipment.

"Consolidating diverse functions with conflicting requirements onto one card with a single mechanism for authorization and authentication inevitably leads to compromise" and privation for the owner, DeHon said. When an identification card that also facilitates purchases and access to buildings is taken for collateral, the owner loses purchasing and entry rights, he wrote. The owner also gives up privacy.

"Coupling collateral and authorization information makes it impossible for the owner to simultaneously protect the security of his own data and ever use the card for collateral," DeHon wrote.

Dorms back Card's use at desks

Despite the security concerns raised in DeHon's report, dormitories and Dormcon defend the continued use of the Card as collateral.

House Manager of East Campus John P. Corcoran defends the house government's decision to continue using the collateral system and believes that it is the best method to ensure the return of items borrowed from the desk.

"The house government has voted on this. It's the only way that [the desk] will get anything back," Corcoran said.

Corcoran pointed out that card security behind the desk is based on the trustworthiness of the student desk workers. "I feel that the people we do hire are trustworthy," he said.

Although DeHon does not question the trustworthiness of any individual desk worker, he believes that guaranteeing a level of security among all workers is a heavy burden.

"Most of the community wouldn't do it, but we're talking [many] undergraduates. It only takes a few to have abuse," he said.

Corcoran admitted that at times when there are no workers behind the desk, it is

possible for a person to gain access to the MIT Cards.

"There isn't anything that is 100 percent perfect," Baker House House Manager Kenneth F. Winsor said. But the card arrangement "is the best system. We've yet to have a card stolen," he said.

Dormcon and East Campus President Dhaya Lakshminarayanan '96 is also confident that the cards

behind the East Campus desk are secure, and that the presidents at other dormitories are confident about their security systems as well.

"I'm 100 percent sure about leaving my card behind the desk," Lakshminarayanan said. "I have spoken to the dorm presidents at other dorms — they all feel the same way."

The MIT Card is the ideal form of collateral because it is "in the balance in between being too valuable and being just valuable enough so that you can bring back the equipment," Lakshminarayanan said.

However, Lakshminarayanan said that if students feel strongly either for or against using the MIT Card as collateral, they should raise the issue at their house government meetings.

Libraries may offer an alternative

Despite most dormitories' confidence in the collateral system, DeHon believes that a system employing fines and penalties is a better way to ensure the return of loaned material.

"The library has [problems of ensuring the return of items], but they don't take your card away from you. They have dealt with this particular problem before," DeHon said.

Dormitories could fine students for late or lost equipment, DeHon said. All that is necessary is to establish a method of knowing who is checking things out and where to find these people, he said.

In "setting fees, et cetera, you want to be fair. But it's one of the things that can be worked out," DeHon said.

Assistant Bursar Sandra Chauncey also believes it is possible to develop a system to include dormitory fines in a student's account.

"I am trying to work on having a system to allow other charges on the bursar's bill," Chauncey said.

Currently, library fines can be charged to a student's account as an education related expense, Chauncey said. But there are some restrictions on what can be charged, she said. Currently, fines cannot be added directly to a student's account "until we get some clear guidelines from the federal government and more programming for the computer," she said.

However, if in the re-engineering effort dormitory fine bookkeeping becomes part of the Bursar's Office's duties, Chauncey believes the office could adapt without too much trouble. Whether or not that will happen will become clearer in the year to come.

The system
does have the
capability to record
entrances into
dormitories, but "we
will not be tracking"
students.

Kenneth R. Wisentaner

Metal detectors may not prove a cure-all to crime at MIT parties

By Shang-Lin Chuang

A string of violent incidents at MIT parties over the past few years has left crime high on the minds of students, Campus Police, and administrators. The latest development in the search for an answer came last August, when campus parties started to look like airport security with the introduction of metal detectors.

The CPs hope that the detectors — required for certain large on-campus events — will prevent a repeat of tragedies like the murder of a Northeastern University student at a Student Center party in 1987, a shooting in 1989, two Student Center stabbings in 1991, and a stabbing at Delta Kappa Epsilon in 1992, said Chief of Campus Police Anne P. Glavin.

But both students and the police admit the detectors cannot prove a cure-all for violent crime on their own. The 1989 shooting happened not at a party but after one in a parking lot. And when a NU student was shot in the leg on the steps outside an Alpha Phi Alpha party at Walker Memorial two months ago, metal detectors had been in place at the doors.

"We did everything we could to preserve security," APA member Craig Robinson '97 said of that recent event. "The shooting was just beyond our control. ... The problems are mostly outside the parties. That's where we should focus on making our policies."

Glavin agrees that the main problem involves controlling the perimeter of large events — not the parties themselves.

Problems with several other parties during the fall have also prompted concerns

about alcohol consumption by minors, crowd control problems, and the presence of non-college students at MIT events, according to Dean of Residence and Campus Activities Margaret A. Jablonski.

Only days after the shooting, the Campus Activities Complex and the CPs decided to cancel all large, late-night parties until at least early spring. While students are mindful of the problem, the response has still met with some criticism.

"I don't know if it was necessary to make some sort of drastic move to quiet this agitation," Robinson said. "It's really easy to say, 'Let's just have no more parties.' The administration should take a second look at the positive aspects of events," like community fundraising, he said.

The vague terms "large" and "late-night" were never explicitly spelled out, but parties are instead evaluated on a case-by-case basis by the CPs, RCA, and the office of Residence and Campus activities. In general, fraternity, sorority, and independent living group parties will probably not be affected, Jablonski said.

The only group to have had a party canceled so far — Gays, Lesbians, Bisexuals, Transgenders and Friends at MIT — feels that the cancellation is unfair and may have some detrimental effects on GAMIT, said Sarah L. Veatch '98, an organizer of the event.

The unpleasant fact remains that MIT has on average seen one major party-related crime every two years for the past decade, and several minor incidents besides. Only time will tell whether the use of metal detectors and the new parties policy will help curb that trend in 1996.

Radiation poisoning case highlights security concerns

By James M. Wahl

It seemed like a freak accident — a researcher exposed to a small amount of the radioactive tracer phosphorus-32 — until investigators from the Nuclear Regulatory Commission determined that it was a deliberate act.

On Aug. 14 postdoctoral researcher Yuqing Li, working at MIT's Center for Cancer Research, ingested a drop-sized amount of P-32. The Radiation Protection Office found that Li's intake was no more than 579 microcuries of radioactive material, which is within the 600 microcurie acceptable limit for single-event and annual exposure to the chemical.

Since the amount was under the limit, it was not enough immediate physical discomfort. As a result, it wasn't until five days later, in a routine self-examination using a Geiger counter, that Li determined he had been exposed to radiation.

Li was subsequently examined by the Medical Department and Environmental Medical Services and, according to the News Office, he suffered no ill effects.

The poisoning triggered an immediate inquiry by the Institute's Radiation Protection Office, the Campus Police, and investigators from the U.S. Nuclear Regulatory Commission. In mid-October the Institute confirmed that the NRC was investigating a radiation poisoning.

The *Boston Globe*, *Washington Post*, and *National Public Radio*, among others, reported on the incident — in part because of the poisoning's similarity to a case that

Continues on next page

Streets, the three-story center is set to include a 298-seat lecture hall, a lounge, a student activity suite, and a corporate resource center.

7

Campus Activities Complex and the Office of Residence and Campus Activities announce that the use of metal detectors will now be required for on-campus events that meet a set of criteria. The move was made in response to disruptions that occurred at some parties in the spring.

9

Winse Chan, 19, a Boston University sophomore, is hospi-

talized in critical condition after being struck and thrown 107 feet by a speeding car as she crossed Memorial Drive after leaving a Kappa Sigma party. The driver of the car, Kurnia Hermawan, also 19 and also a BU student, is cited for speeding and operating to endanger.

11

MIT's new cogeneration plant goes on-line after two and a half years of construction and upgrades. The new plant represents an effort by MIT to economize its power generation and transfer facilities. The \$37 million construction cost will be paid for in six years, aided by savings from lower energy costs.

12

The Campus Police mid-year report finds that crime on campus increased slightly over the

last year. There were more incident calls and arrests, and the serious crime rate rose a small amount for the first half of 1995.

15

The Kendall Square Cinema, located at One Kendall Square, opens today.

21

MIT and Massachusetts General Hospital are named as defendants in a lawsuit by relatives of brain tumor patients. The suit is filed on behalf of 140 patients who underwent experimental treatment administered at MIT's Nuclear Reactor Laboratory, MGH, and the Brookhaven National Laboratory in New York in the 1960s. Ten patients died from complications associated with the treatment.



The Kendall Square Cinema

Nobel Causes

MIT's Nobel Prize winners — Mario Molina and Pugwash — focused on the consequences of modern technology

By Brett Altschul

MIT was honored by two Nobel Prizes this year, both of which were related to the consequences of man's technological advances.

Professor of Earth, Atmospheric, and Planetary Sciences Mario J. Molina shared the 1995 Nobel Prizes in chemistry for his work in explaining the chemical mechanisms of ozone depletion.

The Pugwash Conferences on Science and World Affairs, a group of scientists pushing for the elimination of nuclear arms, received the 1995 Nobel Peace Prize. At least six people affiliated with MIT are members of Pugwash.

This is the second time an organization with strong ties to MIT has won the peace prize.

In total, MIT-affiliated Nobel laureates in science include nine current MIT faculty members, three former faculty members, and 10 other alumni. Molina is the first MIT faculty member to win the chemistry prize.

Ordinary activities deplete ozone

Molina shared the Nobel Prize with F. Sherwood Rowland of the University of California at Irvine and Paul Crutzen of the Max Planck Institute in Mainz, Germany.

Molina's and Rowland's work predicted an ozone hole and laid the groundwork for the discovery of such a hole over Antarctica in 1985. This was the first prize awarded for the research on man's effect on nature.

The research showed that common items like aerosol sprays and air conditioners can harm the fragile ozone layer that protects the world from the dangerous ultra-violet radiation of the sun. These products contain chlorofluorocarbons, or CFCs, which react with ozone in the upper atmosphere, rapidly degrading the crucial chemical.

Molina, Crutzen, and Rowland "have all made pioneering contributions to explaining how ozone is formed and decomposes through chemical processes in the atmosphere," according to the Nobel Committee's citation.

They "showed how sensitive the ozone layer is to the influence of anthropogenic emissions of certain compounds," according to the citation. "By explaining the chemical mechanisms that affect the thickness of the ozone layer, the three researchers have contributed to our salvation from a global environmental problem that could have catastrophic consequences."

These landmark discoveries led to an international environmental treaty. Beginning this year, the treaty bans the production of industrial chemicals that damage the ozone layer.

Molina said that, "It does feel like a vindication," for his work to have influenced the ban on ozone-depleting chemical compounds.

Molina was born in Mexico City. He came to MIT in 1989 after holding teaching and research positions at the Universidad Nacional Autonoma de Mexico, the University of California, Berkeley, UC Irvine, and the Jet Propulsion Laboratory at the California Institute of Technology.

Pugwash efforts bring arms limitations

The Nobel Committee cited the Pugwash Conferences' "efforts to diminish the part played by nuclear arms in international politics and in the longer run to eliminate such arms."

However, the peace prize was seen as a stab against countries like France and China, which continue to test nuclear weapons.

The Pugwash Conferences, named after the town in Nova Scotia where the first conference was held in 1957, grew out of a manifesto drafted in 1955 by Albert Einstein and British mathematician and philosopher Bertrand Russell. The Russell-Einstein Manifesto called upon the scientists of the world to consider the social and ethical implications of their work.

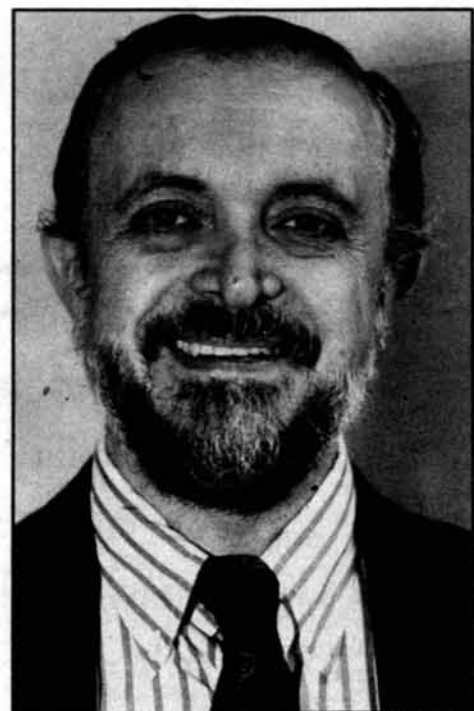
The Conferences are based on the recognition of the responsibility of scientists for their inventions. They have underlined the catastrophic consequences of the use of the new weapons and brought together scientists and decision-makers to collaborate across political divides on constructive proposals for reducing the nuclear threat.

"Many members of faculty are active with Pugwash," said Kosta Tsipis, director of the program in science and technology for international security and Pugwash member since 1968.

Through informal discussions in Pugwash, MIT's 13th president Jerome B. Wiesner helped to establish the Partial Test Ban Treaty of 1963, an agreement to ban atmospheric nuclear tests.

Another Pugwash member, Professor Emeritus of Electrical Engineering and Computer Science Jack Ruina, is considered responsible for the 1972 Antiballistic Missile Treaty.

Professor Emeritus of Physics Bernard T. Feld was Pugwash secretary general from 1970 to 1975. Feld was a very important member and a very early participant of the movement, Tsipis said.



Nobel Prize winner Mario Molina

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Nobel Committee citation

Legal action is slow in coming to radiation case

Continued from previous page

occurred six weeks before Li's at the National Institutes of Health. In both cases, medical researchers of Chinese background were contaminated with similar doses of the same chemical.

The NRC concluded its investigation on December 8. In a 130-page report, investigators said the incident was "most likely" the result of "a deliberate act by a knowledgeable person."

Because there was no abnormal traces of radioactivity in the lab, which would be expected after accidental spilling of radioactive materials, the report concluded that someone put the P-32 in Li's food or drink, which was kept in a nearby room.

Security breaches found

The agency's report also criticized the Center for Cancer Research and the Radiation Protection Office for lax security, pointing out that the lab door could be

propped open and the freezer containing the radioactive materials was unlocked.

Many of these violations went unnoticed by Radiation Protection Office auditors, who visit only during normal business hours, said Radiation Protection Officer Frances X. Masse.

In an effort to resolve such security lapses, the Radiation Protection Office tightened the enforcement of existing Institute policy, which is based on federal regulations on the use of radioactive materials, Masse said.

Specifically, the protection office is taking steps to ensure that potentially hazardous radioactive material is kept securely locked and under direct surveillance at all times, Masse said. Laboratory workers now are required to lock refrigerators and storage containers in addition to access points to areas where radioactive materials are used, he said.

Case unresolved

No legal action has been filed against

MIT, but the case remains under investigation. Among the key issues unresolved are who committed the poisoning and why.

Li declined an interview with *The Tech*, citing health reasons. But the *Globe* reported that a source familiar with the case said that Li believes another worker may have been responsible for the assault.

Criminal investigators have conducted numerous interviews, but do not have any suspects, said Deputy Director of the NRC Division of Radiation Safety and Safeguards Susan Frant Shankman in a *Boston Herald* article. She said the person responsible for the crime could face federal charges.

"We have always believed that people who work with radioactive isotopes are knowledgeable, that they are using them as a tool to advance science," Shankman said. "I'm at a loss for why somebody would choose to use them in a deliberate, malicious way."

26

This week the Undergraduate Association announces the winners of the freshman elections, conducted on Athena for the first time. Most of the elections are close: Jin S. Kim '99 is elected class president by only two votes.

29

A \$100,000 per month penalty is charged to MIT under a Department of Public Utilities ruling involving the new cogeneration plant. The fine will total about \$4.5 million over the four years it will run. MIT announces its intention to dispute the fine.

October

1

The Institute is charged this month in a lawsuit over radiation experiments MIT conducted at a home for mentally retarded children during the 1950s. The charge comes only days after an advisory committee to President Clinton released findings about thousands of human radiation experiments conducted during the Cold War, including the tests done at the Fernald School.

Information Systems changes the Athena cluster entry code as part of a plan to strengthen security. The move comes in

response to an increasing number of incidents involving cluster use by people not affiliated with MIT.

A Wellesley College student is assaulted by an unidentified female near McCormick Hall while waiting for the Wellesley bus early in the morning. The victim, whose name was not released, was uninjured.

The team charged with re-engineering student services begins work this month. Its goal is to find ways to increase the value and the quality of services while decreasing the temporal and monetary costs of those services.

2

Benjamin C. Bradlee, former executive editor of *The Washington Post*, reads from his memoirs, *A Good Life: Newspapering and Other Adventures*. He also answers questions about more recent events, like the information superhighway and the *Post's* publication of the Unabomber's manifesto.

8

Garret M. Moose '91, who sustained severe injuries following a pole vaulting accident four years ago and was expelled by MIT after a computer theft incident in 1991, is awarded \$600,000 in damages for his

injuries from MIT by a Middlesex Superior Court jury this week.

10

The Media Laboratory celebrates its 10th anniversary with



Benjamin C. Bradlee

A look into the Media Laboratory's Crystal Ball

On its tenth birthday, the lab celebrates its past and offers a glimpse into its future

By David D. Hsu

1995 has been a year when computers, the Internet, and all things digital were hyped by everyone from politicians to movie stars. It seemed that everybody, no matter what their technological credentials, jumped on the bandwagon.

Meanwhile, the place that embraced multimedia before it was popular, the Media Laboratory, celebrated its 10th anniversary on October 10 with a day-long symposium on its research, new technology, and perspectives on the digital future.

The Media Lab has overseen a large portion of the evolution of multimedia and information technology under the leadership of its director, Nicholas P. Negroponte '66.

The Lab spent its first 10 years exploring the union of text, graphics, and sound — nowadays "commonly called multimedia, which was more or less born here," Negroponte said.

This past year, Negroponte announced the completion of its multimedia mission. Now, with information technology becoming

more mainstream, the Media Lab has launched its next step.

Technology gets a clue

The Media Lab's celebration was dubbed "10/10" both because of the date of the celebration and because it is the binary representation of the decimal number 10.

The event officially kicked off *Things That Think*, a new research consortium aimed at giving everyday objects from sneakers to frying pans the ability to do useful things on their own, saving their human owners the trouble.

Media Arts and Sciences Professor Seymour A. Papert, who created the LOGO computer language, explained the concept with an anecdote.

"I was making sauce and the phone rang" in another room, Papert said. "After a while I got back to the kitchen. Not only was the sauce ruined, but the pan was hot; the enamel was chipping off."

"I said, 'idiot' — meaning me. But if we project some time into the future, you could imagine somebody going through the same sequence and saying 'idiot,' and [instead] meaning the pan and the stove, or all the stuff in the kitchen, because all those things there ought to have known better than to let that happen," Papert said. "That's the prototype for *Things That Think*."

Negroponte gave two goals for *Things That Think*. "On the one hand it is to make that object perform better or to give it a personality such that it performs better," he said. "The second is to get it to do things that it might not otherwise have done before, and when we say things, we really mean it."

There are many proposed uses for things that think beyond bringing culinary disasters under control. MAS Assistant Professor Neil A. Gershenfeld demonstrated a wearable computing system whereby shaking hands with a student triggered a tiny device under his shoe to give the student an electronic copy of his business card.

Along with *Things That Think*, the Media Lab is working on *Television of Tomorrow* and *News in the Future*, both of which aim to bring common sense and usability to information dissemination.

Moving into the world of bits

In his *Wired* magazine columns and his 1995 book, *Being Digital*, Negroponte makes a distinction between a world of atoms and a world

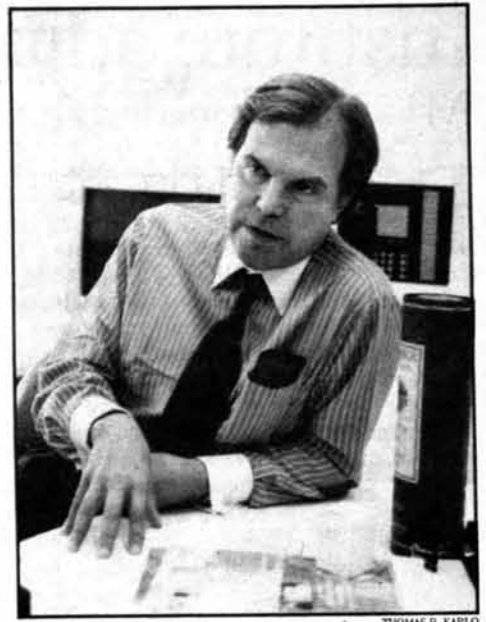
of bits. The former depends on the tangible carriers of information; people worry about the size of their television screen that delivers the programs or the size of the characters in a book. In the latter, information will be in digital form, 1s and 0s, and not subject to physical constraints.

"For years, people would come up and ask me, 'What is the effect of the coming of computers going to have on my business?'" said Douglas Adams, author of *The Hitchhiker's Guide to the Galaxy*, who emceed the event.

"The answer is, it's the wrong question," Adams said. "It's rather like the Amazon ... saying, 'well, we're heading toward the Atlantic Ocean. What effect is [it] going to have on my river? And the answer is, in the end, however strong the force of that river may be... river rules no longer apply," he said. All media "will mingle in the same digital ocean. That is the world we're going to have to learn to live in and navigate."

"If you were to characterize the next 10 years, it's clear that the common denominator will be sort of understanding the bits," Negroponte said. "In other words, you can think of the past decade as giving the bits sound, color, motion, and so on, and the next decade, sort of understanding what the bits mean."

"You're going to see machines that recognize your face pretty soon," said MAS Professor Alex P. Pentland PhD '82.



Nicholas P. Negroponte '66

"People aren't going to be able to steal your credit card, because your credit card is going to know who you are."

But despite the optimistic forecast, some obstacles still stand in the way of the digital future.

"You may defoliate forests, you may squeeze ink on dead trees, and you maybe even can use child labor to hurl these huge yellow books over the transom of the American front door," Negroponte said of delivering the phonebook yellow pages.

"But if you so much as deliver a no-return, no-deposit, ecologically-sound 'bit' at the speed of light into the American home, you've violated the law," he said. "Isn't that wild?"

The Lab proves critics wrong

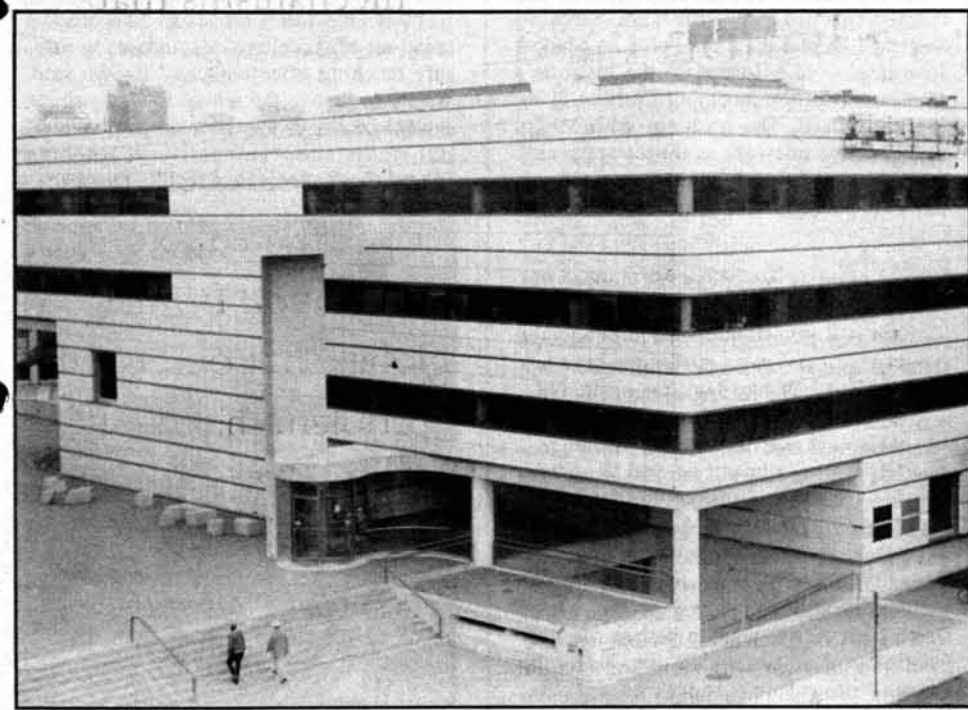
The Kresge Auditorium event drew nearly 1,000 people, including several dozen MIT students. The majority of the attendees were representatives of media and hi-tech companies, which as a group account for about 85 percent of the Lab's \$23 million annual funding.

The Media Lab is sometimes criticized as being just a place for sleight-of-hand and parlor tricks — pampered students playing with Legos and Sony Playstations — but Negroponte dismisses the criticism.

"Well, first of all, there's an assumption ... that rigor is a feature; [but] sometimes it's in fact a liability," Negroponte said. "It's very easy to criticize and say it's a lot of smoke and mirrors. On the other hand, the multimedia industry turned into a trillion-dollar industry. So maybe it's smoke and mirrors in some people's eyes, but it's obviously a big deal."

"From a corporate point of view, I would like to think that we are the way that they can outsource their basic research," Negroponte said. "So our job — actually it should be MIT's job in general — is to do the research that industry cannot afford to do because it's too risky and too distant."

But with the Lab growing some years at 50 percent per year and employing the largest number of Undergraduate Research Opportunities Program students, Negroponte is having the last laugh.



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a day-long symposium on its research, new technology, and its perspectives on the digital future. The event also officially kicks off *Things That Think*, a new research consortium aimed at giving everyday objects from sneakers to frying pans the common sense to do useful things on their own.

11

Professor of Earth, Atmospheric, and Planetary Sciences Mario J. Molina shares the 1995 Nobel Prize in chemistry for his work in atmospheric chemistry concerning the formation and decomposition of ozone. This is the first Nobel Prize ever awarded for the study of human beings' effect on the environment.

13

The Pugwash Conferences on Science and World Affairs, which include at least six people affiliated with MIT, shares the 1995 Nobel Peace Prize. Pugwash, an anti-nuclear group of scientists named after the town in Nova Scotia where the first conference was held, grew out of a manifesto drafted by Albert Einstein and British mathematician and philosopher Bertrand Russell.

15

The body of James Boyer of Mattapan is found lying between Buildings 12 and 13 in a dumpster. Boyer had no known connection to MIT.

Ann J. Wolpert, the executive director of library and information services at the Harvard Business School since 1993, is selected this week as the new director of Libraries. The decision comes after a recommendation by the Libraries Search Committee.

18

President Charles M. Vest appoints the ROTC task force to replace the ROTC working group, whose five-year term ends this month. Because ROTC discriminates against homosexuals, the Institute's policy on ROTC has been under review since a faculty resolution in 1990.



Vice President Al Gore spoke in Kresge Auditorium on Oct. 28.

Institute adjusts to changes in six senior positions

By David D. Hsu

Promotions, resignations, and retirements among top administrators left the Institute brass in disarray in 1994, as dean search committees started work towards filling six vacated senior positions. This past year, the results of those searches, coupled with restructuring, brought seven new faces to the top ranks; one spot remains unfilled.

Of the six emptied positions — provost, dean for undergraduate education, dean of the school of engineering, dean of the graduate school, associate provost for the arts, and assis-



Margaret Bates

tant dean for residence and campus activities — three were filled and two were restructured to split responsibilities. The new team has had to adjust quickly to its role, which has included filling its own empty positions.

Moses replaces Wrighton as Provost

In April, Provost Mark S. Wrighton announced he would leave the Institute in July to become the next chancellor of Washington University in St. Louis. A former head of the Department of Chemistry, Wrighton served as provost and chief academic officer for almost five years, and was thereby involved in wide-ranging and sometimes controversial decisions.

As provost, Wrighton oversaw the deans of the five schools and of undergraduate and graduate education; as chief academic officer, he was responsible for research and education programs. Wrighton was also deeply involved with budget planning, the Institute-wide re-engineering effort and four search committees.

Wrighton displeased many faculty members when he closed the Center for Materials Research in Archaeology and Ethnology in June 1993, counter to the recommendations of a review committee. But he has been a strong supporter of the Undergraduate Research Opportunities Program, into which he channeled \$1 million in endowment funding to help it through the financially stressful summer of 1994.

"I greatly regret leaving MIT," Wrighton said. He cited President Charles M. Vest and Chairman of the Corporation and former President Paul E. Gray '54 as "tremendous mentors for the role of leading a research university."

In searching for Wrighton's successor, Vest solicited input from faculty and administrators. Vest said in April that he planned to "consult broadly in person and by mail." Early candidates for the position included the deans of the individual schools and department heads.

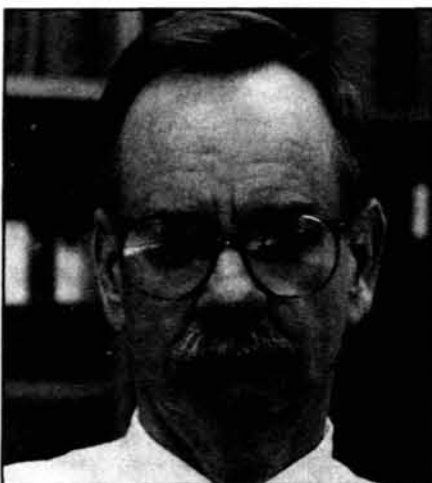
In June, Dean of the School of Engineering Joel Moses PhD '67 was selected as the Institute's next provost. He brings a broad educational background and successful computer science and engineering career to the position. "For me, the magic lies in the endless opportunities to work with and to come to know individuals of the highest caliber across all the disciplines and ranks," Moses said.

Moses' "eclectic intellectual interests, respect for faculty culture, and thoughtful understanding of the current forces for change will make him an outstanding institutional leader of our times," Vest said.

Moses, who has a Bachelor of Arts degree from Yale, received his doctorate in the School of Science at MIT and spent a year at the Harvard University Graduate School of Business Administration. He has also most recently served as head of the Department of Electrical Engineering and Computer Science.

Williams replaces Smith as dean for UE

Also in June, Dean for Undergraduate Education and Student Affairs Arthur C. Smith resigned after a five-year tenure. During that term he developed a strong reputation as a student advocate. Smith is also known for having consolidated two separate posts in the UESA — dean for undergraduate education and dean for student affairs — into a single office.



Robert A. Brown

"Art has brought a very insightful and effective advocacy on behalf of students to the Academic Council discussions," Vest said. "He always forced us to see things through the students' eyes." The Academic Council, composed of the president, vice presidents, provost, vice provosts, deans of the schools, and other high-level administrators, is the highest policy-making body at the Institute.

A search committee of five students and five faculty members, chaired by Professor of Materials Science and Engineering Linn W. Hobbs, was appointed to recommend

Smith's replacement. After interviewing close to 50 prospective candidates, the committee presented Vest with a list of recommendations.

In the end, Professor of Writing Rosalind H. Williams was named by Vest as the new dean for Undergraduate Education and



Isaac Colbert

Student Affairs. "As a historian, [she] understands very well what MIT's mission is," Hobbs said.

Excited by the position, Williams sees the appointment as "a great opportunity. ... It really is a moment for historical change, both for the Institute and the country. The cold war paradigm is over. It's a time when there are great pressures on higher education, especially on research universities," she said. "And if it has to be changing, it would be very exciting to be part of a team that's changing it."

In her opinion, Williams' most important qualification "is having taught writing here for 12 years. You get feedback into the undergraduate experience on a daily basis. I can't tell you how many essays I've read on the time crunch, drinking policies, or classroom experience."

Since being appointed, Williams has formed two groups — the Task Force on Student Life and the Task Force on Student Learning — to help update the Institute's framework for the incoming Class of 2000, Williams said. The problem with MIT's now-dated framework is that it applicable for classes with lower diversity and a lower need for practical education than today, she said.

Bates named as new dean for student life

The dean search committee also recommended that the position of UESA should again be split and that a dean for student life be appointed. "The feeling of the committee was we should have a dean of undergraduate education, and that dean would oversee student life aspects as well, but that it was too much to chart the academic waters and the social details as well," Hobbs said.

In October, Margaret R. Bates, an academic and financial planning officer at Harvard University and a former vice provost of Duke University, was named to the new position of dean for student life. Using the search committee's report as a guide, Williams worked with Hobbs, Vest, and Moses to select the new dean.

All in all, Bates' appointment does not reflect a split in the dean's office. Instead, Bates and Dean for Undergraduate Academic Affairs Travis R. Merritt will report to Williams, who changed her title to dean for undergraduate education. Bates will be "concerned with coordinating activities of student life within and outside of the dean's office," Williams said.

The new position is not just "filling a hole," Bates said but a way of expanding the capability of the Dean's Office. On one side, Merritt will handle issues that are more academically oriented, and Bates will handle non-academic issues like housing and dining.

Brown appointed dean of the School of Engineering

Moses' appointment to provost left open the position of dean of the School of Engineering. In November, now-provost Moses named a search committee to make recommendations for dean. The 14-member committee, chaired by Professor of Aeronautics and Astronautics Jack L. Kerrebrock, met weekly and consulted with faculty members; early candidates for the position included the heads of the engineering departments.

In January, Professor Robert A. Brown, head of the Department of Chemical Engineering, was appointed dean of the school of engineering. During his years on the chemical engineering faculty, he has been honored with the Outstanding Faculty Award three times by students. He is also known for helping improve computing resources at the Institute as co-director of MIT's supercomputer facility.

From a survey intended to solicit student input on the dean search, the search committee found that students wanted the new dean to maintain funding for UROP. They also felt that classes should be improved to teach students team skills, and that there was not adequate interaction between students and faculty and that office hours should be encouraged to a greater extent.

"What the dean's office can do is create a broad set of guidelines or standards to measure teaching effectiveness," Brown said. We try to "move the school toward valuing student-faculty contact as much as possible." But in the end, the quality of teaching depends on the individual faculty members.



J. David Litster PhD '65

19

MIT makes a Supreme Judicial Court appeal against the \$100,000-per-month fine that the Massachusetts Department of Public Utilities levied against MIT for its cogeneration plant. Lawyers for the Institute charge in the appeal that the ruling violates a federal law protecting cogeneration plants, exceeds the authority of the DPU, and is hence unprecedented.

24

Professor Alan Brody, head of the humanities department's music and theater arts section, is named associate provost for the arts. Brody replaces

Professor of Music Ellen T. Harris, who has held the post for six years, is stepping down to concentrate on writing a book about the classical composer Handel.

28

Vice President Al Gore speaks to the Society of Environmental Journalists at MIT. In his speech, he attacks the Republican Congress for its inaction on environmental issues and praises the journalists at the conference.

29

A deliberately blocked chimney fills parts of Random Hall with smoke and forces the

evacuation of the dormitory for several hours. Random Hall residents are also without heat and hot water for the night.

November

3

Random Hall residents meet with housing officials to address the series of near-disasters the dormitory has recently experienced, like the Oct. 29 evacuation resulting from a blocked chimney. Other recent housing problems include sewer drain blockage and periodic lack of heat and hot water.

4

Cambridge firefighters and Campus Police are called in to

evacuate Baker House after posters in a fifth-floor lounge are deliberately set on fire. "We are not sure who did it, but we



A memorial service was held for Yitzak Rabin in Lobby 7.



Provost Joel Moses PhD '67

Overall, "without a question, the opportunities in engineering education are as great today as in the last 25 years," Brown said. A chance exists to rethink both graduate and undergraduate teaching. The goal is to "maintain the leadership of MIT in education and research," while both industry and government change.

Litster becomes dean for graduate education

In June, Dean of the Graduate School Frank E. Perkins '55 stepped down after 12 years, leaving Associate Dean of the Graduate School Isaac M. Colbert to fill the post of acting dean last term. Although Vest said in June that a successor would be named by summer's end, a permanent replacement was not named until the end of the calendar year.

But last month Vice President and Dean for Research J. David Litster PhD '65 was named dean for graduate education. Colbert was selected to be the senior associate dean for graduate education.

Litster now holds the combined title of vice president for research and dean for graduate education. The new post of dean for graduate education replaces the previous position of dean of the Graduate School.

"Litster has all the needed characteristics of a dean of graduate education," Moses said. "He has done great research, has had many graduate students, and has enormous management experience."

Moses explained the decision to combine the deanship roles for research and graduate education. "Over the past several months we have come to the conclusion that the common U.S. model of combining research and graduate education under one roof is a good one for MIT at this time, particularly given the importance of securing appropriate funding for graduate education," he said. "It makes sense to put them together — to have one person worrying about all of those things," Litster said. "I hope to bring the graduate and undergraduate offices closer together" by working with UE Dean Williams, he said.

Also, "I would like to pay more attention to postdocs," Litster said. "We have been running workshops where we do skits or scenarios, little things on questions of ethics or research conduct."

In his new position as senior associate dean, former acting dean Colbert is responsible for the day-to-day operation of the office of the graduate school.

"We will work in partnership with the

undergraduate deans' office in areas of mutual interest regarding student life, like housing and student activities," Colbert said. While the dean for student life will have primary responsibility in these areas, the graduate office will have input into the process.

Brody succeeds Harris as associate arts provost

Ellen T. Harris, MIT's first-ever associate provost for the arts, resigned from her post in 1994 to work as an affiliate at the Mary Ingraham Bunting Institute of Radcliffe College at Harvard University, where she is writing a book about George Frederic Handel.

The associate provost for the arts is the senior administration official responsible for the oversight of creative arts activities throughout the Institute, including the Office of the Arts. As a member of the Academic Council, the associate provost for the arts advises the provost and president on all non-academic activities related to the arts and is the senior officer responsible for resource development for the arts.

A search committee chaired by Dean of the School of Humanities and Social



Rosalind H. Williams

Sciences Philip S. Khoury reviewed 270 applications for the position; in October, Professor Alan Brody, head of the humanities department's music and theater arts section, was named as arts provost.

Brody "has great leadership qualities and a vision of how important arts are at the Institute, especially in light of all of the federal funding cuts in the arts," Khoury said.

Brody seeks to increase the presence of the arts on campus and "find more ways the arts can serve the students — bring dimension to every student's work," he said. "We have to be here and be available," Brody said. However, "being here" does not mean forcing art onto students. The reason people dislike art is because it's forced on them in some way. Hopefully, just the increased presence of art around campus will generate interest.

The search committee had been looking for someone to strengthen the visual arts program, since music and theater programs have been established. Brody plans to work closely with Dean of the School of Architecture William J. Mitchell, the Center for Advanced Visual Studies, and the Creative Arts Council to make visual arts more available for students.

New majors emphasize more practical experience

By Jean K. Lee

Under growing pressure from industry for employees with more practical and advanced work in their fields, both undergraduate and graduate academic programs have responded with several curriculum changes and new degree offerings over the past year.

"We must teach our students to relate analysis and theory to the practical and the concrete," President Charles M. Vest said in his annual report. Such changes to the Institute are crucial as we continue our "rapid revolution toward increased importance of professional masters degree programs ... and toward increased emphasis on design, synthesis, and process as well as analysis."

Two new Master of Engineering programs — in the Department of Aeronautics and Astronautics and the Department of Civil and Environmental Engineering — will be offered starting in September. They are directed toward undergraduate students looking for a one-year graduate program.

"The new [masters] programs are not only innovative, but more importantly, they focus on the resources and the particular needs of the Institute," said Chair of the Faculty Lawrence S. Bacow '72. "I'm pleased with the new initiatives taken by the school this year for the interests of the students," he said.

The MEng and Master of Science "offer complementary options for graduate students," said Professor Earl M. Murman, head of the Department of Aeronautics and Astronautics. "The students are now introduced to a different educational experience."

Structured to emphasize multidisciplinary instruction, product design and design theses, the new Course 16 masters programs will require students to take five aerospace engineering disciplinary subjects (three graduate and two H-level), a math subject, a subject on aerospace product design, and a 12-unit design thesis.

Similarly, the Department of Civil and Environmental's MEng program — which consists of seven conventional subjects, three project and thesis subjects, and an individual thesis — was developed to provide "a first professional degree appropriate to individuals inclined to immediately enter professional practice," said Course I Professor and Department Head Rafael L. Bras '72. About 20 students are expected to enroll in the MEng program next fall.

In addition, a new Masters of Science degree in System Design and Management has been created. A joint effort between the School of Engineering and the Sloan School of Management, the program is aimed at training engineers with at least three years of work experience to be senior managers with a strong technical grounding in systems engineering architecture and design of complex products and systems.

The program is planned to last 13 months, beginning during one Independent Activities Period until the end of the following IAP. "This new and more practically based program provides students with opportunities to achieve a professional degree and become leaders of engineering," said Professor of Aeronautics and Astronautics Edward F. Crawley '76.

Departments offer new specialties

The Department of Earth, Atmospheric, and Planetary Science added three new areas of study this year. The three new areas of concentration are in geoscience, physics of atmospheres and oceans, and planetary science and planetary astronomy and will be offered in addition to 14 new undergraduate subjects.

Changes made in the undergraduate program in the Department of Mechanical Engineering have made curriculum more industry-oriented. Old classes like Mechanics of Solids (2.01) and Introduction to Design (2.70) are being phased out to give way to a series of two-part classes such as Mechanics of Materials I and II (2.001 and 2.002), according to Professor Peter Griffith ScD '56, undergraduate officer for the department.

An interdisciplinary minor program in biomedical engineering, the Institute's first, also has been established. The minor is geared toward students who "end up going to medical school and want to use their engineering background for medical research," said Professor Linn W. Hobbs, chair of the committee on the undergraduate program. Between 20 and 50 students are expected to participate in the program starting next fall, and students would be able to fulfill the minor with six to nine subjects, depending on each individual's course of study.

Changes in the core curriculum

Freshmen were able to take a combined Calculus I (18.01) and Calculus II (18.02) for the first time. Recommended for students with advanced placement background, 18.01A quickly reviews 18.01 for six weeks and then covers 18.02 for eight weeks, said Joanne E. Jonsson, academic administrator for the Department of Mathematics. The remainder of 18.02 can be completed during either Independent Activities Period or the spring semester.

Introduction to Solid-State Chemistry (3.091) has been revamped to include additional topics while maintaining a focus on solid state. The changes were made in order to give freshmen the freedom to choose a chemistry course without concerns about requirements for potential majors. The new areas covered include a unit on liquids and solutions and examples from environmentally related topics, said Professor of Materials Science and Engineering Donald R. Sadoway.

have a pretty good idea that it was not a Baker resident," said Baker House President Catherine D. Conley '96.

8

Members of the MIT community gather for a memorial service to honor the slain prime minister of Israel, Yitzhak Rabin. The country's eighth prime minister was assassinated following a Nov. 4 peace rally by Yigal Amir, a right-wing Jewish law student, as a protest against Rabin's central role in the Middle Eastern peace process.

15

The faculty approves a new



Jane Goodall

Master of Science program in System Design and Management. A joint program between the School of Engineering and the Sloan School of Management, the program entails a combination of technical knowledge with

management in designing new system. It will start next fall.

20

Jane Goodall, the world-renowned primatologist, speaks about her work with chimpanzees.

28

The student services re-engineering team continues to meet with various administrative, faculty, and student groups to prepare a plan to reduce complexity, improve quality, and reduce costs of the Institute's services. The plan will be refined with community feedback in January and implemented in February.

December

1

Margaret R. Bates, an academic and financial planning officer at Harvard University and a former vice provost of Duke University, takes office as dean for student life. Dean for Undergraduate Education and Student Affairs Rosalind H. Williams, who appointed Bates, changes titles to become dean for undergraduate education.

3

Northeastern University student Clifton Whilby, 18, is shot by a fellow student on Memorial Drive outside Walker Memorial early this

morning as an Alpha Phi Alpha party in Walker was ending. The incident prompts the Institute to cancel all large late-night parties until at least late spring for safety concerns.

15

Anya Pogoyants G, 26, and her husband Igor Slobodkin, 28, die in an automobile accident. An undergraduate research award has since been established in her name.

Compiled by Brett Altschul, Anders Hove, Jean K. Lee and Ilung Lu

Building constructions meet academic needs

By Brett Altschul

As technology changes over the years, the buildings which house them grow out of their function, and the Institute must keep up by renovating old buildings or raising new ones. Last year, the Jack C. Tang Center for Management Education and MIT's co-generation plant were completed, while renovations in Buildings 16 and 56 began.

"The MIT campus is designed to encourage communication between people from all parts of the academic community in order to stimulate the exchange of ideas," said Director of Planning O. Robert Simha MCP '57.

"MIT buildings are constantly being recycled to keep up with current research and academic needs," Simha said.

This recycling includes both new building projects and renovations of the exterior and interior of older buildings, he said.

The completion of the biology building in 1994 has set the stage for the next phase

of campus development of the main academic buildings, Simha said.

Tang Center opened in September

The Tang Center, a four-story addition to Building E51, opened for classes in September. The \$12 million center was built in response to an increase in the size of the Sloan School of Management.

The center is the first Sloan School building devoted entirely to education. It includes a new 300-seat auditorium and horse-shoe-shaped classrooms on the top floor, built to facilitate discussion-style teaching.

The center "has been designed to support the highest quality instruction and to provide the profes-

The Tang Center has been designed to support the highest quality instruction and to provide the professional space in which students can best learn.

Jeffrey A. Barks

sional space in which students can best learn the practice of management and form and foster their career goals," said associate dean of the Sloan school Jeffrey A. Barks.

Classrooms contain state-of-the-art audio/visual and technical equipment, including computer network connections at all seats, Barks said. Projection equipment displays computer images on classroom screens, which can be simultaneously used



The \$37 million new co-generation plant on Vassar Street opened Sept. 11.

with blackboards.

"Most of the new rooms that I've entered have been a big improvement in terms of comfort, modern A/V facilities, and ability to handle larger classes and guest speakers well," said Gregory K. Scott G, a student at the Sloan school.

Co-generation plant brought controversies

MIT's controversial new \$37 million co-generation plant also opened in September. The two-and-a-half year project was motivated by the effort to save money by generating power on campus.

In an unprecedented move, the Cambridge Department of Public Utilities levied a \$100,000 per month penalty against MIT. The department argued that it had made a significant investment in equipment

to prepare for MIT's future power use.

The department further said that MIT should be liable for 75 percent of the additional costs it would have incurred without the co-generation plant.

MIT is appealing the ruling. Lawyers for the Institute argue that the ruling violated the 1978 Public Utilities Regulatory Policies Act and regulations of the Federal Energy Regulatory Commission which promote co-generation. The appeal is still in progress.

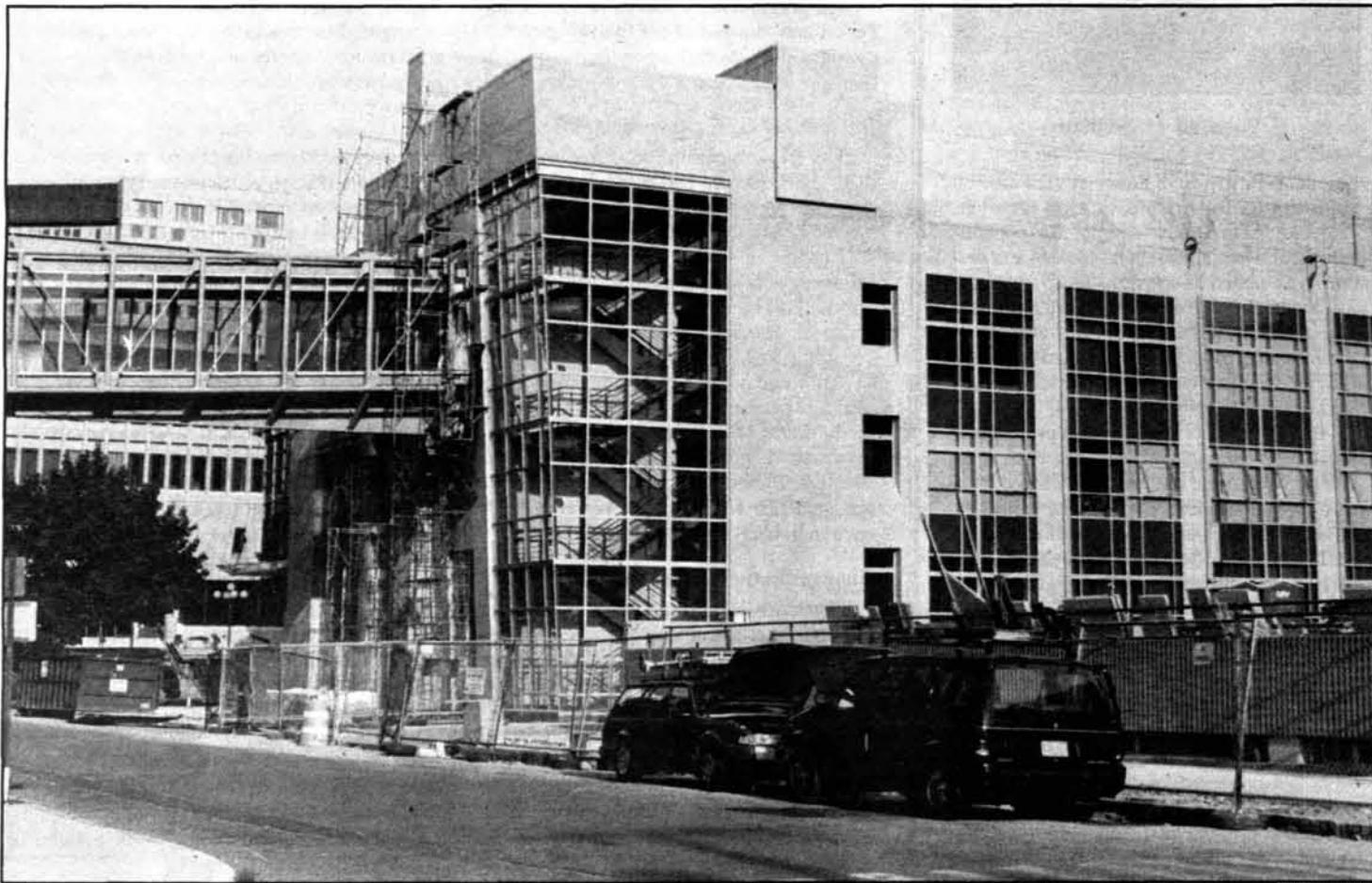
In addition to new buildings, the Institute began major renovations on Buildings 16 and 56, which were previously occupied by the biology department. They are scheduled to continue through December, 1996.

The completed buildings will provide space for the disciplines and services currently housed in Building 20, which is scheduled for demolition in 1997.

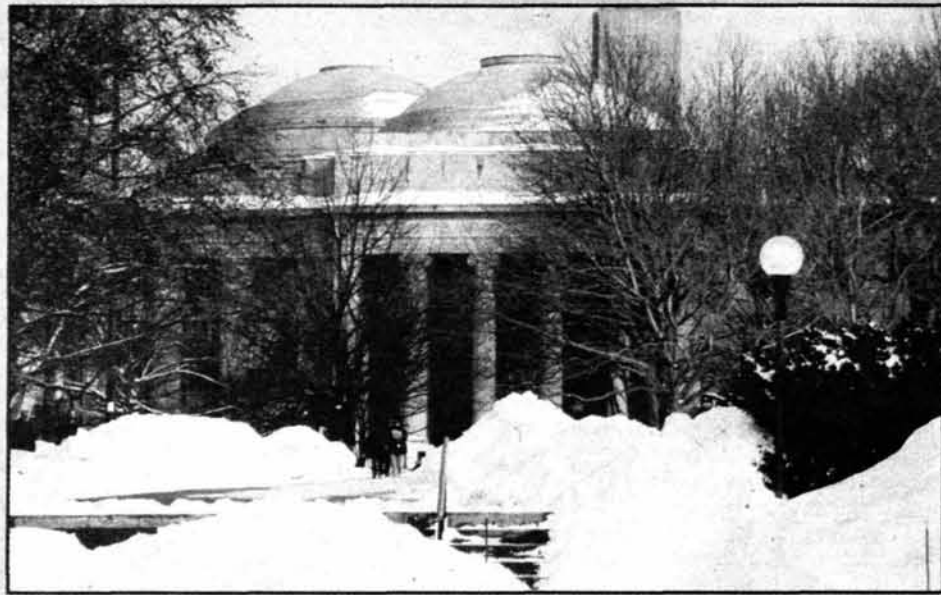
A new building will be constructed on the site of building 20 which will house the Artificial Intelligence Laboratory and the Laboratory for Computer Science if the Department of Electrical Engineering and Computer Science raises the necessary capital.

Most of the new rooms that I've entered have been a big improvement in terms of comfort, modern A/V facilities, and ability to handle larger classes and guest speakers well.

Gregory K. Scott



The new Tang Center, a \$12 million addition to the Sloan School of Management, opens last September.



Snow descended on the Institute at the beginning of IAP.



A snow bear was built outside Ashdown House last December.

MIT unprepared for shortage in all-female housing

By Orli G. Bahcall
and Christina Chu

In the aftermath of 1994's Strategic Housing Planning Committee upheaval, the dormitory system continues to face a variety of problems. Among them last year was overcrowding: The problem was cited as a top priority by an Undergraduate Association student life survey; at the same time, graduate students continue to demand housing.

"There are so many other pressures that a new student faces coming to college that overcrowding and the pressure of more roommates should not be a factor," said UA President Carrie R. Muh '96. It is "incredibly important to get a new dorm to alleviate this overcrowding."

Dean for Undergraduate Education Rosalind H. Williams agrees, and hopes to put a cap on the ever increasing number of undergraduates in the near future. "Overcrowding has serious repercussions academically," Williams said. We would like to "keep the number of admits at a level so that crowding slowly but surely reduces," she said.

Crowds may indeed "potentially affect student academics," said Margaret A. Jablonski, associate dean for residence and campus activities. "Having to deal with one roommate is hard enough without making it four roommates," she said.

To cope, MIT will have to consider leasing or purchasing more space within the next two years, Jablonski said.

Individually, dorms met with mixed success last year. While Senior House made plans for a makeover, Random Hall had no such luck.

Remodeling Senior House, a large project expected to cost ten million dollars, will be done in three shifts over the coming summer, and hopefully will be completed by the fall semester, Jablonski said. Senior House fell behind on the cycle of building renovation, and is currently so run down that many students do not perceive it as a viable living option.

"The big challenges are ahead," said Henry Jenkins, house manager at Senior House. "Moving students out, rebuilding the dorm, and getting them back in this summer will include many logistical headaches, and we are all going to have to put up with some problems along the way. Yet I have the reassurances of the architects and of MIT that we will be able to make this work."

The Institute does not have the same commitment for Random Hall as for Senior House, Jablonski said, and so it will not invest much energy into refacing the old building. Instead, Random is scheduled to go 'offline' in about ten to fifteen years; the land will be used for commercial purposes, she said.

"We are planning to continue regular maintenance and satisfactory conditions that will meet housing codes," Jablonski said. But "we are working to center housing [more locally] around campus," she said.

For that reason, Random will see no major renovations in the near future that resemble what will be done at Senior House. Random, which is about five minutes down Massachusetts Avenue from the Student Center, will likely not get a new roof or redesigned rooms, Jablonski said.

"It has become clear that [Random] will be phased out. ... Still, it is important to realize that in the meantime, the 93 MIT students who make their home here should be

To cope with the pressures of overcrowding, the Institute will have to consider leasing or purchasing more space in the next two years.

Margaret A. Jablonski

guaranteed a certain standard of living," said Sameer S. Gandhi '97, Random Desk Captain.

Graduates also need more space

"There is a need to push for undergraduate and graduate student housing," Graduate Student Council President Barbara J. Souter G said. "We need to look at both sides of the coin, and see that this is not an issue that deals with the two student bodies separately, but with both, and for it to be effective in improving housing, both groups need to work together."

Currently, only 30 percent of graduate students have housing. However, the Institute has a commitment to provide housing for 50 percent of the graduate population.

"MIT owns land at Sydney & Pacific [streets in Cambridge], but because of many administration turnovers, we haven't made progress. We should see progress this spring," Jablonski said.

"MIT has shown that they want to provide housing but haven't been active enough in it. I think that the administration needs to work on short comings in housing," Souter said. "The GSC is ready and willing to work on planning new housing. We are waiting

for the administration to take a step forward."

Joe Bambenek G, former Housing and Community Affairs co-chair for the Graduate Student Council, notes that using the land at the Sydney Street site may not be effective as new graduate student housing.

The property is significantly more expensive than the current graduate student dorms, and further from campus. The building is also located in the second most dangerous neighborhood in Cambridge, Bambenek said.

Ashdown House is especially needed to fulfill the housing needs of the graduate student community. It runs a huge risk of being lost if turned over completely to undergraduates, Bambenek said.

"The administration's desire to build housing could meet several requirements," Bambenek said. "The amount of housing needed for graduate students is uncertain for the future. There is a good chance that there may be fewer graduate students. Building a new building will have to accommodate not only graduate students but also post-docs and young professors."

Female, sorority housing needed

"Efforts to find permanent housing for sororities" have also been a priority, Dean for Undergraduate Education Rosalind H. Williams said.

The rising trend of female students has increased the demand for all-female housing areas. Housing the sororities, apart from filling the sororities needs, should help this growing demand. The Office of Residence and Campus Activities is looking into possible bids on houses for sororities.

Sigma Kappa is the next sorority in line to receive a house, followed by Kappa Alpha Theta and Alpha Epsilon Phi, said Neil H. Dorow, assistant dean in the Residence and Campus Activities Office.

We hope to find a house for Sigma Kappa by fall 1997, Jablonski said. By March, we hope to have several residences identify suites or floors to be designated as women's housing, she said.

Moving Sigma Kappa into Ashdown has worked "out very well," Jablonski said. "All parties seem to be happy and Sigma Kappa seems to have integrated nicely with the graduate students," Jablonski said.

"The undergraduates have blended in pretty well with a number of them coming to Ashdown social activities, being house officers and working at the front desk," Ashdown Chair Thomas H. Burbine G said.

Burbine also projected that MIT may keep undergraduates in Ashdown. "Since MIT appears not to be building any new undergraduate dorms in the foreseeable future, the easiest solution to alleviate overcrowding would be to keep some undergraduates in Ashdown," he said.



Fire engines respond to a suspicious fire at Random Hall in late November.

THOMAS R. KARLO—THE TECH



Owen W. Ozier '98 (left) and Morgan S. McGuire '98 (right) act as human advertisements in Lobby 7 — not for duct tape, but for a weekend party last April.

INDRANATH NEBOGY



An MIT student teaches a child from Longfellow School during MIT's Citydays community service event last September.

TIFFANY LIN

Changes are anticipated for next year's orientation

By Carina Fung and Cristián González

Several changes with rush are expected to take place starting with next year's Residence and Orientation Week. The changes will include activities sponsored by the R/O Committee and dormitory participation in rush.

Rush was "very successful" this year, said Associate Dean for Residence and Campus Activities Margaret A. Jablonski. "We generally assume that 360 to 370 freshmen will end up living in Independent Living Groups," and this year was on par with previous years, Jablonski said.

For students who chose to live in a dormitory, over 90 percent of freshmen received one their first five choices, Jablonski said.

"We did see an increase, though, in the number of women going for single-sex housing," prompting concerns about a shortage of single-sex housing, Jablonski said.

Undergraduate Academic Affairs Office Staff Assistant for Student Programs Ida G. Faber held a series of meetings with R/O Week coordinators to get input about how successful rush was. Informal feedback from freshman on rush was positive overall, she said.

"The entity of R/O is constantly evolving,"

Faber said. The results of some of the events of this year will affect rush events of next year. There was a positive response to the student speaker at the Killian Kick-Off, Catherine D. Conley '96, though no definite decision has been made on whether or not to continue with student speakers, Faber said.

Thursday Night Dinners reviewed

Thursday Night Dinners will also come under intense review, in large part because of the unruly crowd that marred its start this year, Faber said.

During this year's rush, an overzealous group of upperclassmen eagerly hurried to gather freshmen to take to dinner after the annual Project Move Off Your Assumptions activity. The mob rushed past R/O Week workers and interrupted the finale of Project MOYA before Campus Police arrived to control the group.

The overzealousness of the upperclassmen to grab freshmen for their groups' dinner trips showed that "the interests of upperclassmen are for the welfare of their living groups

and not for the freshmen," said Mark A. Herschberg '95, an R/O Committee member who helped organize Project MOYA.

Immediately after this incident, there was discussion of canceling Thursday Night Dinners in future years because of this year's problems, Herschberg said.

"We need to re-evaluate" the dinners, said former Interfraternity Council Judicial Committee chair Gregory J. Miliotes '96.

The interests of upperclassmen are for the welfare of their living groups and not for the freshmen.

Mark A. Herschberg

But the ultimate decision will be up to the R/O Committee, he said.

Dormcon drops Clearinghouse

The Dormitory Council Judicial Committee decided in December to eliminate the use of Clearinghouse in dormitories during rush, according to the accepted draft of Dormcon's rules for next year's rush.

Clearinghouse is the freshman tracking system used during R/O Week.

In late November, Dormcon decided to withdraw its members from the Mediations Committee and end their participation in Clearinghouse.

In the past, Medcomm, a joint committee of IFC and Dormcon, was responsible for protecting the interests of incoming students during rush. Starting as an informal discussion group, it has existed for over two decades.

Dormcon now feels that "the Medcomm rules have become a matter of concern only to Dormcon," as pointed out in a Nov. 16 memo to the Office of Residence and Campus Activities. In an effort to reinforce the rules it deems important, Dormcon transferred the judicial authority previously granted to Medcomm to its own Judicial Committee.

Dormcon originally used Clearinghouse in 1967 to keep track of students housed in temporary dormitory assignments. The IFC joined the system soon after, but no changes been made to Clearinghouse until now.

"When we used Clearinghouse we were doing a lot of work for no purpose, and we got no advantage from it," said Dormcon Rush Chair Nicole L. Weymouth '96.

Dormcon's decisions have met with some opposition from the IFC and RCA. Jablonski said it would be desirable to see Clearinghouse function "in some capacity"

in the dormitories and is willing to work with the IFC and Dormcon to come up with a compromise.

Outgoing IFC President Brian D. Dye '96 said he is in favor of Clearinghouse because "it helps keep rush more or less organized."

Dormcon drafts new rush rules

Dormcon has also tentatively adopted a new draft of "Rules of the Dormitory Council Judicial Committee" for the next R/O Week.

These changes illustrate their revised goals: "1) to protect the safety and privacy of incoming students and dormitory residents, 2) to promote fairness between living groups, and 3) to help incoming students make informed and uncoerced choices."

Dormcon will also try to improve security during rush by increasing the dormitory patrols and restricting

access to incoming students. Under this system, each dormitory's desk would serve the function that the Clearinghouse desk did before. However, information as to a freshman's location would not be provided.

The rules governing poster during rush are also under scrutiny by Dormcon. Each dormitory would be able to set its own rules concerning poster, and excessive poster would be dealt with by Judcomm, according to its new regulations.

Dormcon will likely meet during the spring term to discuss the changes with RCA and the IFC.

These decisions, however, may not be final. "Both RCA and IFC hope Dormcon will participate in some sort of Clearinghouse," Jablonski said.

Dormcon, however, refuses to do so unless the new proposals will facilitate rush for freshmen and benefit the residents of the dormitories.

When we used Clearinghouse we were doing a lot of work for no purpose [with] no advantage.

Nicole L. Weymouth '96

Bomb reports up after Unabomber threat

By Sam Hartman

Tensions heightened on campus when it was reported that Nobel Laureate Phillip A. Sharp, professor and head of the Department of Biology, was a potential target of the Unabomber.

The *Boston Globe* reported on May 8 that the Unabomber sent letters to Sharp and Richard J. Roberts of New England Biolabs Inc., who shared the 1993 Nobel Prize in medicine.

This followed two weeks after Mr. Gilbert Murray, president of the California Forestry Association, was killed by a Unabomber package bomb. The Unabomber was responsible for 16 letter bombs in the last 17 years.

At MIT, the Unabomber threats were taken in a different light than at other universities. The Unabomber attributes society's problems to technological advances and thus targets people with technological knowledge.

"The people we are out to get are the scientists and engineers, especially in critical fields like computers and genetics," said a group calling itself FC in a April 26 let-

ter to *The New York Times*. FC claimed responsibility for the Unabomber bombings.

12 suspicious packages reported

The disclosure that the Unabomber sent Sharp a threatening letter unsettled many researchers affiliated with the Institute.

None of the researchers that were contacted would comment on the potential threat that the bomber posed.

"We have nothing against universities or scholars as such," FC said in the letter. "All the university people whom we have attacked have been specialists in technical fields.... We would not want anyone to think that we have any desire to hurt professors who study archaeology, history, literature, or harmless stuff like that."

Twelve bomb or suspicious package incidents were reported to Campus Police

by mid-year, a significant increase over 1994.

While the Campus Police did not comment on the Unabomber threat, they did encourage the MIT community to examine suspicious packages.

In the time when Unabomber publicity was highest, there were about 30 calls a month about suspicious packages, said Captain of Campus Police John E. Driscoll.

This rise in calls about suspicious packages was largely the result of the Unabomber's threat, Chief of Campus Police Anne P. Glavin said. People were "more anxious and concerned."

The people FC is out to get are the scientists and engineers, especially in critical fields like computers and genetics.



Students gathered in the Infinite Corridor to witness the semi-annual sunset directly in line with the hall.



Xuan Tang '96 prepares Mark Feldmeier '96 for the East Campus Carnival last spring.

Copter crash blamed on bad fuel, pilot error

By Chris Falling

Bostonians were left in wonder when a state police helicopter crashed into the Harvard Yacht Club early on February 22. All four people aboard — two state police pilots and two telephone company technicians — were killed in the crash.

Witnesses said that the helicopter was flying in a westerly direction at about 400 feet above the Charles River when it suddenly banked to the right and began to fall towards the ground at a 45 degree angle.

Members of the Institute's Physical Plant Rescue Team and two MIT students were the first on the scene, directly across Memorial Drive from the Sloan School of Management.

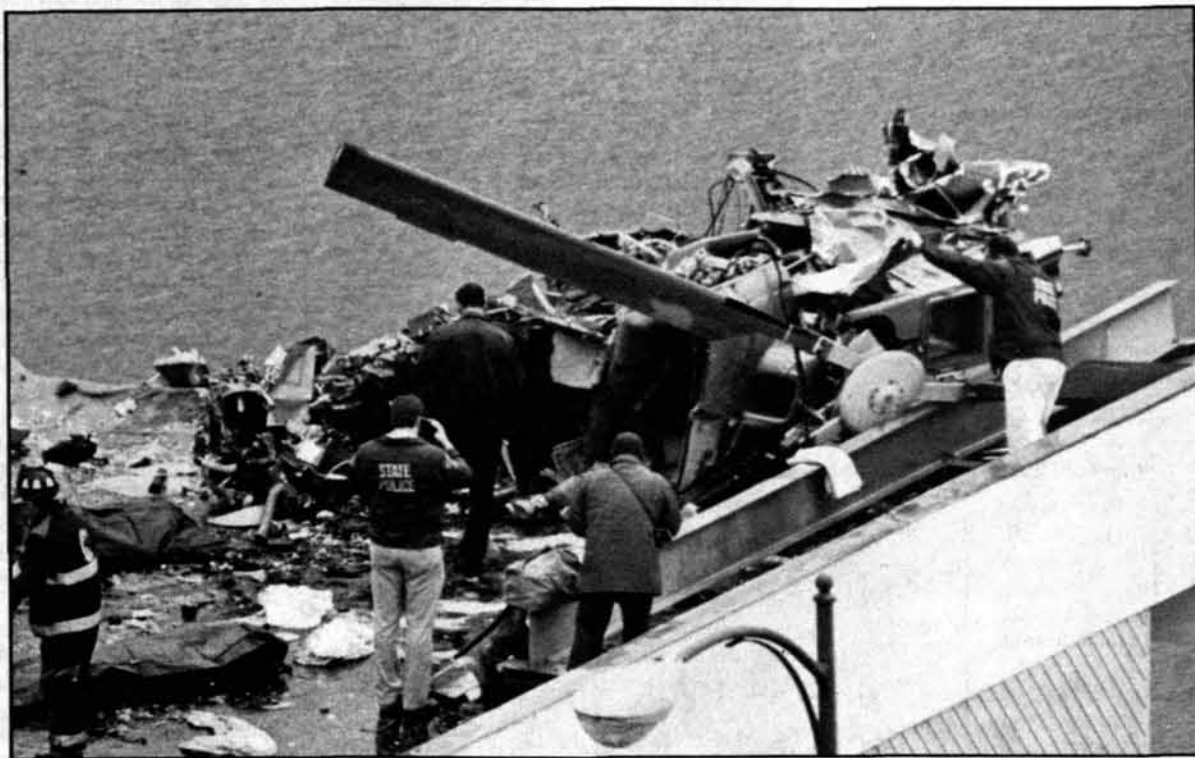
"It looked like a totally uncontrolled crash," Paul S. Sidhu G said. The aircraft landed about three-fourths of the way upside down, he said.

According to the National Transportation Safety Board report released last fall, the accident was due to impure fuel, pilot error, and poor maintenance of the craft.

"There was no indication of any criminal act" such as sabotage or foul play, Middlesex County District Attorney Thomas F. Reilly said in a *Boston Globe* article.

According to the NTSB report, neither state police pilot had been trained to land a helicopter during a power loss.

State Police spokesman Captain Robert Bird said that training procedures have been changed in response to the incident, and the faulty fueling facility has been dismantled, according to the *Globe*.



A state police helicopter crashed into the Harvard Yacht Club last February.

THOMAS R. KARLO

Memories of the Fernald School haunt MIT still

By Christopher L. Falling

MIT's involvement in a number of radiation experiments during the 1950s and 1960s culminated this year in two lawsuits in which MIT was named.

Documents released by the federal government in 1993 revealed new information on thousands of human radiation experiments conducted by the nation's top researchers during the Cold War. Among them were radiation tests conducted during the 1950s on children institutionalized at the Walter E. Fernald School in Waltham, Mass., by researchers from MIT and Harvard University.

The new information on the experiments prompted a lawsuit that charged the Institute over its participation in the experiments. Further investigation into the tests indicated that the amount of radiation the children were exposed to was insignificant but that the subjects involved in the experimentation were not notified of their participation.

"I was sorry to hear that at least some of the young people who participated in this research and their parents apparently were unaware that the study involved radioactive tracers," said President Charles M. Vest.

"The procedure in those days was that the medical person who provided access to the patients was the one who was responsible for the informed consent process," said Professor of Physics J. David Litster PhD '65, vice president and dean for research and dean for graduate education.

Both Vest and Litster emphasized that informed consent is required for all research performed now, and that much stronger safeguards and guidelines are in place.

A second radiation lawsuit was filed over tests performed at the MIT Nuclear Reactor Laboratory during the 1960s under the supervision of Massachusetts General Hospital neurosurgeon William Sweet.

State investigates tests

Shortly after the government declassified the documents about government-sponsored radiation experiments, Vest read of the Fernald School tests in a *Boston Globe* article and asked Litster to conduct an investigation of the Institute's records.

A state task force and a special hearing of the Senate Committee on Labor and Human Resources, chaired by Sen. Edward M. Kennedy, D-Mass., also investigated the experiments. The task force report contained information provided by Litster.

The experiments were designed to investigate how the body absorbs iron and calcium. Most of the experiments involved giving subjects breakfasts of oatmeal or farina containing radioactive tracers.

A third experiment involved subjects receiving a direct injection of calcium tracer.

The Fernald school was officially designated as a school for retarded children, although some of the residents at the time of the experiments were not retarded.

The state of Massachusetts, researchers at the Fernald School, and the Quaker Oats Company were also charged in the suit.

Consent not obtained

The state task force also concluded that the youths and their parents had not been informed that the children were being exposed to radioactive tracers.

The presidential advisory committee to Clinton on Cold War human radiation experiments concluded that the Fernald School experiments were "morally troubling" and that the government owes the subjects an apology. But because there was no evidence that the subjects were harmed by exposure to any dangerous levels of radiation the government is not obliged to monetarily compensate them.

At a Oct. 3 news conference that announced the completion of the federal committee's report, Clinton made a formal apology to the subjects of all radiation experiments reviewed.

The report stated that the children of the Fernald School were "unfairly burdened" by researchers from MIT and Harvard, who encouraged the children to take part in tests with promises of gifts or trips to Red Sox games.

The researchers also appeared unwilling to respect some children's wishes not to participate in experiments, according to the report. The parents of the children involved in the experiment were not told that the tests involved radiation.

The committee's findings stressed the immorality of researchers failure to obtain consent from test subjects and their families.

Tests involved low exposure

After a four-month investigation, the state task force concluded that "no significant health effects were incurred by the research subjects as a direct result of the nutritional research studies."

Litster calculated the amount of radiation the Fernald youths were exposed to based on the researchers' original data, which was published in several journal articles and a doctorate thesis.

Litster said that he is currently looking for any more information that may have been overlooked by the state task force.

The highest exposure for any single youth involved in the experimentation was 330 millirem, less than the yearly background radiation in Denver. The doses were all below the standards of the time, as well

as today's more stringent standards.

Current government standards allow a 500 millirem yearly exposure to radiation for minors exposed to radiation and a 5,000 millirem yearly exposure limit for adults.

The equivalent increase in the risk of fatal cancer would be about 1 in 2,000 as the result of a 330 millirem exposure.

Cancer experiments kill 10

MIT is also involved in a separate radiation lawsuit filed in September. Evelyn Heinrich and Henry M. Sienkewicz filed a lawsuit on behalf of 140 patients who underwent experimental nuclear medicine treatments that killed at least 10 of them, including Heinrich's husband and Sienkewicz's mother.

Sweet is accused of using patients as guinea pigs for radiation experiments that were known not to work. He conducted some of his research at MIT's nuclear reactor during the 1950s and 1960s.

Heinrich said that she and other patients' relatives were not properly informed and were sometimes misled about what was being done to patients. The procedure used to treat patients, called boron neutron cap-

ture therapy, involved "excruciating pain" and did not succeed in prolonging the lives of patients, Heinrich said.

The procedure consisted of surgery coupled with injections of a boron drug and exposure to a beam of neutrons intended to kill tumors. The patients treated suffered from highly malignant tumors like glioblastoma and melanoma.

The brain tumor therapy tested did not work, but "can you come back 35 years later and sue for it? It remains to be seen if that will stand up in court," Litster said.

The standards of safety that Sweet used in his tests were in accordance with regulations at the time, said John A. Bernard Jr., director of reactor operations at the nuclear reactor. "I don't think the suit is justified."

Bernard is currently working with new tests of boron neutron capture therapy that do not require surgery and use a higher-powered radiation beam than Sweet's experiments. The boron drug used in the new experiments is also more efficient.

Litster declined to comment on the details of the lawsuits themselves, which are still ongoing.



One parent's pride shines in this licence plate during Parent's Weekend last September.

JIRI SCHINDLER

In Memoriam

Les Aspin PhD '66

Former defense secretary Les P. Aspin PhD '66 died of a stroke on May 21. Before being named defense secretary by President Clinton in 1993, Aspin had served as chairman of the House Armed Services Committee.

Aspin delivered the commencement keynote address in 1992, in which he talked about the myriad changes that faced the first class to graduate in the post-Soviet era.

A long-time Wisconsin representative, Aspin resigned his post as defense secretary last year in controversy over his handling of an incident involving US peacekeeping in Somalia. He was 56.



TECH FILE PHOTO

George Bekefi

Professor Emeritus of Physics George Bekefi, who retired last summer after 38 years of teaching and research, died Aug. 17 after a battle with leukemia. He was 70.

Bekefi was best known for his accomplishments in plasma physics, specifically in the production of high-powered microwave generators. His recent work focused on the production of free-electron lasers, very short wavelength coherent emissions that are used in communications and many other fields.



MIT MUSEUM

Bekefi taught several classes, including 8.02 (Physics II) and 8.03 (Physics III), during his tenure. He was "a superb teacher, very warm and humorous," said Physics Department Head Ernest J. Moniz.

In retiring, Bekefi remarked on his enjoyment "of revealing to hundreds of undergraduates the mysteries of physics and guiding some 50 [graduate students] toward their MS and PhD degrees."

Herbert S. Bridge PhD '50

Professor Emeritus of Physics Herbert S. Bridge PhD '50, an internationally known space scientist who played a key role in mapping the solar winds that flow through interplanetary space, died Aug. 30 following a long illness. Bridge, 76, died from coronary artery disease.

Bridge was director of the Center for Space Research and a pioneer in the exploration of the solar system from unmanned spacecraft. He led a group of MIT physicists in creating a novel instrument for the study of interplanetary plasma, the modulated-grid Faraday cup.



MIT MUSEUM

This instrument, successfully flown aboard Explorer X in 1961, provided for the first time direct evidence of the existence of dilute plasma in interplanetary space, as well as supplying some preliminary information on the density and velocity of this plasma.

After that discovery, Bridge became the principal investigator on space plasma experiments that flew aboard unmanned missions to every planet in the solar system except Pluto.

The work by Bridge and his collaborators received worldwide recognition, and the MIT group acquired a leading position in the field of plasma measurements in outer space.

Thomas D. Cabot

Thomas D. Cabot, the longest serving member of the MIT Corporation, died June 8 at his home in Weston. Cabot, who served as director emeritus of the petrochemical manufacturer Cabot Corp., was 98.

Cabot turned his father's West Virginia business into a worldwide company with annual sales of \$1.7 billion. It became the leading producer of carbon black — the material that helps produce automobile tires, paint and printing ink — and a supplier of raw materials.

Elected life member of the Corporation in 1951 and life member emeritus in 1972, Cabot served MIT for 49 years. In 1960 he established the Thomas Dudley Cabot Scholarship Fund as part of the permanent endowment.



MIT MUSEUM

Perry N. Finley '92

Perry N. Finley '92 died on April 3. His sister, Tiffany Finley '97, would not comment on the circumstances of his death.

Finley, who had been a student in the

Department of Mathematics, was not registered as a student this year, and did not graduate from MIT. When Finley last attended MIT, he lived at Senior House.

"[Perry] was very energetic. ... He had many, many aspects to his personality," Tiffany Finley said.

Kristen E. Finnegan G

Kristen E. Finnegan G died unexpectedly on June 25 in Cambridge of a heart condition.

Finnegan was a doctoral student studying the history, theory, and criticism of art and architecture. She was to have traveled to Germany this spring to study the role of technology and engineering in art and indus-

try in the early modern period in Germany.

Finnegan also worked in the Program in Writing as a teaching fellow. "She had a really nice manner regardless of what she was doing or who she was working with; students loved her," said Andrea J. Publow, who worked in the program with Finnegan.

An award for students in the history of architecture has been established in Finnegan's name.

Martin R. Friedmann MARCH '93

Martin R. Friedmann MARCH '93, a former graduate student in architecture, took his own life on Feb. 1. Friedmann worked in the Media Laboratory but was not enrolled at MIT at the time of his death.

In addition to working at MIT, Friedmann pursued several other activities, among them a virtual reality demo now at the Chicago Science Museum.

Friedmann also created a World Wide Web page for the Rolling Stones, and at one time was also a contender for the world

championship in skateboarding.

"Around Martin ... there were three ways to solve a problem. The right way, the wrong way, and Marty's way, which made the 'right' way look foolish," said Bradley Horowitz, a friend of Friedmann.

But his adviser, Media Arts and Sciences Associate Professor Alex P. Pentland PhD '82, said that he remembers Friedmann not for his many accomplishments or intellectual abilities but for "his amazing energy and fearless enthusiasm."

John N. Krikelis '97

Delta Upsilon brother John N. Krikelis '97 died Sept. 3 when his motorcycle crashed into a telephone pole in Raynham, a town near Plymouth. He was not wearing a helmet.

"John was a very free-willed person," said Alexander F. Hoermann '97, a close friend of Krikelis. "He did whatever he want-



COURTESY OF THE KRIKELIS FAMILY

ed. He had a very full life and he loved to be alive."

Krikelis' parents, Nicholas and Eleftheria Krikelis of Rafina, Greece, have established a scholarship fund in his memory. The \$5,000 scholarship will go to a mechanical engineering major of Greek origin, or in the absence of such a student, to an outstanding mechanical engineering major from DU.

George P. Panteleyev G

George P. Panteleyev G, a graduate student in the MIT-Woods Hole Oceanographic Institution Joint Program in Oceanography and Oceanographic Engineering, was lost overboard June 8 during a research trip on the Ob River in Siberia. He is presumed dead.

Panteleyev was serving as chief scientist on the cruise, which was collecting data to assess radioactive contamination in the river system, which empties into the Arctic Ocean. A similar cruise was conducted by Panteleyev and Stephen Smith of WHOI's Marine Department of Chemistry and Geochemistry in the summer of 1994.

Born in Moscow in 1966, Panteleyev entered the MIT-WHOI in June 1991. Panteleyev is survived by his wife, WHOI student Natalia Y. Beliakova G, with whom he lived in Westgate.

Anya Pogosyants G

Anya Pogosyants G, 26, and her husband Igor Slobodkin, 28, were killed on Dec. 15 in an automobile accident. An undergraduate research award has since been established in her name.

The couple died in a head-on crash in Rutland, Vermont, en route to a ski trip in Lake Placid, New York.

Pogosyants worked in the Laboratory for Computer Science on the theory of distributed systems. Her work included research in formal verification of distributed algorithms and developing easy-to-use verification tools.

Pogosyants' hobbies included playing guitar and singing folk songs. Slobodkin enjoyed mountain climbing and poetry writing. "All relatives and friends of Igor and Anya will remember them as two wonderful people full of ideas, joy and optimism," said Angelika Leeb G, a friend and colleague.

Francis O. Schmitt

Institute Professor Emeritus Francis O. Schmitt, internationally recognized as a pioneer in modern biological research and in the study of the brain, died Oct. 3 at his home in Weston. He was 91.

In 1941, Schmitt accepted an invitation from MIT President Karl Taylor Compton to head the Institute's effort to develop a leading center for molecular biology, and started an intensive program of teaching and research in that field.

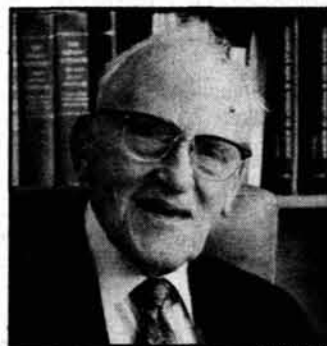
Schmitt was one of the world's foremost authorities on the biological uses

of the electron microscope. Many of the students Schmitt worked with during that period went on to become world leaders in molecular biology.

In the early 1950s Schmitt helped establish a Division of Biochemistry to provide a

concentration in this area of analytical biology. He served as head of the biology department from 1942 to 1955, after which he devoted his attention to teaching and research until his official retirement in 1969.

Schmitt was chairman of the Neurosciences Research Program from 1962 to 1974, whereby he promoted what he considered the last frontier of science: the function of the brain.



MIT MUSEUM

James A. Smith G

Physics graduate student and Harvard Medical School student James A. Smith G died Jan. 31 from complications after an eight-year struggle with brain cancer.

The cancer, which had been in remission, returned in the summer of 1994. Smith was diagnosed with an inoperable brain tumor in January. Unresponsive to chemotherapy, he fell into a coma on Jan. 30, and died the next day.

Smith worked primarily in the Artificial Intelligence Laboratory and was pursuing a degree in medicine through the Harvard-MIT

Division of Health Sciences and Technology. He was working to finish medical school in May and his PhD within three years.

His work at MIT dealt with vision, the functions of the retina, and pattern recognition. The James Andrew Smith Memorial Fund has been set up to fund future research in that area.

By all accounts, Smith tried to get the most out of life. He had travelled to many foreign countries including Bali, Indonesia, and China, and enjoyed outdoor activities like camping, hiking, rock-climbing, skiing, and frisbee playing. He was also a supporter of cooperative living.

Joseph J. Snyder '44

Joseph J. Snyder '44, a former treasurer of MIT and a life member of the Corporation, died Feb. 28 at the age of 87. Snyder is credited with having made investments during the 1950s that have helped MIT deal with post-Cold War cuts in government-funded research.

During his tenure as treasurer of MIT from 1950 to 1975, Snyder sought to protect the Institute against a possible future downturn in government sponsorship of scientific

research. Snyder thought that "MIT needed to have growth in its assets" in case government money should "slow up for any reason," said current Treasurer Glenn P. Strehle '58.

Snyder attended MIT in the Department of Chemical Engineering in the early 1940s.

Snyder was a director of Liberty Mutual Insurance Co. and a trustee of the Boston Five Cent Savings Bank. From 1945 to 1974 he also served as a director for the investment consultant firm Colonial Management Associates, Inc.

IN the year OPINION

A look back at the year of *Tech* editorials

The *Tech* published 22 editorials last year, covering subjects ranging from housing to ROTC. In writing them, the Editorial Board naturally focused on issues currently under review by the MIT administration or other groups on campus. Frequently, we wrote about problems we felt demanded an immediate solution — those at Random Hall, for example. Thus it happened that the editorials generally glossed over the many things we like about MIT and campus life and instead focused on aspects of MIT that could use some improvement.

The most serious examples this year involved the administration's flawed decision-making process. When it came to including students in decisions that could fundamentally change their daily lives, administrators more often than not failed miserably. They often sought student input only as an afterthought, if at all. When students were included, their input was often just nominal: Administrative departments

had already circumscribed the options available, or prejudiced the outcome of discussions by hardening organizational routines.

This year's annual summary of editorials features a "report card" that rates the inclusiveness of each decision-making process covered in an editorial in 1995. Each letter grade is followed by a brief evaluation describing any progress made since the editorial was written, and a summary of why the grade was assigned. We used the following scale:

A Excellent performance in including the student body as an equal partner in the decision-making process. All interested student groups were given the opportunity to participate in every phase of the process, from determining goals and designing options to making the decision itself.

B Good performance. Many interested student groups were given an opportunity to participate in most phases of the

decision-making process. Student groups were considered nearly equal partners in that process.

C Moderate student involvement. Students were given some opportunity to participate in a few phases of the process. Student involvement was limited to a few select students or student groups. Student participation was considered on an unequal or "customer" basis.

D Belated and nearly irrelevant student involvement. Students were included only after key phases of the planning process completed. List of available options was highly circumscribed in advance of student involvement.

F Token or irrelevant student involvement. Secretive or conspiratorial process.

Decision Makers Must Involve Students

February 10

First and foremost, administrators need to define what "input" and "inclusion" they want. The managed, *ex post facto* dialogue planned by the Strategic Housing Planning Committee, for example, was designed to fail. When students were belatedly asked to present their views, the result was both professional and productive. But there was no reason for students to be put in the position of reacting to administrative planning. They should have been involved in it from the start. The supreme mission of "input" must be consensus.

D In general, decision-making processes affecting students on campus were not overly inclusive during 1995. Issues such as the development of MIT Card policies, Student Services Re-Engineering, dean searches, intermediate grades, food services, and housing planning (to name but half-a-dozen) were handled either by including students belatedly, or not at all. The following editorials discuss in further detail the exact nature of policy-making inclusivity.

Institute Must Plan To End ROTC

February 14

In response to a 1990 faculty resolution that challenged the ROTC policy, the president and provost have indicated that they will appoint a committee in the fall to re-examine the disparity between the Institute's non-discrimination policy and the Defense Department's ROTC policy. This committee's charge should be unequivocal: If the DoD policy continues to be incompatible with ours, the committee should develop a plan to end ROTC at MIT.

Furthermore, the faculty and administration must expedite this review. The Institute has conscientiously endeavored for many years to change the policy — perhaps the time has come to let our actions speak for themselves. To do otherwise would be to hollow the substance out of our lofty policy. How many more years should we wait as we dilute the fundamental principles of our academic community?

C Because the "working group" phase of the MIT ROTC discussion was apparently not designed to actually make any decision or even recommend any course of action, student involvement may have been as much of a waste of time as the working group itself.

UA Should Avoid Mid-Election Changes

February 24

Undergraduate Association election season is here, and unfortunately it began with disorganization and conflict. The confusion results from the overturning of the UA Council's election rule changes. The UA badly needs legitimacy, and does not stand to gain any by altering election procedures after the season begins. The problem was not that the UAC passed an amendment to the election code on Feb. 13, reducing the signature requirements for candidates. The problem was that they chose to implement the changes for the current elections, when the election commission is supposed to be handling the process.

Senior Gift to UROP Is Timely, Laudable

February 28

The decision of the Class of 1995 to give its senior gift to UROP is especially timely

Continues on next page

Institutional Wisdom Watch

by *The Tech* editorial board

With this issue, *The Tech*'s "Institutional Wisdom Watch" celebrates its first anniversary. During its first year, IWW attracted some degree of controversy in the MIT community, particularly by some of its targets. Originally a take-off of *Newsweek*'s "Conventional Wisdom Watch," IWW itself has now been parroted in two other campus publications, as well as on a Lecture Series Committee poster. The Editorial Board, which composes editorials and the IWW, has vowed not to take its popularity any more seriously than it takes the writing of the IWW itself.



Former provosts

John Deutch: Promised he wouldn't take the CIA post, then took it. Next step: Defense Secretary.

Mark Wrighton: Gets chancellorship at Washington University. At-a-boy, Pee Wee.

Administration

C. Vest: Shows up for work in spite of snow. Apparently he's more essential than Provost Moses.

MIT Corporation: Stands by besieged members. Highly representative — of bankers, that is.

Re-engineering: Heading for its third birthday at MIT. Can't we downsize the management consultant department?

MIT Budget Deficit: Some hunch tells us re-engineering ain't gonna fix this, baby.

Deans: UESA set for mondo organizational turf spat.

Aramark Focus Groups: Do we have to pay for the food we throw?

Food Trucks: Ah, competition!

Libraries: Shorter hours and fewer journals. Maybe that's why we don't have a graduate program in the humanities.

Lowell Institute: MIT damages community relations by ditching popular night school.

Campus Police: Purchase new Harley for those west campus high speed chases.

Academia and student life

New Degrees: But we're still waiting for Artificial Cognitive Bio-Engineering Systems Management Science.

Intermediate Grades: IWW has decided to keep its opinion as a matter of internal record only.

UROP: Glad you're still around — for now.

CEG, HowToGAMIT: Heading exclusively online because of apathetic student body. At least they're still alive.

Safe Walk: Shuts down. Thanks for your support, Chief Glavin.

Java Hut: Bad name. The blue walls just are not the same.

P32 Poisoning: Can this happen at Athena?

Blizzards: After Indian summer of '95, IWW says, "Let it snow!"

Senior House: Soon to be new and improved. And undergraduate.

UA: Passes resolution to buy new photocopier. Sure beats revising the constitution.

UAP C. Muh: Completes uninteresting administration. What happened to the moxie?

and laudable. Seniors should be congratulated for a gift with genuine importance to the Institute.

Congress Must Not Sacrifice Scholarships

March 3

The House of Representatives appropriations subcommittee last week submitted a list of proposed budget cuts of \$17 billion, including \$130 million in cuts to higher education student aid programs. Money saved from the scholarship cuts will be applied to defense spending and deficit reduction, all in line with House Speaker Newt Gingrich's "Contract with America." It is disturbing that Gingrich, who has always claimed to be a futurist and a technologist, seems to lack the foresight to realize the country cannot hope to remain a world commerce and technology leader if it discourages its students from getting a strong education.

MIT Must Curtail Self-Help Increases

March 14

Most students are accustomed to the announcement of the annual tuition increase: Like a school-boy waiting for the ruler to fall on his knuckles, it is only a question of how much it will hurt. But year after year, a parallel announcement goes relatively unnoticed: the increase in the self-help levels. This year's increase in self-help is not based on the actual earning potential of students at MIT. It also hides the true price of an MIT education. The Institute should take whatever action necessary to keep the self-help level in line with those of our peer universities as well as with reasonable earnings expectations.

Plus-Minus Scheme Doesn't Make the Grade

March 17

The Committee on Academic Performance's intermediate grades proposal has prompted an important campus debate. While intermediate grades may increase the equity of grading or allow for better self-evaluation, we believe they will detract from MIT's learning environment by increasing the focus on grades and, correspondingly, the stress on students. The faculty should not adopt the intermediate grades proposal. Intermediate grades will create more problems than they will solve. They will be inaccurate, difficult to implement, and create more stress. The CAP should concentrate on considering other viable options that will allow for self-evaluation without these problems, and MIT should concentrate on learning, not on grades.

Since students first learned CAP was considering intermediate grades, MIT has accepted and implemented a three-year "experiment" with internal intermediate grades. In the meantime, student opinion was polled (incompletely), a public meeting was held with the members of the CAP, and a ballot question concerning intermediate grades was roundly rejected by undergraduates. While student involvement in the process was moderate, it was also somewhat belated and unheeded. The method of gauging student opinion was by no means systematic, and the actual decision to implement the grades experiment did not seem to reflect student opinion.

Muh Is Best Choice For UA President

March 21

We believe that Carrie R. Muh '96 and running mate Erik S. Balsley '96 offer the best combination of ideas, experience, and energy on these issues. Their proposal for using the Executive Committee for more internal and trivial matters, and the UA Council for more important matters, would better focus the UA on real student concerns. Both have experience dealing with the administration, representing a wide range of student views, and defending student interests.

BEND OVER!



However, we must note that Muh has accomplished little as vice president after showing some promise as a class officer; she must re-focus her energies and efforts as UA president. Nonetheless, we recommend her.

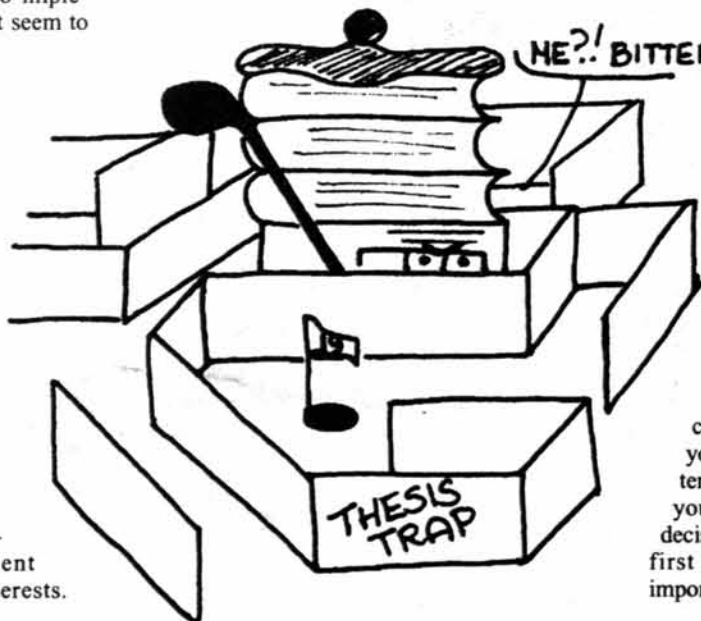
Concerns Eclipse MIT Card Benefits

April 11

This week, when a student paper called the security of the MIT Card "laughable," HFS decided that dormitories would no longer accept the card as collateral. House managers at East Campus and MacGregor House announced that they could not implement such a policy change without the consent of the house governments. As resident complaints poured in, HFS quickly reversed course; Director Lawrence E. Maguire issued an apology, and announced that the security problem had been adequately addressed. Exactly how, we are unsure.

Housing and Food Services should abandon their relentless advocacy of everything associated with the card, and adopt a more reasonable approach that includes a wider range of the MIT community. The Institute should also organize an independent process for evaluating and supervising the MIT Card. The card offers many novel improvements to campus services — but the devil is in the details.

While students have been involved in discussions of the issue of using MIT Cards as collateral, the overall planning of card policy has proceeded with essentially no public scrutiny, let alone discussion. Card readers keep turning up on buildings and dormitories without so much of a murmur of consultation. While a card policy committee is apparently in the offing, it may be too late to open up the issue to any real, critical discussion.



HE?! BITTER?!

Thank you, sir. May I have another?



Rush, Housing Plan Need Revising

September 8

Every undergraduate at MIT would agree that Residence and Orientation Week is hectic, nerve-wracking, and stressful for all involved. The pressure of rush is excessive and may adversely affect the choices made by incoming students. By increasing the flexibility of the housing system and eliminating discrepancies between dormitory rush and fraternity, sorority, and independent living group rush, MIT can correct some of rush's current defects.

First, MIT should consider expanding its dormitory system in order to gain flexibility. Second, MIT should begin any important decision-making process in consultation with the affected living groups.

Student Input Needed In Re-Engineering

September 19

The re-engineering of student services seems destined to become the most momentous project the MIT administration will undertake this year. We urge those who are in charge of the effort to remember to include student input at every stage of the process. Planning and decisions made on the basis of community consensus have a proven track record of success. Those based exclusively on administration wish-lists have generated conflict and discord. Recent years have provided ample evidence that the process of considering proposals by members of the MIT community, such as those of administrators, is often as important as the outcome. The inclusion of community groups must take the paramount role in reaching any outcome.

Up to this point, those responsible for student services re-engineering have professed an extreme willingness to include students at every turn. Focus groups seem to be the primary method of inclusion, apparently reflecting the desire to

Don't Spoil R/O Speaking Opportunity

May 2

Some unofficial publicity for the contest suggests that a "speaker who tactfully lets it be known that part of his/her good experience at MIT is from being in an FSILG could do wonders [for] rush." This attitude is inappropriate; any constraint on the choice of speaker is unacceptable.

The competition should be open and fair to all interested students, regardless of their current residence or FSILG affiliation. Public speaking is an important skill at which most MIT students hardly excel. The sort of competitive opportunity offered by the Killian Kick Off speech is a valuable way to encourage more students to take an interest in public speaking. Anyone with an interest in speaking should take the opportunity to apply — it's a rare privilege. We look forward to hearing a great speech in August.

UA Constitution Debacle Is New Low

May 9

By their own admission, council members waltzed into yesterday's meeting without having seen the text of the new constitution. Rarely has MIT witnessed so great an impropriety as the suspension of UA rules to replace an old constitution with a new document sight unseen. No matter how important the changes, there is time to make them according to the rules and with proper consideration. The constitution is the fundamental document of student government. To change it in such a reckless, injudicious, and immature manner is a disgrace that should not be allowed to happen.

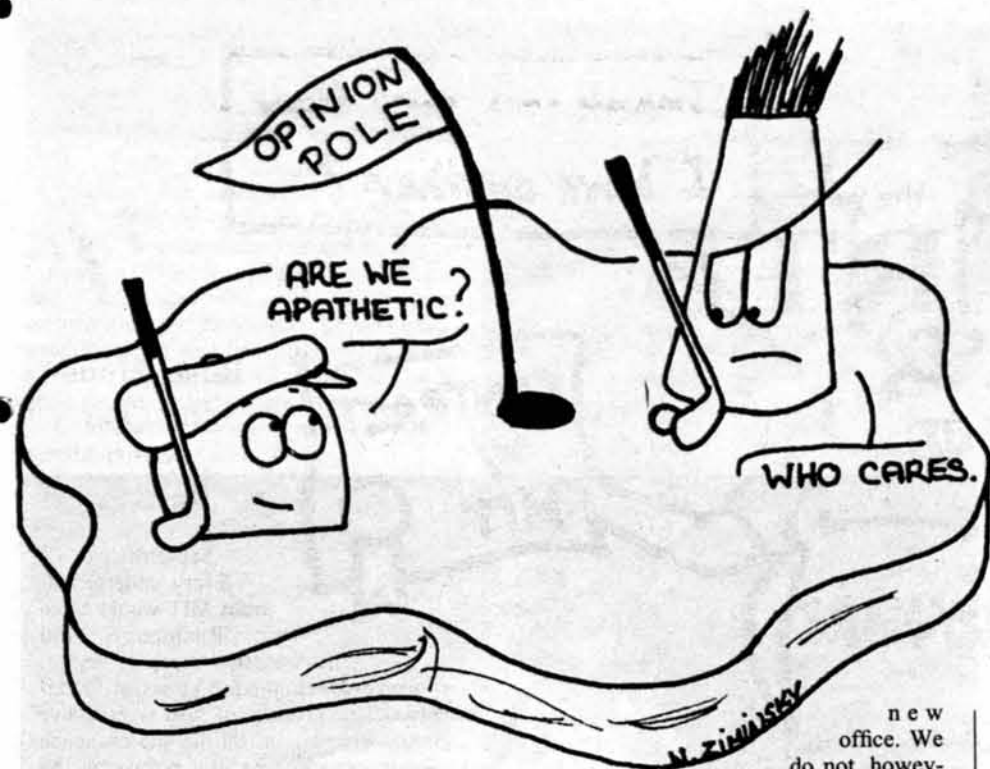
Welcome, Class of 1999

August 24

Congratulations and welcome, Class of 1999. While your hard work has indeed gotten you far, be proud not only of your admission but also of your decision to come to MIT to begin the first of what may well be the most important years of your life.



DEAN WILLIAMS



appear. The only way to improve the current level of intelligent discussion on issues of diversity and tolerance is through individual conscientiousness and personal responsibility.

Random Hall Deserves Institute's Attention

November 8

As long as Random Hall is one of MIT's dormitories, it should be held to the same standards of livability. If the dorm is to be closed, MIT needs to present a public plan as to how Random will be maintained until then, and where its residents will move when the change is made. The only reasonable solution now is for the housing officials to spend as much money as needed to complete repairs and maintain better living conditions. Until Random is closed as an dormitory, its residents deserve the same standards of livability as other dorm residents currently enjoy.

While some of Random Hall's problems have been taken care of, the over-all problem of making a plan to maintain Random until its closure has not been made public.

Glut of Deans Works Against Students

December 1

The appointment of Margaret R. Bates, who takes office today as Dean of Student Life, raises an important issue of administrative organization at MIT. The Institute has too many deans, and that this deanship is particularly unnecessary and untimely, considering that it comes in the middle of the re-engineering effort. The Office of the Dean of Undergraduate Education and Student Affairs has operated successfully for the past several years without a separate Dean for Student Life. Since Dean Bates will serve as a subordinate of Dean of UESA Rosalind H. Williams, it appears that the new position has merely added another layer between the student and the person most directly in charge of their affairs.

Cogliano Firing Must Not Stand

December 5

The decision by Aramark to fire Eddie Coglian, director of the MacGregor House

convenience store, demonstrates that Aramark has no interest in serving student needs, or cooperating with student leaders. Of all Aramark employees on the MIT campus, Coglian alone could be said to have a strong rapport with students. His firing shows that Aramark has no desire to preserve what little positive relationship it has with students. The termination of Eddie Coglian's employment is unacceptable. Either the Department of Housing and Food Services or the new Food Service Board should insist that the Aramark officials responsible be sanctioned accordingly. At the very least, Aramark General Manager Robert McBurney should either be fired or transferred out of Massachusetts. MIT needs to send Aramark a strong message that this sort of petty, uncooperative behavior will not be tolerated.

Aramark has made no effort (aside from continued market research) to redress the grievances held by students. Aramark remains a monopoly that is unaccountable to student opinion.

Campus Security Policy Needs Revision

December 8

Last weekend's shooting of a Northeastern University student outside Walker Memorial demonstrates yet again that campus security is a serious problem. The shooting took place at the heart of the MIT campus, in spite of the presence of metal detectors and Campus Police at the Alpha Phi Alpha party. The incident points to a need for the Institute to re-evaluate its security policies.



Illustrations by Anders Hove, Steven D. Leung of "Zork's Place" and Willy Ziminsky of "Rookies."

ROTC Action Appropriate Now

September 22

Next month, the administration working group on ROTC ends its unremarkable five-year tenure. The last half-decade has seen little action by the group and a similar lack of motion on changes in the program's anti-homosexual policy — "don't ask, don't tell" — violates the Institute's own non-discrimination policy as much as the old government rules did. The "working" group deserves special criticism for its failure to do much of anything. Surveys, meetings, policy endorsements, and advertisements hardly qualify as legitimate efforts to effect a policy change. All too often has the provost reported on the "little progress" of the group at annual faculty meetings.

Institute Must Consider All Food Options

October 17

The Department of Housing and Food Services has decided to extend Aramark's five-year food service contract one more year, primarily to review food service options, consider student input, and prepare to take bids. We endorse this strategy. Student input is indeed essential to the success of this process. Furthermore, during this year of discussion, MIT should attempt to resolve the many problems associated with the current food service monopoly by finding a reasonable alternative. There must be an alternative to the Aramark monopoly. The Student Center has room for a host of small food outlets, as does the floor of Walker Memorial. Instead of having one large corporation attempt to handle all of these facilities at once, there could be competition among a number of small, diverse vendors. MIT should consider offering a multiplicity of small concessions, without guaranteeing a profit. A system like this might mean more paperwork for administrators, but the potential benefits for students could be huge.

Bates Appointment Lacked Student Input

October 20

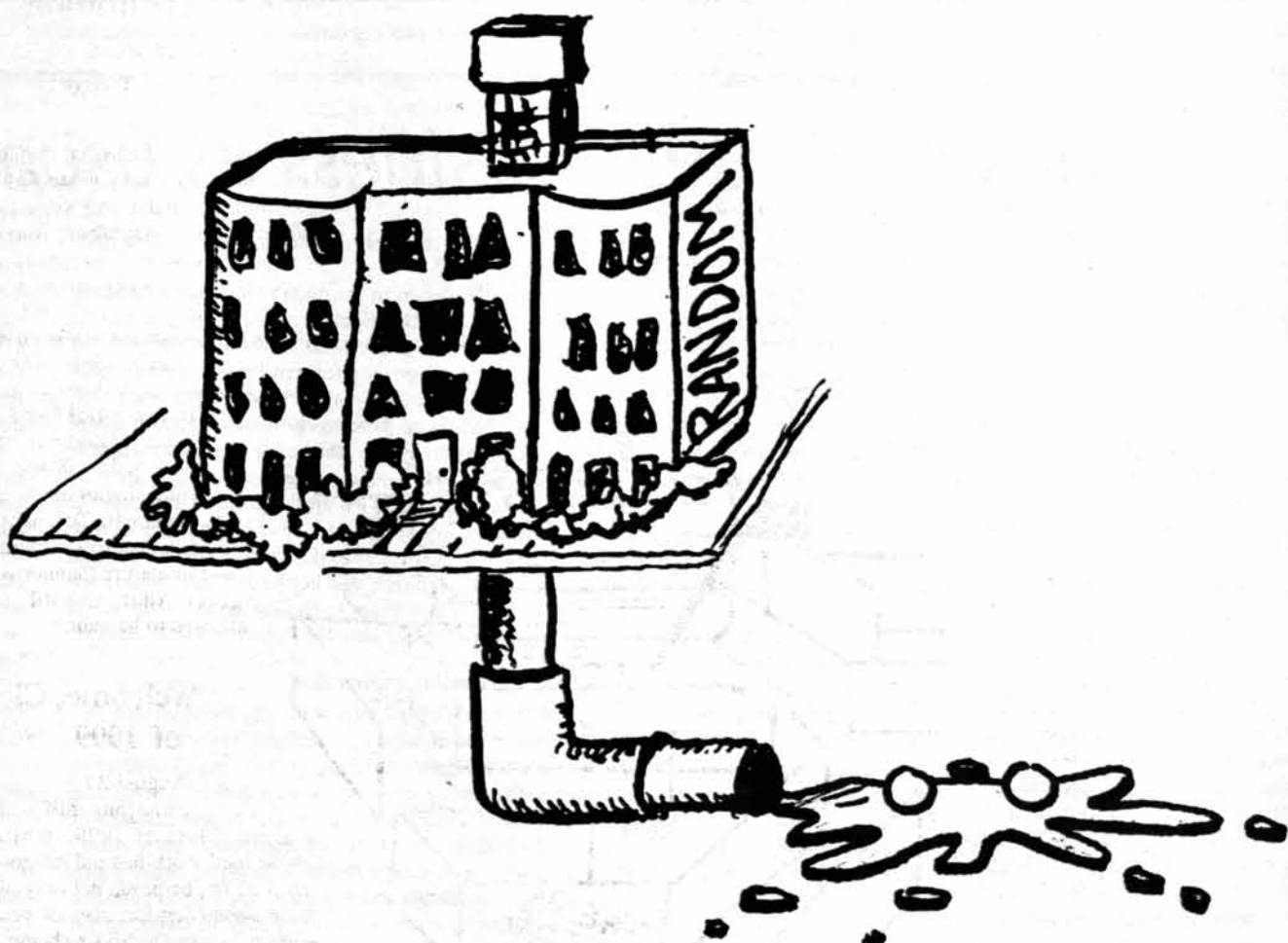
On Tuesday, Dean of Undergraduate Education and Student Affairs Rosalind H. Williams announced the appointment of Margaret R. Bates as the new dean of student life. We welcome Bates to MIT, having no doubt of her qualifications for filling the

new office. We do not, however, approve of the method of her appointment. Considering that this position is focused on student life, MIT's students should have been widely consulted about the appointment. They were not. The decision-making process in the appointment of Bates casts an unwelcome shadow on the start of a new office. The administration should act more responsibly if it wants students to believe it genuinely cares about their concerns. We hope that, in the future, the deans will make a strong commitment to consider student concerns from the beginning to the end of every such decision-making process.

Hate Speech Has No Place at MIT

October 27

Several recent events on campus have served to highlight the fact that the intellectual level of discourse at MIT on the important issues of diversity and tolerance remains at a painfully low level. The vandalism of several posters set up by Gays, Lesbians, Bisexuals, Transgenders, and Friends at MIT in celebration of National Coming out Week and the more recent misuse of Lobby 7 pillar comment sheets about women faculty at MIT and affirmative action paint an unacceptable picture of the level of both tolerance and discourse at MIT. The homophobic and sexist remarks written on the posters serve merely to inflame sensitive issues. Rather than adding to the discussion, they destroy it. We are fortunate that personal incidents of outright intolerance are relatively scarce on campus. But it is wrong to ignore the cumulative endemic effect of hurtful and intolerant comments, wherever they



IN ~~A~~ ARTS

the year

Campus arts are redefined by ambition and excellence

By Craig K. Chang

It has been a year of renewal and courage for campus arts. Many groups finally tore through the cobwebs of past mediocrity and revised the expectations of audiences for the better: A tradition suggesting students' heavy workloads hurt quality dissolved in sight of the past year's excellent performances.

The most improved groups of the year featured the collective strength of many students. A case in point was February's revitalized MIT Musical Theatre Guild. After several years of mediocre and occasionally awful musical theatre productions, the Guild hit the nail squarely on the head with their production of Stephen Sondheim's *Company*. Director Bob DeVivo inspired his cast to work as a closely-knit ensemble, a fact which was reflected in the show's impeccable cohesiveness.

Equally impressive in its transformation was the MIT Symphony Orchestra. It and the MIT Concert Choir joined forces in May to sing and play their hearts to admirable heights in a performance of Brahms' *German Requiem*. By the end of the show,

the performers seemed to have taken an exhilarating — and successful — journey. The MITSO also gained strength from recruiting a group of excellent new players in the fall. In October, their wonderful performance of Schubert's *Unfinished Symphony* attested the power of many students coming together to express their love of music.

Nowhere was the rallying for the arts more apparent than in the year's dance concerts. In September the MIT Capoeira Club declared its mission to inform others of Brazilian capoeira, a kaleidoscope of dance, music, and martial arts. With the Seventh Annual Capoeira Angola Encounter in Kresge Auditorium, the group also advertised free capoeira lessons during this year's Independent Activities Period. The MIT Dance Troupe also sought to woo dance lovers with its November *Definitions* concert. Since its revival in 1994, the troupe has not only tripled in size but has begun offering a large number of dance class and choreography workshops.

Risk and innovation breed success

The year's most memorable successes did not come from playing it safe; the best



The MIT Dramashop produced Shakespeare's *The Winter's Tale* in April.

events and programs of the year were also the most challenging. In March's *An Evening with Steve Reich*, students and faculty took the seeds of Steve Reich's experimental and minimal music and discovered a new world of expression.

A student performance of *Different Trains*, a multimedia piece splicing Reich's childhood train rides and the similar train

rides taken by Holocaust victims, entranced listeners with serendipitous evocations. The real music-making lay in a sort of faith, a dedication to simple musical kernels, sprouting and folding back upon themselves to make the performance rest in the audience's capacity for self-revelation.

Campus artists also reached out to forge new collaborations, both between disciplines and between ranks. One example has been the MIT Shakespeare Ensemble work with MIT Gamelan Galak Tika to choreograph and orchestrate a spring performance of *The Tempest*.

For its part, the MITSO frequently invited student soloists and composers to contribute. Talented musicians like Douglas R. Abrams '96 and Patti Lee '98 shared the spotlight with composer Jose Luis Elizondo '95 (whose brilliant *Estampas Mexicanas* deserves special mention) last fall. Along with two Boston University faculty members, MIT Professor Marcus A. Thompson and Senior Lecturer David Deveau began a new piano quartet, Sonos.

All told, the year's campus arts attest to the strength of MIT's commitment the arts. Continued hard work and innovation should spell an even stronger year for the arts in 1996.



TIFFANY LIN



RICH FLETCHER

Both the MIT Concert Choir and Symphony Orchestra shone in their two combined performances this year.

Music in 1995: Business as usual

By Scott C. Deskin

I have been ashamed of my music-listening habits this past year; maybe I have reason. Lately I've been fed up with the mass-market driven wave of duds on the radio. One particularly disturbing trend is the dominance of "breakthrough" artists or bands fated to become has-beens only a few years later. Today's modern rock and alternative music could follow the same abysmal fate as glam rock and metal in the mid-1980s: an embarrassing, best forgotten sign of the times.

Of course, since modern rock rules both radio and MTV, it's impossible to escape the nefarious music programmer's influence. As a result, the constant deluge and repetition of radio-ready hits has had a two-pronged effect: It hooks me with some songs while it drives me to the point of nausea with others. For example, I enjoyed the fuzzy and slightly sinister pop pleasures of Edwyn Collins' "A Girl Like You" but grew to loathe the sincerity of Live's "Lightning Crashes" and even newcomer Joan Osborne's "One of Us."

Artists like Osborne are not particularly offensive to me one way or another. In fact, the first time I heard "One of Us," it sounded all right. Now, about seven months and one MTV video later, I'm bored to tears after I hear the song's first strains. MOR bands, like Better than Ezra, Toad the Wet Sprocket, and the Gin Blossoms (not to mention the late 10,000 Maniacs and Natalie Merchant's solo career), specialize in the same melodies and languid vocals, in addition

to sharing the same non-threatening pose toward middle-class consumers.

Then there are groups in the prefab corporate alternative rock mode, like Collective Soul, that just get on my nerves. Whatever its merits as a live band, Collective Soul has yet to record anything compelling (except for the summer 1994 hit "Shine"). When the first single "Gel" stiffed, the "hits" that the band chalked up from its eponymous second album leaned toward sensitivity (i.e., the string quartet accompaniment for "The World I Know," another song I grew to know well from endless MTV airplay). Green Day, on the other hand, earns my sympathies for having taken a nose dive in popularity in 1995. Despite critical praise, *Insomniac* didn't sell much, due in part to "fans" who limited their Green Day purchases to *Dookie* because "the songs all sound the same." Gee, were the Ramones any different?

Exploiting the Beatles connection

The worst bands of last year were also the most popular, and the two I have in mind covered both ends of the listening public's emotional spectrum. Hootie and the Blowfish personified the nice-guy mentality with dull love songs and a boring, bellowing lead singer (Darius Rucker, not "Hootie"). Besides, the focus of their pop "revolution" includes golf, which seems reason enough to avoid them. Live, with all its pomp and bombast, isn't so threatening until you realize how single-handedly they've swept up the arena rock market now that Pearl Jam is on hiatus. I even read in a recent story in *The Boston Globe* how the four

lads from working-class families in York, Pennsylvania, approximate a latter-day group from Liverpool, England. God help us all.

But the Beatles references don't stop there. Most new bands this past year were eager to declare themselves rightful heirs to the Beatles legacy and milked the connection for all it was worth. Brit bands like Blur and Oasis (whose nasty public bickering far exceeds any of the rivalry between the Beatles and Rolling Stones in the 60s) tried to make "Beatleseques" comparisons in both their backgrounds and their songs. And Bush, whose "Glycerine" contains a reference to "strawberry fields," could turn into the Moody Blues if band members aren't careful.

Veteran artists had a mixed year. In the face of all the effrontery and posturing from new bands, older musicians often retreated to the comfy musical styles of yesteryear. And while it worked for Neil Young (who seems to have found a kinship with Pearl Jam), David Bowie's confused album *Outside* failed to reconcile a futuristic concept with some intense musical textures co-opted from tour buddy

Continues on page 28



Hanks and *Batman* dominate a mediocre year

By Rob Wagner

After a movie like *Forrest Gump* won the Oscar for Best Picture in 1994, one might have thought the movies were going to have a better year-gone-by. They didn't. Despite a few good flicks, on the whole 1995 was far from a banner year for the big screen, and with good reason: Pasty sequels and over-hyped flops marked a distinctly average twelve months of popcorn and soda.

As an indicator, a mediocre threequel like *Batman Forever* grossed more than any other film this year, although it offered nothing but cartoon action and bad acting. Despite his versatility, Val Kilmer just looked too young to be Batman.

In addition, the comeback performance of the year, that of television Batman Adam West in *Ride for Your Life*, was completely ignored. (Thankfully, so was the movie.) The success of *Batman Forever*, coupled with critics' ignoring West's passionate performance, not only serves to kick West in the face but also shows audiences' attention shift from the good old quality of West in the 60s TV series to the empty glitz of the new-and-improved body-armored caped crusader.

The year also saw the release of a new Ace Ventura film, *Ace Ventura: When Nature Calls*, comedian Jim Carrey's latest project. Of course, it wasn't as good as the first one, *Ace Ventura: Pet Detective*, but it's unreasonable to expect it to have been as fresh as 1994's unexpected smash hit. No matter how good the writing or the acting in *When Nature Calls*, it wasn't new, and therefore just wasn't as good.

There was much other undeserved praise this year. A highlight in many people's minds was *Apollo 13*, which some critics think will be Tom Hanks' third Oscar-winning performance. Quite honestly, I fell asleep in the middle of it.

Likely among the most talked about releases of 1995 was *Showgirls*. Though it did well at the box office, Elizabeth Berkley, formerly of the television show *Saved by the Bell*, offered nothing but overacting and a propensity to prance around naked.

Unbelievably bad

Like every year, a number of B-movies and just plain flops deserve mention. There was another Highlander movie, *Highlander: The Final Dimension*. From the love interest to the evil immortal with a name starting with K to the characteristic tongue flapping of the villain, it managed to follow the exact same plot as the first movie. Maybe producers wanted to make up for massacring of the story behind the immortals in the second film. Hopefully the rumored fourth Highlander movie will be a little different.

Top Dog marked the return of Chuck Norris (now also of *Walker, Texas Ranger*) to the big screen. Though he takes more kicks to take down the single-file line of enemies, he still looks tough.

The most noteworthy bomb of the year was *Fishtar*, which, while widely released as *Waterworld*, made very roughly only half of what it cost to make the film. If you really want to see the movie anyway, just go rent *The Road Warrior*.

Not to be outdone, though, was *Man of the House*, the latest Chevy Chase movie, which also starred *Home Improvement*'s Jonathan Taylor Thomas. Not even my sister



Julie, who is 11 and a huge fan of Thomas, could sit through it. Please let this be the last Chevy Chase film.

Congo, Michael Crichton's latest book-turned-movie, was more unexpectedly a let-down. Unfaithful to the book, the film was a hugely boring disappointment, as were other films that attempted to be exciting about something world-threatening. *Outbreak* and *Species* used two oscar-winning actors in Dustin Hoffman and Ben Kingsley to try to draw viewers. They should have saved the money for hiring a good writer instead.

Circle of Friends used an Irish setting to try to win praise and attract viewers. This film was pitifully cliché and very predictable, even to a semi-conscious two-year old. It offered nothing to its audience. Other films of the same type, like *French Kiss* or *While You Were Sleeping*, tried to offer "unlikely" love stories, but proved like all films in their genre to be unfailingly emetic.

As far as radio-personality-to-movie-star-fame wannabes go, Howard Stern spent the year still preparing for his big movie release, hoping to reaffirm his position as King of All Media. Many viewers actually eagerly awaited this film. The OJ trial missed the theaters and went right into video, disappointing the many fans who looked forward to seeing it on the big screen. What a shame.

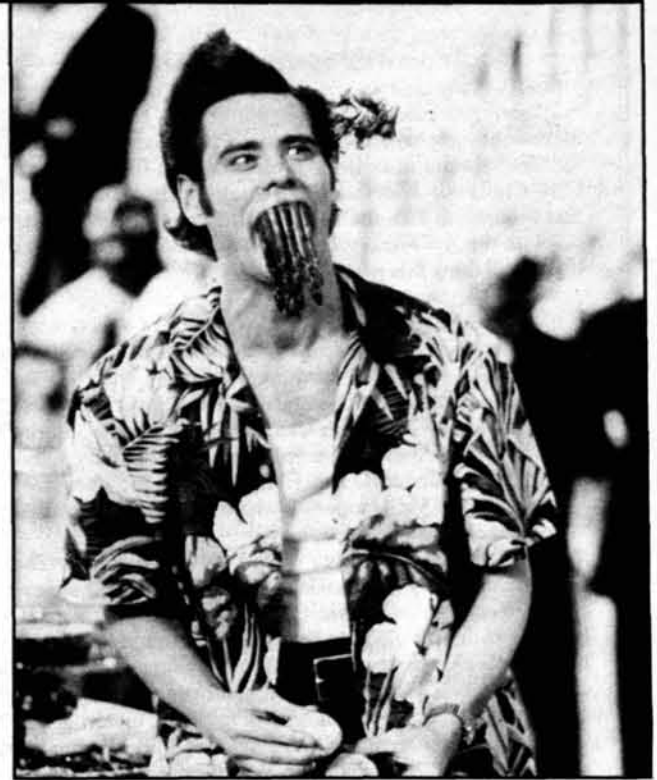
Perhaps more so than in recent years, *Star Wars* mania took hold again in 1995. From the Sci-Fi Channel marathons to Kenner action figures returning to toy store shelves, the hype seemed to be building up to something; too bad there's still no sign of a new movie soon.

Somewhat better

This year did have a few good points, though. James Bond returned to the big screen in *Goldeneye*, with erstwhile *Remington Steele* Pierce Brosnan as the new British super agent. Bruce Willis was back again, and balder than ever, in the latest *Die Hard* movie, *Die Hard With a Vengeance*. This time, he teamed up with Samuel L. Jackson to fight yet another powerful bad guy, who seemed to have everything all planned out.

In *Virtuosity*, we got to see Denzel Washington do battle with a virtual Russell Crowe, the Australian star of such films as *Romper Stomper* and *Proof*, and with Gene

Lascivious *Showgirl* trash-dancer Elizabeth Berkley, sanity-impaired detective Jim Carrey in *Ace Ventura 2*, and space-ace Tom "Oscar" Hanks in *Apollo 13* contributed to the Hollywood blahs this year.



Hackman in *Crimson Tide*. In the latter film they nominally fought over control of a submarine, but really fell in love. Aww.

Braveheart saw Mel Gibson as yet another character with a distinct facial feature; this time, his face was blue. *Seven* was a truly dark, suspenseful murder story with a unique ending.

Desperado was also mightily impressive with its sound quality and visual flash, and featured Antonio Banderas jumping off a building backwards shooting his enemies. Unfortunately, it ignored much of what happened in *El Mariachi*, to which *Desperado* professed to be a sequel.

Toy Story, Disney's latest film, sucked us into a world of toys; and though we had to sit through Robin Williams, we got to see rhinos running through walls in *Jumanji*. Some films were a bit amusing, like the *Brady Bunch Movie* and *Tommy Boy*; others, like *Shallow Grave*, had me laughing out loud.

Roll out the Kevorkian machine

But despite these few good points, nothing

was very spectacular in 1995, and nothing was very memorable. It was just a year filled to the rim with lackluster performances. In fact, I had to go through a year of reviews just to remember what movies actually played this year.

True, there was a late rush of well-received movies sneaking in at the end of December for 1995 Oscar nominations. But these films hardly contribute to 1995 when they are released nationwide in 1996.

Films like *Dead Man Walking*, *Leaving Las Vegas*, and *Twelve Monkeys* may get Golden Globe or Oscar nominations, but they don't really belong to 1995.

In a sense, then, the year's films were like the past 12 Super Bowls: No matter how much you hoped the AFC would surprise everyone, you knew the NFC was going to win. And despite all the pre-game hype, in the end the game was invariably a letdown.

By Rob Wagner

What happened to television this year? With the continuing rise of cable TV, the appearance of more national networks, and the increased syndication of many big name shows, the status of the three major networks has diminished. Moreover, programming decisions made by the big three have been questionable at best, a record that also weakened their power.

I watched enough TV to notice a few trends over the past year, almost all of them bad. From daytime talk shows to sitcoms to drama, 1995 saw some of the weakest television known to man, and conventional wisdom says there's probably worse to come.

The most noticeable trend was that daytime talk show trash kept growing. Such hosts as *Tempestt* (*The Cosby Show*) and *Carnie* (the middle one in Wilson Phillips videos) were among the more familiar new faces. Even Andy Richter, sidekick to Conan

-Syndicated, network TV suffer mostly bad trends

O'Brien, had his own daytime talk show called *Andi*.

New faces like Jerry Springer and Charles Perez sought to out-exploit traditional masters like Jenny Jones and Ricki Lake, appealing more to emotion, starting cat-fights between people whose heads move from side to side a lot, and relying even less on attention span than the standards. And the talk was no longer just man-bashing: To quote an authority, it was an "endless parade of human debris." But maybe it always was.

I pity the fool, gimme a show

Another trend was that former stars of any sort somehow managed to get their own

shows. "Must Flee TV" dominated the ratings for NBC despite the foul-stench additions of *Single Guy* and *Caroline in the City*. The first stars Jonathan Silverman, whose face may be familiar from *Gimme a Break* and *Weekend Update*, while *Caroline* stars Lea Thompson, who we may remember from *Back to the Future*. It is questionable what NBC executives were thinking when they gave these two never-beens their own shows. Maybe it was a joke to see what excrement they could stagger between *Friends*, *Seinfeld*, and *ER*, NBC's powerful ratings-getters.

The Joey Lawrence brothers also got their own show on NBC. Apparently, they thought we were disappointed when

Blossom was cancelled. NBC also created *In the House*, with LL Cool J, to follow the *Fresh Prince of Bel Air*. When his "Mama Said Knock You Out," he put you to sleep with a bad show. And the list went on. On ABC, Marie Osmond and Betty White then teamed up in *Maybe This Time*; maybe next time. On CBS, Andrew (formerly known as Dice) Clay was back with a new, cleaner act in *Bless this House*; given the show's merits, he needs the blessing.

The Warner Brothers can't claim innocence in this area, either. They released *Simon*, starring Jason Bateman, (*Silver Spoons*, *Hogan Family*, and *Teen Wolf, Too*) and Harland Williams, who had that memorable beer-bottle scene in *Dumb and Dumber*. And then there was Kirk. What happens when you mix former 80s child-star Kirk Cameron with 90s TV? As it's been for most of these new offerings, the result here was unspeakably bad.

Continues on next page

Few bright spots over TV's drab landscape

Continued from previous page

Stand-up comedians also got into the act. Network executives thought what worked for Bill Cosby and Jerry Seinfeld should also work for comedians like Margaret Cho. Cho's *All-American Girl* barely made it through its first episode. In fact, the ABC Saturday night lineup started out with the *Jeff Foxworthy Show*. You might be a redneck if you still think this guy is funny.

Completely worthless

In other areas of TV, Urkel was still at it, making ABC's TGIF Friday lineup worse than ever. There should be some Menudo-type age standard for this guy. Then there was *Boy Meets World*, with teen idol Rider "on the" Storm. Boy, meet fist. After a stale episode of *Step by Step* came *Hangin' with Mr. Cooper*. Hanging with the corpse of *Sesame Street*'s Mr. Hooper — who died over 10 years ago — might be better.

CBS made a TV series out of John Grisham's *The Client*. Could they have picked a worse idea for a series? Maybe *Weeknight at Bernie's*. No wonder CBS occasionally came in fourth place in the network ratings. CBS also has *Due South*, a series about a Mountie with a dog in a big city. The World Wrestling Federation once tried using the concept of a Mountie; it didn't work for them, either.

Other than that, there were several bad syndicated shows flooding the prime-time airwaves. *Kung Fu: The Legend Continues* is miraculously still on. More mystical than action-packed or spiritual, *Kung Fu* offers nothing. The extremely laughable *Hercules*, and *Xena: Warrior Princess* also still appear weekly. I have to wonder if they are intentionally that bad.

The two youngest networks, Warner Brothers and United Paramount Networks, also had busy years. The WB put together a lineup of a few shows for two nights a week and Saturday morning. Led by such awful shows as *Sister, Sister* and the *Wayan Brothers*, the WB has not scored a winning show the way Fox did with *Married...with Children*.

UPN was led by the disappointing *Star Trek: Voyager*, whose scripting did not meet Federation standards. Captain Janeway really has to go — maybe Commander Chakotay

should kill her. Ironically, though, nothing else on the network was worth watching except for *Nowhere Man*, which, admittedly, was actually pretty good. But it has been hard to keep any interest in UPN after it cancelled *Platypus Man* and *Pigsty*.

Some good spots

There were, however some good points to TV this year. On NBC, Norm MacDonald led the all-new cast of *Saturday Night Live*. His consistently hilarious "Fake News" is now the centerpiece of a new developing cast. Though the cast had good impressions, such as Bob Dole by Norm MacDonald, and Bill Clinton and Jesse Jackson by other cast members, they still seemed to have the fault of repeating sketches to death. How many times can one tolerate "Leg Up" or those already tiresome cheerleaders? It's time for more "Get Off the Shed"-type sketches.

On NBC, Conan O'Brien got better still. Hampered by the standard late-night talk show format, Conan rarely got any guests worth watching. He should work more on the sketches, and rely less on guests, who don't add much to the show anyway.

In the action genre, the syndicated *Highlander: The Series* continued to be the best show on the air. Producers really have to decide what to do with this show soon, though, since Adrian Paul (who plays the immortal Duncan MacLeod) and Stan Kirsh (who plays the immortal Ritchie Ryan) aren't getting any younger.

For his part, Chuck Norris continued his kicking ways on CBS' *Walker, Texas Ranger*. In syndication, *Star Trek: Deep Space Nine* had potential with its continued use of the Dominion as a constant threat to the Federation; *DS9* was indeed better this year than in years past.

Sometimes the best shows were no shows. Thankfully, audiences can look to a new year with no Luke Perry or new *Saved by the Bell* episodes (except maybe a reunion episode where the gang goes to see Jessie strip). And viewers can thankfully do without more OJ trial, at least until his civil court hearing.

Cartoons have a freaky Saturday

The WB Saturday morning scored some cartoon winners. Among them was *Freakazoid*, easily the best new car-

toon on the air. Once defeating an enemy with seven hours of Tony Danza (who, by the way, also had a new show last year in which he plays — surprise! — a character named Tony from Brooklyn), the Animaniacs-esque superhero gained his powers by being zapped into cyberspace by his personal computer. With great writing, and the Monty Python-like *Lord Bravery*, a cartoon about a superhero named Lord Bravery, *Freakazoid* was and still is definitely hilarious.

Also on WB, *Earthworm Jim* was a great new cartoon. Jim is an average earthworm until a supersuit falls on him from out of the sky. The suit gives him access to limbs and the ability to use his trusty blaster, with which he has destroyed black holes. He refers to his dream Princess as his "cornucopia of lust," and he has foiled his foes armed only with "chilled dairy treats of righteousness."

The spread of the Sci-Fi Channel and the Cartoon Network also spelled relief for an otherwise drab year. Where else could you get your fill of *Planet of the Apes* or *Josie and the Pussycats*? The Cartoon Network's new take-off of *Space Ghost* was unbelievably hilarious. Space Ghost is a superhero turned late-night talk show host, with his evil giant praying mantis sidekick musician named Zorak. Mixed up animation and hilarious dialogue with great live guests really kept the show moving.

Save your brain cells

But all in all, the year was disappointing, even for ratings hits like *Friends*. There's just something about that show — an indescribable hatred of the nihilism in their lives and in my life for watching them — that's really irksome, and just adds to the suspicion that NBC could be playing a joke on its audience. After all, who's the bigger fool — the one who makes a show about nothing, or the one who watches it?

Yes, there were some bright spots this year, *Highlander*, the action-packed *ER*, and *Star Trek: Deep Space Nine* chief among them. Still, 1995 was a loo-hoo-ser. Despite the highlights, the year gone by had an awful lot of mind-numbing television. With last year's line-ups still more or less in place, there's also not much hope for the year to come. Maybe it's time to take up reading.

Best of pop music in 1995 is also most adventurous

Continued from page 26

Trent Reznor. As for Michael Jackson and his album *HIStory*, probably the less that's said, the better. As far as 90s' arena rock progenitors, the only active ones are Pearl Jam (sort of), R.E.M., and the Red Hot Chili Peppers. Is this all the music industry has to offer?

The "best-of" list below is far from comprehensive, but reflects the best of what I heard in 1995. I'm purposefully leaving out albums like Alanis Morissette's *Jagged Little Pill* — I'm still not sure how far her anathemic rage will take her, cf. "You Oughta Know" — and the Red Hot Chili Peppers' *One Hot Minute*, whose songs sound fine on the radio, but still haven't tempted me to buy anything.

Elastica, *Elastica*

This Brit-pop foursome infuses the unrestrained sounds of punk, and the result is catchy and addictive. No deep meaning here: just straight-ahead, no-frills pop songs. The two hit singles from the album, "Connection" and "Stutter," last not much more than two minutes each, and both are brimming with life and humor. "Hold Me Now" rides on a jaunty vocal rhythm and "Car Song" rides on its vocal harmonies, proving that the band can sing as well as play. And a song like "Never Here," whose more serious take on unrequited love stands out against the succinct playfulness of the other songs, shows the band is deeper and poppier than most of their alternative counterparts. Elastica is easily the most enjoyable British export this year. Let's hope the follow-up is just as fun.

Tricky, *Maxinquaye*

This instantly beguiling album features dance and hip-

hop master Tricky, clearly one of the most innovative producer-musicians since Prince or Dr. Dre. Listening to the work he did on Massive Attack's *Protection*, I could tell there was something more to the music than strange tempos and vocals that seem to sink into the mix (as typified on a cover of the Doors' "Light My Fire"). With *Maxinquaye*, that feeling is articulated with a dark apocalyptic vision with synthesizers and guitars filtered through a lyrical web of love and anguish. "Overcome," (which features a sample from Massive Attack's "Karmacoma") and a cover of Public Enemy's "Black Steel" are hypnotic, appealing, and frightening — often all at the same time.

Prince (Artist Formerly Known as), *The Gold Experience*

If you haven't been turned off by his media antics (which, by the way, are nothing compared to Michael Jackson's multi-million-dollar downward slide), the latest album by the former Prince Rogers Nelson is easily his most compelling since the *Batman* soundtrack or *Sign O' the Times*. Not content to rest on his laurels, the chameleon-like musician put together a band and steps up to lead guitar (of course). Songs like "Pussy Control" and "Endorphinmachine" are both funny and serious at the same time — especially the former, which recounts the benefits of female empowerment (too bad it won't get any airplay). "We March," co-written by and featuring the lilting vocals of Nona Gaye (daughter of Marvin), is fine, danceable pop; "The Most Beautiful Girl in the World" is not the deepest, most meaningful track, but it does feature Prince at his most accessible and romantic level. The song cycle on *The Gold Experience* is similar to that of *Purple Rain*, but it shows that the man

has grown wiser; the aspiring mid-80s pop messiah has now become more confident — an elder statesman of pop-funk.

Foo Fighters, *Foo Fighters*

Dave Grohl is just a regular guy — a regular guy who happened to be the drummer in the band Nirvana until lead singer-songwriter Kurt Cobain fell prey to his own manic depression. Grohl wisely kept busy in the studio; perhaps as a cathartic measure, he played and recorded his own songs in the studio for the nascent debut album of his new band, the Foo Fighters. After seeing the band live in L.A., I believe Grohl is committed as much to the fans as he is to the music. Such songs as "I'll Stick Around" and "This is a Call" (with the now-famous couplet "Fingernails are pretty / fingernails are good") are loud, vibrant wake-up calls to the music business that Dave Grohl and company are here to stay. And "Big Me" shows a healthy pop-melodic development that's not merely a imitation of Grohl's previous band.

Matthew Sweet, *100% Fun*

100% Fun is a highly enjoyable exercise in the musical sub-genre known as "power pop." With Sweet's multi-tracked harmonies and a clean, crisp guitar, the hooks of "Girlfriend" won me over in short order. Sweet playfully acknowledges his influences on *100% Fun*, and the finished product nearly lives up to the title. Singles like "Sick of Myself" and "We're the Same" show the artist in control and having fun exploring relationships, even with lyrics like "I get sick of myself when I look at at you." Together with producer Brendan O'Brien (Pearl Jam, Stone Temple Pilots), Matthew Sweet has revitalized his career with this small victory in 90s pop music.

PJ Harvey, *To Bring You My Love*

By now, Harvey is a full-fledged member of the alternative scene, standing on the brink

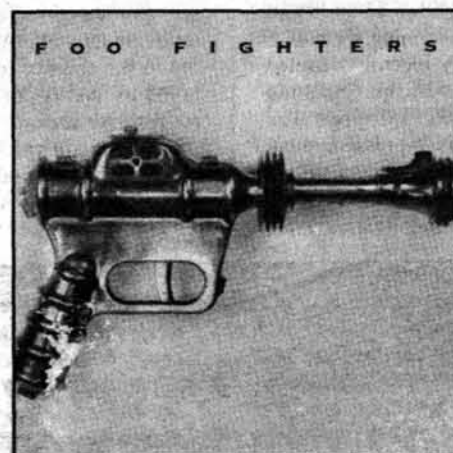
of the mainstream (as evidenced by her recent tour with Live, you can't buck the system entirely). But it seems a bit early for her to swear off relationships in a purely sexual vein. However, that may give her a bit more perspective when dealing with pained young love experienced by the characters of her songs, served well by the appropriated blues

medium. Lyrically, *To Bring You My Love* is steeped with sex — pretty familiar territory for Harvey — and the moaning, snarling textures of songs like "Down By the Water" and the title track suggest and eerie fascination with depression and sexual longing. But although she may be as up front about the subject as Liz Phair, her feelings are more ambiguous. *To*

Bring You My Love is a worthy redefinition of pop-blues neoclassicism.

Smashing Pumpkins, *Mellon Collie and the Infinite Sadness*

There is no one sound or style that Billy Corgan and his band ride through the recording. That comes at the cost of a distinctive sound (cf. The Beatles' "White Album") but brings with it the gain of variation that a double CD set has to have to retain the listener's attention. The variety of *Mellon Collie and the Infinite Sadness* is indeed impressive. When a song is heavy, it carries the pull of gravity; when it is soft, its breathing can be made out; when it is pretty it is irresistibly cute. The whisper of "Take Me Down" drops into the brutal attack of "Where Boys Fear to Tread" and then eases into the simplicity of a lullaby; the aggressive and slightly weird single "Bullet with Butterfly Wings" is neatly balanced by the album's true centerpiece, the poignant and elegiac "1979." *Mellon Collie* shows a great range of sounds and styles, with moments that are punkier, poppier, and rockier than anything from the previous Smashing Pumpkins releases, *Gish* and *Siamese Dream*. *Sadness* is surely imperfect, but the care and ambition throughout the recording is enough to maintain interest over a two-hour recording — an impressive feat.



MIT sports — an exercise in teamwork, virtue

MVP = Most Valuable Player
FYLW = Four-Year Letter Winner
 The name in parentheses is the author of the corresponding summary.

Baseball

Record: 7-22
Captain: Jay Grabeklis '95, Rob Lepard '95
MVP: Andy Katz '97
FYLW: Grabeklis, Ed Kohler '95, Lepard

Men's Basketball

Record: 10-14
Captain: Nikki Caruthers '95
MVP: Caruthers, Keith Whalen '96
FYLW: Caruthers, Joe Levesque '95, Randy Hyun '95, Terry Rivers '95
 Hopes were high for the '94-'95 squad, with all five starters returning from a 7-17 team the previous year. Unfortunately, not all the high hopes were fulfilled, but the team still managed the most victories (10) in over 5 years.

Keith Whalen led the team in scoring and rebounding for the third consecutive season and also recorded his 1,000th point midway through the season — a remarkable feat for a junior. Joining Whalen in the 1,000 point club was Joe Levesque, a four-year starter. Fellow seniors Randy Hyun and Nikki Caruthers finished their careers with over 900 points each. With junior Tim Porter out for almost the entire season with a broken wrist, freshman Melvin Pullen stepped right in, started every game, and averaged 10 ppg.

1995 was the end of an era for MIT basketball as Leo Osgood retired after 9 years at the helm of the Engineers. Osgood continues to serve MIT, only now on the other side of Massachusetts Avenue as director of the Office of Minority Education. Taking over for Coach Osgood is first year head coach Larry Anderson, who came to MIT from Rust College in Holly Springs, Miss. MIT basketball expects a bright future under the leadership of Coach Anderson.

Women's Basketball

Record: 10-12
Captain: Kristin Ratliff '95
MVP: C.J. Doane '95
FYLW: Ratliff

The Lady Engineers are in the middle of one of the finest seasons in MIT Women's Basketball history ('95-'96). They began their schedule strong by winning their own Tip-off Tournament. They recently traveled to Florida to participate in the Sunshine Shoot-out at Warner Southern College. The Lady Engineers put on an impressive show and came home with the third place plaque.

Only losing two seniors from last year's team, and gaining four strong freshmen this

year, the Lady Engineers look forward to a strong season in the New Eight Conference. (Amy Mackay)

Men's Heavyweight Crew

Record: 7-4
Captain: Nate Crosswhite '95, Jeff Tomasi '95
MVP: Franz Busse '95
FYLW: Crosswhite, Tomasi

Both the Varsity and Freshmen Crews displayed tremendous talent during both the Spring and Fall seasons. In the fall, the Varsity finished 14th Nationally in Division I competition beating the Div II champion Georgetown.

This fall, a club four medalled at the Head of the Charles while members of last year's champion club eight raced in the championship fours race. In the lesser known Foot of the Charles, the varsity four finished sixth. (Adam Cotner)

Men's Lightweight Crew

Record: 0-8
Captain: Brett Bader '95
MVP: Jason Yip '95
FYLW: Brett Bader '95

The Lightweight team had a good season last year and this fall at the Head of the Charles Regatta. Last year's racing was capped off by a strong showing in the petite finals of the Eastern Sprints (the winner of which normally goes on to win the National Championship). The First Eight came in 3rd in the petite's beating out a tough crew from the University of Pennsylvania and avenging an earlier loss to Rutgers University. We are looking forward to a good winter training and another good spring season. (Irving Birmingham)

Women's Crew

Record: 10-4
Captain: Andrea Jensen '95
MVP: Sherry Hsiung '95
FYLW: Hsiung, Jensen

Men's Cross Country

Record: 5-0
Captain: Ethan Crain '96
MVP: Crain
FYLW: Crain

The team ran to a perfect 5-0 in regular season competition and won all entered invitationals as well. After ranking as high as 5th in the country for Division III, the team failed to qualify for nationals out of a very competitive region.

Once again the Harriers won the CAC Championship, making it five years in a row. Crain was the individual champion, and was named to the All-Conference team as

was Josh Feldman '97. Mike Parkins earned Freshman of the year for the conference.

For the second consecutive year the team earned Team Academic All-America Honors. (Coach Halston Taylor)

Women's Cross Country

Record: 1-1
Captain: Ann Marie McAninch '96
MVP: Eve Phillips '99

The Engineers performed well against fierce competition, finishing 11th in the NCAA Division III New England Regional Championship. Although they placed second in the NEW-8 Conference championship, MIT had more runners on the All-Conference Team than any other school. The three women who earned this distinction — Janis Eisenberg '98, Eve Phillips '99, and Lauren Klatsky '97 — were also named to the All New England Division III team.

Following in her teammate's footsteps, freshman Phillips had a strong first season for the Engineers. As Eisenberg had achieved in 1994, Phillips was named both NEW-8 Runner of the Year and NEW-8 Rookie of the Year for finishing first in the conference championship meet.

Coach Joe Sousa was voted NEW-8 Coach of the Year. (Lauren Klatsky)

Men's Fencing

Record: 5-8
Captain: Keith Lichten '95
MVP: Lichten
FYLW: John Rodriguez '95

In his first year as head coach of the varsity fencing teams, Jarek Koniusz coached a fencer to the best collegiate finish any MIT fencer has ever had. At the same time, captain and MVP Keith Lichten '95 also achieved something no MIT athlete, in any sport, has ever done: a silver medal at the NCAA Division I National Championships. This was the pinnacle to an amazing season for the men's varsity fencing team and just the beginning to what the varsity fencing teams will achieve under Koniusz's direction.

In the Northeast Fencing Conference, the men finished 3rd place overall, with a 2nd place finish in both sabre and foil, and 3rd place in epee. Individually, based on their season records within the conference, Will Tran '95 finished 3rd in sabre, followed by his teammate Josh Trauner '97 in 5th. John Rodriguez '95 finished 5th in foil and Lichten achieved 5th in epee.

At the New England championships, Lichten successfully defended his title as the individual epee champion. Tran finished 3rd in sabre and David Nauman '97 placed 6th in foil. The team finished 2nd place overall, losing by only a single bout to Brown. In the IFAs, freshman Jonathan Blandford '98 had an impressive performance against some of the top teams in the nation and placed 9th, with Lichten finishing 5th.

The men's team also qualified four individuals to the NCAA Regionals. Rodriguez was 20th in foil, Dave Lewinnek '97 was 23rd in epee, Lichten qualified for the national championships in epee, and Tran placed 13th in sabre, just missing a spot at nationals. After having such a great season, the men's team is looking forward to having an even more successful year in 1995-96. (Jennifer Mosier)

Women's Fencing

Record: 9-10
Captain: Wanda Chin '97
MVP: Merideth Rising '98

The 1994-1995 season showed much improvement for this young team, with most of the varsity members having less than two years' experience in the sport. Under the direction of head coach Jarek Koniusz, and assistant coaches Blanca Medina (foil) and Rob Hupp (epee), the lady blades have become a very competitive team in NCAA Division I tournaments. This improvement is largely due to the dedication of the excellent coaching staff.

In the Northeast Fencing Conference, comprised of Boston College, Brown, UNH, UMass-Amherst, Wellesley, Brandeis, Tufts, and Dartmouth, the women placed 5th overall and 3rd in epee. The team was led by MVP Merideth Rising '98, who finished the season with an

impressive conference record of 33-3 in epee. The team also performed well at the New England Championships, finishing 2nd in both foil and epee, as well as 2nd overall. Individually, Christina Eng '98 finished 5th in foil, and Jennifer Mosier '96 placed 7th in epee. At the NIWIFAS, Rising placed 2nd, losing a close, hard-fought bout against a Princeton fencer. The foil squad had an excellent showing, placing 4th and the epee squad finished 5th.

This was the first season that women's epee added to official NCAA competition. The women's team qualified three individuals in epee, in addition to the epee squad, to NCAA Division I Regionals. Rising finished 19th, Mosier 15th, and Nicky Leifer's '98 12th place finish made her the first alternate to the national competition. The epee squad finished in a tie for 3rd place with Wellesley College. With no members of either squad graduating, this team is looking forward to an even more impressive season in 1995-96. (Jennifer Mosier)

Field Hockey

Record: 13-3
Captain: Patty Hahn '96, Wendla Silverberg '96
MVP: Katherine Merrilees '97

Continues on next page

CONVOCATION AWARDS

The following awards were presented at the Institute Awards Convocation on May 15, 1995.

The **Pewter Bowl Award** is presented annually to a female senior who has shown the highest qualities of inspiration and leadership in intercollegiate athletics. The winner is Preen S. Dhalla '95 — volleyball.

The **Admiral Edward L. Cochrane Award** is presented annually to a male senior who has shown the highest qualities of humility, leadership, and inspiration in intercollegiate athletics. The winner is Andrew P. Phelps '95 — football, wrestling, and lacrosse.

The **Betsy Schumacker Award** is presented annually for excellence in athletic competition by a female undergraduate. The winner is Sheila C. Rocchio '97 — gymnastics.

The **Howard W. Johnson Award** is presented annually to the male senior athlete of the year. The winner is Ethan A. Crain '95 — cross country, track and field.

The **Malcolm G. Kispert Awards** are presented annually to the male and female scholar-athletes of the year. The winners are Agnieszka Reiss '95 — cross country, track and field/electrical science and engineering — and Jesse C. Darley '95 — cross country, track and field/biomechanical engineering.

The **Harold J. Pettegrove Award** is presented annually in recognition of outstanding service to intramural athletics. The winner is Reginald D. Bellande '95.

DEPARTMENT OF ATHLETICS AWARDS

The following awards are presented annually by the Department of Athletics in conjunction with the Varsity Club and the MIT Alumni Association.

The **Varsity Club Awards** are presented annually to the outstanding male and female freshmen athletes of the year. The winners are Janis H. Eisenberg '98 — cross country, track and field — and Michael T. Butville '98 — football, indoor track and field, lacrosse.

The **Burton R. Anderson Award** is presented to the outstanding intercollegiate manager of the year. The winner is Henning Colsman-Freyberger '96 — fencing.



The field hockey team defeated Elms College 7-0 in October en route to a 13-3 record for the season.

NATIONAL AWARD WINNERS

SCHOLAR-ATHLETE AWARDS

Jesse C. Darley '95
U.S. Track Coaches Association All-Academic Team; GTE CoSIDA At-Large Academic All-America Cross Country/Track & Field, second team

Christopher J. Ellefson '95
U.S. Gymnastics Association

Corey J. Foster '95
GTE CoSIDA Football, first team

Kevin Ferrigno '96
GTE CoSIDA Academic All-America Football, second team

Benjamin Hellweg '97
National Division III Wrestling Coaches Association

Owen D. Johnson '96
U.S. Gymnastics Association

Scott E. Lazerwith '95
U.S. Gymnastics Association

Keith Lichten '95
GTE CoSIDA At-Large Academic All-America Fencing, second team

Cynthia L. Mowery '95
Cross Country Coaches Association Academic All-America

Aaron P. Reichl '96
National Division III Wrestling Coaches Association

Agnieszka Reiss '95
Cross Country Coaches Association Academic All-America

Drew A. Rideout '95
National Division III Wrestling Coaches Association

Scott Vollrath '96
GTE CoSIDA Academic All-America Football, first team

John L. Wallberg '96
U.S. Track Coaches Association All-Academic Team

TEAM ACADEMIC AWARDS

Men's Cross Country
Cross Country Coaches Association Academic All-America Team Award

Women's Cross Country
Cross Country Coaches Association Academic All-America Team Award

Indoor Track and Field
U.S. Track Coaches Association All-Academic Team Award

NCAA-POSTGRADUATE SCHOLARSHIP AWARD

Corey J. Foster '95 (Football)

RHODES SCHOLAR

Toby Ayer '96 (Heavyweight Crew)

MARSHALL SCHOLAR

Jeffrey Tomasi '95 (Heavyweight Crew)

ALL-AMERICA HONOREES

Theodore A. Achtem '95
NCAA Division III Honorable Mention, 400-Meter Individual Medley

Ethan A. Crain '95
NCAA Division III Cross Country, Indoor Track and Field, and Outdoor Track and Field

Keith H. Lichten '95
NCAA Division I Fencing (Epee)

N. Katherine Merrilees '97
College Field Hockey Coaches Association third team

Sheila C. Rocchio '97
National Collegiate Gymnastics Association Division III in All Around, Balance Beam, Floor Exercise, and Vault

John L. Wallberg '96
NCAA Division III Indoor Track and Field in Weight Throw, Outdoor Track and Field in Hammer Throw

Continued from previous page

FYLW: Hahn, Silverberg, Ann Torres '96

The MIT Field Hockey team had its best season ever this year, posting a 12-1 regular season record and entering the post season as the number one team in the New England Women's Eight Conference. The highlight of the season was the decisive victory over the previously top-ranked Wellesley College team. After being upset by 4th place Clark University in the NEW-8 semifinals, MIT qualified for the ECAC regional post season tournament. Here, the team's season ended in a hard-fought loss to Amherst College.

The team was lead by seniors Patricia Hahn, Wendla Silverberg, and Ann Torres. Katherine Merrilees '97 skillfully distributed the ball from center defense, and the team voted her MVP for the second year in a row. Merrilees was also selected for the NEW-8 All-Conference team. Rookie of the Year Connie Sadowski '99 made an outstanding contribution to the team despite her limited experience. Margaret Tsai '99 and Stephanie Maifert '98 led the team in scoring with their aggression and quickness in the offensive circle. A strong performance, including seven shutouts, was turned in by goal keeper Laura Walker '97, who was among the top goal keepers in the conference.

This young team looks to improve upon the accomplishments of this season under the leadership of coach Cheryl Silva and next year's Captain, Merrilees and Walker. (Wendla K Silverberg)

Football

Record: 3-5

Captain: Chris Brown '96, Jose DeLeon '97, Kevin Ferrigno '96, Chris Yanney '97

MVP: DeLeon

FYLW: Brown, Ferrigno, Tom Jacobs '96, Scott Vollrath '96

Golf

Record: Spring 11-4, Fall 7-1

Captain: Thomas Kawamoto '96

MVP: Kawamoto

FYLW: Phil Trakadis '95

The golf team earned an 11-4 match record during the spring, ensuring a 23rd consecutive winning season. It all started in California during the golf team's annual spring trip. The week of practice culminated in a match victory against Caltech. Behind the consistent scoring of veterans Tom Kawamoto '96, Brian Schuler '96, and Phil Tracadas '95, several first-year players emerged to give the team added depth in the lineup. Olivier Burlaud '98, Morten Hoegh '98, Jay Grayson '97, and Young Kim '98 all improved their skills and made valuable contributions to the team. Scott McDavid '97 returned to the team and also provided some sub-80's scoring. The season ended with MIT recapturing the Engineer's Cup at New Seabury, with Brian Schuler winning the individual medal.

The outlook for the fall season was not so good. Tracadas graduated, McDavid transferred and Burlaud injured his hand in a freak accident. Fortunately two newcomers, Jay Grabeklis '96 and Sean Carpenter '96, were able to help pick up the slack. Their solid play gave the team a well-needed "shot in the arm." Kawamoto and Schuler continued to be the backbone of the team, while Kim and Grayson both stepped up their play and were able to survive tournament pressure. Morten Hoegh proved that he was the master of Crystal Springs and Brian-Kevitt '97 made some strong contributions in the matches. The team went on to win seven out of eight matches, the only loss being a one-stroke defeat to Boston University. Kawamoto won individual medalist honors at the CAC Tournament at Sterling. (Tom Kawamoto)

Men's Gymnastics

Record: 5-6

Captain: Chris Ellefson '95, Scott Lazerwith '95

MVP: Ellefson

FYLWs: Art Shechtman '95, Ellefson, Lazerwith

1995 was the MIT men's gymnastics team's strongest season yet. Although the NCAA rules changed to a "four-man" scoring system this year, the team continued to pursue new heights under both the old and new systems, setting team records twice in each. With strong performances in dual meets and the New England and ECAC championships, the team was invited for the second year in a row to compete in the USA National Championships in Denton, Texas, where they finished sixth. Individually, the team also put in several impressive showings. Rob Cooper '97 set a new MIT all-

around record posting a score of 48.35 in a meet against the University of Vermont. Sophomore Van C. Van also excelled by setting four personal best scores at the National Championships. Cooper and Ellefson brought the team to new heights by breaking the 9.0 score mark on several events throughout the season. (Andrew Lobban)

Women's Gymnastics

Record:

Captain: Janet Solod '96

MVP Sheila Rocchio '97

Ice Hockey

Record: 8-6-4

Captain: John Simmons '95, Rob Souza '95

MVP: Simmons

FYLWs: Simmons, Lloyd Johnston G, Souza

The 1994-95 men's hockey team had a successful campaign this past season. Led by the offensive talents of Jonathan Shingles '96, Tetsu Inada '97, and Matthew Yurkewych '98 the team advanced to the league semifinals. Defensively the team was led by Lloyd Johnston G, and Steven Schleuter '96, as well as goaltender and captain John Simmons '95. The team played well throughout the season, producing solid efforts both in the league tournament as well as in the Crabpot at the U.S.N.A. (Jon Shingles)

Men's Lacrosse

Record: 10-2

Captain: Joe Prim '95

MVP: Michael Kwon '95, Abraham Udobot '95

FYLWs: Chris Berg '95, Kwon, Prim, Andy Phelps '95, Udobot

Women's Lacrosse

Record: 10-3

Captain: Jen Chank '95, Carla Oshiro '95, Anne Torres '96

MVP: Torres

FYLW: Chank, Catherine Mangion '95, Oshiro, Meera Saini '95

Pistol

Record: Air Pistol 2-7 Standard Pistol 2-7 Free Pistol 3-6

Captain: Ben Leong '97 and Alice Wang '97

MVP: John Novak '96

The MIT Varsity Pistol team has had a good season for 1994-95. We had four major matches against other schools this year, including the U.S. Military Academy, the Coast Guard Academy, the Air Force Academy, the Merchant Marine Academy, and the Citadel.

Most of our losses were to the U.S. Military Academy and the Coast Guard Academy. On the whole we had done quite well, because these schools are probably among the strongest teams at the collegiate level.

This year, we had five returning shooters: Ben Leong '97, John Novak '96, Jason Zhu '97, Seth Webster '97, and Alice Wang '97; we qualified for all three open events, placing 8th, 4th, and 6th nationally respectively in Free Pistol, Standard Pistol, and Air Pistol at the Sectionals. At the Nationals, we came in 6th, 6th, and 5th respectively, and were 5th overall, losing only to the U.S. Naval Academy, the U.S. Military Academy, the U.S. Coast Guard Academy, and Sam Houston State University.

This year we had four individual qualifiers: Ben Leong '97 and Robert Ristroph '96 in Free Pistol; Novak and Steve Shaw G in Standard Pistol. At National's, Leong placed 7th in Free Pistol, Novak placed 13th, and Shaw placed 24th in Standard pistol.

In the women's events, our lady shooters in Air Pistol and Sport Pistol placed 4th nationally at the Sectionals to qualify for the individual qual-

ifiers in the women's events — Lina Chen '97 in Women's Air Pistol and Jane Sohn '98 in Women's Sport Pistol. At the Nationals, Sohn placed 9th and Chen placed 13th in their respective events. (Ben Leong)

Rifle

Record: 29-19 overall: 16-13 (smallbore) and 13-9 (air rifle)

Captain: Josh Bennett '96

MVP: Arthur Merritt '95

FYLW: Merritt

The varsity rifle team showed solid performance throughout the 1995 season. Outstanding performances from Arthur Merritt '95, Tom Schady '97, and Chris Sartor '96 allowed the team to finish 1995 with an impressive national ranking of 17th in the expert division.

One of the highlights of 1995 was the school record-breaking performance of Merritt, who shot an air rifle score of 585 (out of a possible 600). (Josh Bennett)

Men's Sailing

Record:

Captain: Dan Nestor '96

MVP: Doug DeCouto '97

Women's Sailing

Record:

Captain: Danielle Ames '96

MVP: Ames

FYLW: Elaine Heal '95

Men's Skiing

Record: 11-60

Captain: Ari Gerstle '96, Christian Lund '96

MVP: Lund

Women's Skiing

Record: 1-15

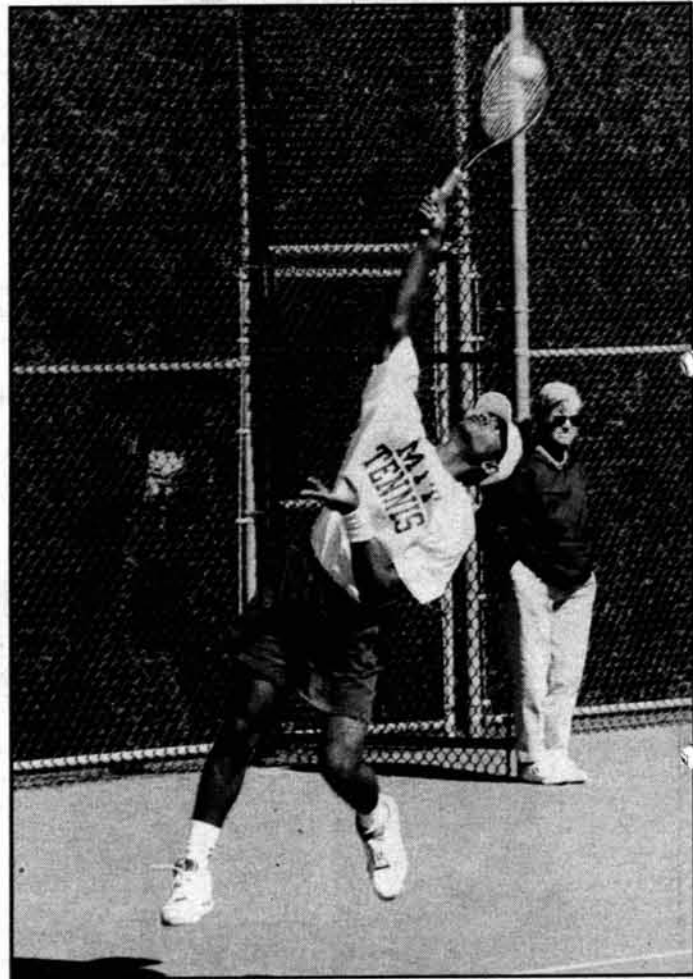
Captain: Gwen Crevensten '96

MVP: Josephine Harada '95

FYLW: Harada

During January and February of 1995, the men's and women's ski teams battled not only stiff competition from more northerly schools such as the University of Vermont and Dartmouth College, but also a highly uncooperative Mother Nature. Nevertheless, both MIT Alpine and Nordic skiers scored some impressive results, with Alpine skier Josephine Harada '95 and Nordic skier Christian Lund '96 earning team Most Valuable Player honors.

The Alpine squads kicked off the 1996 collegiate season Jan. 20, 1996, at Berkshire East ski area in western Massachusetts. In pre-season individual races in New Hampshire, men's co-captain Ari Gerstle '96 set the pace with excellent finishes in the Cannon Mountain giant slalom and the Pats Peak slalom. Alpine Coach Jonathan Shefftz anticipates strong performances from co-captain Geoff Johnson '97 to lead the men's team and Brooke Baker '99 to lead the women's team.



Sri N. Kosaraju '99 serves in the Rolex Division III Intercollegiate Tennis Championship last October.

Men's Soccer

Record: 10-7-1
Captain: John Love '97, Sam Pearlman '96, Joe Wenesch '96
MVP: Andres Villaquiran '96
FYLW: Pearlman, Wenesch

Women's Soccer

Record: 8-6-1
Captain: Emily Brown '96, Amy MacKay '97
MVP: Brown
FYLW: Brown

Softball

Record: 5-11
Captain: Rama Chirovolu '95
MVP: Naomi Stone '96
 The 1995 season proved tough for the varsity softball team. Plagued by an inconsistent lineup and lack of experience, the Engineers could only produce an overall season record of 5-11 (four wins were with in the New-8 Conference). Offensively, the team hit .262 overall with Naomi Stone '96 leading the squad with a .421 average (.605 SLG AVG) on her way to an MVP season.

However, having lost only one player to graduation, the team hopes to rebuild under the direction of new head coach Cherry Bennett, assistant coach Joe Quinn, and Stone as captain. (Naomi Stone)

Squash

Record:
Captain: Yves Kissenpfennig '95
MVP: Downer
FYLW: Kissenpfennig

The MIT JV Squash Team has had a relatively successful 95-96 winter season thus far. Composed mostly of inexperienced players, these MIT athletes rely on their hard work and enthusiasm for the sport in order to make progress. Although their first two matches have resulted in losing efforts, they have gained valuable match play experiences.

The team is performing at a higher level than last year's team, and they have already started working hard under Head Coach Mark Johnson in preparation for the coming matches. Says Johnson, "I'm amazed by the progress this group has made. Be prepared for some surprises in our upcoming matches." (Carol Matsuzaki)

Men's Swimming

Record: 3-4
Captain: Ted Achtem '95, Brian Dye '96, Sherrif Ibrahim '96
MVP: Achtem
FYLWs: Achtem, Stephen Chan '95

Women's Swimming

Record: 2-6
Captain: Alexi Farel '96, Holly Goo '95, Clara Yang '95
MVP: Goo
FYLWs: Miranda Fan '95, Goo, Yang
 The 1994-1995 season was very successful for both men's and women's swimming. The two teams sent many swimmers to the NCAA Division III New England Championships. Jennifer Gruzca '98 had several impressive swims and won the 1995 Charlie Batterman Award
 Captain Ted Achtem '95 qualified for

and swam in the NCAA Division III Nationals. He, along with captain Holly Goo '95, were the 1995 MVP.

Despite the loss of key senior swimmers, the 1995-96 swim teams are very strong. Both the men's and women's teams welcomed several highly talented freshmen. Coach John Benedict and Assistant Coach Karen Pfautz expect the teams to be very competitive this season. (Written by captains Brian Dye, Ben Soule, Joe Kurtz, Lexie Farel, Deidre Larrier, and Hilary Price)

Men's Tennis

Record: Spring 4-8, Fall 2-3
Captain: Jason Weintraub '97
MVP: Weintraub

With the previous year's graduation of over half of the starting lineup, the varsity tennis team was forced to field a relatively young team, consisting mostly of sophmores, for the 1994-95 season. Despite this setback, MIT still managed to reach the finals of the CAC tournament, as well as come up with impressive victories over division rivals Babson, Clark, and Brandeis.

With the incorporation of several strong freshmen into the lineup for the 1995 fall season, MIT went 3-1 against Division III opponents as well as put up several strong performances in the 1995 Rolex Tournament. First singles Sri Kosaraju '99 reached the semifinals before falling to the player from Williams who would go on to win the tournament. (Jason Weintraub)

Women's Tennis

Record: Spring 1-4, Fall 4-4
Captain: Carol Matsuzaki '96
MVP: Matsuzaki
FYLW: Matsuzaki

The MIT Women's Varsity Tennis Team had quite an exciting 1995 fall season, experiencing both the thrill of victory and the agony of defeat. They finished their NEW-8 league play with a record of 4-3, including two heartbreaking 5-4 losses to Wheaton College and Smith College. Sarah Kringer '97 was given the well earned honor of a NEW-8 All-Conference selection at fifth singles. MIT participated in two tournaments this fall, the Rolex Regionals and the New England Intercollegiate Tournament. Although the MIT players did not fare well in the main draw of the Rolex, they did do well in the consolation draw. Nora Humphrey '98 was a finalist in the singles portion, while the doubles duo of Humphrey/Carol Matsuzaki '96 was the champion of the doubles draw.

The Engineers did very well at the New England's, finishing an all time high of 5th place out of about 30 schools. In the doubles flights, 1st doubles Humphrey/Matsuzaki and 3rd doubles Kringer/Angela Mislowsky '99 both made it to the Elite Eight, but were denied any further advancement. Second, third, and fourth singles players Mislowsky, Lily Koo '97, and Humphrey all made it to the quarterfinals of their respective flights, while first singles player Matsuzaki made it to the semifinals.

Head Coach Katie McNamara along with assistant coach Jeannie Yoo G are eager to start the 1996 Spring Season. Coach McNamara is optimistic for the team's outlook: "Although the breaks didn't go our way in New-8 Conference play this fall, I believe the team's performance at the New England's was a sign of better things to come this spring!" (Carol Matsuzaki)

Men's Track and Field, Indoor

Record: 11-1
Captain: Ethan Crain '95, Colin Page '95, Andy Ugarov '95
MVP: Crain
FYLWs: Crain, Ugarov

The team remained undefeated for the entire season until the finals meet, a four-way competition that included nemesis Williams College. The Ephs were the only ones who could stand in the way of the Engineers capturing the Quad Cup title, and managed to do so.

Ethan Crain '95, Jesse Darley '95, and John Wallberg '96 qualified for the NCAA Division III Indoor National Championships in the 1,500-meter, 5,000-meter, and 35lb Weight Throw respectively. Crain led the



Running back Jose Deleon '97 broke two rushing records in the game against Nichols College last October.

way with a 2nd place finish, Wallberg followed with a 4th place finish, and both earned All-America Honors. These performances led MIT to a 10th place finish at nationals.

The Trackmen were able to put together a fantastic New England Division III Championship at home to finish third in the very competitive division. Crain led the way with two individual championships and the Most Valuable Runner Award. Andy Ugarov '95 also won an individual championship. Two new Varsity Records were set, one by Crain in the 1,000-meter with a time of 2:27.14 and the other by Darley in the 5,000-meter with a time of 14:48.47. (Halston Taylor)

Men's Track and Field, Outdoor

Record: 5-0
Captain: Ethan Crain '95, Colin Page '95, and Andy Ugarov '95
Most Valuable Player: Ethan Crain '95
FYLWs: Jesse Darley '95, Page, Ugarov

The undefeated season was the first since 1989. The team was very balanced in the runs, jumps and throws, overwhelming the opposition with quality and quantity.

In the New England Division III Championships, MIT finished 3rd with a superb performance. Winning individual Championships for the team were Ethan Crain '95 in the 1,500-meter, Matt Sandholm '97 in the 100-meter, Andy Ugarov '95 in the Triple Jump, and John Wallberg '97 in the Hammer Throw.

Qualifying for the NCAA Division III Championships were Crain in both the 1,500-meter and 3,000-meter Steeplechase, Sandholm in the 200-meter, and Wallberg in the Hammer Throw. Wallberg led the way with a 3rd place finish, throwing 183' 05". Ethan could not defend his national title, but did place 5th with a 3:59.48 time in horrendous conditions.

The team was represented well at the Institute Convocation Awards. Crain won the Outstanding Athlete of the year and Darley won the Scholar-Athlete Award. (Halston Taylor)

Women's Track and Field

Record: 1-5
Captain: Agnieska Reiss '95
MVP: Kristin Ratliff '95, Janice Eisenberg '98
FYLW: Ratliff

Men's Volleyball

Record: 1-16
Captain: David Lehman '97
MVP: Lehman, Mike Margetts '97

Women's Volleyball

Record: 19-13
Captain: Kamilah Alexander '96, Allison Furuya '96, Anne Heibel '96
MVP: Alexander
FYLW: Alexander

The MIT Women's Volleyball team had a challenging season this fall. Though the team graduated key players, their roles were filled by many promising young players. The leadership of Captain Anne Heibel '96, Alison Furuya '96, and Kamilah Alexander '96

helped to overcome some of the difficulties of a transitioning team. With a 19-13 match record overall and a 6-3 league record, the team finished eighth in the region and third in the New England Women's Eight Conference. Junior setter Stacey Dozono led the conference with 902 assists, gaining a spot on the all-conference team. Alexander won NEW-8 player of the year as well as all-New England honors, leading the team with 427 kills. Alexander was also named to the GTE CoSIDA Academic All-America Second Team. The team looks to return to higher ranks in the region next season with the return of many potential all-stars.

Men's Water Polo

Record: 6-15
Captain: Ben Soule '96, Evan Wies '96
MVP: Brian Fitch '96
FYLW: Wies

After graduating its three leading scorers and top defenders last year, MIT water polo faced a rebuilding year in 1995. Despite its youth and a plague of injuries, MIT overcame these obstacles and finished third in the Eastern Division III Championships and seventh in the Eastern Water Polo Association North Division Playoffs.

Senior All-American Evan Wies left the goal this year to make his debut in the field. The goalkeeping responsibilities were all in the hands of senior Brian Fitch, who earned all-tournament honors at the Eastern Division III Championships. Junior Matt Lau lead the offense at the two-meter position, with sophomore Zac Lee and freshman Ryan Adams filling double-duty as drivers and hole sets. Head coach John Benedick was assisted by old and new faces: Jeff Ma '94, a previous MIT Water Polo captain, and Vlad Kroutik, once a Ukranian national team player. (Evan Wies)

Women's Water Polo

Record: 6-6
Captain: Cheryl Klepser G, Maroula Bratakos G.
MVP: Bratakos

The Women's Water Polo Team had a strong and challenging season. An influx of new players increased the level of play during the season, and MIT played well against opponents like Harvard, and dominated teams like Wellesly throughout the season. Despite the intense playing, after four tournaments, MIT lost at Harvard and was unable to continue to the Regional Championships.

The team lost only one starter to graduation, and will enter the 1996 season with high hopes of qualifying for the regional championship.

Wrestling

Record: 12-6
Captain: Chandler Harben '95, Drew Rideout '95
MVP: Mark Graham '95
FYLW: Harben, Andy Phelps '95, Rideout

Compiled by Thomas Kettler SM '94, Andrew Maywah, Jennifer Mosier '96, and Eva Moy G.

STRAIGHT "T" AWARDS

The Individual Straight "T" is the highest award given for athletic performance at MIT. There were no Team Straight "T" Awards this year.

Kamilah Alexander '96, Volleyball
 Ethan A. Crain '95, Cross Country
 Indoor Track/Outdoor Track
 Jesse C. Darley '95, Cross Country
 Preen S. Dhalla '95, Volleyball
 Andrew A. Downer '96, Squash
 Stacey Y. Dozono '95, Volleyball
 Janis H. Eisenberg '98, Cross Country
 Marc M. Graham '95, Wrestling
 Rebecca J. Hill '95, Soccer
 Keith H. Lichten '95, Fencing
 N. Katherine Merrilees '97, Field Hockey
 Sheila C. Rocchio '97, Gymnastics
 John L. Wallberg '96, Indoor Track/Outdoor Track

INS the year SPORTS

A Personal Look at Four of MIT's Athletes

Keith Lichten '95

At the 1995 NCAA Division I National Championships, Keith Lichten '95 achieved what no other MIT athlete in any sport has ever done: He brought home a silver medal.

Lichten, now a graduate student in environmental planning at UC Berkeley, started fencing at about age six with his mother, who had fenced in college. Keith began to fence seriously in junior high school along with his twin brother, Rob.

Lichten transferred to MIT after a year at Harvard, and began to train under coach Jarek Koniusz, who is also a member of the Polish National team. Lichten attributes much of his success to Koniusz. "Jarek ... not only understood what I needed to do as a fencer, but understood the best way to get me there based on who I was."

Competition with his brother, a student at Northwestern, also prompted his success. "I didn't want to have to tell him [that I] lost to some fencer Northwestern had crushed last week," Lichten said.

Lichten was captain of the MIT team last year, and was also twice nominated for the Cointe Sportsmanship Award at the IFA championships by his peers at other schools.

"Keith was an excellent captain who was able to effectively be a bridge between the team and the coaches," Koniusz said. "His efforts in practices and competitions were an excellent example for the rest of the team. He was always helpful and instructive, not only in fencing, but in team spirit and attitude."

Despite the emphasis on academics and the long fencing season at MIT, "If anything, fencing helped me out academically," Lichten said.

"I had to organize what I was doing so that my work would get done outside of fencing," Lichten said. "More than that, success in fencing tended to carry over into academics."

Sports are also a good way to de-stress since although "a lot of the competition in the academic environment spills over into practice, the team is also a place for fencers to get a respite from MIT's pressure."

Lichten recalls one incident where he stayed awake for 72 hours studying before going to the Junior Olympics. Ultimately it was worth the effort; Lichten not only finished his work, but took second place at the tournament as well.

While MIT cannot recruit strong fencers with athletic scholarships, coach Koniusz's experience helps make MIT competitive with the best collegiate fencing teams, Lichten said. The team is proud of the strength of its schedule, which boasts competition against strong fencing schools such as Notre Dame, Stanford, Columbia, and Penn State.

Fencing can be difficult to watch because it is not as understandable or dramatic as other sports. "Here's an elegant and athletic sport that requires great endurance and flexibility, and that relies on the fencer on the strip to be able to discover the weaknesses in his opponent's game, and to defend his own," Lichten said. "It requires both a physical and a strong mental game, and a certain subtlety."

"There is little that has given me greater frustration or pleasure than this sport," Lichten said. "The opportunity at MIT to be coached by Jarek Koniusz is one I never expected, and one which I never knew how much I appreciated until after I graduated. Fencing is a lifelong sport, and I expect to follow it about that far with a little luck."

— Written by Jennifer Mosier



Keith Lichten '95

Oak Park, Ill.

Sport: Fencing. Team captain '94-'95, MVP '94-'95

Major: Civil and Environmental Engineering

Awards: All-IFA 1st Team: '93, '95; NE College Championships 1st place, '94, '95; Junior Olympics 2nd place, '93; Div. II U.S. Nat'l's 3rd place, '93, '94; NCAA Div. I Nat'l's 2nd place, '95; NCAA Div. I 1st Team All-American, '95; GTE/CoSIDA Academic All-American, 3rd team/at large, '95; MIT Straight T award, '95; NCAA Postgraduate Scholarship, '95.

Carol Matsuzaki '96

Los Angeles, Calif.

Sports: Women's Tennis and Squash. Team captain; MVP (tennis)

Major: Biology and Literature

Awards: (tennis) NEW-8 Player of the Year; Team Nat'l's '93; (squash) Individual Nat'l's, '95.



Katherine Merrilees '97

Toronto, Canada

Sports: Field Hockey and Lacrosse. Rookie of the Year, '93; MVP '94, '95;

Major: Electrical Engineering and Computer Science

Awards: (field hockey) NEW-8 All-Conference Team, '93, '94, '95; NEW-8 Athlete of the Year '94; All-American 3rd team Nat'l's '94.



Sheila Rocchio '97

Sherborn, Mass.

Sport: Gymnastics. Freshman Athlete of the Year; MVP '94, '95

Major: Management

Awards: '93-'94: ECAC Beam Champion; MIT Beam Record; Two All Americans; Div. III Nat'l's 5th place All Around; Div. III Nat'l's 6th place Bars; '94-'95: MIT record for Floor, Vault, and All Around Record; Four Div. III Nat'l's All Americans; Div. III Nat'l's All Around, 2nd place Vault, 5th place Beam, 3rd place Floor; MIT Betsy Shumacker Outstanding Female Athlete Award; Massachusetts Association Intercollegiate Women's Athletics Award.



Carol Matsuzaki '96

Senior Carol Matsuzaki began her tennis career four years ago in a physical education class. She now plays both first singles and first doubles on the women's tennis team, and she is also co-captain of the team.

Although Matsuzaki didn't get much time on the courts her first year, she was proud to be on the team. The team did really well, winning the NEW-8 championship and competing at National's for the first time.

Matsuzaki was a starter in her junior year, playing third doubles and first singles. She and her doubles partner almost made it to the NCAA championships that year.

Last year, Matsuzaki played first singles and first doubles on the MIT team. She also advanced to the semifinals of the New England tournament, and she was ranked 12th in the East.

"I'm mostly a serve-and-volley" player, Matsuzaki said, describing her attack style. "I've tried to be more of an all-court player this year ... [but] I like to go to the net [and] rely on my serve to set myself up for the next ball."

Matsuzaki attributes her success to the support of her coach and teammates. "It's important to me what kind of person the coach is," she said. Coach Candy Royer "taught a lot of technical skills, but the thing that stood out was her teaching us mental attitude to know you're going to do well."

In addition, "It's fun to play with people who have fun playing rather than worrying about the lineup," Matsuzaki said.

Royer also teaches and coaches squash, so Matsuzaki took the squash class and tried out for the team as well. Matsuzaki plays squash much differently than she plays tennis. "You have to have so much patience in squash. I don't think it has as much variance as tennis.... It's a game of mistakes."

In general, Matsuzaki is happy with sports at MIT. The Institute "doesn't give scholarships so it's mostly based on whether or not you want to play.... There's less pressure here." Despite practices as early as 7 a.m., Matsuzaki feels that "it gives my schedule more structure. It helps me get up

to do the things I need to do."

Matsuzaki is proud of how her accomplishments at MIT. Her proudest moments are "going to National's and doing well with my doubles partner my junior year."

— Written by Thomas Kettler

Katherine Merrilees '97

For two-time MVP Katherine Merrilees '97, being part of MIT's varsity field hockey team is more than just practicing for two hours every day. "The reason I play it is because it's fun," Merrilees said. The most rewarding part is the teamwork, "when it clicks with the people around you."

Merrilees played soccer in high school, but wanted to participate in a fall sport. Choosing field hockey, she made the Toronto provincial field hockey team, which competes 10 months out of the year. Merrilees was also on Canada's National Training Squad. With her national-level training before coming to MIT, Merrilees has been invaluable to the field hockey team.

From her position of center defense, Merrilees can see everything around her on the field and tell people how the play is going. But this year, with a strong offensive line, Merrilees hasn't had as many opportunities to score as in the past.

The field hockey season goes from September to November, and midterms always fall during the most busy time of the season. Many players go to practice straight from class or work. It's a lot to expect somebody to mentally switch in five minutes, "really being there and getting the most out of it," Merrilees said.

Merrilees was considering other schools where field hockey was more competitive, but decided on MIT. "I had very low expectations when I came here, but I've been very surprised," she said. "Nobody here is just smart."

Playing a sport or participating in any activity also keeps a person sane, Merrilees said. "If I've had a bad day in class, there's still field hockey" practice afterwards, she said. This feeling influenced her decision to continue playing lacrosse in the spring.

"The coaches here are understanding," Merrilees said. They are willing to work around a lot, which is "one of the greatest strengths of the program."

Like most of MIT's sports events, it's hard to get spectators. Field hockey is a slow game, and scores are often in the single digits, Merrilees said.

The players really appreciate when they do have a cheering section, but usually only friends of the players show up. Sometimes, athletes from different sports try to attend each others' meets.

It's hard to notice when there are few spectators, but sometimes the team has a Next House fan club, Merrilees said. She recalls a game where there were over 100 spectators. It makes a lot of difference when people cheer for you, she said. "It was just fabulous."

— Written by Eva Moy

Sheila Rocchio '97

Sheila Rocchio '97 started gymnastics when she was four years old and has excelled in the sport since. When she went to college, it was something that she wasn't willing to give up.

"My parents thought all little girls should do ballet," Rocchio said. Her three older sisters started with ballet, but later switched to gymnastics. When Sheila was growing up, it was just the thing to do.

Rocchio was hesitant to come to MIT because she wanted to attend a Division I school. But it would be hard at an Ivy League school to compete against other Division I schools that attracted top athletes with scholarships. At MIT, a Division III school, it would be easier for her to make National's in both individual and team competition.

Gymnastics at MIT was very different than club competition during high school. "Gymnastics was such an enormous part of my life," Rocchio said. But "especially in club gymnastics, you're very wary" of teammates. At MIT, the gymnasts compete more as a team than individuals.

"There are other gymnasts on the [MIT] team that had done it forever," Rocchio said. "I felt a little more experienced ... [but] was impressed with the people who were new."

Although the season runs from December through March, practices start in early September. "It's a sport that needs a lot of maintenance," Rocchio said. It takes a lot of commitment to participate in a sports team, for both the gymnasts and the coaches, and practices runs about two-and-a-half hours every evening during the semester.

The coaches "understand that you're at MIT," Rocchio said. They don't get mad, but it's frustrating when students miss practice for academic reasons, she added. The coaches give a lot of their time to make sports at MIT succeed, in addition to their full-time jobs and families. "They only do it because they like gymnastics."

Although it is generally assumed that sports are secondary to academics at MIT, Rocchio, like many other athletes, is frustrated by "the feeling around school that sports ... is something that detracts from academics."

With only 12 people on the women's gymnastics team, everybody helps each other. The coaches spend time spotting people and helping with the bigger moves. "The [gymnasts] who are more experienced end up coaching," Rocchio said. "When somebody does well, you feel good for them."

Last year, the women's gymnastics team made it to National's for the first time ever, Rocchio said. "Our goal is to make it to National's again this year."

— Written by Eva Moy