MIT TECH TALK

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WEDNESDAY ▪ MAY 24, 1995

Senior leaves unexpected gift

■ By Lynn Heinemann
Office of the Arts

As Lee Zamir graduates from MIT, he's leaving a visible reminder of his presence on campus.

Black Box, a 7½-by-9-foot photomontage of Lobby 7, has been installed at the entrance of the Rotch Library on the north wall of the second floor of Lobby 7. Composed of 45 individual black and white prints, the details of columns, windows, ceilings and floor come together for an interior view of the main entrance to MIT.

"I created the original work—a 32x40-inch version—last summer as a wedding gift for an MIT couple who now live in Colorado," said Mr. Zamir, an electrical engineering and computer science major. "The enormous task took more than 50 hours of work," he recalled, but the results were gratifying. "Many at the wedding wanted a copy, or to at least see it again," he said, leading to his decision to create a large version for semi-permanent installation at MIT, as well as a poster run for those wanting their own, less labor-intensive copy.

In September, Mr. Zamir selected his ideal location for *Black Box* and then spent 10 months seeking permission to install it. "I dragged the smaller version to more than a dozen different offices, getting enthusias-

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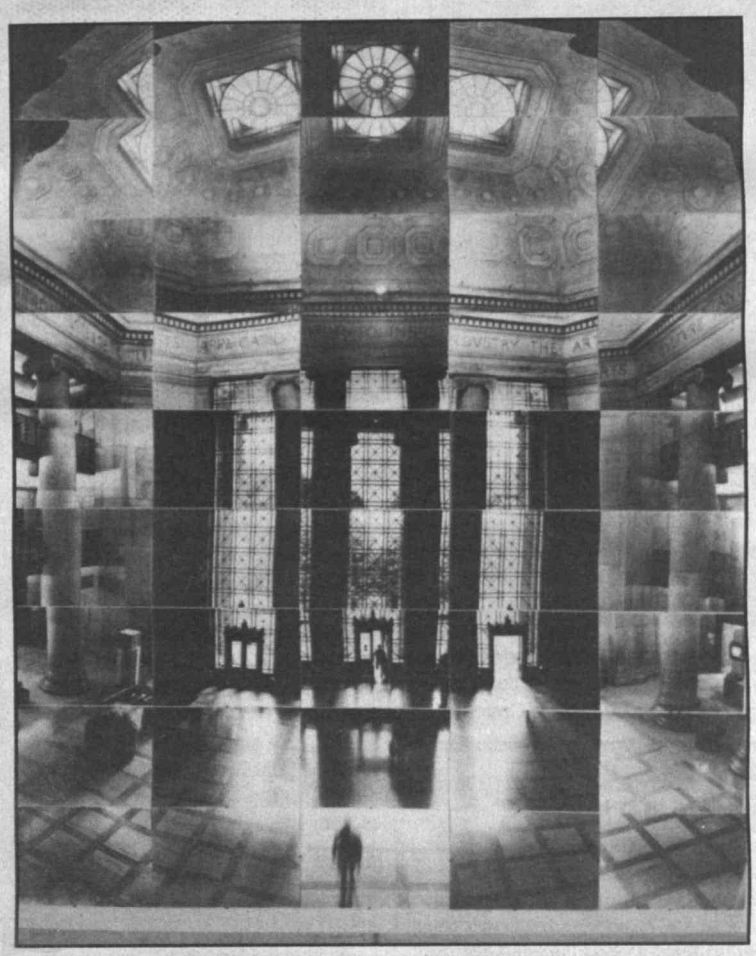

A grand version of this photo montage, Black Box *by senior Lee Zamir, is now installed—appropriately—in Lobby 7. Poster copies of the work will be on sale there next week.*

Lincoln Laboratory opens new building

MIT Lincoln Laboratory, a key center of advanced electronic and military technology since it was founded at the request of the US Air Force in 1951, formally opened its new South Laboratory Building on Saturday.

"Lincoln Laboratory's contributions toward strengthening the science and technology base of the United States have indeed been significant. This new facility that we dedicate today will provide the setting for continued service to the nation in the decades ahead," MIT President Charles M. Vest said.

Laboratory Director Walter E. Morrow Jr. commented, "This facility provides quality laboratory and office space that is allowing us to consolidate activities from several off-site locations within a single efficient complex. The resulting benefits of the increased staff interaction and sharing of resources will further enhance the Laboratory's effectiveness." The four-story, 490,000-square-foot building presently houses approximately 1,000 of the 2,280 employees at Lincoln Laboratory.

Congressman John P. Murtha (D-PA), ranking minority member of the Appropriations Subcommittee on National Security, was the keynote speaker at the dedication. Rep. Murtha, who lives in Johnstown, PA, and has represented Pennsylvania's 12th Congressional District since 1975, was chairman of the Defense Appropriations Subcommittee from 1989 through 1994.

In introducing Rep. Murtha, MIT Chairman Paul E. Gray said, "Jack Murtha has sought to insure technological superiority for the men and women in the armed forces for many years. His support of advanced technology development has helped build western Pennsylvania's reputation as a technology center. His recognition of the importance of university-based federally funded research and development centers is based not only on MIT's Lincoln Laboratory, but also the Software Engineering Institute at Carnegie Mellon University in Pittsburgh. Rep. Murtha is a strong advocate of education, especially continuing education and professional development, as well as the need for Defense Department graduate fellowships for engineers."

Rep. Murtha discussed the Congressional struggle with the budget. "We'll make some mistakes. We bled ourselves in fighting the Soviets—we paid a heavy price in money and in blood… As we reduce the amount of money in the federal budget, it's going to be a brutal battle," he said.

The 22-year veteran congressman noted with appreciation the contributions made toward minimizing the cost to the federal budget through the private financing of the $109 million Lincoln Laboratory project and "the austere office of Mr. Morrow." Concluding, Rep. Murtha told the crowd of about 400, "Thank you for the nation. Thank you for the technology you have produced which has avoided war for so many years."

Also speaking was John M. Deutch, director of Central Intelligence and former MIT provost. Dr. Deutch paid tribute to Lincoln Laboratory as "one of the premier technical strengths of the country, a key to the economic health of this state and region," and an asset which will help "keep the nation safe both militarily and economically."

The formation of the construction project team began in April 1990 when the Laboratory selected Spaulding & Slye as the developer and Perini Corp. as the general contractor through a competitive selection process. Lincoln Laboratory and Spaulding & Slye then selected Jung/Brannen Associates, Inc. of Boston, a firm known for its excellence in modern laboratory design, as the project architect. Other team mem-

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New library system being installed

By the time students are back next fall, the MIT Libraries will have an entirely new operations system resulting in improvements for both users and staff.

Advance, the system developed by Geac Computers, Inc. of Newtonville, MA, includes a public-access catalog; library functions to manage circulation, cataloging, acquisitions and accounting; and a new authority control function, which ensures consistency in searching and cross-referencing (for example, a search for works pertaining to Mark Twain would also automatically yield items listed under Samuel Clemens).

"It's much more robust and functional for network access," said Greg Anderson, associate director for systems and planning. Involved in the installation are more than 100 Libraries staff members, plus more from Information Systems and the Library 2000 group headed by Professor Jerome

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IN BRIEF

NO ENTRANCE

Effective Saturday, May 27, the Amherst Street entrance to the Tang Center (E51) will be closed for construction until early September. The Memorial Drive entrance and the receiving room door on Wadsworth Street will be open 7am-6pm, Monday through Friday. Entrance may also be gained via the third-floor bridge in the Sloan Building (E52).

LOWELL SCHOOL

The Lowell Institute School is accepting applications for the summer courses listed in the brochure recently sent to all members of the community. The deadline for registration is Wednesday, May 31.

Most LIS courses are covered by the MIT Tuition Assistance Plan, and applicants should talk to Shonda Aikens in the Benefits Office, x3-0497, or <tuition-assist@mit.edu>, concerning the necessary paperwork.

Additional applications are available in Rm E32-105 or by calling x3-4895.

Multicultural service project gets rave reviews

■ By Alice C. Waugh
News Office

In what organizers hope will be the first in an annual series, students from four living groups did a day of community service while also breaking down racial barriers among themselves.

Last Friday's event was co-sponsored by shoe manufacturer Timberland Corp. as one of its programs on the theme of "Give Racism the Boot." Other sponsors were City Year and MIT's Public Service Center (PSC) and Race Relations Committee. It came about when four students from Sigma Chi (John Rodkin, a senior in electrical engineering and computer science, and freshmen Paul Shay, Jason Black and David Day) decided to plan an activity that could benefit race relations among students. They met with Ellen Harris, associate provost for the arts and chair of the committee; she brought them together with Timberland and the PSC, which coordinated the event.

Forty students from Sigma Chi, the Black Students Union, the Korean Students Association and McCormick Hall walked together to the Cambridge Community Center. There, they formed four 10-person teams that included people from each living group, doing yard work, cleaning and painting during the

(continued on page 8)

Students from four living groups volunteered to paint, collect trash and do yard work at the Cambridge Community Center as part of a joint effort with Timberland Corp. and the MIT Public Service Center to "Give Racism the Boot." Left to right: Alim Needham, a sophomore in electrical engineering and computer science; Margaret Roberts, a sophomore in electrical science and engineering; Shawniqua Williams, a graduate student in EECS; Keisha Steel, a senior in chemical engineering (back turned); freshman Esther Lee (kneeling), and Michelle Kinch, a sophomore in electrical science and engineering.

Photo by Donna Coveney

Student Notices

*** -Open to public**
****-Open to MIT community only**
*****-Open to members only**

■ ANNOUNCEMENTS

Sloan Registration Procedures**—To better manage increasing enrollment demand for its classes, the Sloan School is implementing a registration priority system for all MIT students during pre-registration for Fall courses. Students will be given priority if (1) they pre-register with the MIT Registrar between 5/8/95 and 5/26/95, (2) they fill out a Priority Form at the Sloan Educational Services Office (E52-171) by 5/26/95. Students will be notified of their Sloan enrollment status on Registration Day, September 5 1995. For further details, refer to the Fall Term MIT Registration Information Bulletin (available 5/8/95) or contact the Sloan Educational Services Office in E52-171 at x3-1510.

■ RELIGIOUS ACTIVITIES

The Chapel is open for private meditation 7am-11pm daily. Regular Chapel services are:

Tech Catholic Community**—Weekday Mass Tues & Thurs 5:05pm, Friday 12:05pm, Saturday 5pm, Sunday 9:30am & 5pm. Call x3-2981.

Christian Science Organization**—Thursdays at 7pm. Call x3-8797 or <lnorford@eagle.mit.edu> for further information.

Communitas-Life Together**—Protestant Worship Sunday at 11am. Sponsored by: American Baptist Church, United Church of Christ, United Methodist Church, Presbyterian Church (USA). Chaplain John Wuestneck, x2-1780 or <chaplain@mit.edu>.

Lutheran-Episcopal Ministry at MIT*—Regular Wednesday worship, 5:10pm, followed by supper in the Bldg W11 dining room. Bible Studies, Sundays at 5pm, Bldg W11. More info: x3-0108.

MIT Orthodox Christian Fellowship**—Wednesdays at 5:30pm in Student Ctr DR 1 for dinner followed by Chapel Vespers. Mike Decerbo, Dorm x5-7569.

MIT Vedanta Society**—Fridays, 5:15pm. Meditation and discourse on the Bhagavad Gita, with Swami Sarvagatananda. More info: Dr. Cyrus Mehta, 661-2011.

Other religious meetings:

Baptist Student Fellowship*—Weekly meetings on Tuesdays, include dinner followed by Bible Study. 5:30-7pm, Bldg W11, small dining room. Sponsored by Baptist Campus Ministry. More info: x3-2328.

Buddhism and Modern Life*—May 26: A talk by Ajahn Jayasaro, a senior monk from the International Forest Monastery in Thailand, 6:30-8:30pm, Mezzanine Lounge, 3rd floor, MIT Student Center. 6:30pm: "The Mindful Way," a video presentation about Buddhist monastic life. 7pm: Talk. Co-sponsored by MIT Buddhist Association and Thai Students at MIT. More info: 492-7458 or 225-6232.

Graduate Christian Fellowship**—Weekly meetings in Student Ctr, DR 1&2, Thursdays at 5:30pm. Also weekly Bible studies and Responsible Technology discussion group. Andrew Parris x3-2319 or <andrewp@mit.edu>.

Friends Worship Group*—Unprogrammed ("silent") worship in Rm 3-137C each Monday at 5:30 when classes are in session.

Hillel*—May 24: 7:30pm: Israeli Dance. Most events meet at Hillel, Bldg W11. More info: x3-2982.

MIT Korean Baptist Student Koinonia (KBSK)**—Friday Night Bible Study and Fellowship 7-8:30pm, Student Ctr DR 3. Chris Pak x3-9342 or 876-8594.

Lincoln Laboratory Noon Bible Studies*—Wednesdays at noon, South Lab S2-410. Annie Lescard, Linc x2899.

MIT Muslim Students Association*—5 daily prayers, Bldg W11; also Friday congregation 1:10-1:45pm, Rm W11-110. Info: x8-9285.

■ UROP

The UROP Office invites MIT students to join with faculty members to pursue research projects of mutual appeal. Wellesley students may also participate. For detailed information on procedures, please read the participation section of the 1994-1995 UROP Directory, available now at 7-104 and 20B-140.

Pertinent information is posted regularly on the UROP bulletin boards in the infinite corridor near Rm 3-103, and in the UROP Office, Rm 20B-140.

Faculty supervisors wishing to have projects listed may send brief descriptions to 20B-140, call x3-7306, or email to <urop@mit.edu>.

Artificial Intelligence Laboratory. We need a student with experience in chemistry (course 5/10 major), to work on the muscle project in the AI Lab. The student will be attempting to chemically modify a polymer gel that is being used as a basis for synthetic muscle. Other projects will be arranged upon successful conclusion of this one. An ideal candidate will be able to work for the summer and continue through the following school year. Contact David Brock, x3-5217.

Neural Networks with Parallel Computer. Project involves programming and simulation of neural network algorithms on a SIMD parallel computer. Computer background and some knowledge of artificial neural networks are desired. Contact Dr. Chi-Sang Poon, Rm 20A-126, x8-5405, <cpoon@cybernet.mit.edu> or Jagesh Shah, <jvshah@mit.edu>.

Polymer Processing. Summer UROP working on the processing of polymers using new technologies being developed at MIT. We would prefer a course 10/2/3 junior or senior with lab experience. The position is available throughout the summer with the possibility of working also in the fall. Contact Prof. Ned Thomas, x3-6901, <thomas@uzi.mit.edu> or Ramon Albalak, x3-6589/x8-6135, <ramon@uzi.mit.edu>.

■ CABLE

Frequent schedule updates now appear on TechInfo. For more information about cable at MIT, call Randy Winchester at x3-7431, Rm 9-050, e-mail: <randy@mit.edu>. World Wide Web: <http://web.mit.edu/org/m/mitcable/www/home.html>.

June 9: *Channel 8:* 10am-1:30pm—Live coverage of MIT Commencement 1995.

Crimewatch

The following incidents were reported the MIT Campus Police between May 13 - 18:

May 13: *Student Ctr,* bike stolen, $400; *Bldg 9,* old bike stolen, no value.

May 14: *Rockwell Cage,* fanny pack and contents stolen, $120; *Bldg N51,* larceny of cash and supplies, $690.

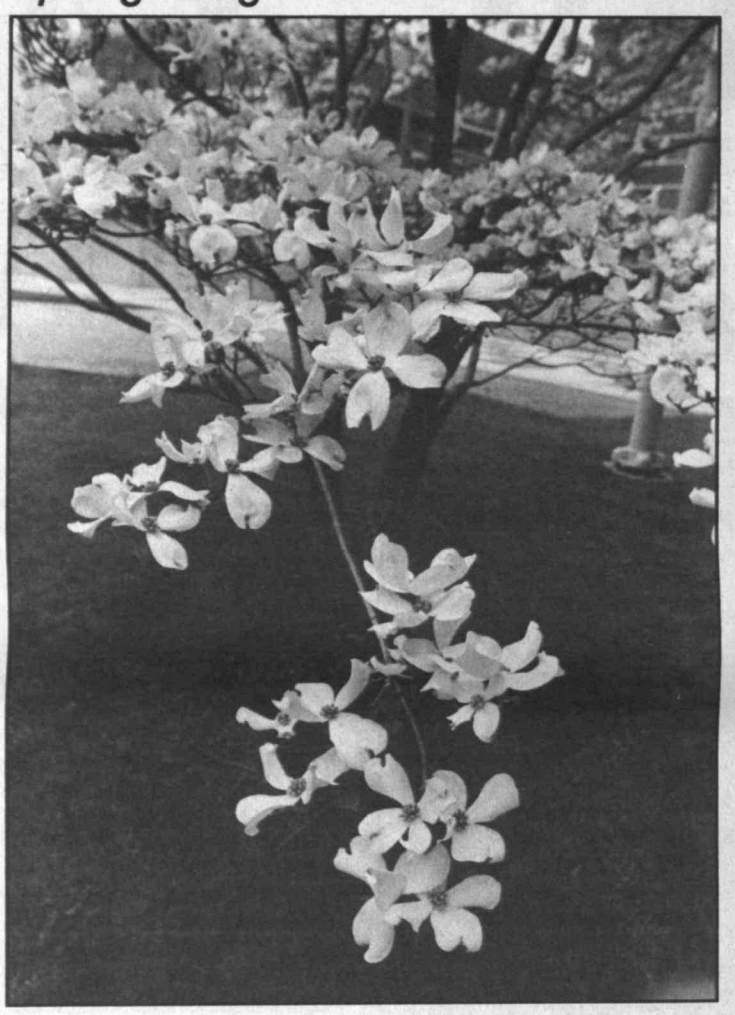
May 15: *Bldg 2,* suspicious person; *Bldg E53,* harassing mail; *Bldg 48,* harassing phone calls; *Bldg E52,* suspicious mail.

May 16: *Bldg 14N,* larceny, $35 cash; *Walker Memorial,* larceny of cash and pager, $100; *Bldg W11,* larceny of cash, $50; *West Annex Lot,* '88 Jeep stolen.

May 17: *Hayden Library,* larceny of wallet and jacket, unknown value; *Rotch Library,* larceny of a laptop computer, $2,800; *Bldg E52 Plaza,* larceny of a bike, $1,200.

May 18: *Bldg 10,* larceny of hand truck, $200; *Bldg 66,* larceny of laptop computer, $2,000; *West Annex Lot,* larceny of a '91 Honda Accord; *West Annex Lot,* 1) recovery of a stolen motor vehicle; 2) attempted larceny of a motor vehicle; *Bldg 4, 3rd fl women's room,* male entered women's room,spraying the victim with a mace-type substance. The victim described the suspect as follows: white male, unknown height, square chin, heavy build, 25-30 years of age, wearing heavy dark framed glasses and stringy hair pulled forward. *Bldg W20,* Athena, larceny of a back pack, $180.

Spring thing



This dogwood near Whitaker College—like most flowering trees this year—enjoyed an extended blooming period because of cooler than normal weather. **Photo by Donna Coveney**

FX issues plea for donations

The MIT Student Furniture Exchange (FX), a service of the MIT Women's League, needs good used furniture for students who will be entering MIT this summer or in the fall.

Ruth Milne, the FX manager, has issued an urgent appeal to all in the community for good things—desks, chairs, beds, kitchenware, etc.—that students can use. The inventory at the Exchange is unusually low, she said.

"When you are spring cleaning or buying new furniture or moving, please think of the Exchange for furnishings you no longer need. Donors not only get a tax credit, but the satisfaction that comes of helping students on tight budgets and far from home," she said. Call x3-4293 for information about making a donation. All profits from sales at the Furniture Exchange support scholarships at MIT.

Etiquette helps smooth the quirks of e-mail

(Amy Weiner, senior Macintosh specialist at the Whitehead Institute, is the author of an article on e-mail etiquette that appeared May 5 in the Whitehead Bulletin and is adapted here with permission.)

People depend on e-mail communication both to conduct business and to stay in touch with people in the outside world. It is used for everything from quick notes to weighty communications.

E-mail has several quirks unique to electronic communication which may cause undue stress to those unaware of them.

Say what? The speed and convenience of electronic mail sometimes mask the friction that can crop up when using it. It is all too easy, for instance, to fire off a reply without first reading what you wrote. It is helpful to take time to make sure a message will be understood, rewriting it if necessary to make it more clear or less inflammatory. E-mail messages may be taken more seriously by the recipient that by the sender.

When you speak to someone face to face or over the phone, changes in your tone of voice and gestures help convey your mood. These audio and visual cues are missing with e-mail, although some conventions have come into use to help replace them:

- Words in upper-case characters are read as if you are SHOUTING. Unless you intend to yell, use lower-case characters. Also if you mean something as a joke, say so. You can do that by typing "(joke)" or "(grin)" or "(kidding!)" to indicate your mood as well as your literal message.
- On the other hand, a message typed completely in lower-case characters looks informal to some folks, but hard-to-read to others. Capitalize sentences and proper names to cover your bases.
- Smilies (also called emoticons) only work if the recipient knows about them. If you want to indicate emotion in a message, it is better to be explicit. When telling a joke, you should say so (as well as adding a smilie, if you like).

Remember that most e-mail is intended as private communication. Keep your password to yourself. If you use e-mail on a shared machine, make sure to completely disconnect when you have finished using e-mail. Also respect the privacy of others when it comes to mail. If you are in a position to read over someone's shoulder, do not do so without that person's permission.

E-mail is considered as valid a form of communication as a memo on paper or a message on your telephone. As such, normal business courtesies should be observed. Messages should be phrased politely and written with respect for the recipient.

Messages without subjects are easy to lose in a long list. To help others reply to your message, be sure to give them something in the subject field to help identify your mail.

You should reply to e-mail in a timely fashion. Even a reply stating "I'm busy and won't be able to look into the matter for a couple of weeks" will help your correspondent schedule his or her time. If you are waiting to receive a reply from soneone, be patient. Keep in mind that not everyone is connected to mail all day long.

Benefits Office reminds parents of health-coverage cutoffs

If your child is nearing graduation from college, you need to think about continuing health and/or dental coverage if the child is currently included on your MIT plan.

MIT health and dental coverage will end August 31 for students graduating this spring (the date is January 31 for fall graduates).

There are two circumstances you need to keep in mind: your child's age and student status.

All of MIT's group health plans and the dental plan provide coverage for children until the age of 19. If your child is a full-time student, the health and/or dental plans will continue coverage until the summer or fall following graduation, but in no instance beyond the child's 23rd, 25th or 26th birthday (depending on the plan).

If your child no longer qualifies for health or dental benefits under your plan, there are two options available: continuing coverage for 36 months by paying MIT's full group rate (known as COBRA coverage), or enrolling him/her in your health insurer's nongroup plan.

To take advantage of the COBRA option, you must contact the MIT Benefits Office within 60 days of your child's coverage end date. Coverage is not available if you delay notification beyond the 60-day period.

To enroll your child in your insurer's nongroup coverage, get in touch with your health plan directly for information.

Anyone interested in continuing coverage for a dependent child should call the Benefits Office on campus at x3-0500, or x7060 at Lincoln Laboratory.

On line minutes

The minutes and agendas for meetings of the MIT faculty over the last two years, and many related documents are now on line, Institute Archivist Helen W. Samuels has reported.

The database can be searched by date and the ability to search by topic will be added soon, she said. When that is accomplished the minutes will be available through the home pages of the Libraries and the Archives, she said.

Ms. Samuels cited the work of Lois Beattie of the Archives and Carter Snowden of the Libraries System Office in carrying out the project.

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Printed on Recycled Paper

Provost describes funding changes for graduate education

■ By Robert C. Di Iorio
News Office

At his last scheduled faculty meeting report before leaving MIT to become chancellor of Washington University in St. Louis, Provost Mark S. Wrighton outlined the changes MIT will make to comply with new federal regulations governing the support of graduate students.

The plan, accepted by the Executive Committee of the MIT Corporation at its meeting earlier in May, is intended to comply with federal revisions scheduled to take effect after fiscal year 1998.

President Charles M. Vest said the development of the plan had been a "highly consultative process" and, as a result, it had all the "hallmarks of an excellent plan—comprehensive, above board." He said the Institute's success in having the government delay implementation of its change in regulations until fiscal 1998 was a major victory for MIT.

Professor Wrighton said a document is being prepared that summarizes the new way the Institute will collect graduate student tuition and why the change is necessary. The document will be distributed in the community, he said.

MIT, the California Institute of Technology, Stanford University and Columbia University have been recovering expenses for graduate tuition from their fringe benefit pools. Under this method, the provost said, a research assistant (RA) is regarded as an employee with the benefit of graduate-school tuition. The fringe benefit pool is built by "encumbering" each MIT salary with a fringe-benefit rate, and a portion of that rate funds the graduate tuition.

MIT has about 2,000 RAs and about 500 full-time teaching assistants (TAs), Professor Wrighton said. Graduate tuition is about $25,000 annually.

"What the government has now said is that we can no longer collect tuition in this highly distributed fashion, which 'taxes' all salaries, including those at Lincoln Laboratory and the MIT Press," Professor Wrighton said. "Rather, the government says we have to collect tuition for RAs on the grant or contract that supports that individual.

"This may seem like a simple move, but the consequences are considerable and the MIT response to this change will require something in the vicinity of about $10 million a year simply for the RAs." MIT plans to invest more heavily in undergraduate education and graduate education in ways that bring the total financial consequence to something in excess of $13 million a year, Professor Wrighton said.

The challenge was to find new revenue streams that would allow MIT to maintain its commitment to graduate education and research without adding to the Institute's deficit, he said.

The plan, arrived at after many months of discussion with the members of a committee headed by Professor Robert A. Weinberg and with many additional members of the faculty, has three elements, the provost said:

- A commitment to provide a 45 percent tuition subsidy for all graduate RAs beginning July 1, 1998.
- 50 new tuition fellowships for graduate students outside science and engineering by the start of fiscal year 1999.
- 100 additional TAs.

Professor Wrighton said a key element of the plan is a commitment to what he called a "firewall" that will confine the use of the new resources to graduate education and teaching responsibilities.

"You will see in these new commitments that our support will move more toward graduate education than to the support of visiting scholars and others who come as non-degree candidates," he said.

He cited these new revenue streams:

- $2.5 million drawn from interest earned on so-called Pool C funds, money invested by the Institute for individual researchers;
- $500,000 drawn from new-program funds in fiscal year 1997, and increasing that by $500,000 a year to the year 2001 to create a $2.5 million fund;
- a transaction-fee charge for expenditures made by researchers from fund accounts, expected to provide an additional $5 million by fiscal year 1999;
- a $2,000 annual fee for visitors and postdocs who remain one term or longer (there are about 1,000 a year in this category), which would raise $2 million.

The provost also said he has arranged to have a portion of MIT Press sales devoted to RA/TA support.

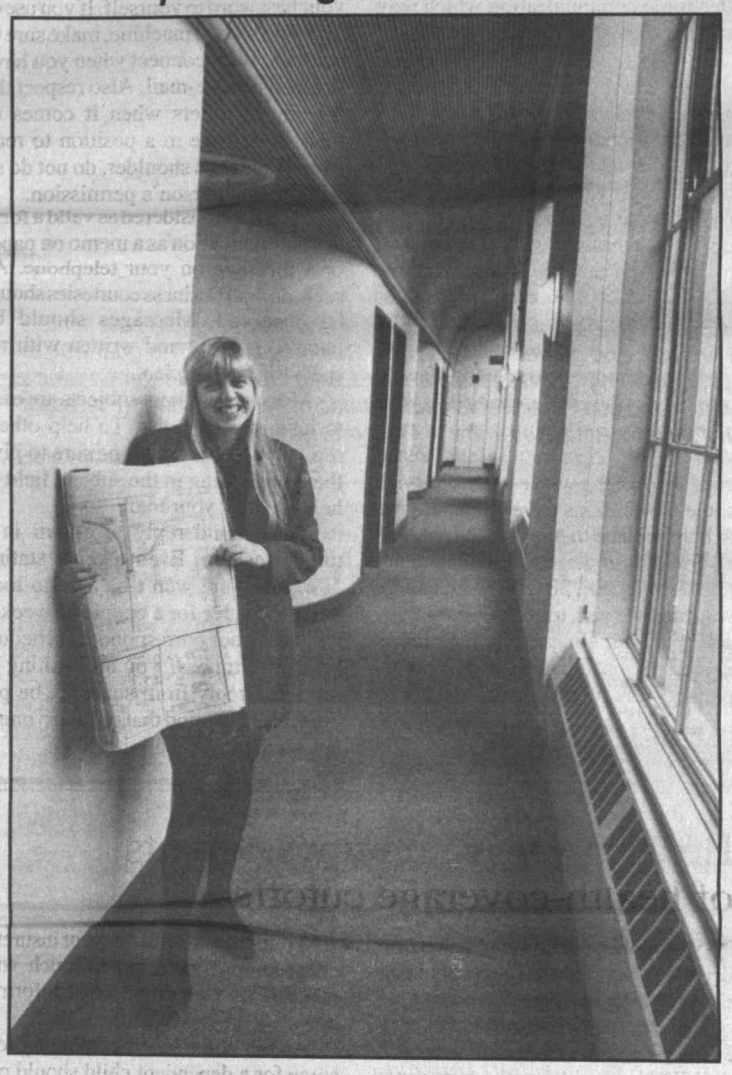
"We will begin these now so they will build up and be ready when we need them," the provost said of the new revenue streams.

"This is a fairly significant financial change for the Institute," he went on, "but with the good work of a large number of people, we have a plan that will be responsive to the need to provide for RAs, and also to support programs that need strengthening but that do not have access to grants and contract support... But it comes at some expense. The expense is the drawing down of local and institutional flexibility in a lot of academic areas."

President Vest concluded the meeting with a brief report on the status of searches for new people to hold "five very significant posts" at MIT. The posts are provost, dean of undergraduate education and student affairs, dean of graduate education, associate provost for the arts, and director of libraries.

Dr. Vest said his goal for the appointment of a new provost to succeed Professor Wrighton continues to be June 10. He said he has received about 110 e-mail messages from faculty and about 20 letters and has met with about 30 faculty to discuss criteria and individuals.

Sound planning



The sounds of music in eight new practice rooms have been deliberately muted by the design of MIT staff architect Melanie Brothers, shown here next to the curved ceiling and walls in the interior hallway of the rehearsal suite on the second floor of Building 4. Her work was noted in the March issue of Architectural Record, a rare mention for a university staff architect. The sound-deadening construction included building double walls with an airspace between.

Photo by Donna Coveney

Hewitt wins 1995 Edgerton award

Associate Professor Jacqueline N. Hewitt of the Department of Physics, a radio astronomer who has made significant contributions in the study of gravitational lenses, has been chosen by her faculty colleagues to receive the 1995-96 Harold E. Edgerton Award.

Hewitt

Her selection was announced at the May 17 faculty meeting by Professor Thomas A. Herring. He spoke for the Edgerton Committee which also included Professors Evelyn F. Keller, Jeffrey H. Lang and Anthony T. Patera.

The award, which carries an honorarium of $5,000, was established in 1982 with contributions made by the faculty in honor of Institute Professor Harold E. Edgerton. It recognizes young faculty members for distinction in teaching, research and service to MIT. Professor Edgerton died in 1990.

The announcement drew standing applause. Professor Hewitt, who received the AB degree in economics (1980) from Bryn Mawr College and the PhD in physics (1986) from MIT, spoke briefly and said the honor, coming as it did from colleagues, was particularly appreciated.

Professor Herring, reading from the award citation, said Professor Hewitt "has made significant contributions in the study of gravitational lenses—the bending of light by matter predicted by general relativity." She discovered the first Einstein ring and "also discovered one of only a handful of gravitational lenses known as 'quads' which consist of four split images of a distant radio source.

"The time differences between the temporal variations of various components of a gravitationally lensed object can lead to determination of the Hubble constant. In this regard, Jackie was the prime mover of the research that led to the first radio measurement of the time delay in a gravitational lens... Overall, Jackie's group is arguably the best in the world at discovering, investigating and probing the physical properties of these sources."

Professor Hewitt has started "a major new project to search for planets around low-mass stars using phased very long baseline interferometry," Professor Herring continued. "This is a most challenging undertaking and should lead to rather important results if successful. Jackie is also developing a prototype of an array of very small radio telescopes, each with wide fields of view, to monitor transient radio sources."

The citation praised Professor Hewitt's teaching, particularly in Introduction to Astrophysics, and said she consistently receives high ratings from students.

Professor Hewitt has four graduate students working in her group, three in their fourth year and one in the third year. "At any one time, Jackie typically has three undergraduate research students under her supervision. In all, she is successfully mentoring a large, highly talented group of young scientists...

"Our committee had the pleasure and privilege of reviewing the accomplishments of some of the many very talented young faculty members at MIT. It was a difficult task to narrow the selection to one person, but we believe that none is more worthy of receiving the 1995-96 Harold E. Edgerton Award than Jacqueline N. Hewitt," Professor Herring said.

Industry responds to news

Four research projects publicized by the News Office have recently generated substantial interest from industry after short articles on the projects appeared in the magazine Design News.

Every month the News Office produces MIT Research Digest, a tip sheet for reporters featuring seven to eight brief summaries of research. Design News, which is distributed to design engineers, has reprised four Research Digest stories in recent issues.

Each Design News story includes a number that readers can use to request further information. The magazine then forwards these requests to the News Office, which in turn sends them to the researcher. The MIT projects featured in Design News and the number of industry queries follow.

Cleo the Micro-Robot

This story has generated 87 requests for further information since publication in the February 20 Design News. It described a robot that could some day be capable of moving through a patient's colon to the site of a polyp or other problem and surgically removing it. Arthur Shectman, a senior in the Department of Mechanical Engineering, is currently working on the robot; the work was begun by senior James McLurkin of the Department of Electrical Engineering and Computer Science.

Auto Hydrocarbon Conditions

This story described how MIT researchers are able to directly observe how liquid fuel enters the cylinder of an automobile engine when the engine is starting up—a condition conducive to the creation of hydrocarbons, key ingredients in the formation of smog. The work, led by Professor Wai Cheng of the Department of Mechanical Engineering and the Energy Laboratory, was published in Design News March 27. It has generated 45 queries.

Robotic Fish

MIT researchers led by Professor Michael Triantafyllou and graduate student David Barrett of the Department of Ocean Engineering are developing a robotic fish that could lead to a better propulsion system for autonomous underwater vehicles. Robotuna was featured in Design News on April 10; 30 companies have requested further information.

The Check is in the E-Mail

This story described a software package for automated "reading" of handwritten material that could help streamline the general system of check processing. The work, led by Amar Gupta, a senior research scientist at the Sloan School, was described in the April 24 Design News. To date it has generated 43 queries.

If you have an item to contribute to the Research Digest, please contact Elizabeth Thomson at <thomson @mit.edu> or x8-5402. The Research Digest can be seen online at <http://web.mit.edu/newsoffice/www/RDhome.html>. To receive a paper copy call x3-2700.

McNutt to be WHOI director

Professor Marcia K. McNutt of earth, atmospheric and planetary sciences, a geophysicist with extensive experience in oceanographic research, has been named MIT director of the MIT-Woods Hole Oceanographic Institution Joint Program in Oceanography and Oceanographic Engineering.

She succeeds Professor Sallie W. Chisholm of civil and environmental engineering, who has held the post since 1988. The appointment was announced by Professor Frank E. Perkins, Dean of the Graduate School.

"Professor McNutt is widely recognized for her work in marine geophysics," said Dean Perkins. "This important joint program, which links two internationally respected educational and research organizations, is of vital importance to students whose primary career objective is oceanographic science and engineering."

Dean Perkins praised Professor Chisholm for her "vigorous leadership of the program for the last seven years. During her tenure the program has grown significantly in terms of applicants, enrolled students and national visibility."

Begun in 1968, the program offers graduate degrees in five major areas—biological oceanography, chemical oceanography, marine geology and geophysics, physical oceanography, and oceanographic engineering. The WHOI director of the program is Dr. John W. Farrington, associate director of education and dean of graduate studies at WHOI.

Professor McNutt is no stranger to WHOI or to ocean-going research. She has participated in more than a dozen oceanographic expeditions aboard ships from Woods Hole, Scripps, Lamont-Doherty Earth Observatory and Oregon State University. She has served as chief scientist on five expeditions, principally involving investigation of volcanic processes in French Polynesia.

McNutt

She holds the BA in physics from Colorado College (1973) and the PhD in earth sciences from Scripps Institution of Oceanography (1978). She is the Earle A. Griswold Professor in Geophysics.

Among her awards is the American Geophysical Union's Macelwane Award (1988), which recognizes outstanding contributions to geophysical research by young scientists. She has also been elected a Fellow of the AGU.

Professor McNutt has been a National Science Foundation visiting professor at Lamont-Doherty Geological Observatory and a Bunting fellow at Radcliffe College. In 1985, she received the Graduate Student Council Award for teaching.

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- **E-mail address (return address must be mit.edu): <ttads@mit.edu>**
- **Interdepartmental/Walk-in address: Calendar Editor, Rm 5-111.**

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All extensions listed below are campus numbers unless otherwise specified, i.e., Dorm, Lincoln, Draper, etc.

MIT-owned equipment may be disposed of through the Property Office.

Deadline is noon Friday before publication.

■ FOR SALE

Road bike, M's 12-sp Fuji, exc cond w/rear rack, $175. Marc x3-1802 or eves 484-7363.

Western riding saddle incl barrel racing reins, copper bit and saddle blanket; wedding gown, full length, satin & lace (headpiece incl); VHS movies. Contact <cindy@mitlns.mit.edu>.

Charles Webb designed contemporary oak bed 30" x 74" w/3 sliding storage drawers, extra firm mattress, $100. Call x3-3668 or 489-3161.

Large outdoor turtle sandbox w/cover, $25; Evenflo booster car seat, $30; all items exc cond. Cheryl x3-9463 or 438-1908.

Donnay woodgrain keyboard underdrawer $25, slide-out drawer locks in place, incl padded wrist rest, 24w x 14d x 4h. Call x3-4860.

Dining room set w/lighted hutch, solid light oak contemporary Thomasvill, 4 side chairs & 2 armchairs (cane backs) w/velvet mauve seats. Asking $1500. Kay x3-2774.

Cessna 172N, IFR instruments, partnership for sale. Call x3-2117.

Infant car seat, highchair, baby walker, bathtub, jumper, stay'n'play bathring, gd cond. Call Orn x3-7660 or 924-1323.

Couches: 1) 2 pcs, 92", beige SW pattern, gd cond, $150; 2) F-sz sleeper, new spring mattress, lots of cushions, off-wh, textured, $100 or bst. Aaron x3-8307 or 969-0222 or <bobick@media.mit.edu>.

Swing set, 2 yrs old, exc cond, has 2 swings, baby swing, slide & teeter totter, sandbox (needs to be disassembled), $100 or bst; boys' 20" in. bike, exc cond, $50. Debbie x3-3879.

Amana washer & dryer, F-sz, exc cond, both $300. Dave x3-1817, or 489-6911.

Sega CD 2 w/Rebel Assault, Sewer Shark, and Final Fight, purchased new for $329, will sell for $100 firm; Sega 32X w/Mortal Kombat II & Virtua Racing, $200 or bst. Mark x3-7213.

Kenmore all-in-one washer, dryer, v gd cond, must sell, will accept reasonable offer. Call 623-8165.

Henredon love seat, 54", yellow/green floral, $300 or bst; pwr lawnmower, $50 or bst; exercise bike, $50 or bst; Macintosh LC, $950 or bst; lawn furn, 2 chrs, 2 lounges, $50/set. Pam x3-3123.

Large suitcase, black vinyl, soft sides, on wheels, 31L x 22W, gd cond, $8. Rosalie 776-3748.

Apple Laserwriter 320, 300 dpi, Postscript Level 2, low mileage (6 mos old, 1000 pages printed), $600 firm. Steve, dorm x5-6597 or <sleepy@mit.edu>.

JVC portable AM/FM cassette player, $60; Sony single cassette deck, $60. Call x3-4478.

Apple Stylewriter II printer, 1-yr old, askg $150. Glenn x3-5483 or 354-4360 eves.

L's 10-sp Raleigh, $55; M's 10-sp Raleigh & Peugeot, $55; child bike seat, $10; white wall unit, 3'x6'h, incl 3 drawers, desk, shelves; rowing machine, $50. Call x3-3176 or 332-8251.

■ VEHICLES

1989 Plymouth Voyager SE, 7 pass, 91K, auto, turbo eng, a/c, AM/FM, priv glass, lugg rack, nw brks/batt, anti-theft, crimson red, exc cond, $7200/bst. Email <hkolmar@rosa.mit.edu> or 489-1373.

1989 Mercury Topaz, must sell, v reliable, 102K, oil changed every 3K miles, nw exh, body & int v gd, exc Sony stereo sys, $2800 or bst. Rich, Linc x3622 (w), 661-8535 (h), <marino@ll.mit.edu>.

1989 Mitsubishi Mirage LS, 4-dr, blue/grey, auto, a/c, orig ownr, 60K, AM/FM/cass, 6 spkrs, runs grt, $4200 or bst. Julie x3-3941 or 924-7096 lv mssg.

1990 Mazda Protege SE, 60K, 4 dr, 5-sp, AM/FM/cass, pwr steering/brakes, new brakes, well cared for, $5500 or bst. Ann x3-1897.

1991 Dodge Shadow America, auto, exc cond, 56K miles, $4200. Francis 258-2601.

1992 Chevrolet Lumina Euro 4-dr, all pwr options plus ABS, Viper alarm, 37K, clean, $9500 or bst. Jim 933-1629 or <jdpaton@mit.edu>.

1992 Subaru Legacy LS, 4-dr, a/c, pw, low miles, better than gd cond inside & out. Jack x3-2772 or 396-4221 eves.

1993 Ford Ranger XLT Supercab, black ext, grey int, standard, 2-wh dr, a/c, stereo cass, ABS, bed liner, tinted windows, nd to sell fast, askg $12,000 or bst. Delise, Draper x8-3530.

■ HOUSING

Belmont: short-term accommodations provided in non-smkg academic household, conv to MIT on transportation, prkg avail, intl guests welcome. Mrs. Wolf 484-6455.

Brighton: 2BR 3-story town home nr Harvard B-School, 1.5b, add'l study/BR, gar, alarm, balc, patio, hdwd flrs, quiet, sunny, add'l prkg spot, full kitch, w/d, $1,600/mo., Mike (617) 783-3135.

Brookline: lrg sunny 2BR condo, quiet, classic style, grt shape, nice layout, priv balcony, hdwd flr, gas stv, nr T, prkg, avail 7/1, $1,250/mo incl. ht/hw. Angela 426-1358.

Cambridge: sublet furn prof's house for next acad yr, 5BR, 2.5b, eat-in-ktchn, f & b porches, conv location nr Porter Sq T, avail 9/95 - 6/96 (negot), $2200/mo. Jonathan x3-5327 or 547-6069.

Cambridge: close to T, Harvard Sq, apt for rent, LR, BR, study, ktchn, bathrm, fully furn, linens, prkg, garden use, ht, hw, priv entrance in old Vict home, top fl space. Call 547-5717.

Cambridge: 10 minute walk to MIT, two completely furn & v comfortable apts, yd, laundry: 1BR avail 9/1, $875/mo; 2BR avail 8/1, $1025/mo. Call 864-7725 or <jfn@draper.com>.

Loon Mt/Lincoln NH: vacation condo, avail spring, summer, fall, 2BR, 2b, riverfront, slps 6, tennis, pool, clubhse on premises, reasonable rates wkdy/wknds. Bill x3-3820.

Maine: Mt. Desert Isl (Bar Harbor), 2 oceanfrt cabins, secl, ea w/deck/LR/BR/K, pict windows, 2 sm BR&b, 1 or both avail by wk/mo, June-mid July & Sept, $600/wk; $2,200 ea/mo. Steve, x3-5757.

Maine Coast: attractive house on Westport Island (w/bridge), deck, spruces, deep water, sm rocky point & cove, avail 5/31-6/6 ($350), 6/24-7/1 ($375), 7/1-7/8 ($500). Bob x3-0683 or Lucy 489-2465.

Napels, FL: luxurious vacation condo, 2BR, 2b, enormous pool, tennis, golf, 5 min to Gulf beaches & Naples pier, May-Oct, $350/wk. Bill x3-3820.

Oak Bluffs, Martha's Vineyard: lrg, bright, nicely furn home nr beach & town, 4BR, 3b, deck, all amenities, 2 wks still avail avail, 6/3-6/17, $900/wk. Margaret, 451-2299.

Somerville: 3-rm apt, 3rd fl, 1BR, LR, ktchn w/deck, minutes to Porter & Davis T, convenient to all, recently renovated, $600-650. Mike 628-4477.

Sweden, Maine: lakefront 2BR cottage avail for wkly rental in July and August, $600/wk. Mark x3-4488.

Tamworth, NH: hikers/walkers heaven, hse nr White Mtn trails, swimming, boating, town ctr (library, thtr, contradance), 7 rms, 2 baths, vws, avail June & July, $500/wk, $1,500/mo. Call 617-492-4252.

■ WANTED

Wanted: used kitchen cabinets, approximately 6' lower, 8' upper, decent condition, will take them off your hands, can't pay much. Call x3-3094.

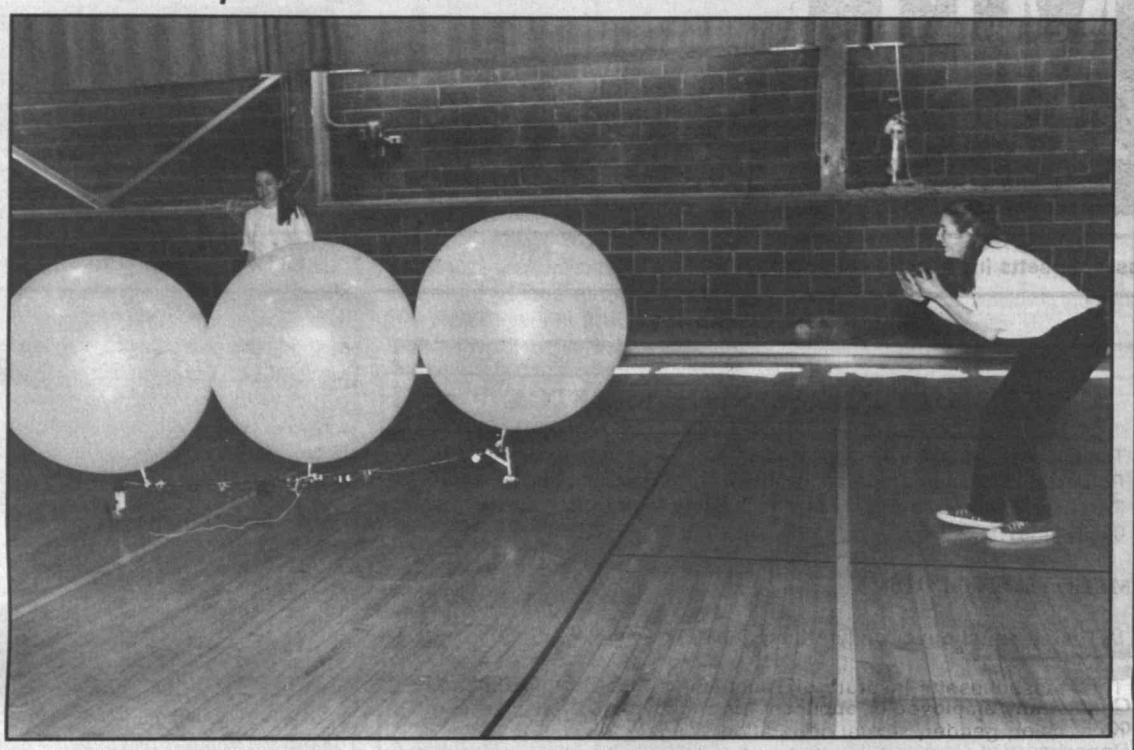
Female visiting grad student to MIT sks Fall '95 sublet, share or 1BR, must be mostly furnished. Jenny 607-273-4182.

Visiting prof & wife sk furnished house or apt in Cambridge or elsewhere in MBTA area for period 8/1/95-5/31/96. Call x3-3421 or x3-6830.

■ CHILDCARE

Child care needed for adorable infant twins, starting September, located in Needham (walk to train), noon-6pm, 5 days a week, $7-9 per hour. Anne, 444-1128.

Floats on parade



Students in Introduction to Aerospace Design (Department of Aeronautics and Astronautics) built lighter-than-air vehicles for their final design projects and guided them around Rockwell Cage. The goal was to carry the most payload in the least time, keeping the entire weight to 1.5 kg or less. Freshmen Laura Bouwman (left) and Julie Townsend watch and coax their vehicle as it heads towards the floor (Professor Dava Newman, laughing, asked them if they thought they were in Ocean Engineering).

Photo by Donna Coveney

Ritvo is appointed to new chair

Dr. Harriet Ritvo, a professor of history and writing who is widely acclaimed as a versatile and original scholar of the Victorian period, has been selected to be the inaugural holder of a new professorship established by the Arthur J. Connor (1888) Trust.

Ritvo

The new chair is designated for "a distinguished faculty member in the humanities" and Professor Ritvo was selected in recognition of her "outstanding contributions," she was informed in a letter from Provost Mark S. Wrighton.

Professor Ritvo's critically acclaimed book, *The Animal Estate: The English and Other Creatures in the Victorian Age* (Harvard University Press, 1987; Penguin, 1990) concerns 19th-century British social mores as reflected in attitudes toward animals. She is currently completing a book to be entitled The Platypus and the Mermaid: Animal Classification as British Culture. Professor Ritvo is the author of numerous articles on British cultural history and the history of human-animal relations.

She is also co-editor of *The Macropolitics of Nineteenth-Century Literature: Nationalism, Imperialism, Exoticism* (University of Pennsylvania Press, 1991; Duke University Press, 1995).

Professor Ritvo, who is concluding a three-year term as associate dean of the School of Humanities and Social Sciences, received the AB in English from Harvard in 1968. She attended Girton College at Cambridge University in England and received the PhD from Harvard in 1975. She joined MIT in 1979.

She has been awarded fellowships from the Stanford Humanities Center, the Yale Center for British Art, the National Endowment for the Humanities, the Guggenheim Foundation and the National Humanities Center. She has also been a visiting fellow at Clare Hall, Cambridge University. In 1990 she received the Whiting Writers' Award.

Professor Ritvo is a native of Cambridge and lives in Watertown.

MIT to participate in joint project for research, training in China

(A version of this article originally appeared in the spring issue of the Center for Real Estate newsletter).

Most observers are familiar with the huge increase in the flow of foreign investment to the People's Republic of China and the resulting tremendous growth spurt in the Chinese economy. This growth has strained resources and made plain the lack of trained personnel and effective financial and regulatory systems in the property markets. The China Collaborative (TCC) is a joint effort by MIT, Tsinghua University and the Chinese Ministry of Construction to carry out research and training in real estate planning, finance and development issues in the PRC.

Project leader Tom Steele, former chairman of the Center for Real Estate, has been working hard to turn the vision for the TCC into reality by raising funds from the private sector to support the program. It is primarily focused on Shanghai, which was formerly the financial and international business center of the country, and will be again in the next century under current government plans.

Several students from MIT and Tsinghua are expected to start field research this summer as part of a two-year pilot project. However, the scale of the entire undertaking is reduced from the original concept. As Mr. Steele explained recently, a number of events in the capital markets and in China in late 1994, at the time he was beginning the fund-raising effort, conspired to make it difficult to gain financial commitments from organizations that might otherwise have been very interested in participating.

In particular, the financial services industry, which has much to gain from accurate data on Chinese property markets, was in no position to do anything discretionary. For many financial institutions, 1994 was a poor year due to huge fixed-income trading losses. In addition, Hong Kong developers and investors, many of whom are active in the PRC and had shown preliminary interest in the Collaborative, suffered a sharp decline in both the stock market and in Hong Kong property market values, making them reluctant to take on new initiatives.

The news from inside the PRC was also somewhat disconcerting. Investment results were less than stellar and longer in coming than anticipated. Westerners' lack of understanding of Chinese business practices has added to the complexity. Several well-publicized cases seem to be getting resolved and as time passes the answer will be clearer. There were also some questions about the research and training program itself. The cost is high and potential supporters want to be sure results will be of practical use. With no research currently under way, there was no concrete product to alleviate that concern.

Mr. Steele believes that the pilot program, which will be led by an MIT faculty member, will be very useful in responding to the program-based questions of possible supporters, and that the passage of time will clarify other uncertainties and economic problems. When the pilot program ends in 1996, he expects another effort to implement the full program.

"MIT is uniquely suited, and we have an opportunity to have a positive impact by helping Chinese academics, government regulators and real estate professionals understand and regulate property markets, as well as by training future managers and planning officials. But we need the full program to do so adequately," Mr. Steele said. "I hope we will be able to take advantage of this opportunity."

Mr. Steele also sees real benefits to students and faculty at the Center for Real Estate and elsewhere at MIT and Tsinghua in being able to closely observe a market in the throes of enormous change and to study the impacts of various planning and development strategies on the operation of the market itself.

■ MISCELLANEOUS

Experienced house cleaners desire wknd, evening or one-time spring cleaning jobs. Eve x3-7182.

Charles Oman (right), senior research engineer in the Department of Aeronautics and Astronautics, shares the cockpit of the Frasca flight simulator with graduate student Scott Rasmussen. The equipment is at the Department of Transportation's Volpe National Transportation Systems Center, where pilots can drill on difficult situations they might encounter in the air. **Photo by Donna Coveney**

Simulator aids research in pilot navigation

■ **By Alice C. Waugh**
News Office

MIT researchers are working with a flight simulator at the nearby Volpe National Transportation Systems Center to develop improved methods for pilots to navigate the skies.

The Transportation Human Factors Laboratory at Volpe was created in the fall of 1991 as a result of a cooperative research and development agreement between Volpe and MIT's Center for Transportation Studies. Volpe's Frasca flight simulator, which emulates light twin-engine aircraft used by general aviation, is being used to develop advanced cockpit displays for GPS (global positioning system) navigation in order to improve pilot performance, reduce workload and improve safety. Research is funded by the Federal Aviation Administration through Volpe's Cockpit Human Factors Program.

GPS receivers in aircraft use satellite signals to determine the aircraft position, ground speed and altitude much more precisely than the technology now in use. Currently, most airplanes use VOR (VHF omnidirectional radio range) equipment for en route navigation and as one of several decades-old methods for conducting landing approaches, explained Charles Oman, director of the Man Vehicle Laboratory in the Department of Aeronautics and Astronautics. In a precision approach using an ILS (instrument landing system), the plane gets both vertical and horizontal guidance information via radio signals from transmitters on the ground at the destination airport. The pilot maintains the correct course by keeping a pair of needles aligned in a cockpit display.

The other method used under somewhat better weather conditions employs only a horizontal signal, so the pilot must use the less accurate cockpit altimeter to gauge altitude. These positioning methods have drawbacks; VOR is accurate only to about five degrees, and the ground transmitters must be painstakingly checked and calibrated. "They are difficult and expensive things to maintain," Dr. Oman noted. Also, GPS can be used anywhere by an airplane with the proper equipment, whereas many smaller airports don't have ILS transmitters. "There are thousands of airports around the country that could suddenly become more accessible," he added.

GPS, which is already used in ocean navigation, uses signals from satellites to provide much more precise information to the pilot. The FAA hopes that work at the Volpe lab and elsewhere will result in GPS replacing both VOR and ILS relatively soon. "There's a lot of support from the user community, and the technology is ready," Dr. Oman said.

Dr. Oman, Dr. M. Stephen Huntley of Volpe and Scott Rasmussen, an aero/astro graduate student, are working on developing displays that can be easily adapted to existing cockpit hardware. Volpe researchers are also developing map and terrain avoidance displays, and human factors standards for receiver logic. Systems developed in the Volpe simulator are also evaluated in the real thing—a Piper Aztec airplane based in Bedford, MA, whose cockpit is similar to the flight simulator. Once the new system is installed in this airplane and others, pilots can test it while still using the old positioning methods as a backup.

So far, the MIT-Volpe team has demonstrated in the simulator that advanced displays which provide information on ground track angle error can improve initial and final approach performance. These initial results will be presented at the IFAC Conference on Man Machine Systems at MIT next month.

The Frasca flight simulator is not the only Transportation Human Factors Laboratory facility used by MIT researchers; there is also a high-speed train simulator that is the focus of research by Thomas Sheridan, professor of engineering and applied psychology who also has an appointment in aero/astro. It provides a computer-generated image of the track ahead of a moving train and provides a means of testing new on-board signal displays, since high-speed trains move too fast for train operators to see and react to traditional track signals, he explained.

Reengineering questions answered

A number of questions remained to be answered when the recent town meeting on reengineering ended. Over the next several issues of Tech Talk, the Community Involvement Team will find answers to those that are applicable to reengineering and present them here on a space-available basis.

Q: How will departments, centers or labs be chosen for participation as pilots?

A: A number of criteria will come into play, including technological readiness, high interest and willingness to be part of the experiment, and the ability to maintain the existing administrative processes while testing new ones. In addition, the redesign team will be looking for organizations where new processes will be quickly understood and easily monitored so that adaptations can be made as needed to perfect the new processes for general application.

Integration will mean a smoother, faster and more understandable process through the use of the systems.

Q: Will reengineering apply to Lincoln Lab?

A: No. Since Lincoln is a special laboratory that operates under government contract, its administrative structure undergoes periodic review for cost effectiveness as part of the federal auditing process.

Q: Has the Institute (Physical Plant) considered using different substances that are cheaper and healthier for cleaning (for example, white vinegar vs. ammonia or bleach; baking soda vs. chemical abrasives)?

A: During the redesign process, the Custodial Services team consulted with a number of other universities about best practices and products used, resulting in a number of changes here. Now the custodians here participate in decisions about what products will be best for carrying out particular tasks.

Q: Would you provide some details about improvements to current computer uses and capabilities with respect to reengineering?

A: We now have many computer software systems that have been with us for some time, called "legacy systems." Although the legacy systems have served us well, they are now outdated and do not take advantage of current desktop computing capability. The reengineering efforts will replace these legacy systems as each process is reviewed.

As an example, an effort currently underway through reengineering is implementing SAP, a financial management system. This new system will bring far more capability to the desktop allowing managers and administrative officers to run their business with more information in a timely manner.

Additionally, many actions that we now carry out on paper will become computer-based processes. Instead of mailing a paper form, information will travel electronically. As the information moves from one point to another, the initiator wil be able to keep track of work in progress from his/her desktop.

Finally, the systems will be integrated. One of the problems today is the constant need to move from one application to another to collect information needed even within a single process. Integration will mean a smoother, faster and more understandable process through the use of the systems.

Some examples of projects currently underway that are building/implementing new computer applictions and uses include:

- SAP, a financial management system
- TAP, a new appointment process system
- Electronic Catalog for ordering
- Computer Help Desk
- Data Warehouse for storing central information
- Development tools to speed delivery.

Here & There

■ A collection of math and science problems originating in Russia and brought to MIT by senior research fellow **Yuri Chernyak** has been turned into a book entitled *The Chicken from Minsk: And 99 other Infuriatingly Challenging Brain Teasers from the Great Russian Tradition of Math and Science.*

The book is authored by Dr. Chernyak, a former senior scientist and associate professor of physics at Moscow State University, and **Robert M. Rose**, professor of materials science and engineering. Russian students have wrestled over the problems for years on exams and just for fun; Dr. Chernyak imported thousands of them and has been using some in IAP courses taken by students in the Concourse program, of which Dr. Rose is the director. The collection of brain-teasers spawned the Five O'Clock Club, an informal group of freshmen who sometimes stayed up until 5am arguing over and analyzing the problems.

The volume "is full of bad jokes and good cartoons" drawn by Joseph Latinsky, another former Soviet refusenik, Professor Rose said. The problems, which have names like "Old Man Maza Rows for His Vodka" and "All Tunnels Lead to Moscow," include anecdotes about how they originated or were first solved. They range from easy to extremely difficult, containing humorous references to aspects of Russian life such as communism and bureaucracy even as they teach concepts of mechanics and special relativity. One uses a Russian legend about rabbits in a meadow as it makes the student derive the Hubble constant, he noted.

Only about one-quarter of the problems require calculus, so anyone from high school age and up should enjoy tackling them. "It's a superb educational tool," Professor Rose said.

■ The News Office receives requests for information from time to time via e-mail <newsoffice@mit.edu>, but the message received May 12 with a subject line saying "I want to be a future student" was somewhat out of the ordinary and made for enjoyable reading:

"My name is Maxwell Jordan Winer. I like being called Max for short, and I'm nine years old. When my dad first told me about this school I was very excited and I still am and I will always be. I am really into science and technology. That is why I am E-Mailing you. If you are interested, I want to tell you about a big science contest I won. I entered a big science contest, it was about recycling used containers and making it into something different. I made building blocks out of my little sister's baby wipe boxes. After about four weeks my science lab teacher came into the cafeteria to announce the winners of the science contest. When she announced the non-winners, I didn't hear my name being called. So then I got really excited, and she announced my name as a grand prize winner. I won a trip to the Great Swamp.

"I live in Elizabeth, New Jersey and as you can see, I am a big fan of M.I.T. So I'll see you in a few years. Please write back. See you soon—Max Winer."

■ The MIT International Relations Council sent nine students to Geneva last month to debate international issues at the 1995 Harvard World Model United Nations Conference, where about 150 students represented their countries on eight different simulated UN committees, including the Security Council and the International Court of Justice.

"It was a great multicultural experience," said Rebecca Morss, a graduate student in earth, atmospheric and planetary sciences. "You don't usually meet people from Croatia in your everyday life, even at MIT, where there are people from all over." The MIT delegation had an international flavor itself, with only four of the nine students born in the US. Others from MIT were Maria-Elena Mayorga, a junior in biology, and graduate students Sarah De Rocher and James Ellison of political science, Stephane Couturier of aeronatutics and astronautics, Andrew Green of chemical engineering, Ulrich Knirsch of ocean engineering, and Wai-Kit Lau and Rajeev Surati of electrical engineering and computer science.

Mr. Ellison and Mr. Knirsch also met with UN Under-Secretary General Vladmir Petrovsky at the UN Office at Geneva to report on the progress of the Model UN conference.

"It opened my mind to understanding how and why our peers from all over the globe perceive international issues differently," Ms. De Rocher said. "I've learned about parliamentary procedure and how to speak clearly, persuasively and extemporaneously. But it is more than just pontificating: the purpose of the exercise is to think about solutions to the world's problems, to learn about the negotiating process, building compromise, and why the UN isn't always effective."

"Having participants from a 'techie' school clearly added another dimension to the committee proceedings," Mr. Lau added.

As for the city of Geneva itself, Mr. Knirsch reported that "the only things that are affordable are pocket knives and good chocolate."

The trip was supported by the Offices of the Provost, the Associate Provost, andthe Deans of Architecture, Engineering, Graduate School, Humanities, Science, and Undergraduate Affairs, as well as the Center for International Studies and the Technology and Policy Program.

Asian leaders come to MIT to simulate '98 crises

What diplomatic, economic, political and military crises may occur in Asia between 1998 and 2010? No one knows, but 40 government officials, scholars and business leaders from six nations came to MIT for three days in May to test their peace-keeping skills in MIT's second biannual "Asia Pacific Crisis Simulation."

The simulation, involving hypothetical problems of nuclear weapons, hostages and refugees, was filmed and will be broadcast in Tokyo in July by TV Asahi as a two-hour documentary.

Leaders from Japan, China, Korea, Malaysia, Australia and the US participated along with MIT faculty and political science students. They were assigned to roles representing leaders of Japan, the US, the People's Republic of China, Taiwan, a unified Korea, Vietnam, Indonesia, Malaysia and Australia.

Through interactive role-playing among themselves and MIT faculty and students, the group helped to model the ways in which nations in the region would respond to international and domestic events.

"It was a great success," said Professor Richard J. Samuels, head of political science and director of the MIT Japan Program, who teaches a graduate seminar called Japan and the New World Order which included the simulation.

The Japanese team, despite considerable domestic political instability, "succeeded in achieving many of its long-term objectives, including a resolution on trade disputes with the United States, revision of its anti-war constitution and reaffirmation of US security guarantees," he said.

Professor Samuels said the Chinese team ended the game with martial law and the arrest of three of its leaders. To the surprise of many, an unprecedented refugee problem in the Sea of Japan was met with a swift bilateral resolution between Japan and a unified Korea. On the other hand, the creation of an Islamic Republic in Indonesia led to military activity and the disruption of trade in the Malacca Straits.

A summary of the proceedings can be obtained by calling the political science department, x3-3128.

Institute Calendar

* -Open to public
**-Open to MIT community only
***-Open to members only

May 24 - June 11

■ SEMINARS & LECTURES

WEDNESDAY, MAY 24

Programs, Plans and Postural Sets: A Synthesis of Force and Equilibrium Control*—Prof. Gerald Gottlieb, Neuromuscular Research Center, Boston Univ. Center for Biological and Computational Learning Seminar Series, 12-1pm, Rm E25-401.

Develoment of a Particle-in-Cell Method for Oceanography*—Prof. Benoit Cushman-Roisin, Dartmouth. Physical Oceanography Sack Lunch Seminar, 12:10pm, Rm 54-915. More info: x3-0251.

THURSDAY, MAY 25

Reality is Virtual: Why Virtual Reality Works*—Dr. Lawrence Stark, Univ. of CA/Berkely. Sponsored by the Man Vehicle Laboratory, Dept. of Aeronautics & Astronautics, 3pm, Rm 37-212. Q&A afterwards.

Reading by Alan Lightman, MIT*—Readings from his latest book, *Good Benito.* Sponsored by the MIT Libraries, 4pm, Rm 14S-200. More info: x3-5674.

FRIDAY, MAY 26

Metal Redox Cycling by Superoxide Radical in Seawater*—Bettina Voelker, WHOI. Chemical Oceanography Seminar, 3-4pm, Rm E34-300. More info: x3-8732.

WEDNESDAY, MAY 31

Topographic Preconditioning on Open Ocean Convection*—Keith Alverson, MIT/WHOI Joint Program. Physical Oceanography Sack Lunch Seminar, 12:10pm, Rm 54-915. More info: x3-0251.

Variational Bounds on the Effective Moduli of Composite Materials*—Dr. Leonid Gibiansky, Princeton Univ. Sponsored by the Dept. of Mechanical Engineering, Special Applied Mechanics Seminar, 3-4pm, Rm 5-234.

THURSDAY, JUNE 1

Environmental Planning in Bavaria with Spatial Information Systems*—Dr. Jorg Schaller, Scientific Director, Environmental Systems Research, and Profesoor, Technical Univ. of Munich. Sponsored by the Dept of Urban Studies & Planning, Planning Support Systems Group, 12:15-2pm, Rm 7-439. Refreshments. More info: x3-0779 or <roneil@mit.edu>.

FRIDAY, JUNE 2

Divertor Studies on TdeV: Status and Future Plans*—Dr. Real Decoste, Centre Canadien de Fusion Magnetique, Canada. Plasma Fusion Center Seminar, 4pm, Rm NW17-218.

■ COMMUNITY CALENDAR

Al-Anon*—Meeting every Fri, noon-1pm, Rm E23-297; every Tues, 12:30-1:30pm, Rm E53-212, Dewey Library (2nd Fl. Study Lounge); every Wednesday (room change starting June 7), 12-1pm, Rm 1-242, and every Mon, 12-1pm, Lincoln Lab Bldg 1218, Family Support Ctr. The only requirement for membership is that there be a problem of alcoholism in a relative or friend. Alise, x3-4911.

Health Seminars—May 26:** The Female Body. **May 30:** What's All the Fuss About Prozac? Above seminars meet 12-1pm, Rm E23-297, and do not require pre-registration. Sponsored by the MIT Medical Dept's Health Education Service, call x3-1316 for more information.

Infant-Toddler Child Care Briefings—May 24:** Sponsored by the Family Resource Center, 12-1:30pm, Rm 4-144. Preregistration required, call x3-1592.

Reengineering Brown-Bag Lunches**—A series of informal lunches with teams working on reengineering. A brief presentation will be given by the featured team at noon followed by questions and discussion. Upcoming sessions: **June 5:** The Buy-Pay Redesign, Rm 6-120.

Summer Physical Education Classes**—Registration begins May 30 in the Physical Education Office located on the second floor of duPont Athletic Center, Rm W32-125. Activities offered include: Early Bird Aerobics, Aerobic Dance, Exercise Fitness, Step Aerobics, Conditioning, Golf, Sailing, Scuba and Tennis. Classes are open to all members of the community for a modest fee (slightly more for those without athletic cards). For more information, call the PE Office at x3-4291.

User Groups and Quick Start Classes—May 25:** CWIS Publishers User Group, 12-1:30pm, Rm 3-133. **May 26:** HTML Demo, 9-11:30am, Rm 3-133. All events free. Sponsored by Information Systems.

Weight Loss Study**—The Clinical Research Center is looking for males and females who are 60 - 80 lbs overweight for a 13-week study designed to control emotional overeating. Must be healthy and a non-smoker. Call x3-3437.

Wives' Group—May 24:** "Of Cows and Carrot Tops—Puppet Stories for Young Children," Margaret Moody, puppeteer from the Galapagos Puppet Troupe and Wives' Group member. Meetings are from 3-4:45pm, Rm 400 Student Ctr. Babysitting provided. All members of the MIT community are welcome. Info: x3-1614.

■ MITAC

The MIT Activities Office (MITAC) is a non-profit employee service which serves the cultural and recreational needs of the MIT community, their families and friends. Two locations: (1) Rm 20A-023, 18 Vassar St, Cambridge - 9:30am-3:30pm, Monday, Wednesday, Thursday, and Friday (closed Tuesday and all Institute holidays); (2) Rm LLA-218, x6130, Lincoln Labs, Lexington, 1:15-4pm, Thursday and Friday only. Call x3-7990 at 20A-023 or e-mail <ekm@mit.edu> for further information. Please note that MITAC accepts only cash or a personal check (with a valid MIT ID) made payable to MIT. Credit cards not accepted.

See the MITAC monthly flyer distributed to all MIT employees for further information regarding other recreational and cultural events and various types of discounts currently offered to the MIT community by local organizations and businesses.

Discount Movie Tickets**—Sony/Loews Theatres $5 ($4.50 plus 50¢ service charge); Showcase Cinemas $4.75 ($4.25 plus 50¢ svc chrg), General Cinemas $5.00 ($4.50 plus 50¢ svc chrg).

Make Way for Ducklings Tour—June 10:** 11am-12:30pm, Boston Public Gardens, $5.50 (adults and children 3+); meet at Information Kiosk near Park St. Station; currently on sale; must be purchased by 5/26.

Balloon Festival in Quechee, VT—June 16-18:** Stay at Talbot House, So. Pomfret, Vt; adults $77, Child (3-10) $38.50; Child (2 & under) $5; limit 1 room per MIT ID; currently on sale; rooms still available; must be purchased by 6/2.

Future Fall Events—September 13:** Foxwood Casino Day Trip, $19; **October 6-9:** Montreal Fall Foliage Weekend, $185/ppdo; **October 28-29:** Autumn Weekend in Nantucket, $98/ppdo; events currently on sale. See detailed information in May/June MITAC flyer.

Other Offerings**—Walt Disney's Magic Kingdom Club Membership Card and Membership Guide, good through June 1996; Anheuser-Busch Theme Parks Club card (discounts for Sea World, Busch Gardens, Sesame Place, Cypress Gardens); New England Aquarium tickets, adults $5.50 (reg. $8.50), good through May 1996; Metro Museum Savings Book, $3.00 (reg. $5.00); Boston Today Discount Book, $1.10 (reg. $6); plus many others.

New Discounts**—The Charles Playhouse is offering $5 off any performance of "Slice of Saturday Night" with an MIT ID; performance runs from March 25 to September 3, 1995.

Next deadline for listings: **12 noon Friday, June 2.** Covers events from Wednesday, June 7 through Sunday, June 25. Listings for the Institute Calendar and Student Notices may be e-mailed to <ttcalendar@mit.edu> or mailed to Calendar Editor, Rm 5-111. Early submissions encouraged.

Awards & Honors

■ **John Rogers**, a graduate student in chemistry, has received an honorable mention in the fifth annual BF Goodrich Collegiate Inventors Program. His work took a measurement method previously confined to the research laboratory and reduced it to a practical device suitable for routine materials testing and on-line process monitoring. Mr. Rogers developed a new method for nondestructive testing of thin film mechanical, thermal diffusion and adhesion properties, and he also found a way to reduce the 12-by-4-foot measurement apparatus to the size of a briefcase, thus also reducing its cost and complexity of operation. His invention could have widespread applications in the microelectronics, automotive, plastics, paint and protective coatings industries.

■ **Jacob Seid**, a junior in electrical engineering and computer science, is one of four MIT and Harvard applicants to win a Kawamura Fellowship, which pays all expenses for a month of travel in Japan during the month of July. The program is designed to promote cultural exchange and understanding between the United States and Japan.

Tech Talk issues awards call

This year MIT Tech Talk plans to publish accounts of awards to students and other members of the communuty in the June 7 edition, the paper that will be available to families at Commencement.

Because of the volume of awards given every year, we would appreciate receiving them via e-mail to <miller@mit.edu> or <awaugh@mit.edu> in the following specific order: award, recipient's first name, middle initial, last name, class year (e.g., sophomore, senior, not '96, '94), academic department by name, home town and state. A phrase stating the reason for the award also would be helpful. Using Binhex in TechMail to save formatting also will help.

For those who cannot communicate electronically, we will accept the information in the same order on a disk in Microsoft Word 5.0 for Macintosh.

Please send your accounts along as soon as possible. Assembling this infomation and arranging it for publication is very time-consuming, so getting complete information early is essential in presenting a comprehensive report.

The deadline for inclusion in the June 7 issue will be Friday, May 26. If your awards have been decided but not yet presented, please so note, so that we know to treat the information as confidential.

AIDS walk team assembling

MIT is up against a challenge: Harvard hopes to become the top university team in this year's AIDS pledge walk on Sunday, June 4.

MIT will be defending its title in its fourth year of participation in From All Walks of Life. Last year, 64 members of the community raised nearly $15,000 to become the top university team. Organizers this year hope to retain that title and increase the number of walkers and the amount raised.

"The advantage of walking as a team is that all team contributions are matched by the Boston Foundation up to a total of $50,000 per team," according to Sgt. Cheryl deJong Vossmer of the Campus Police, one of the MIT coordinators.

The 10K (about six miles) walk—rain or shine—will follow a route beginning at the bandstand on Boston Common, to Coolidge Corner in Brookline, back across the BU Bridge to the Harvard Bridge and down the Esplanade, culminating with a concert at the Hatch Shell. It is the largest AIDS fundraiser in New England. Proceeds benefit the AIDS Action Committee and 35 other AIDS service providers in the greater Boston area.

More information is available by e-mail request to <walk-info@mit.edu>. The MIT team coordinators are Sgt. deJong Vossmer, <crimbite@eagle.mit.edu>, who can provide buttons and posters; Rosario Gennaro <rosario@theory.lcs.mit.edu>, and Terri Priest <tpriest@mit.edu>, who can provide pledge sheets and information.

The final preregistration will be held on Thursday, June 1, 1-3pm in Rm 8-119.

Notes from the Lab

Media Lab graduate student Steve Mann, "wired" to his wearable computer, stands by photos made with his camera/display equipment, scanned and turned into prints. **Photo by Donna Coveney**

SMART CLOTHING

Steve Mann is one of a growing number of Cyborgs, pioneers in human-machine interaction who walk around wired to custom-designed wearable computers.

For the past year, Mr. Mann, a graduate student studying video understanding with Professor Rosalind Picard in the Media Laboratory's Perceptual Computing Group, has been wearing a "visual filter"—a wireless, wearable camera/display device and radio communications equipment. This system sends his visual field anywhere in the world via the Internet. He is connected to the Internet through a waist pack containing radio communications and processing equipment.

The configuration is constantly improving. A recent addition: a better antenna attached to Mr. Mann's MIT baseball cap. One possible application of this setup is as a personal safety device. For example, while walking to the garage late at night, you could transmit your surroundings to your family or friends. It also offers what Mr. Mann terms "fairness on the Surveillance Superhighway," where individuals with such a system will have the opportunity to have their own record of events, such as the Rodney King incident.

To see Mr. Mann's images for yourself, visit <http://www-white.media.mit.edu/~steve>. (Source: Frames, a publication of the Media Lab)

TOWARD UNDERSTANDING CHRONIC PAIN

To understand chronic pain better, including persistent backache and migraines, Professor Jean Jackson spent a year studying 186 patients at a Boston pain clinic. Now she has written "Camp Pain: Building Community and Rebuilding Self," a soon-to-be-published book on her findings.

"Pain is a communication in that the mind tells the body to pull your hand away from a fire," says Professor Jackson, who is head of the Anthropology/Archeology Program in the School of Humanities and Social Science. "But chronic pain is bad communication. It's like the phone off the hook." Professor Jackson's research addresses, among other things, the relationship between mind and body and its role in biomedicine, and how severe pain alters one's concept of oneself. Her research was supported by the National Institute of Mental Health. (Source: Spectrum)

This column features summaries of MIT research drawn from several sources. If you have an item to suggest, send it to Elizabeth Thomson, Rm 5-111, or <thomson@mit.edu>.

Arts Calendar

May 24-June 11

■ MUSIC

Live Jazz—May 31. No cover charge. 8:30-10:30pm, Muddy Charles Pub in Walker Memorial Hall. Moto, 253-5050

Gamelan Galak Tika Rehearsals/Meetings. Wednesdays—7:30-9:30pm, Kresge basement; Sundays—4:30-6:30pm, Kresge. Info: Evan Ziporyn, 253-9822

MIT Guild of Bell Ringers. Change ringing on hand bells. Beginners always welcome. Will also ring for occasions. Call Ken, 253-7194 or 784-6114. Meets Mondays, 6:30pm, 2nd floor balcony of Lobby 7.

Free BSO. For Tuesday night or Friday afternoon concerts, or any open rehearsal, MIT students can present their current ID at the Boston Symphony box office, the day of the concert, for a ticket to available seats. No reservation/advance "purchase." Schedules available at Office of the Arts, E15-205. 253-2372

■ DANCE

MIT Folkdance Club. Sun—International Dancing: Early teaching for beginners-7-8pm; Teaching & requests-8-11pm, Sala de Puerto Rico or Lobby 13. **Tues—Advanced Balkan Dancing:** Regular teaching & requests, 8-11pm, Student Center 4th floor (491/401). **Weds—Israeli Dancing:** Early teaching for beginners-7-8pm; Teaching & requests-8-11pm, Sala de Puerto Rico or Lobby 13. MIT/Wellesley students free, $.25 others. Call 253-FOLK for locations on a given week.

MIT Capoeira Club. The art of fight and dance from Brazil. Mon—9-10:30pm, Dance Studio; Weds—8-10pm, Dance Studio; Sat—2-4pm, T-Club Lounge. Tisza, 876-9141 or Rodrigo, 492-5799

■ FILMS/VIDEOS

(See LSC Movies in Institute Calendar)

■ READINGS

Prof. Alan Lightman—May 25. The head of the Program in Writing and Humanistic Studies reads from his latest book, *Good Benito*. 4pm, Humanities Library Reading Rm (14S-200).

■ EXHIBITS

List Visual Arts Center (E15): ***Leon Golub and Nancy Spero: War and Memory.*** Retrospective of the senior American artists Leon Golub and Nancy Spero, artistic and marital partners for over 40 years. Through June 25. Hours: Tues, Thurs, Fri 12-6; Weds 12-8pm; Weekends 1-5; closed holidays. **Curatorial Office Hours**—Meet the curatorial staff for informal discussions and questions about art—Weds, 12:30-1:30pm. 253-4680

MIT Museum (N52): ***Sailing Ships to Satellite: The Transatlantic Connection.*** Features rare photographs and artifacts documenting the history of transatlantic communication. Through Sept 3. ***From Louis Sullivan to SOM: Boston Grads Go to Chicago.*** Drawings and artifacts that explore the explosive growth of Chicago in the last quarter of the 19th century. Extended through June 18. **Ongoing:** *Holography: Artists and Inventors; MIT Hall of Hacks; Light Sculptures by Bill Parker; Math-in-3D: Geometric Sculptures by Morton C. Bradley, Jr.; MathSpace.* 265 Mass Ave. Tues-Fri 9-5, Weekends 1-5. 253-4444

Hart Nautical Gallery—*Course 13, 1893-1993: From Naval Architecture to Ocean Engineering.* The history of the Dept of Ocean Engineering. Includes a prototype autonomous underwater vehicle, designed and built in the 1970s, and current work including research performed by the department for Bill Koch's successful America's Cup campaign with America³ ***Permanent Exhibition of MIT Museum's Ship Models.*** Ongoing. Weekdays 9-8. 253-5942

The Dean's Gallery: ***Adventures on the Right Side of the Brain.*** Gouache and mixed media paintings and sculptures by Elizabeth Reid Maruska '79 reflecting the joy of movement and infinite horizons. The Sloan School of Management's Dean's Gallery (E52-466). Through June 15. Weekdays 8-5pm. On-line gallery: http://sloan.mit.edu/gallery/gallery.html. Michelle Fiorenza, 253-9455

Hillel Holocaust Memorial Program: ***Resistance and Rescue: Denmark and the Holocaust.*** Photographs focusing on the inspiring and heroic rescue of Danish Jewish community during 1943 as well as the horrors and brutality of Hitler's "Final Solution." Top floor dining hall of religious activities building (W11). Through June 20. 253-2982

■ OTHER

Applications for Wiesner Student Art Gallery. All students welcome to apply for exhibits for summer and fall. Information: Anadri Chisolm, Campus Activities Complex, W20-500.

The Arts

The Arts Page is produced by the Office of the Arts in collaboration with ARTSNET. Lynn Heinemann, writer; Susan Cohen, designer; Mary Haller, editor. E15-205; 253-4003. Mosaic users can now find the Arts Page on-line by accessing the Arts Folder in TechInfo. Our URL is: http://web.mit.edu:1962/tiserve.mit.edu/9000/25846.html.

Arts on the web

More and more MIT arts organizations and individuals have found a "home" on Internet's World Wide Web, the latest tool for hooked-up global information-seekers. Some of the Arts "Home Pages" you can find on Web are:

Chorallaries of MIT: http://www.mit.edu:8001/activities/choral/home.html

Dramashop: http://www.mit.edu:8001/activities/dramashop/dramashop-home.html

Gamelan Galak Tika: http://gamelan.www.media.mit.edu/~gamelan/

MIT Gilbert & Sullivan Players: http://www.mit.edu:8001/activities/gsp/home.html

MIT Brass Quintet: http://www.mit.edu:8001/people/esbailey/MITbrsqt.html

MIT Muses: http://www.mit.edu:8001/afs/athena/activity/m/muses/www/home.html

The MIT Museum: http://web.mit.edu/museum/www/museum.html

MIT/Wellesley Toons: http://web.mit.edu/afs/athena/activity/t/toons/www/home.html

Music Library Home Page: http://nimrod.mit.edu/depts/music/music-top.html

Musical Theatre Guild: http://www.mit.edu:8001/activities/mtg/mtg-home.html

Program in Writing and Humanistic Studies: http://web.mit.edu/humanistic/www/

Sloan School of Management Dean's Gallery on-line exhibit: http://sloan.mit.edu/gallery/gallery.html

Web page with list of about 30 MIT arts organizations and links to their pages: http://web.mit.edu/activities/arts.html

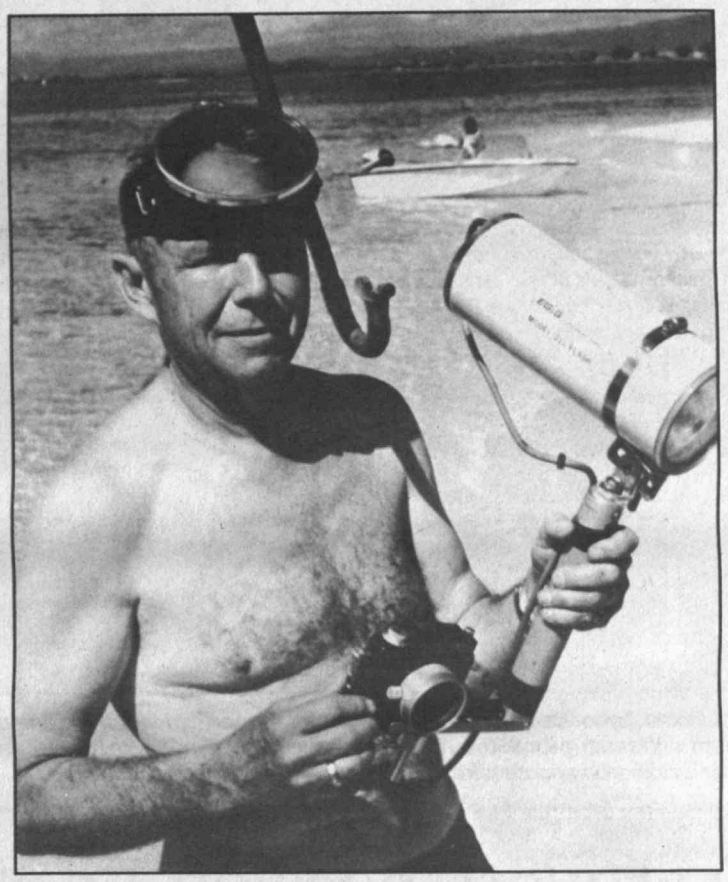
Also, Andrew Kraft '96 has compiled and maintains a "Theatre Central" web page, the largest theater index on the Web: http://www.mit.edu:8001/people/quijote/theatre-central.html

The Information Systems CWIS group provides assistance, including file space, training, and support, to MIT organizations who want to publish their information up on the WWW. They recommend attending the following two presentations:

MIT's Presence on the World-Wide Web—Thursday, June 1 from 9-10:30am; and Introduction to HTML Coding—Friday, May 26, Tuesday, June 6 (9-11:30am), or Thursday, June 29 (9-11:30am). Check TechInfo [Computing—>Training—>Quick Start classes] or the URL: http://web.mit.edu/cwis-presentations.html for locations and updates.

For more information on setting up WWW pages at MIT send email to cwis-help@mit.edu

Celebrating "Doc" in text & disc



"[Edgerton's] photographs are, almost without exception, the best flash pictures ever made," wrote the New York Times in a recent review of SEEING THE UNSEEN: Dr. Harold E. Edgerton and the Wonders of Strobe Alley, *published by MIT Press. The illustrated book focuses on the life and science of "Doc" Edgerton, with emphasis on the tools and techniques behind his groundbreaking work. It also features a unique format—the spiral-bound volume is modeled on the notebooks Edgerton kept as a record of his work and is accompanied by an "electronic gallery" of 122 additional images from Doc's work on CD-ROM.*

Left, Edgerton prepares to take underwater photographs of the sea bottom off Jamaica. An experimental electronic flash lamp and complete circuit with a battery are shown in a cylindrical watertight container attached to a Nikonos underwater camera.

Calvin Campbell photo

Edgerton/Milli photography awardwinner

"Nucleation," (right) a scanning electron micrograph of a metal-organic deposition taken by Lincoln Lab staff members Steve Groves and Paul Nitishin was one of two second-place winners in the fourth annual Edgerton/Mili Scientific Photography contest. The other $300 second-place prize was awarded to Carlos Lois, a postdoctoral fellow in Biology. Mechanical engineering graduate student William W. VanArsdell won the $100 third place award. A first-place prize was not awarded. The images were chosen on the basis of aesthetic components and the ability of the image to convey scientific information.

Concerto competition winners announced

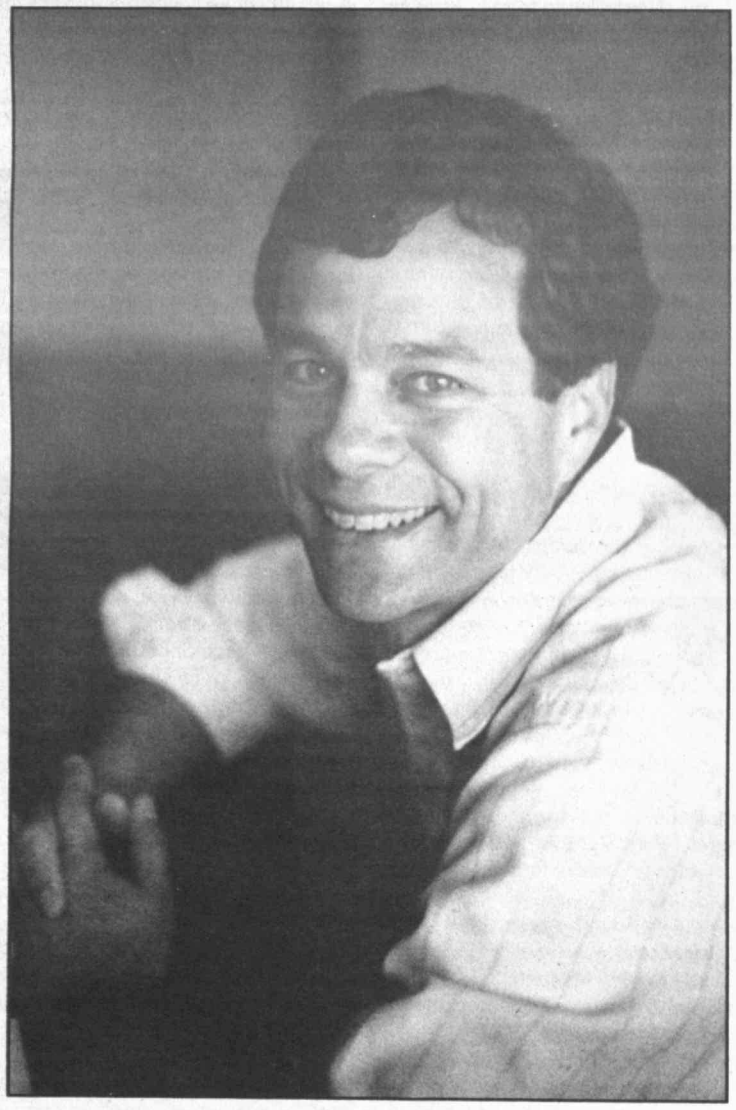
When the MIT Symphony Orchestra held a concerto competition this spring for student soloists to perform with the MITSO, they intended to choose two, one from the orchestra and one from the MIT/Wellesley student body. However, there were so many fine competitors among the 21 who auditioned, that the jury decided to accept a total of six soloists. "The level of musicianship displayed in all the performances was impressive," said Professor David Epstein, director of the MITSO. The jury, which included Epstein and Professors John Harbison and Jeanne Bamburger commented that "this competition could well be taking place at a major school of music."

On Saturday, Oct. 21, the winners from the MITSO will solo with the group: flutist Patricia Lee '98 will perform Mozart's Concerto No. 1 in G Major for Flute and Orchestra, K. 313, and Steven Tistaert '98, trumpet, will perform André Jolivet's Concertino for Trumpet, Piano and Strings (1948).

Non-MIT Orchestra winners will be featured in two concerts. On Saturday, Dec. 9, pianist Douglas Abrams '96 will perform Beethoven's Concerto No. 2 in B-flat for Piano and Orchestra, Op. 19; and on Saturday, March 16, pianist Elaine Chew (G) will play Richard Strauss' Burleske in d for Piano and Orchestra (1885), Euree Kim '96, flute, will solo in Jacques Ibert's Concerto for Flute & Orchestra (1934), and cellist Edward Wu '98 will present Tchaikovsky's Variations on a Rococo Theme for Cello and Orchestra, Op. 33.

Violinists Julia Ogrydziak '96 and Daniel Yu '98 were awarded Honorable Mention.

Lightman reads aloud



Professor Alan Lightman, head of the Program in Writing and Humanistic Studies will read from his latest book, Good Benito, *on Thursday May 25 at 4pm in the Humanities Library Reading Room (14S-200). "A novel of breathtaking delicacy and grace," wrote the Washington Post; the New Orleans Times-Picayune said, "Physicist/novelist Alan Lightman strikes a perfect balance of his words in Good Benito."*

The new South Laboratory Building at Lincoln Laboratory is a four-story, steel-framed structure providing 490,000 square feet of space, an auditorium with seating for 350, a multi-level full-service library with more than 70,000 volumes, an archival repository, and research and development laboratory and office areas.

Lincoln Laboratory dedicates new building

(continued from page 1)

bers included John Hancock Mutual Life Insurance Co. which provided the project financing, and R. G. Vanderweil Engineers and Lev Zetlin Associates, the leading engineering consultants.

The experience and expertise of the Laboratory are widely used by the Department of Defense in the areas of surveillance, identification, and communications, as well as by the Federal Aviation Administration in the area of advanced air traffic control technology and by other government agencies such as the National Oceanic and Atmospheric Administration. The Laboratory has been at the center of advances ranging from materials and semiconductor device fabrication to missile defense, air defense, military satellite communications and radar that can detect tanks or other targets hidden under foliage. More than 60 high-technology companies employing more than 100,000 people, with annual sales revenue reaching $16 billion, have spun off from Lincoln Laboratory.

Libraries installing new operations system

(continued from page 1)

Saltzer of electrical engineering and computer science. Libraries staff are developing training, documentation, and publicity materials to help users become familiar with the new system, which should be as easy to use as the current one, he added. Even though the underlying system is changing, the MIT Libraries catalog will still be known as Barton.

Advance is actually an intermediate step; it will form the basis of a client-server system that will be installed in the summer of 1996. In what may be the first agreement of its type in the country, MIT and Geac have signed a deal to jointly develop the client-server system, which Geac hopes will also be adopted by libraries at other large research universities.

Concurrently with the Advance implementation, a means of searching library catalogs via the World Wide Web is being developed by the On-Line Computer Library Center (OCLC), which already provides the FirstSearch databases. The Libraries also plan to distribute a software client throughout MIT that would enable users of Windows-based computers to retrieve catalog information. Thus, library users will eventually be able to look at catalogs of libraries at MIT and other universities using a variety of electronic methods including Telnet, the Web, and Windows and Athena-based clients (the last already exists in the form of WILLOW, or Washington Information Looker-upper Layered Over Windows). "It gives people a little more freedom of choice," Mr. Anderson said.

This summer's improvement is coming somewhat later than expected. The Libraries originally intended to install a system called Horizon made by NOTIS, but that company abandoned plans to move forward with Horizon and MIT reopened its search, Mr. Anderson explained. Geac had been the runner-up in the first search when NOTIS was selected, he added.

Alice C. Waugh

Aides needed

Community volunteers are needed to assist at Commencement Exercises Friday, June 9, 8:15-9:45am.

Aides are needed to assist the marshals of the graduates, Professors Kerry Emanuel and Eric Grimson, in assembling the degree recipients' section of the procession on the second floor of the Johnson Athletics Center.

Those who would like to help are asked to sign up with Donald Ferland or Mary Morrissey, Rm 7-121, x3-1475.

Sloan Gallery artwork goes on-line

■ **By Janice Zazinski**
Sloan School

Visitors to the dean's suite at the Sloan School of Management are often surprised to see fiery bursts of color, delicate brushstroke studies, striking photographs or bold sculptures in marble and steel. This is the Dean's Gallery, where an ongoing series of exhibits celebrates the artistic creativity of the MIT/Sloan community.

Now, in a nod to modern technology, the gallery has gone on-line.

"Putting these exhibits on the World Wide Web will allow us to reach a much wider audience," explained Michelle Fiorenza, who manages the Gallery on a volunteer basis. "One of our goals is to show people that the arts are flourishing in this community."

Artist Elizabeth Reid Maruska '79 is the first to have her show simultaneously displayed in physical space and cyberspace. From May 11 through June 15, her gouache and mixed media works are on view in an exhibition entitled *Adventures on the Right Side of the Brain.*™

The work of Sloan artists has been on display since February 1994, when a spacious but drab foyer was transformed into the Dean's Gallery. The project was initated by Robert McKersie, former deputy dean and now Sloan Fellows Professor of Management. Ms. Fiorenza, a support staff member and photographer, was the first to show her work.

Dean Glen L. Urban, himself an accomplished sculptor whose work has been shown in the space, sees art as complementary to the more traditional work of a business school.

"Creativity, the arts and management education aren't as disparate as they might seem," he said. "Sculpture has provided an important personal dimension to my life and has also helped me to be more creative in my analytical research work at MIT. The Gallery is also one of the ways we can show the other side of Sloan—how our product is different from what people perceive."

Ms. Maruska, an alumna of the Sloan Master's Program, agrees. "My art is an invitation to release the viewer's own creativity, which can help you be more productive at work or at home."

The Dean's Gallery is located on the World Wide Web at <http://sloan.mit.edu/gallery/gallery.html>, just a link away from the Sloan School's home page at <http://www-sloan.mit.edu>. In addition to featuring the current artist, the on-line gallery includes a selection of images and descriptions of work from all previous shows and personal statements by the artists.

The popularity of the Dean's Gallery has also led to the Dean's Distinguished Art Speaker Series, where artists discuss their work. A recent speaker was Stephen A. Benton, Allen Professor of Media Arts and Sciences at MIT and a leading researcher in holography, who discussed the history of holography as reflected in the MIT Museum's new collection of holographic art—the world's largest.

Artwork submitted for the gallery is reviewed by the Sloan Arts Committee. All forms of creative expression are welcome, Ms. Fiorenza explained, and there appears to be no shortage of talent. "We're booked through November," she said.

The gallery is located in Rm E52-466 and is open Monday through Friday, 8am-5pm. For further information call x3-9455.

Senior creates photo montage

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tic responses but no signatures on the required paperwork," Mr. Zamir said. "Happily, Steve Immerman, as head of the Facilities Use Committee, approved the use of the site and Bill Mitchell [Dean of Architecture and Planning] accepted project sponsorship. Then I got a grant from the Council for the Arts at MIT to help defray expenses and actually put together the large mural." He will sell his poster versions in Lobby 7, Monday through Wednesday, May 29-31, for $12 or they can be ordered by e-mail: <zman@mit.edu>.

Mr. Zamir, who said he developed his passion for photography while at MIT, also has an exhibition at the Wiesner Student Art Gallery on the second floor of the Stratton Student Center through June 10. *MIT in All Its...* explores the Institute in 40 black and white photographs, tracing a path through the campus' archways, details and the ever-expanding view of MIT students. Following graduation, Mr. Zamir plans to do free-lance photography and graphic design work in the Boston area.

Service project brings student groups together

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morning. In the afternoon, they worked with children at the center, painting T-shirts, making paper airplanes and origami, and playing kickball and dodgeball.

By the end of the day, students had gravitated away from their own living group members they arrived with and were talking with everyone else. "They left with a greater appreciation of the different students they worked with and the personal rewards of engaging in community service, and that's that this was all about," said Emily Sandberg, director of the PSC. "It was an all-around wonderful event."

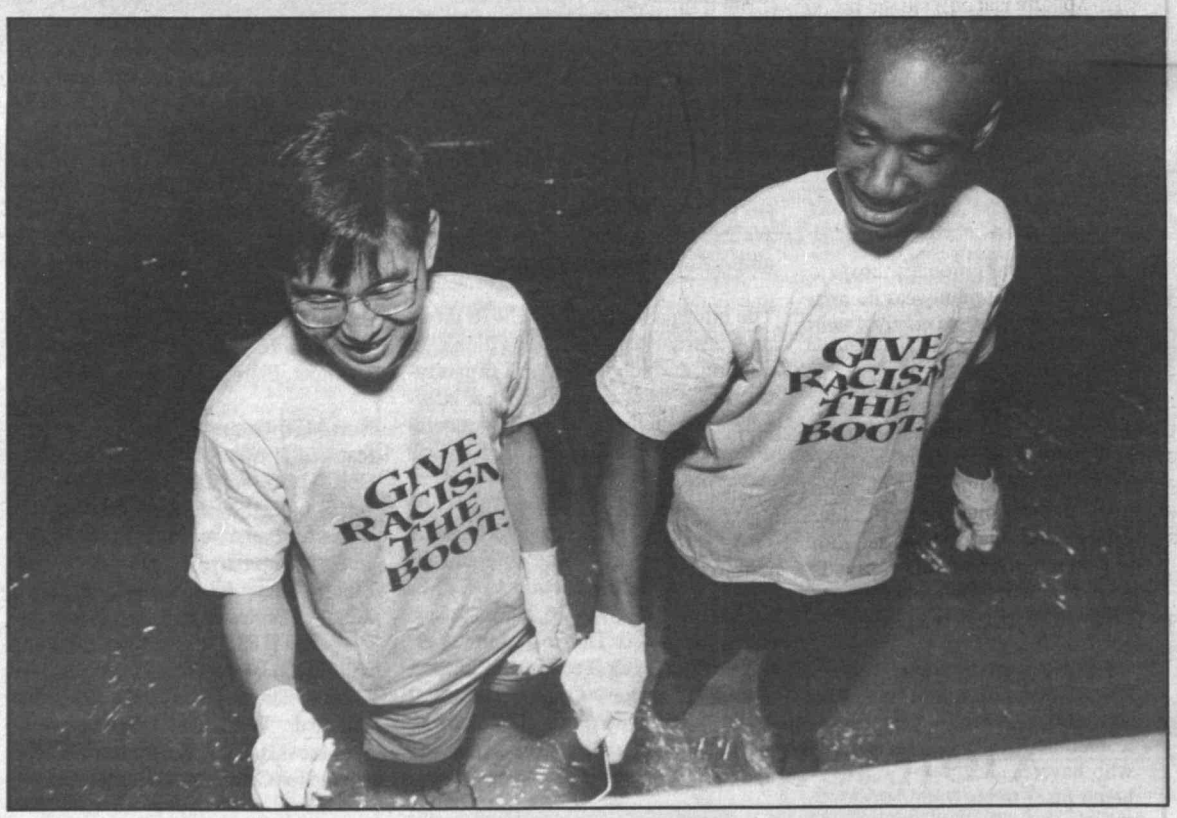
"We wanted to do something proactive, getting groups at MIT together in hopes people would become friends. And that's exactly what happened—it really worked well," Mr. Shay said. "We made a lot of good connections with other groups. I met a lot of people I never would've met otherwise."

"It took down the barriers, just having conversations," agreed Alim Needham, a sophomore in EECS and co-chair of the BSU. "There were a lot of people talking, getting to know each other and finding things in common."

Timberland provided part of the budget as well as T-shirts, help in coordinating the event and leading team-building exercises. The company is also a major sponsor of City Year. This is the first time it has worked directly with a university to develop an anti-racism program. However, the company will be involved with the PSC's CityDays program during R/O, according to Elise Klysa, the company's senior manager for community enterprise.

"We have a belief at Timberland that people coming together can accomplish something, but that diverse people coming together can have an incredible impact," she said. "I think this will have a longer-term impact, not just here but taking it back to campus and hopefully doing it again."

"I can't wait to do this next year," Mr. Needham said. "It's got a lot of potential."



Ken Song, a junior in biology, and Mark Mander, a sophomore in physics and in electrical engineering and computer science, finish painting a wall in the Cambridge Community Center's gym.

Photo by Donna Coveney