

SPRING CLEANING--Photojournalist Donna Coveney found these window washers high atop a scaffold at the Medical Center.

57% RECEIVE AID

Tuition, Fees to Rise 7.4% for 1991

President Charles M. Vest announced the 1991-92 tuition would be \$16,900, a figure sufficient to maintain MIT's long-standing policy of need-blind admissions. Some colleges have abandoned this policy in recent years because of financial constraints.

"Students should be admitted on the basis of excellence and not on family income. MIT has excellent students; they have moderate wallets," President Vest said.

"One of the ironic facts of the financing of higher education today is that private colleges and universities must charge very substantial tuitions in order to ensure that they have the resources to provide financial aid to their students. Despite our constant efforts to keep down the price of education, and to restrain our costs, substantial tuitions are required to continue need-

blind admission, which is critical to maintain freedom of opportunity in a society increasingly dependent on scientific and technical knowledge," he said.

This year, 57 percent of the undergraduates received financial aid (long-term loans, student jobs and scholarships) from MIT. A typical financial aid package to help pay this year's \$20,700 price for tuition, room and board included \$10,600 in scholarship, \$4,000 in loans and \$1,700 from student employment.

Dr. Vest said tuition, room and board will increase in 1991-92 by \$1,530, or 7.4 percent, to \$22,230. Average room and board will be \$5,330, an increase of \$230. The tuition increase will be \$1,300.

"Tuition usually covers only half the actual cost of an MIT education," Dr. Vest said. The remainder is met by

earnings from the endowment and by unrestricted income from tuition, gifts and grants.

"A proud part of MIT's tradition has been that it has attracted an unusually large number of students from financially modest backgrounds, often the first of their families to attend a university. It has been an upward pathway for bright young men and women. This has been made possible by the policy of admitting students without regard to their ability to pay, and using the Financial Aid Office to guarantee to meet their demonstrated financial need."

Dr. Vest said, "Admission to MIT is an analytical and subjective process with extremely high academic stan-

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NEW STUDY

Depression in Real Estate Is Unlikely, Experts Say

A "national depression" in residential real-estate prices is highly unlikely, say two housing experts at MIT and Harvard University.

According to Professor William C. Wheaton of MIT and Professor Denise DiPasquale of Harvard, their recent study of future home prices found that

while "there may be short-term downturns in local markets over the next decade, a systematic national depression in single-family house prices is extremely improbable."

Dr. Wheaton, associate professor of economics and urban studies, is associated with MIT's Center for Real Estate Development. Dr. DiPasquale, formerly at MIT, is now at Harvard's Joint Center for Housing Studies.

In their study, "Housing Market Dynamics and the Future of Housing Prices," the researchers argue that anticipated changes in the country's demographic structure will have a less negative impact on housing demand than previously thought. They find that the older age distribution of the population will tend to generate higher home ownership levels—at least partially offsetting the negative impact on prices of lower household formation.

Even then, they say, the net effect will be to reduce the demand for single-family housing.

But their major finding, they add, is that the supply of new single-family units, or the rate of new construction, is extremely sensitive to changes in housing prices as well as other more general market conditions. Thus, if housing prices did start a significant decline, new construction would diminish, and this in turn would quickly arrest any further decline in prices.

They conclude that "with price-elastic construction in the short run, and a rising long-run supply schedule for the stock of housing, it is almost impossible for prices to undergo any significant and sustained decline."

Using their econometric model, the researchers estimate that housing prices should rise over the next decade at an average rate that is just slightly faster than the overall consumer price level. Over the next three years, however, housing prices will be softer, because of the current recession and the likely course of the nation's macroeconomy.

While not pessimistic about future housing prices, the study does point out that the kind of very rapid growth that occurred in the late 1970s and early 1980s is unlikely to be repeated in the foreseeable future.

IN BRIEF

FRAP CHANGE

The Benefits Office would like to remind all 1990 Flexible Reimbursement Account Plan (FRAP) participants that they have until March 31, 1991, to submit claims for reimbursement against their 1990 deposits.

In prior years, claims could be filed up until September 30 for the previous year. If a participant does not file the claims by March 31, 1991, his/her 1990 balances will be forfeited. Notice of this deadline is being sent by US Mail to the home addresses of all 1990 FRAP participants who have balances in their 1990 accounts.

Claim forms may be obtained from the Benefits Office on campus, at Lincoln Laboratory or by calling BenTalk at 253-5000 and pressing 2-1-3 when the recording begins. The claims must either be postmarked by March 31, 1991, or be received via interoffice mail at the Lincoln Fiscal Office by that date.

SCHEDULING MEETING

The annual scheduling meeting for groups planning events in Kresge Auditorium, the Stratton Student Center or Walker Memorial during the 1991-92 academic year will be held Wednesday, March 20. Further information and scheduling packets are available by calling Patty Murphy, x8-8422. Preliminary applications are due in Rm W20-501 by 5pm Friday, March 15.

REPEAT APPEARANCE

If The Back Page in Positions Available looks somewhat familiar to you this week, it's because the Q&A and the article on the Personal Assistance Program are repeated from the February 20 issue. They are being repeated for the benefit of those who may not have seen them last time. Positions Available, when issued by itself, has a more limited distribution than Tech Talk.

'COOKED DATA'

The Faults and Frauds of Freud

By Eugene F. Mallove
News Office

Sigmund Freud "cooked" data and launched the pseudo-scientific psychoanalysis movement, contends historian of science Dr. Frank J. Sulloway in a paper that he delivered at the AAAS annual meeting last month. Dr. Sulloway is a visiting scholar at MIT in the Program in Science, Technology, and Society.

An expert on Freud, whose book *Freud, Biologist of the Mind: Beyond the Psychoanalytic Legend* (Basic,

1979) won the prestigious Pfizer Award of the History of Science Society in 1980, Sulloway has extended his earlier views in light of his more recent historical research.

He says, "The supreme irony is that Freud developed concepts like censorship and repression and attempted to overcome their supposedly pathogenic effects through psychotherapy. In fact, the history of Freud's movement illustrates these general distorting tendencies—censorship and repression—with a clarity and tentatiousness that are frankly extraor-

inary in the history of science."

Nor in Dr. Sulloway's view has the distortion been only in Freud's legend. He says, "Freud's case histories are rampant with censorship, distortions, highly dubious 'reconstructions,' and exaggerated claims. Moreover, Freud's choice of cases to publish is highly unusual."

According to Dr. Sulloway, of Freud's six principal case histories, one involved a patient who fled therapy in disgust after only three months, two were not actually treated by him, and another involved no real therapy. Of the patients actually treated by Freud, only two involved purported cures, claims Sulloway. "Based on one of these patient's subsequent testimony, his 'cure' was a complete misrepresentation of the facts," he says.

It wasn't easy for Sulloway to get to the truth about these cases, because, as he says, "The destruction of history was an essential part of Freud's becoming and remaining a great hero in the eyes of posterity. He actively cultivated the 'unknowable' about himself in order to set himself apart from the nonheroic component of humanity." Among other deeds to that end, Freud destroyed personal documents. His followers also decreed that some correspondence could not be seen until sometime in the 21st and 22nd centuries.

Why did Freud publish seemingly fraudulent case histories? "Not because he considered them the empirical 'pillars' of psychoanalysis, as some analysts have claimed. Rather, the case

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Recycling Begins in Dorms

A recycling program for glass, plastic, aluminum and newspaper will begin Saturday, March 9, for all MIT dormitories and apartment buildings, announced Karen A. Nilsson, general manager of operations for Housing and Food Services.

The program is a direct response to student concerns regarding the environment. Students at some dorms started recycling last spring, but "they were pushing for the Institute to get involved in some way, because they were really doing everything on their own," said Bailey Hewit, house manager of Senior House.

Through the new program Jet-A-Way, a Boston-based recycling company, will provide weekly building-by-building curb-side pickups of recyclable materials. The

number of pickups may taper off to twice a month, Ms. Hewit said. "It depends on how much is accumulating."

Student recycling coordinators at each dorm and apartment building will organize the efforts of their respective buildings. About 20 students have volunteered for the positions so far, led by Suniti Kumar, a senior in mechanical engineering.

The program was developed over the last four months by Ms. Hewit and John (Jack) Corcoran, house manager of East Campus. Following the kick-off pickups on Saturday, Ms. Hewit and Mr. Corcoran invite all student recycling coordinators and interested residents to a coffee and donuts reception at 11:30am at the Talbot Lounge, East Campus.

Student Notices

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

ANNOUNCEMENTS

Career Services and Preprofessional Advising Recruitment Presentations—Mar 6:** *Roim Systems*, 6-8pm, Rm 4-145. *TRW Space & Defense*, 7-9pm, Rm 4-149. *Schlumberger*, 7-9pm, Rm 4-153. **Mar 7:** *GCC Technology*, 7-9pm, Rm 4-153. **Mar 11:** *Rational*, 6-8pm, Rm 4-145. *Susquehanna Investment Group*, 7-9pm, Rm 4-153. **Mar 12:** *BNR*, 7:30-9pm, Rm 4-149. **Mar 13:** *Peace Corps*, Info Table, 9am-3pm, Student Center 1st floor lobby; Film, 4:30-6:30pm, Rm 4-149. *MIPS Computer Systems*, 7-9pm, Rm 4-145. *Trimble Navigation, Ltd.*, 7-9pm, Rm 4-153. **Mar 14:** *Phillips Lab*, 6-8pm, Rm 4-149.

MIT Minority Community Events—Mar 6: Fundraising workshop for the MIT community, John Wilson, Associate Director of Foundation Relations and Development, 5pm, BSU Lounge. **Mar 9:** NSBE Fashion Show, Walker Memorial, contact Charisse Russell x5-8662 or Reggie Parker x5-7430. **Mar 11:** Black Men's Discussion Group, 7pm, BSU Lounge. **Mar 13:** Cultural Awareness Day, 12-2pm, BSU Lounge. **Mar 16:** Minority Leadership Conference. Minority Student Group representatives and/or other officers will get together to discuss their roles on campus. BSU lounge, time TBA.]

Free Museum of Science Admission for MIT Students—With MIT student ID, provided by Mass Beta chapter of Tau Beta Pi, the National Engineering Honor Society. Reduced admission to special exhibits.

MIT Student Furniture Exchange—**great bargains, used furniture and more, Tues/Th, 10am-2pm, 25 Windsor St (MIT Museum bldg, 1st fl). Donations welcome. x3-4293.

Arts Hotline—Recorded information on all art events at MIT may be obtained by dialing x3-ARTS. Material is updated every Monday morning.

Nightline—**a student-run campus hotline open every evening of the term, 7pm-7am. If you need information about anything or you just want to chat, give us a call. We're here to listen. x3-8800.

Hosts to International Students Program—MIT Women's League program to host foreign students coming to MIT for the first time. Provide a welcome, occasional hospitality and friendship. All financial and academic problems handled by specific MIT offices. Info/volunteer forms: Kate Baty, 861-6725 or Pam Daveta, x3-3656.

MIT Language Conversation Exchange—**Medical Dept program to assist members of the MIT community to practice a language with a native speaker. Applications accepted throughout the year. To exchange English or another language and be matched with someone with your interests, call the secretary of the Language Conversation Exchange, x3-1614.

MIT Strategic Games Society*—The club for miniatures, war games, role playing, fantasy, and sci fi. Meets every Friday 9pm-12am, every Saturday 1pm-12am, Walker Memorial, 3rd fl. Info, Gary Quick x5-7174.

MIT Table Tennis Club—**Meets Fri 8-10pm, Sat 6-9pm, T Club Lounge, DuPont. Everyone welcome. Info: David Marcus 492-4317.

Tech Model Railroad Club—**New members always welcome. Meets Sat, 6pm, Rm 20E-214. Call x3-3269.

RELIGIOUS ACTIVITIES

The Chapel is open for private meditation 7am-11pm daily.

Baptist Student Fellowship—**Weekly Worship and Bible Study each Tuesday at 6pm in the chapel; snack supper fellowship immediately preceding at 312 Memorial Drive, 5:15pm. Graduate Student Study every other Thursday at 1pm, 312 Memorial Drive. Info x3-2328.

Morning Bible Studies—**Fri, 7:30-8:30am, L-217. Ed Bayliss, x3456 Linc.

Noon Bible Study*—Every Wed, Rm 1-132, bring lunch. Ralph Burgess, x3-8121. (Since 1965.) (Graduate Christian Fellowship.)

MIT Bible Study Group*—The Economy of God, a look at God's eternal purpose to dis-

pense Himself into man based on the revelation of the Bible, Fri, 8pm, Student Ctr Rm 407. Singing, prayer, Bible reading, fellowship.

Tech Catholic Community—Mar 8:** See Seminars & Lectures in Calendar section. Masses: Sat, 5pm; Sun, 10am & 5pm. Tues & Thurs, 5:05pm. Fri, 12:05pm, MIT Chapel. Info x3-2981.

MIT Christian Community—**Come and join monthly lunch and discussion on God and Christians at MIT with your fellow faculty, staff, administrators, and grad students. Info: Park x3-2875.

MIT Christian Impact*—The weekly meeting for the ministry of Campus Crusade for Christ. Wind up the week: relax, snack, sing, laugh through skits and gain practical insight from God's Word. Meets Friday 7:17pm, Student Ctr, 3rd flr.

United Christian Fellowship—**Large group meetings. Join us for a time of worship, prayer, and Biblical teachings, Fridays, 7pm, Rm 6-321.

Christian Science Organization at MIT*—Weekly Testimony meetings, Thurs, 8pm, MIT Chapel.

Graduate Christian Fellowship—**Come join other grad students, faculty and staff in learning about and growing in the Christian faith. Activities open to both Christians and those interested in learning more about Christianity. Info: John Keen x3-7706, Dave Otis x3-2198.

MIT Orthodox Christian Fellowship—**The newly formed MIT OCF will meet every other Monday night at 8pm in the MIT Chapel. Vespers (Evening Prayer) will be followed by Fellowship/Discussion. Open to Orthodox Christians and those interested in learning about the ancient Christian Faith. Info: Arlene Lanciani Marge x3-3555.

MIT Hillel*—Mar 6: Faculty-Student Dinner, 6-8pm, Walker Blue Rm, \$6.65. **Mar 7:** "Student-Parent Relationships," w/Yermi Cowen, 7:30-8:30pm, E Campus. **Mar 8:** Shabbat Svcs, 5:30pm, Walker 50-010; Shabbat Dinner, 6:30pm, Walker Blue Rm; Shabbat Talk, 8:30pm, Walker Blue Rm. **Mar 10:** Hillel Group Photo, 3-4pm, Chapel. "Techiyah!" Hillel's new singing group, 7pm, McCormick. **Mar 12:** "Who Needs God," Rabbi Harold Kushner, 7:30pm, Student Center, Mezzanine Lounge. **Mar 13:** Israeli Folk Dancing, 7-11pm. **Mar 15:** Shabbat Services, 5:30pm, Walker 50-010; Shabbat Dinner, 6:30pm, Walker blue Rm; Faculty Chat/Oneg Shabbat w/Prof. Robert Weinberg, 8:30pm, Walker Blue Rm. **Mar 16:** Orthodox Shabbat Services, 9am, Walker 50-010. **Mar 17:** Passover Basket Project for Jewish Elderly, leave from MIT Hillel at 9:30am. Israel Folk Dance Festival, 3pm, Kresge, Tks \$5, \$7, \$8 avail at Hillel or box office. More info: x3-2982.

MIT Islamic Society*—5 daily prayers in the prayer room, Ashdown House (Bldg W-1) west bsmt. *Friday congregation:* 1:10-1:45pm in Ashdown House (Bldg W-1) west bsmt. Info: x8-9755.

Lincoln Laboratory Noon Bible Studies*—Tues & Thurs, Kiln Brook III, Rm 239. Annie Lescard, x2899 Linc.

Lutheran Ministry and Episcopal Ministry—**Weekly Service of Holy Communion—Wed, 5:10pm, MIT Chapel. Supper follows at 312 Memorial Drive. For further info, call x3-2325/2983.

MIT Vedanta Society*—Meditation and discourse on the Bhagavad Gita. Swami Sarvagatanaanda, MIT Religious Counselor. Classes held Fridays 5:15pm, MIT Chapel.

OPPORTUNITIES

The Writing Prizes. Cash prizes awarded in each category: fiction, short story, poetry, drama, essay, scientific and engineering writing, science writing for the public. For applications and guidelines contact The Writing Program, Rm 14E-303. Deadline: Apr 11.

MIT Japan Science and Technology Prize. The MIT Japan Program is now accepting applications for this award, which is made possible by the Japan-U.S. Friendship Commission. It will cover airfare and local expenses for the winner to attend a professional meeting in Japan during the 1991-92 academic year. Applications require a letter of recommendation and a brief essay about the meeting the applicant wishes to attend and why. All MIT graduate students currently enrolled in science and engineering departments are eligible to apply. Applications and further information may be obtained from Cornelia Robart, E38-700, x3-2839. Deadline: Apr 19.

INTERNATIONAL

MIT-Japan Program. Go to Japan for a year of fun and excitement—all expenses paid—with the MIT-Japan Program. Further info: x3-2839.

STUDENT JOBS

There are more job listings available at the Student Employment Office, Rm 5-119. The Student

Employment Office has many "one time only" jobs. Many students find these jobs a good way to earn money fast.

Off Campus, Technical, Programming. MacII user interface and C programming experience required. Student needed to participate on a team to complete a desk top parallel processing software product. Hours: 5-10 hrs/week. Contact: Michael Ross at 484-6059. Address: Tri-Millennium Corp, 50 Grove St., Belmont, MA 02178.

Off Campus, Non-Technical. Vertex Pharmaceuticals Inc. is seeking a sophomore who is a bioscience major to locate and copy scientific journal articles. Three days a week required to pick-up and drop-off information, set your own hours. Send resume to: Laura Engle, Vertex Pharmaceutical Inc., 40 Allston St, Cambridge, MA 02139.

Off Campus, Non-Technical, Summer. Two groups of students (Japanese and Korean) will be coming to MIT for two separate intensive English study programs. These programs will include extensive sightseeing (Boston, DC, NY). Six students needed fluent in English, one Korean speaking for the first session. Japanese fluency required for one position during the second session. Provided: 3 meals/day, hotels, plane fares, and session admission to events. Driver's license required. Dates: First session 7/5-7/21, second session 7/21-8/21. Salary: \$700.00 1st session, \$1700.00 2nd session. Send resume to Patrick Sullivan, 128 Cliff Road, Wellesley, MA 02181 by March 15th.

Off Campus, Technical, Programming. If you are an expert Macintosh C programmer with some part-time availability during March through June, 1991, we need you for a federally funded project (mentioned in Time magazine, 2/18/91) involving the development of a visual communication system for people with severe language disability (aphasia). Contact: Ms. Cheryl Trepagnier at 956-5036. Address: New England Medical Center, 750 Washington Street, #75KR, Boston, MA 02111.

VOLUNTEERS

The MIT Public Service Center has compiled the following volunteer opportunities.

Habitat for Humanity. The MIT chapter of Habitat for Humanity is hosting another work project on Saturday, March 16. Help build affordable housing for deserving families while spending a day in Rhode Island. For more information about this project, or to volunteer, call Augie Lee at x5-7202 or Hoang Tran at x5-9544.

Crime and Justice Foundation. The Crime and Justice Foundation in the Boston area is starting a newspaper to cover current issues in crime and justice. Students with background in journalism or crime and justice subjects are encouraged to volunteer. There will be positions available in research, writing, editing, and copy production and distribution. Both volunteer and internship positions will be available. Contact Jacquelyn Holmes at 426-9800 for more information.

Jewish Family and Child Service. The Jewish Family and Children's Service of Brookline has opportunities to help newly arrived Soviet immigrants improve their English language skills. Volunteers are needed for two hours weekly to visit an immigrant family in their home and help them make a new life in Boston. For more information call Barbara Kivowitz at 566-1230.

UROP

MIT and Wellesley students are invited to join with faculty members in pursuit of research projects of mutual fascination. Spring term projects are now posted on the bulletin boards in the infinite corridor by the Admissions Office and in our office. For further information, read details on procedures in the participation section of the directory.

Faculty supervisors wishing to have projects listed should send project descriptions to the UROP office. Questions? Contact UROP at x3-7306, 20B-140.

Summer is almost here! The deadline for summer UROP proposals requesting full or partial funding from UROP is April 17, 1991. UROP proposals wherein faculty supervisors are providing all of the student summer stipend should be submitted by May 31, 1991. Proposals must be submitted at the UROP office at 20B-140. Detailed information is posted on the UROP bulletin board in the infinite corridor.

The Haystack Observatory: Summer Research 1991. The Haystack Observatory wishes to invite undergraduate science and engineering students to apply for summer research positions. These are nominally three months in duration and carry a stipend depending on academic level and experience. Projects are in astronomy, atmospheric sciences and engineering/software development. Application deadline is March 15, 1991. For further information and an application form please write to: Office of the Director, Haystack Observatory, Off Route 40, Westford, MA 01886; or call: (508) 692-4764.

Sports at MIT

TRACK

Two track athletes returned as champions from last weekend's Eastern College Athletic Conference Championship at Bates College. Co-captains Mark Dunzo and J.P. Clarke led the Engineers to a second place finish in the 22 team meet. Dunzo, a senior from Los Angeles, won both the 55 meter dash and 200 meters, while senior Clarke of Orange, N.J., won the weight throw and placed second in the shot put. Both Clarke and Dunzo have qualified for the NCAA Division III National Championship which will be held this coming weekend at Wesleyan University.

GYMNASTICS

Gymnasts Lisa Arel and Kortney Leabourne have each qualified in the all-around for the National Collegiate Gymnastics Association National Championships which will be held this coming weekend at Gustavus Adolphus College. Arel, from Lee's Summit, Mo., and Leabourne, of Ballston Lake, N.Y., are both juniors. Arel is currently ranked third in the nation in Division III in the all-around.

FENCING

The fencers emerged from last weekend's Northeast Regional Collegiate Championships with two place winners. Felice Swapp, a junior from St. John, Antigua, placed fifth in the women's individual competition, and sophomore Hendrik Martin of Waterloo, Belgium, was sixth in the men's épée. The women's team finished fourth in the team standings which makes the team an alternate for the NCAA championships to be held March 20-24 at Penn State.

PROMOTION

L'eggs Products, Inc., a division of Sara Lee Corporation, is beginning a four-month nationwide consumer driven contribution promotion for its Sheer Energy pantyhose brand that will raise funds for NCAA women's athletics programs. MIT can benefit directly from this promotion with the support of its staff, fans and alumni. When a consumer sends in four proofs of purchase from Sheer Energy pantyhose, accompanied by an official mail-in designation form, L'eggs Sheer Energy will donate \$2 directly to the institution of that person designated on the form. The donation will be earmarked for women's athletics scholarships or support of other women's athletics programs at the institution so designated. The MIT Department of Athletics asks that members of the community be aware of the promotion, and designate MIT on the form.

Roger Crosley

1991 Carroll L. Wilson Awards. Two planned \$4,000 undergraduate awards will be awarded to students in any department at MIT on the basis of a competitive evaluation of proposals by a Prize Committee. The broad aim of the Wilson Awards is to provide opportunities for MIT students to pursue a challenging activity. The Wilson Awards have been funded by individual and corporate contributions, from colleagues and friends of the late Professor Wilson, from all over the world. The deadline for submitting applications is Monday, April 1, 1991. Information and applications are available in the Undergraduate Education Office, 20B-140, x3-7909.

Airport Surface Traffic Automation. ASTA has a need for a portable BSD 4.3 UNIX interprocess communication (IPC) Library with a C++ interface. The system will be socket based and support a variety of IPC needs (e.g., asynchronous communication, or synchronous communication, acknowledgement or not, etc.). Student will implement a monitor system for tower frequency utilization measurements. This project will connect several VHF radio receivers to an analog and digital hardware interface, which then connects to a laptop computer. Faculty supervisor: Dr. Steven Bussolari, LINC-PC; contact: Gary Hackett, 981-7056.

Parallel Runway Monitoring. PRM will be collecting data in February and March 1991. Need student to take measurements of controller responses from voice tapes and enter data into a database. Candidates must be meticulous, patient and thorough, and willing to check and recheck all data entries. Faculty supervisor: Dr. Steven Bussolari, LINC-PC; contact: Gary Hackett, 981-7056.

Terminal Air Traffic Control. Student needed to be involved with recording and playback of Small Computer System Interface (SCSI) tapes of IEEE802.3 Local Area Network (LAN). Analyze data tapes from airport terminal computer facilities. Some programming experience helpful. Will write C language code to process a number of data. Faculty supervisor: Dr. Steven Bussolari, LINC-PC; contact: Gary Hackett, 981-7056.

Integrating Information Sources for Financial Applications. The Sloan School of Management is involved in a long term project involving the integration of information obtained from distributed heterogeneous information sources. The focus is on connectivity from organizational and technical perspectives. The goal is to solve problems and establish new research themes for this area. A prototype database integration system is being developed under UNIX in C, shell, and Lisp. Several students are sought with skills in either finance and banking or databases and software development. Please send resumes to E53-321.

Faculty supervisor: Prof. Stuart Madnick, E53-321, x3-6671; contact: Natasha Collins, x3-2650, or Henry Kon, x3-9690.

Biochemistry of a Unique Protein. The project is to examine the formation of the chromophore in a Green-Fluorescent Protein from cnidaria. Protein biochemistry and molecular biology will be used. Some lab experience required. Faculty supervisor: contact: Douglas Prasher, WHOI, (508)457-2000 x2311.

CABLE

For more information call Randy Winchester at x3-7431.

March 6: Channel 8: 11am-12:30pm—Live coverage of the MIT Optics and Quantum Electronics Seminar.

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ENDOWMENT

Simmons Scholarship Fund Is Established

The R. P. Simmons Family Foundation of Pittsburgh has made a \$1 million gift to MIT that is being used to create one of the largest scholarship funds at the Institute.

The foundation was set up by Richard P. Simmons, a 1953 graduate who chairs the board and the executive committee of Pittsburgh-based Allegheny Ludlum Corporation. The gift will go into an endowment, the Richard P. Simmons '53 Scholarship Fund, whose proceeds will support scholarships for undergraduates. Preference will be given to students from western Pennsylvania, eastern Ohio and northern West Virginia, including the sons and daughters of Allegheny Ludlum employees.

"This endowed scholarship fund reflects the Simmons family's desire to return to our communities some small token of the success we have enjoyed there," Mr. Simmons said. He added that the gift also reflects a respect for MIT's approach to education that dates to his own days as a student.

Paul E. Gray, '54, chairman of the MIT Corporation, said the Institute is deeply gratified by the gift. "One of MIT's proudest traditions is making financial aid available, on the basis of need, to all qualified applicants," he said. "It's a tradition, though, sustained only at considerable cost. Dick Simmons has clearly recognized what this aid policy means to the bright young people who would like to come to MIT, and has made a generous contribution to their future success."

The Richard P. Simmons Scholarship Fund is one of fewer than 10 funded at the level of \$1 million or above at MIT.

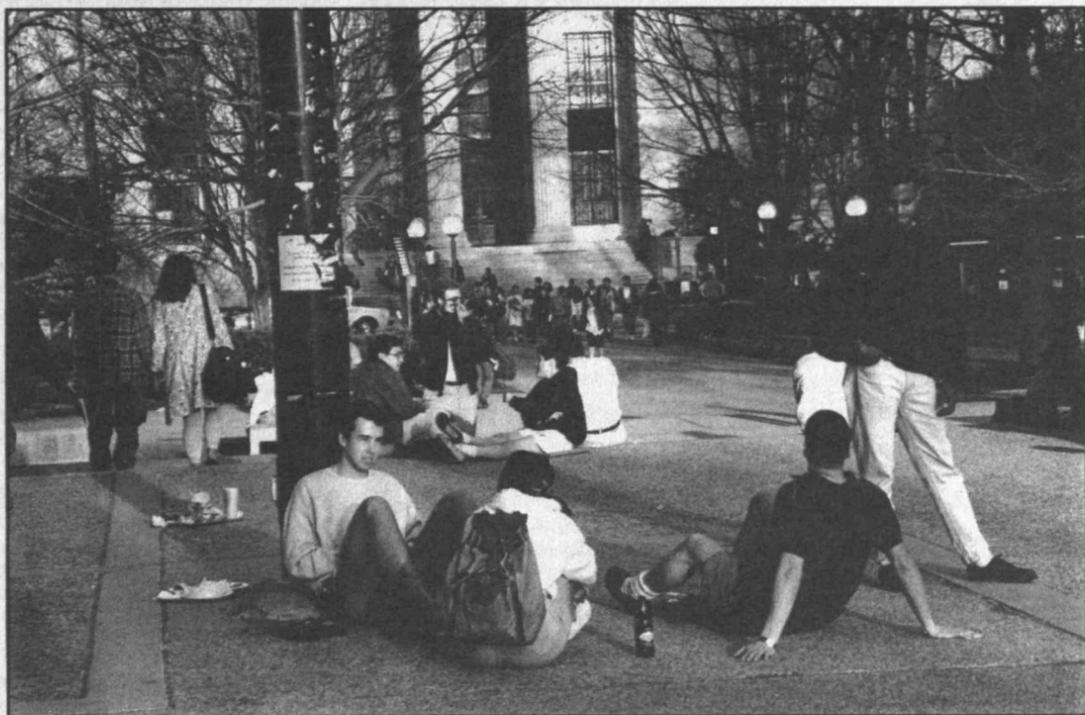
Mr. Simmons was born in Bridgeport, Conn. He majored in metallurgy at MIT, and after graduating joined Allegheny Ludlum. He worked there six years before moving on to managerial posts at Latrobe Steel and, subsequently, Republic Steel. Returning to Allegheny Ludlum in 1968, Mr. Simmons rose rapidly through the executive ranks. In 1980, he became president and chief executive officer of the specialty materials firm.

Mr. Simmons has long been active in MIT affairs. He is a member of the Corporation, and is currently chairing the western Pennsylvania Committee of the MIT Campaign for the future.

He has also been a long-time donor. His most recent major gift prior to the one setting up the scholarship fund went to create the Richard P. Simmons Professorship in Materials Manufacturing.

When Mr. Simmons stepped down as CEO of Allegheny Ludlum in May 1990, the company's board and some of its major shareholders combined to create an endowed professorship in his honor. The new chair is the Richard P. Simmons Professorship in Metallurgy.

Endowed financial aid funds at MIT are established in perpetuity. A portion of each year's income is applied to that year's scholarships, with the remainder being reinvested so the funds' ability to generate support does not shrink with inflation.



UNSEASONABLE--Save for the fact that these trees have no leaves, this scene outside the Student Center could have been photographed last June. Actually, it was taken last week.
Photo by Donna Coveney

Awards & Honors

■ President **Charles M. Vest** was one of five persons honored by the West Virginia University Academy of Distinguished Alumni as "elite university graduates who have attained national or international distinction in their profession or discipline."

Other honorees included General Earl E. Anderson, assistant commandant of the US Marine Corps (retired) and Jerry West, former WVU and professional basketball star and general manager of the Los Angeles Lakers.

At the awards and induction ceremony held on the university's Evansdale Campus on February 2, Dr. Vest was escorted and introduced by Dr. Curtis Tompkins, dean of the College of Engineering. Dr. Vest had been inducted into WVU's Academy of Distinguished Alumni of Mechanical Engineering last year.

He received his BSME degree from the College of Engineering in 1963, and both the master's degree in engineering and a doctorate from the University of Michigan.

The Vests are a WVU family.

Dr. Vest's father, Professor Emeritus Lewis Vest, taught mathematics at WVU from 1931 to 1973. His brother, Marvin, was a 1956 WVU mechanical engineering graduate.

■ For the second time in three years architecture lecturer **Peter Droege** '78 has won a Grand Prix in a Japanese-sponsored design competition. His winning entry was a fan-folded 24-foot-long document entitled "To live in harmony with the sea" designed to be implemented over the next two to three generations. It was one of some 290 designs in an international design idea contest on the future of the coastal zone of Sagami Bay south of Tokyo.

■ Professor **Julian Szekely** of the Department of Materials Science and Engineering has been selected to receive the 1990 Educator Award by The Minerals, Metals & Materials Society. The award recognizes Professor Szekely "for outstanding achievement in educating materials processors of the present and future on the application of engineering science and mathematical modeling to materials production."

■ Two MIT professors who specialize in airport systems planning and design are national co-winners of the Federal Aviation Administration's "Championship Awards" for excellence in aviation education. They are Dr. **Richard L. de Neufville**, professor of civil engineering and chairman of the Technology and Policy Program, and Dr. **Amedeo R. Odoni**, professor of aeronautics and astronautics and civil engineering and co-director of the Operations Research Center.

The two teach a two-week course on airport systems attended by FAA employees, architects, engineers and officials of local and state governments as well as foreign nationals. They also are active as consultants and advisors to governments in the US and abroad.

Professor de Neufville is the author of four major airport systems texts. Professor Odoni's research has led to the development of computer models and simulations widely used to analyze airport capacity and delays.

E-MAIL MESSAGES

NeXT at the Media Lab

In August, Nicholas Negroponte, director of the Media Lab, sent electronic mail to Steve Jobs, president of NeXT, asking that the lab be one of the first buyers of the new generation of NeXT machines.

He wanted the machine, which has sound and video capability, for the Interactive Cinema Group's new "digs" in the Media Lab. Jobs responded via e-mail headed "your next, so to speak, machine" and passed the message on to the MIT Microcomputer Center—the local educational area distributor of the new generation of NeXT machines.

And when the first NeXT rolled off the loading dock in December, Pascal Chesnais, Systems Programmer in the Media Lab, was there to collect it. Since then, Chesnais has bought another NeXT station and five upgrades.

When asked what makes the NeXT so appealing to the developers at the Media Lab, Chesnais replied: "We're

looking at [the NeXT] for its future potential as well as for the things it can do today. We want to be able to collect and manage large files from network servers, record sound, run video, and create hard copy.

"Sure, we could spend \$100,000 and build these tools on five different platforms," he said. "But when the NeXTdimension board comes out, we can digitize video images and overlay images. We will have in the NeXT machine a single platform on which we can integrate all the projects that we now delegate to many different machines." [The NeXTdimension board is due in the spring.]

The full system with the NeXTdimension board will cost around \$10,000—not a bad price for a machine that may eventually do all the things he claims it will. NeXT machines are available for sale in the MIT Microcomputer Center, with complete systems starting at \$3,450.

\$700,000

NSF Aids Parsons Lab

The National Science Foundation has awarded \$700,000 to MIT's Parsons Laboratory in the Department of Civil Engineering toward a \$1.6 million renovation of its environmental science and engineering research facilities.

The NSF grant represents approximately half the amount required, with MIT providing about a quarter and private donors the remaining one-fourth. Dr. Philip Gschwend, associate professor of civil engineering, who is serving as project director for the renovation program, said it was hoped to have work completed by the end of the year.

The project involves construction of a new microbiology laboratory, expansion of the computational facilities used to model environmental transport, and a major refurbishing of the existing chemistry, biology and hydrodynamics laboratories.

The grant was made under the NSF's Academic Research Facilities Modernization Program, established by Congress in 1988. In all, the NSF has announced awards totalling \$39 million to 78 colleges, universities and non-profit institutions nationwide for modernization of academic research facilities.

RESOURCE PERSON

Davis Accepts HASS Post

Bette Davis is now serving as Coordinator of the HASS Information Office, Professor Philip S. Khoury, acting dean of the School of Humanities and Social Science, has announced. She replaces Ikey Spear, who served in the post for seven years.

The coordinator's responsibility includes providing guidance and sup-

port to undergraduates, overseeing the HASS component of the General Institute Requirement, serving as a resource person for the Committees on HASS-distribution, the HASS Minor and the Course XXI Major, compiling and publishing the bi-annual HASS Guide and acting as liaison between the school and other MIT schools and departments.

In announcing her appointment, Dean Khoury noted that Ms. Davis brings to the position 15 years of experience in higher education administration, teaching and international exchange. From 1980 to 1989 she served as director of the Office of International Exchange at the University of Massachusetts-Boston, and more recently she was a consultant to the International Visitors Office at MIT.

She received a BS in English in 1965 from South Dakota State University, where she was class valedictorian; studied for a year at the University of Freiburg in Germany on a fellowship; received an MA in German Language and Literature from the University of Washington in 1967, and an EdD in Administration, Planning and Social Policy from Harvard in 1983.

H-P Makes Gift

MIT is one of 18 United States colleges and universities receiving undergraduate science grants from Hewlett-Packard Company for analytical instrumentation.

Under the program, each grant recipient is awarded a benchtop gas chromatograph/mass spectrometer system valued at \$53,000.

James W. Serum, grant program administrator for Hewlett-Packard's Analytical Products Group, said the purpose of the grants is to help "upgrade the level of undergraduate chemical education by exposing students to modern instrumentation."

Retiring?

■ Check Benefits

The Benefits Office would like to remind anyone who is retiring on July 1 to contact them as early as possible to discuss their individual benefit options.

Individuals (and their spouses) who will be over age 65 and those who will start collecting Social Security benefits should contact their local Social Security Office by April 1.

On Campus, contact the benefits officer listed next to the first letter of your last name: A-E—Susan Stone, x3-0500; F-K—Kathleen Avison, x3-4276; L-S—Julienne Castro, x3-0496, and T-Z—Tracy Springer, x3-4273. At Lincoln Laboratory, call Carol Ann Tranfaglia at x7060.

■ Social Security

Francine Kolias, Field Representative from the Somerville office of Social Security, will present an overview of Social Security benefits and Medicare at two sessions this month.

The first session is scheduled at Lincoln Laboratory Friday, March 15, 12:30-2:30pm in Room A-166 and the second on campus Friday, March 22, from 12:30-2:30pm in the Bush Room (10-105).

Institute Calendar

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

March 6 - 17

■ SPECIAL INTEREST

MIT/TCA Blood Drive*—Mar 8-15: Mar 8-9: 11am-4pm. Mar 12-13, 12-5pm. Mar 14-15: 1-6pm. Kresge Auditorium Lobby. For more information or to schedule an appointment, please call the TCA at x3-4885 or x3-7911 or call the Red Cross at 1-800-258-0025.

Technology Children's Center, Inc. has immediate openings in its 2-day extended program at Westgate. Hours are from 8:30am - 3:30pm Tuesdays and Thursdays for children between the ages of 2 years 9 months and 5 years of age. Contact Janet Cady x3-5907.

■ SEMINARS & LECTURES

Freshmen are encouraged to attend departmental lectures and seminars. Even when these are highly technical they provide students one means to learn more about professional work in a department and field.

WEDNESDAY, MARCH 6

Optical Parametric Oscillators for Precision Measurements and Optical Communication**—N C Mong, MIT. EECS/RLE Seminar Series on Optics and Quantum Electronics, 11am-12pm, Rm 36-428.

Modernizing Electronics in the Department of Defense*—Barry Horowitz, MITRE Corp. MIT Seminar on Technology, Defense, and Arms Control in a Changing World, CIS, 12-2pm, Rm E38-714. Bring a lunch, drinks will be provided.

On the Spin-up Problem for the Stratified Ocean: Some Comments**—Dr V M Kamenkovich, I V Kamenkovich, MIT. Oceanography Sack Lunch Seminar, 12:10pm, Rm 54-915.

Maritime Subsidies: Fair Trade or a Level Playing Field?*—Stephen Streifer, National Steel & Shipbuilding Co. Sponsored by the MIT International Shipping Club, 4:15pm, Rm E51-307.

THURSDAY, MARCH 7

Sometimes When Things are Bad They're Good: A View from a Niche Developer**—Lewis Heafitz, Heafitz & Co. Rose Lunchbox Series, sponsored by the Center for Real Estate Development, 12:45pm, W31-301. Brown bag lunches welcome.

Assembly Sequence Analysis and Choice*—Daniel Whitney, Draper Laboratory. Laboratory for Manufacturing and Productivity Seminar Series, 3-4pm, Rm 35-520.

Software for Parallelism*—Ms Frances E Allen, T J Watson Research Center, IBM. Laboratory for Computer Science Distinguished Lecturer Series, 3:30pm, Rm 34-101. Refreshments, 3:15pm.

Forcing Mechanisms of Thunderstorm Downdrafts*—Joshua Wurman, MIT. Quasi-Biweekly Seminar Series sponsored by the Center for Meteorology and Physical Oceanography, 4pm, Rm 54-915.

The Influence of Fluid Motions on Combustion in Spark Ignition Engines**—Dr Rodney Tabaczynski, Ford Motor Co. Hotel Lecture Series, sponsored by the Sloan Automotive/Gas Dynamics Laboratories, 4:15-5:15pm, Rm 66-110. Refreshments, 4pm.

A Taxonomy of Perturbation Analysis Techniques*—Y C Ho, Harvard Univ. Sponsored by the Operations Research Center, 4pm, Rm E40-298. Refreshments following, Rm E40-162.

The SSC Twenty TeV Collider Project**—Dr Helen Edwards, SSC Laboratory. Physics Colloquium, 4:15pm, Rm 10-250. Refreshments, 3:45pm, Compton Rm, 26-110.

Rights, Ethnicity, and States*—Prof Charles Tilly, Univ of Chicago. Peoples and States: Ethnic Identity and Struggle, CIS, 4:30-6:15pm, Rm E38-714. Refreshments.

FRIDAY, MARCH 8

A New Phase, Critical Transport, and Other Topics on Gels*—Prof Toyochi Tanaka, MIT. Center for Materials Science and En-

gineering Colloquium, 12:15pm, Rm 12-132. Lunch available.

The Gulf War, the Media, and Public Opinion**—Sut Jhally and Justin Lewis, University of Massachusetts at Amherst. Sponsored by the Department of Political Science, 3:30-5:30pm, Rm 4-149.

The Origin of Science*—Stanley L. Jaki, physicist and theologian. Sponsored by MIT Tech Catholic Community, 4pm, Rm 4-163.

Report to the School: Slides of the Poland SIGUS Workshop during IAP in January**—Sponsored by the Dept of Architecture, 6pm, Chris Lydon Rm, N52-3rd floor. Refreshments.

MONDAY, MARCH 11

Agility: A Rational Development of Fundamental Metrics and their Relationship to Flying Qualities**—C J Mazza, Naval Air Development Center. Materials, Structures and Aeroelasticity Seminar Series, 3pm, Rm 33-206.

Subcellular NMR Microscopy**—Prof Eric McFarland, MIT. Sponsored by the American Nuclear Society, MIT, 3:30pm, Rm NW12-222.

A New 1st Prof. Degree for Course 6**—W M Siebert, J V Gutttag, MIT. EECS Colloquium Series, 4-5pm, Rm 34-101. Refreshments, 3:30pm.

New Approach to the Solutions of Nonlinear Problems**—Prof Carl Bender, Washington Univ. Applied Mathematics Colloquium, 4pm, Rm 2-338. Refreshments, 3:30pm, Rm 2-349.

Bubbles, Noise and Breaking Waves**—W Kendall Melville, MIT. Sponsored by the Ralph M Parsons Laboratory for Water Resources and Hydrodynamics, 4pm, Rm 48-316.

Atherosclerotic Plaque Rupture**—Howard Loree and Dr Richard Lee; Research Asst, MIT; and Instructor of Medicine, Harvard Medical School & Director of Non-Invasive Cardiac Imaging, Brigham's & Womens. Fluid Mechanics Seminar Series, 4-5pm, Rm 5-234.

Patriot: A Lesson in Reliability**—Prof. Joseph Shea, MIT. Sponsored by the Dept of Aero & Astro, 4pm, Rm 9-150.

Air Traffic Control Automation**—Heinz Erzberger, NASA Ames (tent.). MIT/Draper Joint Seminar Series in Dynamics, Guidance and Control, 4:15pm, Rm 33-206.

Agility: A Rational Development of Fundamental Metrics and their Relationship to Flying Qualities**—C J Mazza, Naval Air Development Center. MIT/Draper Joint Seminar Series in Dynamics, Guidance and Control, 4:15pm, Draper 1409B.

Land Use Under Uncertainty**—Dennis Capozza, Univ Michigan. Real Estate Research Seminar, sponsored by the Center for Real Estate Development and the Dept of Urban Studies & Planning, 5pm, Rm W31-305 or W31-301. Refreshments.

TUESDAY, MARCH 12

Siemens' Day at MIT Seminar**—Werner Remmele, Ernest J Schmitter, Dr. Thomas P Murphy, Hans-Rainer Schuchmann. The above individuals, from Siemens' Corporate R&D organizations in Munich and Princeton, will present overviews of the Company's R&D activities, 10am-12pm, Rm NE43-512A. Sponsored by the Laboratory for Computer Science.

Dynamic Studies on Surfaces Using Non-Linear Spectroscopy**—Phillipe Guyot-Sionnest, Centre Universitaire Paris-Sud. Seminar on Modern Optics and Spectroscopy, 11am-12pm, Rm 37-252. Refreshments follow lecture.

Mathematics Lecture*—Stephen Wolfram, creator of *Mathematica*. A lecture on the use of *Mathematica* to solve problems in science and technology. Sponsored by the EAPS Education Office, 2:30pm, Rm 10-250.

Air Power in Historical and Contemporary Perspective*—Richard Hallion, National Air & Space Museum, Smithsonian. MIT Defense and Arms Control Studies Program Seminar Series, 3:30-5pm, Rm E38-714.

Improving Direct-Mapped Cache Performance by the Addition of a Small Fully-Associative Cache and Prefetch Buffers**—Norman P Jouppi, Digital Equipment Corporation. VLSI Seminar, 4pm, Rm 34-101. Reception, 3:30pm.

An Airline Operations Perspective*—W Culhane, American Airlines. Gas Turbine Laboratory Seminar, 4:15pm, Rm 9-150.

Hydrodynamic Simulations of Cosmology*—Prof Jeremiah Ostriker, Princeton Univ Observatory. Astrophysics Colloquium sponsored by the Center for Space Research, 4:15pm, Rm 37-252. Refreshments, 3:45pm.

Who Needs God*—Harold Kushner, author. Sponsored by Hillel and the MIT Chaplaincy, 7:30pm, Student Center, Mezzanine Lounge.

WEDNESDAY, MARCH 13

Made in America; Regaining the Productive Edge**—Dr Don P Clausing, MIT. Sponsored by the MIT Enterprise Forum. Call x3-8240.

Probing Optoelectronic Devices with Noise**—J Schlafer, GTE. EECS/RLE Seminar Series on Optics and Quantum Electronics, 11am-12pm, Rm 34-401B.

Chemical and Biological Warfare*—Matthew Meselson, Harvard. MIT Seminar on Technology, Defense and Arms Control in a Changing World, 12-2pm, Rm E38-714. Bring a lunch, drinks provided.

Aga Khan Program Travel Grant Presentation: Pascal Coste, 1817-1827**—Kara Hill. 12-1:30pm, Rm 5-216.

Wind-Driven Open-Ocean Current Fluctuations**—Dr Roger Samuelson, WHOI. Oceanography Sack Lunch Seminar, 12:10pm, Rm 54-915.

Hydrodynamics Research at Leningrad Maritime University*—Prof Kirill Rozhdestvensky, Leningrad Maritime Univ. Sponsored by the Dept of Ocean Engineering, 3:30pm, Rm 5-314.

Convergence to Steady State of Solutions of Viscous Conservation Laws**—Dr Gunilla Kreiss, Royal Institute of Technology, Stockholm. Special Applied Mathematics Colloquium, 4pm, Rm 4-163. Refreshments, 3:30pm, Rm 2-349.

THURSDAY, MARCH 14

Measurement of Hydrocarbon Emissions During SI Engine Warm-up**—Kyoungdoug Min, PhD candidate, MIT. Sponsored by the Sloan Automotive/Gas Dynamics Laboratories, 4:15-5:15pm, Rm 37-232. Refreshments, 4pm.

Soundtracks of the 80s: Case Studies of Media Music*—Claudia Gorbman, Indiana Univ.; Martin Marks, MIT. Sponsored by the MIT Communications Forum, 4-6pm, Rm E15-070 (Bartos Theatre).

Frictional Properties of Simulated Fault Gouge: Implications for Fault Stability and Earthquake Afterslip**—Dr Chris Marone, Univ California, Berkeley. EAPS Lecture Series, 4-5pm, Rm 54-915.

Molecular Genetics of Yeast Ribosome Biogenesis**—John Woolford, Carnegie-Mellon Univ. Whitehead Institute Seminar, 4pm, WIBR Auditorium.

Strings and Quantum Gravity**—Prof Barton Zwiebach, MIT. Physics Colloquium, 4:15pm, Rm 10-250. Refreshments, 3:45pm, Rm 26-110.

FRIDAY, MARCH 15

Curious Near Absence of Lightning from Torrential Rain-Producing Micronesian Cumulonimbi*—Tsutomu Takahashi, Kyushu Univ, Fukuoka. Quasi-Biweekly Seminar Series sponsored by the Center for Meteorology and Physical Oceanography, 2pm, Rm 54-915.

Processes of Subduction Accretion and Exhumation at a Cenozoic Subduction Zone, Washington State**—Prof Mark Brandon, Yale. EAPS Lecture Series, 4-5pm, Rm 54-915.

■ READINGS

Poetry at the Media Lab*—Mar 7: Marie Howe, author of *The Good Thief*. 7:30pm, Bartos Theater.

■ COMMUNITY INTEREST

Alcoholics Anonymous (AA)**—Meetings every Tues, 12-1pm; Thurs, 12-1pm, Rm E23-364. For info call Alice, x3-4911.

Al-Anon**—Meetings every Fri, noon-1pm. Health Education Conference Rm E23-297; every Tues, noon-1pm, Rm 1-246; 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. Call Alice, x3-4911.

Alcohol Support Group**—Meetings every Wednesday, 7:30-9am, sponsored by MIT Social Work Service. For info call Alice, x3-4911.

Co-Dependents Anonymous (CoDA)*—Meetings every Thurs, 6:30-8pm, Rm 66-156. Info: Alice, x3-4911.

Eldercare Support Group**—Meetings every Monday 12-1pm, Rm 8-219. For info call Carole x3-9368 or Maria x3-8820.

Informal Embroidery Group**—MIT Women's League, 10:30am-1:30pm, Rm 10-340. Upcoming dates are: Mar 6 & 20, Apr 3 & 17, May 1 & 15, June 12. Info: x3-3656.

Graduate Student and Postdoc Parents Support Group*—Co-leaders: Dawn Metcalf, MIT Social Worker, and Rae Goodell, MIT Coordinator of Parent Programs. Ongoing, meets weekly. Info: Dawn Metcalf, x3-4911, Rm E23-344, or Rae Goodell, x3-1592, Rm 4-144.

Habitat for Humanity*—Help build affordable housing for deserving families. Volunteer for a work day Mar 16. Info: Augie Lee x5-7202 or Hoang Tran x5-9544.

Japanese Cooking**—Mar 15, Apr 19: Learn Japanese cooking in 2 easy lessons, 4-6pm. Taught by Debbie Samuels, a veteran cooking instructor. Mar 15: onigiri, sunomono, yakitori, tofu dish, steamed giner cake. Apr 19: sushi. \$20/class or \$35/both, preregistration and nonrefundable prepayment required. Call Susan Sherwood x3-8095. Sponsored by the MIT Japan Program.

Boston Mutagenesis Group*—Meetings are held the first Wednesday of the month in the 6th floor conference room, E17, 7pm. Speakers from MIT, Harvard and other local schools discuss their research; related topics include mutagenesis, carcinogenesis, cellular repair systems and DNA damage in prokaryotic and eukaryotic cells. Info: Kara Best x3-6729.

Narcotics Anonymous*—Meetings at MIT, every Mon, 1-2pm, Rm E23-364 (MIT Medical Dept). Call 569-0021.

Overeaters Anonymous (OA)*—Meets Thurs, 1-2pm, Rm E23-364. Only requirement for membership is the desire to stop eating compulsively. Info: Alice, x3-4911.

Parenting Programs—Mar 8-May 17: "Without Spanking or Spoiling: Discipline from Age One through Five," 9-part workshop, Fridays 11:30am-1pm, Rm 10-280. Pre-registration and book purchase required, call x3-1592. Mar 11: "Raising Children Bilingually," led by Andrea Levitt, Association Professor of French & Linguistics, Wellesley. Sponsored by the Child Care Office, 12-1:30pm, Rm 6-233.

Parenting Support Groups—New Parents Support Group:** Tuesdays, 12-1:30pm, contact Rae Goodell, x3-1592. For parents of children up to 6 months old or expected by 4/15. **Parent Support Group*:** Wednesdays, 12-1:30pm, call 1-800-882-1250. **Parenting After Divorce Support Group**:** Biweekly Fridays, 12-1pm, contact Rae Goodell x3-1592. **Child Care Briefings**:** Introductory seminars, 12-1:30pm, Rm 4-144 on Mar 6 & 20, Apr 3 & 17, May 1, 15 & 20, June 12 & 26. **Breastfeeding: The Video**:** Apr 18, May 30, 7-9pm, Rm E23-297.

Social Security Information**—Francine Kolia, Field Representative from the Somerville office of Social Security, will present an overview of Social Security benefits and Medicare at two sessions: **Mar 15:** Lincoln Laboratory, 12:30-2:30pm, Rm A-166. **Mar 22:** Campus, 12:30-2:30pm, Rm 10-105 (Bush Rm).

Support Group for People with Relatives in the Middle East**—Tuesdays, 12-1:30pm, Rm E23-501. Sponsored by the Social Work Service of the Medical Department. Lunches welcome. Further information: Jackie Buck or Dawn Metcalf, x3-4911.

Wives' Group**—Mar 6: "Is it True What They Say About the Foods We Eat?" Jelia Witsche, Lecturer on Nutrition, Harvard School of Public Health, 4pm. **Mar 13:** "An Informal Discussion of 'How Women in Different Countries Deal with Combining Career and Family Life,'" members of Wives' Group and Charlotte Schwartz, 3-4:45pm, Rm 491 Student Ctr. Babysitting in Rm 407. All women in MIT community welcome. Info: x3-1614.

■ HEALTH EDUCATION

A New Perspective on Stress Management—Starts Mar 12:** Stress Management 5 week program meets weekly, 12-1:30pm, sponsored by the Medical Dept. Cost \$45, \$35/students and MIT Health Plan members. Info/registration x3-1316.

Weight Control Workshop—Starts Mar 13:** Weight Control 10 week program meets weekly, 12:30-1:30pm, sponsored by the Medical Dept. Cost \$85, \$70/students and MIT Health Plan members. Info/registration x3-1316.

Nursing Mothers' Support Group**—Pregnant and breastfeeding women at MIT meet to gain confidence and share info and practical tips. First Tues of each month, 10-11am and third Weds of each month, 4-5pm, Rm E23-297. Babies welcome. Info: Margery Wilson 868-7218.

Working Mothers Support Group**—An ongoing support group that meets to discuss parenting-related issues in a casual atmosphere. Meets every other Thursday, 12-1:30pm (drop in anytime), Rm 18-591. Info: Janette Hyde x3-4290.

■ MITAC

Ticket locations and hours: Tickets may be purchased at the MITAC Office, Rm 20A-023 (x3-7990), 10am-3pm Monday-Friday. Lincoln Lab sales in Rm A-218, 1-2pm Tuesday-Friday. Friday ticket sales in Lobby 10 and E19, 12-1:15pm. Further details on events are included in MITAC's monthly flyer. To avoid disappointment, make reservations and purchase tickets early. Because MITAC is nonprofit, refunds are not available.

MITAC, the MIT Activities Committee, offers discount movie tickets for General Cinema and Loews Cinemas, both are \$4/ea (Loews tickets are not valid the first 2 weeks a movie is released). Tickets are good 7 days a week.

any performance. Showcase and Entertainment cinema tickets have been discontinued.

Bingo Getaway—Apr 6: Meshantucket Pequot Bingo in Ledyard, CT, \$57/pp (incl bus, bingo admission, 2 U-Pick-Em specials & 2 Bonanza cards). Bus lvs Hayward Lot 9am, returns approx. 10pm. Non-smkg bus, reservations and full payment due Mar 22.

The Wizard of Oz—Apr 7: Boston Children's Theatre, 2pm, New England Hall, tkts \$4 (reg \$5).

Spring Weekend in Montreal—Apr 13-15: Bus leaves West Gate Apr 13, 7am; returns approx. 7pm, Apr 15. Cost: \$125/pp/dbl occup (incl round-trip bus, 2 nights' lodging in downtown Montreal, & 2 continental breakfasts). Reservations & full payment must be made by Mar 13.

Preservation Hall Jazz Band—Apr 14: Symphony Hall, 8pm, tkts \$22.50 (reg. \$25).

Frank Sinatra's Diamond Jubilee World Tour—Apr 20: One bus is full, limited number of tickets available for a second, \$35/pp (bus & ticket). Bus lvs Hayward Lot 9am, returns 11-11:30pm. Reserve by 3/8.

Nonsense—Apr 21: Charles Playhouse, 3pm, tkts \$19/ea (reg \$23.50), purchase by Apr 1.

Boston Classical Orchestra—Apr 24: Mozart, Beethoven and Haydn; Old South Meeting House, 8pm, tkts \$9/ea (reg \$12), purchase by Apr 10.

Fallen Angels—Apr 25: Noel Coward's comedy, Lyric Stage, 8pm, tkts \$12.50 (reg \$13.50), purchase by Apr 11.

Red Sox Tickets—May 21: vs Milwaukee. **June 18:** vs Seattle. **Aug 16:** vs Kansas City. Games at 7:35pm, \$10/ea (grandstand), first come, first served.

Tired of automotive woes? Discount coupons now avail for **Merchants Tire & Car Care**, 10% off all reg automotive svcs, 5% off all regular priced tires. Avail in MITAC office.

North Shore Music Theatre Corporate Discounts! Enjoy top-notch theatrical productions at \$3 off all Broadway shows. Call 922-8500 for tkt reservations.

Museum of Fine Arts—The Council for the Arts has 10 passes employees may borrow for free admission. Call the MIT libraries, x3-5651, for availability. At Lincoln Lab, MFA passes are available in A-150.

Arlington Capitol Theatre discounts: Commercial, 2nd run, and art-type films, only \$3/pp with MIT ID (reg. \$4/pp). Located at 204 Mass Ave, call 648-4340 for more info.

Ski Cards have arrived, savings on international and domestic lift tickets and lodging, \$18/ea (reg \$50). **Gunstock Ski Discounts** are here! Coupons for \$10 off midweek lift tickets, \$5 off on weekends.

A few **City Books** are still here, \$1/ea (reg \$7.50), valid through Mar 15.

Winter Ferry Discounts to Martha's Vineyard, \$1 off, and Nantucket, \$2 off (valid through 4/15, limit 4 per coupon).

Just arrived: Discounts for the **Golfer's Expo** (\$1-off coupons, March 1-3 at the Bayside Expo Center) and **Taxman** (20% off on tax preparations).

Coming soon: Discount coupons for **Kay Jewelers** and free passes to the **Comedy Club** at the Charles Playhouse.

Check the MITAC office for a complete listing of other discounts currently available (i.e., **Magic Kingdom Club Card** for Disney World, discounts).

■ SOCIAL ACTIVITIES

French Lunch Table**—Come to lunch and speak French; every Tuesday from 1-2pm in Walker dining hall. Look for the table with the tablecloth. All levels welcome. Sponsored by the Foreign Languages & Literatures Section.

German Lunch Table**—Come to lunch and speak German; every Monday from 1:15-2pm in Walker dining hall. Look for German flag. All levels welcome. Sponsored by the Foreign Languages & Literatures Section.

Japanese Lunch Table. Bring a bag lunch and talk with native Japanese speakers. Special cultural event each month. Beginning Japanese speakers especially welcome. Sponsored by the MIT Japan Program, the Dept of Foreign Languages and Literatures, and the MIT Japanese Wives' Group. Meets Tuesdays at 1pm in Walker 220. More info: Susan Sherwood x3-8095.

■ MOVIES

Admission to below *Lecture Series Committee Movies* is \$1.50, and MIT or Wellesley identification is required. For the latest *Lecture Series Committee movie* and lecture information, call the *LSC Movieline*, x8-8881.

LSC Movies—Mar 8:** *Predator II*, 7 & 10pm, Rm 26-100. *Strangers on a Train*, 7:30pm, Rm

the LSC Moveline, x8-8881.

LSC Movies—Mar 8:** *Predator II*, 7 & 10pm, Rm 26-100. *Strangers on a Train*, 7:30pm, Rm 10-250. **Mar 9:** *Goodfellas*, 6:30 & 10pm, Rm 26-100. **Mar 10:** *The Man Who Would Be King*, 7 & 10pm, Rm 10-250. **Mar 15:** *Henry and June*, 6:30 & 10pm, Rm 26-100. *Alexander Nevsky*, 7:30pm, Rm 10-250. **Mar 16:** *The Freshman*, 7 & 10pm, Rm 26-100. **Mar 17:** *2001: A Space Odyssey*, 6:30 & 10pm, Rm 10-250.

■ MUSIC

For recorded information on upcoming concerts and lectures call the MIT Music and Theater Arts Concert Line, x3-9800. Updated weekly.

MIT Chapel Series*—Mar 7: Jan Pfeiffer, cello and Peter Sykes, harpsichord. Bach, Gamba Sonatas. **Mar 14:** Fantasias, Fugues and Fragments. David Schulenberg, harpsichord. 12pm, MIT Chapel.

Advanced Music Performance Concerts*—Mar 8: Wilson Hsieh, viola, and Mark Ryser, piano. Harbison, Schubert. **Mar 15:** Chung-Pei Ma, violin, student of Masuko Ushioda. Prokofiev and other works. 12pm, Killian Hall.

Affiliated Artist Series*—Mar 8: Charles Shadle, piano, and Margaret O'Keefe, soprano. 8pm, Killian Hall.

MIT Chamber Orchestra All Strings Concert*—Mar 9: Jonathan Pasternack, conductor. Elgar, Debussy. 8pm, Kresge Auditorium.

MIT Chamber Chorus*—Mar 14: John Oliver, Director. J S Bach Cantatas. 8pm, Killian Hall.

MIT Jazz Bands*—Mar 15: Jamshied Sharifi and Everett Longstreth, directors. 8pm, Kresge. Tkts \$1 at door.

MIT Symphony Orchestra*—Mar 16: David Epstein, director. Bruckner. 8:30pm, Kresge. Tkts \$1 at door.

■ THEATER

Call the Theatre & Dance Performance Hot-Line at x3-4720 for complete up-to-date information on theatre and dance performances at MIT.

After the Fall*—Mar 8-10, 14-16: MIT Community Players production of drama by Arthur Miller. Joseph Bowen, director. 8pm, Kresge Little Theater, tkts \$8, \$7 MIT, \$6 students/seniors, \$5 MIT students.

Cymbeline*—Mar 14-17, 21-23: Presented by the Shakespeare Ensemble at MIT, directed by Grey Johnson. 8pm, Sala de Puerto Rico, Tkts \$6, students/seniors \$5.

■ DANCE & MOVEMENT

Tai Chi—Ancient Chinese system of exercise beneficial to one's physical, mental and emotional health. More info: Lisa x3-5695.**

MIT Ballroom Dance Club Workshops*—Mar 10: Beginning Cha Cha 1-2pm, Intermediate Foxtrot 2-3:30pm, Professional W C Swing 3, 4:30-5:30pm. **Mar 17:** Beginning Viennese Waltz 1-2pm, Intermediate Cha Cha 2-3:30pm, Professional Foxtrot 3, 4:30-5:30pm, Morss Hall, Walker Memorial. General Dance: 3:30-4:30pm, free. Membership through June 1991: Students, \$3, MIT/Wellesley affiliates, \$5; others, \$10. Workshop admission fees range from 50¢ to \$4 depending on membership and level. No partner necessary, info x8-6554.

MIT Folk Dance Club*—Three nights of dancing. Sunday: International Dancing, 7-11pm, Lobby 13, with Early Teaching from 7-7:30pm. **Tuesday:** Advanced Balkan Dancing, 7-11pm, Rm 491, Student Center. **Wednesday:** Israeli Dancing, 7-11pm, Lobby 13, with Early Teaching from 7-7:30pm. Info: x3-FOLK.

Aerobics Classes*—Sponsored by the MIT Dance Club. Every Mon, Wed, Fri, 6-7pm, Bldg W31 Dance Studio. \$4/class, beginners welcome. More info: Julia, 492-1369.

Yoga*—Ongoing classes in traditional Hatha and Iyengar style. Beginners: Mon, 5:10pm; Intermediate/Advanced: Mon, 6:30pm, Rm 10-340. For information call Ei Turchinetz, 862-2613.

Kundalini Yoga*—Monday classes, 6-7pm, Rm 1-136. Beginners welcome. \$1/class. For information call Andy Rothstein 232-9961.

MIT Dance Workshop Classes*—An activity of the Theatre Arts program taught by members of the Beth Soll & Co, MIT's resident dance company. Beginning Modern Technique, M,W,3:30-5pm, T-Club Lounge, Dupont Ctr; Intermediate Modern Technique, Tu,Th,5:30-7pm, Walker-201; Composition/Improvisation, Tu 1-2:30pm, Walker-201; Technique/Repertory/Improvisation, Wed 11-12:30, Walker-201. Tap, Fri 12-1:30pm, Walker-201. Info: x3-2877.

■ EXHIBITS

LIST VISUAL ARTS CENTER

Juan Francisco Elso Padilla. First US showing of works by Padilla, a Cuban sculptor who

died of leukemia at age 32. Highly personal blend of secularism, mysticism, magic and ethics seeking to identify and embody a Latin American mythology, drawing on both Afro-Cuban and Indian traditions. **Robert Arneson: The Jackson Pollock Series.** Large portrait busts and heads of Pollock, which are both dramatic psychological studies and technical tours de force. Also included are ceramic recreations of Pollock's final car crash and a full-scale sculptural interpretation of one of Pollock's major paintings. **Barbara Broughel: Storytelling Chairs.** Ensemble of eight richly doctored and decorated early American chairs by the New York-based sculptor creates an environment for reflecting on the little-appreciated extent to which colonial American culture was indebted to Iroquois example and precedent. Through Apr 14. Open M-F 12-6pm, Sat, Sun 1-5pm.

THE MIT MUSEUM

MIT Museum Bldg (N52)—Works by Robert Preusser. Overview of paintings done since the 1930s by former MIT Professor of Visual Design, Dept of Architecture. Through Apr 4. **American Color: Photographs by Rodger Kingston.** A visual documentation of the ways advertising, architecture and celebrity define us as American. Through Mar 24. **Doc Edgerton: Stopping Time.** Photographs, instruments, and memorabilia documenting the late Harold Edgerton's invention and use of the strobe light. Ongoing. **Light Sculptures by Bill Parker.** Vivid interactive light sculptures, each with its own personality and set of moods. Ongoing. **Holography: Types and Applications.** Scientific, medical, technical and artistic imaging drawn from the work of the Spatial Imaging Group at MIT's Media Lab. Ongoing. **Math in 3D: Geometric Sculptures by Morton G. Bradley, Jr.** Colorful revolving sculptures based on mathematical formulae. Ongoing. Tues-Fri 9-5; Sat-Sun 1-5.

HART NAUTICAL GALLERY

Ongoing exhibits: George Owen '94: Yacht Designer—Ship Models, Half Models in Naval Architecture. Ongoing. 77 Mass Ave, Mon-Sun 9am-8pm.

CORRIDOR EXHIBITS

Corridor Exhibits: Bldg 1 & 5, 2nd floor: John Ripley Freeman. Lobby, Bldg 4: **Norbert Wiener, Karl Taylor Compton. Community Service Fund, Ellen Swallow Richards. Women at MIT.** An overview of the admission of women at MIT. Five photographic panels with text documenting the circumstances that increased the number of women in the classroom since Ellen Swallow Richards. Bldg 6: **Laboratory for Physical Chemistry.** Bldg 4: **Edgerton's Strobe Alley:** Exhibits of high-speed photography. (Corridor Exhibit).

COMPTON GALLERY

The Art of Architecture: The Christian Science Church 1894-1990. An exhibition of historical drawings, plans, prints, writings, and models by the five architects who designed the Church buildings and plaza which comprise the Christian Science Center in Boston. Through Mar 8. Weekdays 9-5.

OTHER EXHIBITS

Institute Archives and Special Collections—Jerome C. Hunsaker, Father of Aeronautics at MIT: Chronicles his founding of aeronautics at the Institute; his design and construction of Navy airplanes and NC-4, the first airplane to cross the Atlantic, and his role in leading the Dept of Aeronautical Engineering from 1939-51. **The Tech Show:** "Engineering is interfering with fun...Wish my four year stretch were over and done." That's from 1947 but it could be sung today. Portrays an MIT institution with a 92 year history.

■ WELLESLEY EVENTS

LECTURES & EVENTS

Mar 6: "Working Mothers Face Childcare," Sandra Wood Scarr, Univ of Virginia, 4:15pm, 277 Science Ctr. Colloquium: "Alienation and Anger: A Black Woman's and A White Woman's Struggle for Mutuality in An Unjust World," Katie Cannon and Carter Heyward, Episcopal Divinity School, 8pm, Alumnae Hall Auditorium, \$5, call 235-0320 x2838.

Mar 7: "Women in the 'Sandwich Generation': Perspectives on Work and Caregiving," Mary Shannon, 12:30-1:30pm, Cheever House.

Mar 8: "Empress Livia: Motherhood and Politics," Marleen Flory, Gustavus Adolphus College, St. Peter, MN, 4:15pm, Clapp Library Lecture Rm.

Mar 10: Concert: Works of women composers and songs w/texts by women, 8pm, Houghton Memorial Chapel.

Mar 11: "The Boston Harbor Cleanup," Paul Levy, MWRA, 5pm, 277 Science Center.

Mar 12: "The Guerrilla Girls, the Conscience of the Art World," the Guerilla Girls, 7:30pm, Jewett Art Center.

Send notices for Wednesday, March 13, through Sunday, March 25 to Calendar Editor Rm 5-111, before 12 noon Friday, March 8.



A total of 22 undergraduate and five graduate students helped build the Versatile Toroidal Facility at the Plasma Fusion Center. Here some of them stand around the machine. Photo by Donna Coveney

MAJOR UROP

Bringing Space Plasmas to Earth

By Eugene F. Mallove
News Office

Imagine capturing the Northern Lights—the Aurora Borealis—in a magnetic bottle and investigating the beautiful celestial phenomena in the laboratory.

Researchers at the MIT Plasma Fusion Center are doing just that and much more with their newly constructed Versatile Toroidal Facility (VTF), which will serve as a kind of universal tool to investigate plasmas—gaseous mixtures of electrons, positively charged atoms, and bare atomic nuclei.

The new facility owes its existence to 20 spare magnets left over from a decommissioned fusion research machine—a tokamak—from Oak Ridge National Laboratory. Other parts came from MIT's own "Tara" research machine—a so-called "mirror magnet" fusion device.

But the Plasma Fusion Center's VTF would never have sprung to life had it not been for a dedicated group of UROP students, graduate students, and staff researchers. Over the past year and a half, 22 UROP students and five graduate students have bent their considerable energies toward preparing the facility.

They received their real world scientific-engineering experience in the PFC's "Nabisco Laboratory" where the VTF is set up, the site of a former bakery goods warehouse. The students who have worked on VTF come from a broad spectrum of MIT courses—nuclear engineering, electrical engineering, physics, mechanical engineering, and chemical engineering.

With federal energy research fund-

ing cutbacks already having an impact on some PFC operations, it would have been impossible to carry out a project that might have cost millions of dollars had it not been for student labor.

In what PFC staff believe to be the largest UROP project ever, the students tested magnets, vacuum chambers, and 16 gaping ports for affixing instruments to measure plasmas. The donut-shaped inner chamber of the machine is about 2.5 meters in diameter. Its minor radius—a slice through one side of the donut—is 27 centimeters. A radio-frequency heater sends power into the chamber to create glowing plasmas.

VTF is larger than even Alcator C-MOD that is nearing completion in an adjacent room. Of course, the machines have totally different objectives and the magnetic fields in Alcator C-MOD will be ten times stronger. Alcator C-MOD is part of the main line evolution of fusion reactor technology.

At the dedication ceremony last month, PFC Director Ronald Parker noted that the MIT tradition of hands-on student involvement in front-line research projects is alive and well within the PFC. Dr. Min-Chang Lee, leader of the PFC's Ionospheric Plasma Research Group, beamed with pride as he praised his students for their efforts. Professor Parker also singled out the contribution of Dr. Marcel Gaudreau, who provided engineering guidance and supervision to the student team during the construction phase.

Professor Parker and Dr. Lee, together with Dr. Stanley Luckhardt, are planning a research program that focuses on basic physical processes occurring in plasmas found in space and laboratory fusion devices.

Dr. Lee read a letter from the key sponsor, Dr. Robert J. Barker, manager for plasma physics at the Air Force Office of Scientific Research: "I congratulate you and your hard-working team of graduate and undergraduate students on the construction of our new Versatile Toroidal Facility (VTF). This was an awesome scientific and engineering undertaking. Your success represents a promising bright spot in these troubled times for our field. . .

"I find the massive level of student involvement to be particularly gratifying. Our nation desperately needs more PhD-level scientists and engineers. In particular, we need an injection of youthful enthusiasm into our field . . . if the goal of controlled fusion energy is to be realized in our lifetime."

In addition to AFOSR, NASA and MIT, through its UROP funding, have also supported the project financially.

Dr. Lee's nuclear engineering graduate student Dan Moriarty, who did his thesis on a major magnetic sub-system of the VTF, said, "These UROP students certainly aren't just helping hands. Our best machinist is a sophomore and the person in charge of computer data acquisition—a huge control system—is a sophomore. We rely on them. They have incredible responsibilities. It's a very meaningful UROP."

Professor Parker says, "The VTF is a very important new device which will enable continuation of the innovative research that was the hallmark of the Versator program for nearly two decades. I look forward to the contributions of a new generation of students who will produce novel and exciting results using this facility."

Major Project Underway

The VTF is "ideal for simulating the plasmas of Earth's ionosphere and magnetosphere and for studying nonlinear wave propagation and interactions with magnetized plasmas, in general," says Dr. Min-Chang Lee, leader of the PFC's Ionospheric Plasma Research Group.

One of the major goals of the VTF is to cross-check results from field studies of ionospheric plasma heating that the PFC's Ionospheric Plasma Research Group has conducted from Arecibo, Puerto Rico, with the 1000-foot-diameter radar-radiotelescope and with instruments at Tromso, Norway. For several years, expeditions of MIT researchers to Arecibo and Tromso have gathered new insights into how plasmas in the upper atmosphere work. These investigations complement the PFC's ongoing collaborative studies of ionospheric plasma physics with the Millstone Hill radars at the Haystack Observatory and Lincoln Laboratory.

The Arecibo HF (high frequency) heater beams power into space to activate regions in the ionosphere; in effect, the power heats the upper atmospheric regions. The beamed power can even create a momentary "artificial aurora" that

could be just barely visible to the naked eye, but sensitive devices are needed to make the scientific measurements.

Reflections of other waves sent up by nearby radars help the scientists diagnose conditions in those activated high-altitude plasmas. Some naturally occurring ionospheric processes can also be studied in this controlled way.

In a similar manner, instruments on Earth probe complex plasma phenomena within tokamak fusion machines, and now in the VTF. Dr. Lee says, "We can use the ionosphere as a natural plasma laboratory to study some non-linear plasma processes which may occur in magnetic fusion reactors."

There have also been cooperative experiments with researchers in the Soviet Union—the "Joint US-USSR Space Plasma Program." At Arecibo and Millstone Hill, the MIT scientists have recorded signals passing through the ionosphere that originated from a specially equipped Soviet satellite designated "ACTIVE." Signals from the US space shuttle have also been monitored from Arecibo and Millstone Hill, with the data being brought back to MIT for analysis.—EFM

Classified Ads

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INSTRUCTIONS: Ads are limited to one (of approximately 30 words) per issue and may not be repeated in successive issues. All must be accompanied by full name and extension. Persons who have no extensions or who wish to list only their home home telephones, must come in person to Rm 5-111 to present Institute identification. Ads using extensions may be sent via Institute mail. Ads are not accepted over the telephone.

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

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

Deadline is noon Friday before publication.

■ FOR SALE

Stubben dressage saddle, made in Switzerland, exc cond, sz 16.5", \$700; other tack items, incl stirrups & stirrup leathers for saddle, also avail. Bob x3-1682.

Ski eqmt: Head Gala 160cm, hi-perf, just waxed, \$99; Raichle air boots, worn 2x, W's 7.5, \$39; new poles by Reflex, retail \$45, now \$25. Ferry Woo, dorm x5-8683.

Upgraded IBM PC-2 (640K), Microsoft MACH2 accel card, & IBM ProPrinter II, \$800 total pkg. Peg x8-5164 or 643-3277 evs.

China, white w/silver, 8-pc dinner set, \$50; Realistic 10 band stereo equalizer, \$20; Mandolin, flatback, \$35. Sue, Linc x3854 or 489-4402.

Free: 4 lbs de-caf espresso coffee. David x3-9366.

Panasonic tape deck, \$50; Pioneer turntable, \$50; teak entertainment unit, 69"W, 25"H, 16"D, \$100. Robert x3-8064.

Learn about HyperCard 2.0 "Cooking with HyperCard 2.0" w/developer tools, retail \$40, sell for \$25. Fabrice 252-0092 lv mssg.

Truck cap, full sz, long bed, old but gd cond, \$175. Claire x3-2292.

HP Vectra 45 AT-compatible 20-MB HD, 1.2-MB & 360-kB floppy drives, 640-kB RAM, math coprocessor, video/color, more, was \$5500, yours for \$600 or bst. Dave Wilson x3-5121.

Recliner, Lazy Boy, brown leather, close to wall, great Father's Day, must pick up, \$250. Carmen x3-1484.

Yamaha DX27 4-operator programmable synthesizer, Mooradian case, 61 full sz keys, full MIDI, cassette out port, manuals, exc cond, \$250 firm. Call x3-8755 or x3-8751.

Rossignol 170, \$75; Rossignol 200, \$25; Olin 190, \$15; Olin 160, \$45; misc boots; 3 x-c skis, 180, 200, 215, \$35/ea; x-c boots/poles, twin matt, \$15, coffee tbs, \$35, \$55. Call 332-8251.

1990 Grolier's Encyclopedia Americana, nvr used, 30-vol set for ages 10 through adult, yearly updates, rapid ready reports avail, \$799 (retail value \$1199). Call 623-7901.

Hewlett Packard scientific calculator, model 28S, new, unused, w/32K memory & leather case, \$200. Pete x3-1286.

Couch, \$35 or bst. Clayton, Linc x2008 or 643-5104.

■ VEHICLES

1974 Jaguar XJ6, parts car or restore, driveable, 40K on reblt eng, 130K total, bst offer. Dick x3-3878.

1976 Chevy Malibu classic, 4-dr, V8, auto, exc mech, v reliable for long trips, askg \$300. Spiros x3-1559 or 876-5411 lv mssg.

1979 Mazda GLC, 2 brand nw trs, high mileage, reliable but nds nw radiator, \$250 or bst. Call x3-8421 or 277-4540 lv mssg.

1982 Volvo 240 sedan, 4-dr, 4-cyl, auto transm, a/c, AM/FM/cass, body/int/mech in exc cond, 1 ownr, v reliable & well maint, askg \$2500 or bst. Call 508-872-8633.

1982 Nissan 310 6x, red, htchbk, std, 90K, little rust, gd eng, runs well, nds nw rear bumper, \$900. Call x3-8695.

1983 Mercury Lynx, 4-sp standard, AM/FM, 70K, nw batt/belts/water pump, no rust, runs well, gd for city, \$925. Call x3-1625 or 738-6787.

1988 Kawasaki Ki Ninja 600R, only 2.9K, 16V twin cam, unique candy apple red w/black, nw batt, comes w/full face Bell helmet, \$2950. John, dorm x5-9613.

■ HOUSING

Arlington: sunny 1BR apt, lrg LR, ktchn, bath; avail 3/15 or 4/1, w/d in bsmt, nr buses to Harv. Sq. & Alewife, \$725/mo htd. Phyllis x3-0736 or (617) 643-2756.

Bethel, ME: nw village 2BR condo for rent or sale, fully furn, nr Sunday Rvr skiing & walk to x-country, week, month, wknd or season, reasonable. LeeAnn x3-5618.

Camb/Somerville line: convenient, exc 5-rm apt, 2nd fl, 2BR, walking dist to Hvd Sq, avail immed, \$700/mo unhtd. Call 508-658-7346 or 776-7723.

Cambridge: 3/15 or 4/1, lrg mod 1BR nr Hvd Sq, walk Red Line, closet space, sunny bsmt unit, ww, d&d, on-site lndry, \$725/mo incl ht, hw, prkg. Brent x8-9168 or 354-8710.

Campus: room & board, 3 residential spaces avail, at No. 6 club, all inclusive, prkg avail, only \$2060/term. Call 236-4205.

Chester, VT: sm ski/vacation hse, quiet, very scenic setting, easy drive to Magic, Bromley, Stratton, Okemo, \$150/wknd, \$350/wk. Bob, Linc x2826 or 617-863-1041.

Concord, MA: 6 rms, 2-3BR, 1b, sunrm, detached 1-rm guesthse, oil hot water ht, lrg property, White Pond privileges, \$159,000. Call 508-369-4484 lv mssg.

Ft. Lauderdale, FL: beaut sunny 2BR, 2b, furn, model condo, 2 mi from beach, local to major roads, pool, dead end, many extras, \$65,000 or bst. Margaret x3-2597 or 729-7217.

Juno Beach, FL: beachfront condo, 2BR, 2b, balcony, garage, priced for quick sale at \$150K. Call 864-0851.

Loon Mt/Lincoln NH: ski downhill & x-country, 2BR, 2b, riverfront condo, slps 6, clubhse & ski bus on premises, reasonable rates wkdy/wknds. Art x3-8395 or 472-8551.

Newton: 2BR apt in 3-fam hse, eat-in-ktchn, laundry, w/w, nr bus line & shops, off-st prkg, avail 3/15, \$680 + util. Call 527-8724 aftr 3pm.

Quincy: fully furn 3BR modern ktchn & bathrm, fridge, stove, walk to T & Quincy Ctr, no pets, avail immed, \$950 incl utils. Call 471-7604.

Randolph: 6-rm Colonial, 2BR, 1b, finished attic, closed-in sunporch, full htd bsmt, shed, garden, convenient to T & expwy, \$121,900. Call 617-961-2115.

Stoneham: charming 2BR Colonial, exc cond, spacious, yd w/patio, mod ktchn w/dining area, easy commute to Boston, reduced \$149,900. Allison x3-7327 or 617-279-0047.

Vinalhaven, ME: Island cottage for 3, water vw, quarry swimming, cycling, yr-rd stores in village, avail pref, 4 hrs Boston, \$360/wk summer. Marie x3-3490 or 547-1311.

Winchester: gracious, sunny 9-rm hse, open fl plan, 2800 sq ft living space, 1/2 acre lot, beaut yd, lrg deck, walk to elem school, extras, move-in cond. Call owner 729-5837.

■ WANTED

Children's downhill ski pkgs wanted, szs approx 9 & 3. Call 665-7916 evs 8-10:30pm.

Used external modem, 1200 or 2400 baud. Call 262-2856.

Wanted: nw home for smart, ingenious, beautiful long-haired grey neutered male 6-yr-old indoor cat. Very playful. Fetches. Needs your love & attention. Sam x3-1782.

■ ROOMMATES

Brighton: F 27+ wanted to shr 3BR in hse, no smoke/pets, must be responsible, mature, avail 4/1, \$300/mo incl ht/hw/prkg. Cindy x3-4722 or 782-9476.

■ MISCELLANEOUS

Cheap mover! I have a small pick-up truck and will move your stuff inexpensively. Bruce x3-3993 or 666-9059.

DIVERSE AND EXCITING

1991 Burchard Scholars Are Named

Twenty-one sophomores and juniors have been selected as 1991 Burchard Scholars in the School of Humanities and Social Science.

The awards, named after the School's first dean, John E. Burchard, are given to students who show unusual abilities and academic excellence in areas embraced by the School.

"These students are from exciting and diverse backgrounds and are a wonderful group of gifted young scholars," Professor Philip S. Khoury, who chaired the selection committee, noted. Professor Khoury, who is acting dean of the School, said this was the sixth year of the competition.

The Burchard Scholars and a rotating group of faculty members will be invited to a series of dinners beginning in February. At each dinner a faculty member, visiting scholar or Burchard scholar will present work in progress for discussion. In addition to collegiality, the dinners give the students an opportunity to engage in the kind of intellectual exchange that characterizes scholarship, Professor Khoury said. The emphasis throughout is interdisciplinary.

This year's Burchard Scholars are: Jee Yung Ahn, a sophomore in management from Knoxville, Tenn.

Lisa Kay Arel, a junior in biology from Lee's Summit, Mo.

Stacy Au, a junior in mechanical engineering from New York City.

David Mark Berman, a junior in biology from Houston, Texas.

Mary Frances Brodie, an undesignated sophomore from Whitman, Mass.

Maya N. Federman, a junior in political science from Santa Barbara, Calif.

John P. Ito, a sophomore in humanities and science from Chicago, Ill. Saeed Nawaz Jaffer, a junior in electrical engineering and computer science from San Marino, Calif.

Zarah Kherani, a sophomore in economics from Grafton, Ohio.

Lerothodi Lepula Leeuw, a junior in physics from Pampierstad, South Africa.

Laurel Jean Mahoney, a junior in political science from Woburn, Mass.

Kenneth Neil Ricci, a sophomore in physics from Chatsworth, Calif.

Nancy Joy Schondorf, a sophomore in materials science and engineering from Riverside, Ct.

Jennifer Singer, a junior in brain and cognitive science from Greenwich, Ct.

Joanna E. Stone, a junior in urban studies and planning from New York City.

Rajiv Suri, a junior in humanities and engineering from Greenbelt, Md.

Michael Ming Ting, a junior in mathematics from Bridgewater, N.J.

Daniel Tunkelang, a junior in mathematics from New York City.

Alison June Williams, a junior in aeronautics and astronautics from Ocean, N.J.

Noah Zamdmer, a sophomore in physics from New York City.

Eric John Zylstra, a junior in chemistry from Alburnett, Iowa.

In addition to Dean Khoury, the selection committee included: Professors Samuel J. Keyser, associate provost; Ellen Harris, associate provost for the arts; Harriet Ritvo of the Writing Program, and Richard Samuels of political science.

Tax Q&A

Q: What happens if you find an extra W-2 or receipt for medical expenses after mailing your tax return?

A: Use the IRS "fix-it" form, Form 1040X, "Amended US Individual Income Tax Return," to correct a previously filed return. Form 1040X is available by calling the IRS toll-free at 1-800-829-3676.

Edwin H. Land, UROP Benefactor

Dr. Edwin H. Land, the inventor of instant photography whose vision and financial support led to the establishment of MIT's Undergraduate Research Opportunities Program (UROP), died March 1 in Cambridge after a long illness. He was 80. Private services were scheduled to be held today, March 6.

Dr. Land was a visiting Institute Professor at MIT, a position he had held since 1956. In noting the long relationship, President Emeritus Jerome B. Wiesner said, "I will always remember Din Land for his exquisite taste. He set the highest standard of excellence for everything that he did, be it an affair of state, his science, his inventions, the company he built, his reports to its stockholders, the students who were fortunate enough to have him as their mentor or his many friends who sought his advice."

UROP, organized in 1969, provides undergraduates the opportunity to participate with MIT faculty and research staff in a variety of projects. Before UROP hands-on research experience was rarely a serious undertaking for undergraduates at MIT and elsewhere.

It was in 1957, as he gave the Arthur D. Little Lecture at MIT, that Dr. Land

first outlined his view of the importance of involving undergraduates in original scientific investigation with leading faculty and researchers. His concern was that institutions tended to drive the creative curiosity out of young people by focusing mostly on basic learning without providing ways to experiment with innovation. He saw such experiences as key to the early maturation of the student's "own special creative capacities." He visualized undergraduates as becoming members of research teams and thus creating a place of their own at MIT.

Three years later, in another lecture at MIT, Dr. Land saw a need for new industrial institutions that would require scientist-engineers who had immersed themselves in the arts and sciences and who had lived "a life of intimate association with all sorts of people..."

In 1968 Dr. Land established a trust fund and dedicated its income—nearly \$1.5 million over the following three years—to educational development at MIT. Out of that combination of vision and financial support, UROP was born.

Professor Margaret L.A. MacVicar, Dean for Undergraduate Education at

MIT and director of UROP since its beginning, had this comment:

"Edwin Land had extraordinary insight into the hearts of young people and knew well how to inspire the most talented of them to excellence and greatness. His encouragement and support to MIT led to the development in 1969 of the Undergraduate Research Opportunities Program, which is now much imitated worldwide, has been cited for national excellence by the US Secretary of Education, and is a model embraced by the National Science Foundation and private foundations.

"Since then some 20,000 MIT students, the cream of engineering and science undergraduates, have grown, bloomed and often patented and published as junior colleagues in partnership with faculty on projects of mutual interest.

"MIT, its students and this nation are deeply indebted to Edwin Land for his insight and his inspiration. His was not just a passive interest. Mr. Land often participated with students as a supervisor of research and Polaroid was a frequent site for UROP activities."

Dr. Land also developed the Retinex theory of color vision, starting in the mid 1950s. His work in that field led him to experiments that showed inconsistencies in the classical concept of how color is sensed. The Retinex theory of the comparative computations in the brain that produce color vision has had a wide impact in the brain sciences. In 1987 Dr. Land was asked to be the inaugural lecturer for the Sherman Fairchild Foundation Brain Sciences Lecture Series at MIT.

LURIA MEMORIAL

A memorial service for Institute Professor Emeritus Salvador E. Luria, will be held Monday, April 1, at 11am in Kresge Auditorium, followed by a reception in the Sala de Puerto Rico. The entire community is invited to both events. Professor Luria, who shared the 1969 Nobel Prize for medicine or physiology, died February 6 following a heart attack. He was 78.

EDWARD T. HOLLERAN

Edward T. Holleran, 72, of Cambridge, a retired steamfitter at Lincoln Laboratory, died on January 12. Mr. Holleran worked at Lincoln from 1952 until his retirement in 1983.

His survivors include two sons, John, and Edward T. Holleran Jr.

The Faults and Frauds of Freud

(continued from page 1) histories served other crucial functions, including Freud's progressive substitution of rhetoric for evidence and his efforts to induce readers, including patients, to abandon 'resistance' to his theories," says Dr. Sulloway.

Sulloway notes that Freud believed that psychoanalysis could never be learned simply from published case histories. As Freud increasingly argued, to learn psychoanalysis required a personal analysis.

"Unlike training procedures used in the natural sciences, however, those developed within psychoanalysis were increasingly divorced from the open peer criticism associated with education within universities and medical schools," observes Dr. Sulloway. Psychoanalytic education increasingly took shelter within privately controlled institutes.

"Freud's training methods therefore represent a backward step toward the kind of learning based on authority and secrecy that typified scholasticism and alchemy prior to the Scientific Revolution. Ultimately, Freud's decision to privatize and socially construct

the analytic training process reflects serious methodological shortcomings inherent in psychoanalysis itself," claims Sulloway.

Dr. Sulloway's earlier work on Freud, he says, "emphasized the insufficiently appreciated continuity between Freud's earlier career as a biologist and neurophysiologist." Sulloway has argued that Freud's most essential psychoanalytic concepts were based on erroneous out-of-date assumptions from 19th century biology. "Bad biology spawned bad psychology," he writes. "Freud erected his psychoanalytic edifice on a kind of intellectual quicksand, a circumstance that consequently doomed many of his most important theoretical conclusions from the outset."

Dr. Sulloway's recent paper on Freud will be published in the June issue of the Journal of the History of Science Society, Isis. Sulloway has also written extensively on the life of Charles Darwin and is engaged in a major study of revolutionary temperament in science. In 1984, he was awarded a five-year MacArthur Fellowship.

THE ARTS

The Arts Page is produced by the Office of the Arts in collaboration with ARTSNET-253-4003

Performance Masterclasses



MIT Music and Theater Arts is presenting a series of Performance Masterclasses in Killian Hall in which Advance Music Performance students, as well as half scholarship recipients, have the opportunity to perform and receive coaching. The Masterclasses are also open to the public.

On Monday, March 11, pianist Jerome Lowenthal, (above) whose career has spanned more than three decades, leads a Masterclass for strings at 8pm. Mr. Lowenthal has been a guest artist with the world's foremost orchestras and in January 1991 performed the New York premiere of Franz Liszt's newly discovered Third Piano Concerto, with Zubin Mehta and the New York Philharmonic. The New York Times has called him "a pianist in the grand manner."

David Epstein, professor of music and conductor of the MIT Symphony leads three sessions for performers on all instruments at 7pm on March 18, April 1 and April 22.

And, looking ahead, on April 29, flutist Robert Stallman leads a Masterclass for winds.

SOMETHING FOR EVERYONE

The Beat Goes On

Music lovers face a wide range of choices in a very full week of programs and concerts with something for everyone — from Bach to rock; from German lieder to woofs and tweeters.

The Chapel concert at 12noon, Thursday, March 7 features Bach Gamba Sonatas performed by Boston-area musicians Jan Pfeiffer, cello and Peter Sykes, harpsichord.

On Friday, March 8 the annual Student Center Committee **Battle of the Bands** kicks off with the first of three rounds of preliminary contests in which four bands vie for the evening's top honors. The contest continues March 14 and March 21, with the grand championship decided April 4. The bands blast from 9-1am in Lobdell Dining Hall, Stratton Student Center.



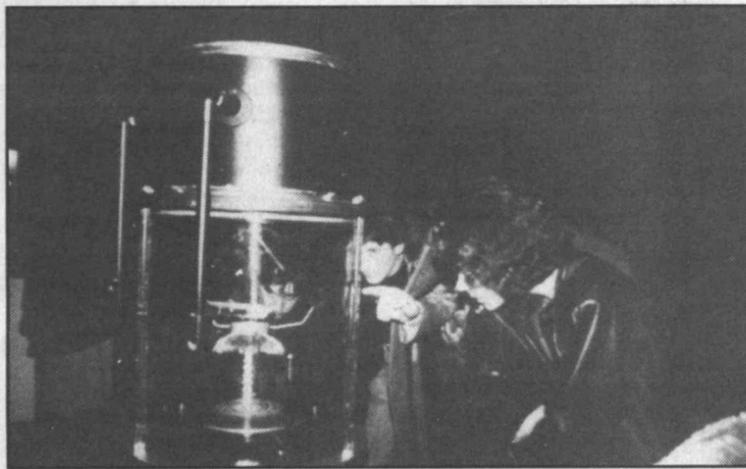
NEW PROGRAM

MIT Hosts Japanese Multi-Media Artist

The Japanese multi-media artist Takura Osaka will be in residence at the Visual Arts Program from March 8-23. During this time at MIT he will work with students in sculpture, architecture and art foundations courses. A presentation of his work, open to the MIT community, will take place on March 14 at 6:30pm in the Visual Arts Program's Berenice Abbott Photography Lab (N51-315).

Mr. Osaka's visit is the first of a new exchange program between the MIT Visual Arts Program and Musashino Art University in Japan.

Osaka works on a large scale in a variety of media. Light is the predominant feature of his environmental works, appearing as the natural light of the Aurora Borealis, fireflies, or electric eels; in man-made terms, Osaka utilizes the light emitted from television, radar, x-rays, and neon.



Visitors to the *Electra* exhibition in Paris investigate a piece by Takura Osaka

Mr. Osaka's work has been shown throughout Japan and in 1983 was included in *Electra*, an exhibition at the Musee d' Art Moderne de la Ville de Paris. As a pioneer of light art, he has produced works not only in conventional art institutions such as galleries and museums, but also for urban public spaces, shopping compounds, fair pavilions and theatrical stages.

Experiencing a piece by Osaka has been described as walking into a building on fire, or the aftermath of an explosion. The room appears to be in a state of disintegration through the effects of light and sound. Often there is a disturbing element, such as steadily dripping water, which in combination with open electrical wiring, can create a sense of danger from electrocution or overexposure.

However, some of Osaka's pieces have the opposite effect, and evoke an affinity and harmony with nature that soothes the viewer, with a simulated underwater glow, or the light that may exist in deep space or primordial time.

The impact of Osaka's work is unselfconscious, emotional and dramatic. But behind these scenes, the artist uses sophisticated technology to create his worlds. Computers control the myriad currents of colored light and interact with synthesized sound effects. He employs lasers, light amplifiers, vacuum pumps, neon acrylic tubing, steel and motors. Critic Rodney O'Brien states that such effects "point to the work of scientists who in test tubes have synthesized prebiological environments using hydrogen, water vapor, ammonia and methane, and subjected the mix to an electrical charge of ultraviolet light" and that his work "celebrates the mysteries of our origins."

—Susan Podshadley, Visual Arts Program

Architecture Lectures

Patricia Phillips, professor at the Parsons School of Design in New York City and freelance critic on environmental art for Art Forum and Art in America speaks on "The Role of Art in the Built Environment" on Thursday, March 7.

And, on Tuesday, March 12, New York artist Dennis Adams discusses "The Architecture of Amnesia," a summary of his most recent projects.

Mary Anne Staniszewski wrote of Adams' work in her monograph accompanying his exhibition at Kent Fine Art: his projects often "deal with the collective memory and the political unconscious of our social landscape."

Funding for the Architecture Department Lecture Series is provided in part by the Council for the Arts at MIT.

Both lectures are at 7:30pm in Rm 9-150.

Tiny Town

James T. Rojas, a graduate student in architecture, has constructed a miniature city in the Wiesner Student Art Gallery on the 2nd floor of the Stratton Student Center. He describes the media as "junk," and it includes small blocks, chess pieces, dice, game pieces, and a monster ravaging part of the metropolis. *Cities & Junk: Between Image and Reality Lies Fantasy* will be on display until March 16.



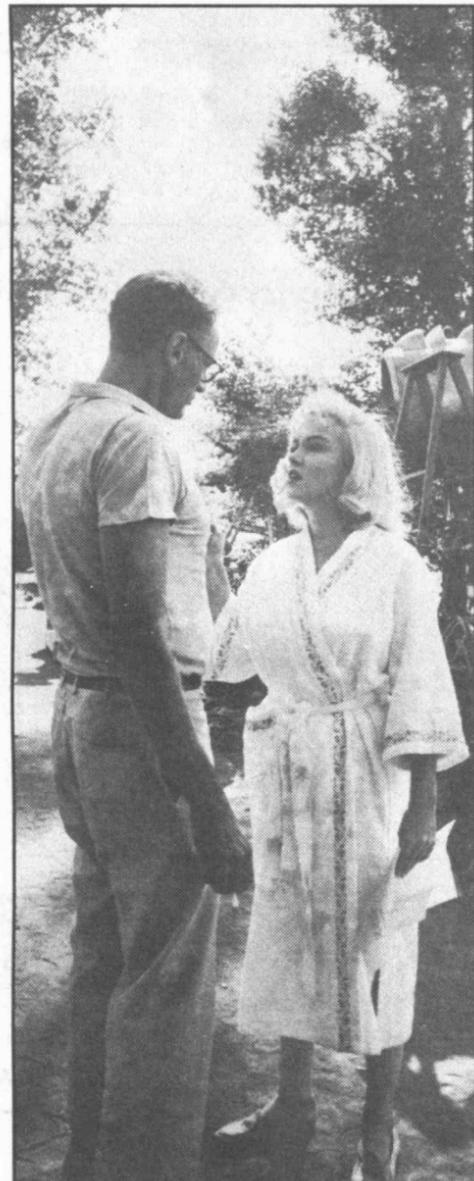
'After the Fall' Opens

The MIT Community Players present *After the Fall*, Arthur Miller's semi-autobiographical account of his marriage to actress Marilyn Monroe. The drama deals with one man's exploration of his memories, as he wrestles with the changes in life which lead to growth, recalling two failed marriages, friends that have been lost or betrayed in the strife of the McCarthy hearings, and his mother whom he's been unable to mourn.

The production is directed by Boston-area director Joseph Bowen who previously directed the MIT Gilbert & Sullivan Players' production of *HMS Pinafore*. An original musical score by David Goldhirsch provides a jazzy undertone to the action.

Former MIT computer science student Joel Gluck portrays the central character Quentin. After performing in several Dramashop productions, Gluck decided he preferred acting to computers and transferred to the Trinity Repertory Company Conservatory Training Program in Providence, R.I. He returned to Boston in 1988 when requested by Ulysses Productions, a summer theater program organized by a group of MIT students, former students and staff members.

The MIT Community Players is a group composed of MIT students, faculty, staff, alumni, their family and friends, with participation from others in the greater Boston area. Their goal is to provide an outlet for quality amateur theater, to produce entertainment on campus, and to provide a learning opportunity for those wishing to get more involved in theater.



Arthur Miller and Marilyn Monroe by Eve Arnold.

After the Fall opens Friday, March 8 and continues March 9-10 and 14-16 in Kresge Little Theater at 8pm. Tickets: \$8, \$7 MIT community, \$6 seniors/students, \$5 MIT & Wellesley students. 253-2530.

For the more classically-minded, **Advanced Music Performance** graduate student Wilson Hsieh, viola with Mark Ryser, piano, performs Harbison's Sonata for Viola and Schubert's "Arpeggione" Sonata at 12noon, March 8, in Killian Hall.

A mostly strings concert by the **MIT Chamber Orchestra** occurs at 8pm, Saturday, March 9, in Kresge Auditorium. Jonathan Pasternack, conducts Elgar's Serenade for Strings; Wagner's *Siegfried Idyll*; Debussy's *Dances Sacree et Profane*, with Dawn Watkins '91, harp.

And, on Sunday, March 10, soprano Ellen Harris, associate provost for the arts; clarinetist Elizabeth Connors, Office of the Arts; and Beatrice Erdely, piano, perform **German songs** by Ludwig Spohr; Brahms, Sonata No. 1 in F Minor Op. 120; and songs by Schubert at 8pm in Killian Hall.

The string Masterclass conducted by pianist Jerome Lowenthal on Monday, March 11 is detailed in accompanying story (above left).

Hooks Says MIT Program Sets New Pace for the Nation

(The following is an edited transcript of an interview with Dr. Benjamin Hooks, Executive Director of the National Association for the Advancement of Colored People, by Barbara Barrow-Murray of Extended Family Productions, Inc., who is producing for MIT a TV program, "MIT: Shaping the Future," about MIT's 17th annual celebration of the birthday of the Rev. Martin Luther King Jr. and the establishment this year of the Martin Luther King Jr. Visiting Scholar program. Dr. Hooks was interviewed following his Jan. 18 keynote address at the MIT celebration.)

Q: How does it affect the national agenda of the NAACP when you have an institution such as MIT reshaping its future so that it incorporates a broader spectrum of people of color on the faculty, staff, and student level?

Hooks: I think we have to start off by recognizing that MIT is indeed an institution. And I mean by that you call the name MIT in any boardroom in America, any other college, nobody has to ask where it is, where it's located, what it's famous for. When MIT embarks deliberately on a course to make things better, to include in those who had been excluded out, I think it sends a very important message to the whole nation, and let me hasten to add that I hope as this process goes forward, it will be broadly publicized.

One of the great tragedies is too often we do things for blacks, for

women, for those who have been kept out, [but] we don't publicize it. We simply say we're doing what we ought to do. But there are kids down there who need an inspiration now, first grade students who need to know that MIT is concerned. That's number one.

Number two, if MIT does it, it means that other colleges and institutions may follow their leadership. It's so important because today blacks face a plethora of problems and a paucity of hopes. We no longer can count on the Supreme Court as we once did. We most certainly cannot count on the President as we had hoped we could. And the Congress has become increasingly timid. So it may be that in the providence of God private institutions will have to take the leadership. And so I wish the president of this institution the best and wish this school the best as it embarks upon this new course. . .

We think this perhaps will set for us a trend. For the last 14 years I've been up and down this country saying what private and state institutions of higher education can do. They ought to set an example. It is to them that we look for the best and brightest minds. It is to them that we should look for hope, for inspiration, and for change. It is to them that we should look. Not to follow the status quo, but to set a new path. And too often they've been timid and timorous and afraid and unwilling to venture out into the new possibilities of the future, but hold onto outmoded relics of the past. And therefore it's been sort of shameful, and. . . lately, I've not been looking to colleges and universities to set a pace.

It may very well be in the providence of God that President Vest is setting that new pace. . . I know he will have our support in whatever ways we can give it. But I think that the Institute itself will be surprised that there are many other agencies that are a little bit tired of the backward looking mood that America's had in the last, let's say, ten years, and they will join. And if that happens, we can have the drumbeat of progress

fact that so many things that have been done and are being done to help black youth or minority youth are never known by the youth themselves. I spoke one day in the ballroom of the Waldorf Astoria to a group called Junior Achievement. They brought hundreds of black and hispanic youth from across the nation who were on the upward mobility ladder and they made a corporate census of this country. But there was not a word about it in the paper the

back of my mind I decided to do something that I could do and prepare myself for the opportunity that may arise. And beyond that, to be a part of the group that was trying to make that preparation.

So young people, there's so much hope for you. So many doors have been opened. You have no right to be walking around in the doom and despair, dismay, and crying about what you don't have. Thank God for what we do have, and if there are things that are wrong, get into position where you can help change. You can't change it from a jailhouse. You can't change it from the dope pad. You can't change it when you don't know your name, one name from another when you're drunk and when substance abuse has robbed your body. The greatest slavemaster in the world would be the dope and drugs and alcohol. . . Open up your minds. Make preparation that you can open doors for yourself and for others.

There are opportunities. This country still does afford it. It's not all it ought to be and it's not what it's going to be, but thank God it isn't what it used to be. . . It won't be easy. . . But if your foreparents could make it through the dark night of slavery, if your immediate parents could make it through the nightmare of second-class citizenship, survive the colored water fountains, the back of the bus, the top of theater, why can't you also make your contribution and indebt the future to you? I think we can do it.

There are all kinds of programs available to youth and most of them don't know it. If you're going to give people hope, at least they must know where to get it.

coming from a whole sector that has not been heard from recently.

Q: Let me address the youth. They are the next ones up, they are the ones that will take over. At a point where we're talking about positively including our black youth and women and youth of color, they are in the middle of what has been one of our most terrible times since Vietnam. What can you say to encourage them to take advantage of this objective gesture by MIT and to try to look positively and look at the glass as half full instead of half empty?

Hooks: As I speak to the youth of the country, I'm always moved by the

next day. No one had it on radio, television didn't portray it. And right over in Harlem, and I could stand on the roof of the Waldorf Astoria and shoot into Harlem, there were thousands of youth that needed to know somebody cared. There's a minority in engineering program. There are scholarship programs. There are all kinds of programs available to youth and most of them don't know it. If you're going to give people hope, at least they must know where to get it. There is no point in doing something if you don't sound the alarm. . .

When I came up, many doors were closed in my face. . . Somehow in the

Tuition, Fees to Rise 7.4%, Totaling \$22,230 for 1991

(continued from page 1) dards. It is not done simply by the numbers, by grades and SATs. We are dedicated to finding and recruiting brilliant students from all kinds of schools in the nation.

"Our students are admitted to MIT not by virtue of their connections, not by virtue of their pocketbooks, but by virtue of their minds and accomplishments. And their minds pay us back

through an intellectual vigor that enriches this university, this state, this nation, this world," President Vest said.

Over the past five years, MIT has admitted and supported an increasing number of students from families who are in the lowest national quartile for family income. The university's self-help level—the amount students are expected to provide from loans and term time work before receiving

scholarship assistance—was raised \$400 or seven percent to \$6,100. MIT reduces the self-help requirements for students from families of very low income. The lowest requirement next year will be \$2,600.

MIT received \$66 million in undergraduate tuition this year. Students and their families who demonstrated financial need were awarded \$27 million in scholarships to help pay their tuition.

The MIT Financial Aid Office provided \$21 million from MIT's own endowment and unrestricted funds, and administered the other \$6 million in outside scholarships, which included \$3 million in federal grants.

In addition, students from wealthier families who failed to qualify for financial aid received more than \$4 million in scholarships from sources outside of the financial aid system. "We've found that only about 20 percent of the parents are paying the full parental share. Altogether, scholarships helped pay a little over \$31 million of the \$66 million tuition price," President Vest said.

In recent years, MIT has spent an increasing proportion of its own funds on scholarships in order to maintain its need-blind admissions policy. "Federal scholarships have not kept pace with the need," said Dr. Vest. "In 1980, the federal government provided 37 percent of the grants received by all MIT undergraduates. In 1990, the federal gov-

ernment provided 12 percent of the grants received by all MIT undergraduates."

Undergraduates this year received financial aid also in the form of \$9 million in loans. The loans include \$1 million from MIT's Technology Loan Fund, \$3 million in Perkins loans administered by MIT, and \$5 million in Stafford loans from banks. Also, students on financial aid this year will earn \$3 million in term-time jobs.

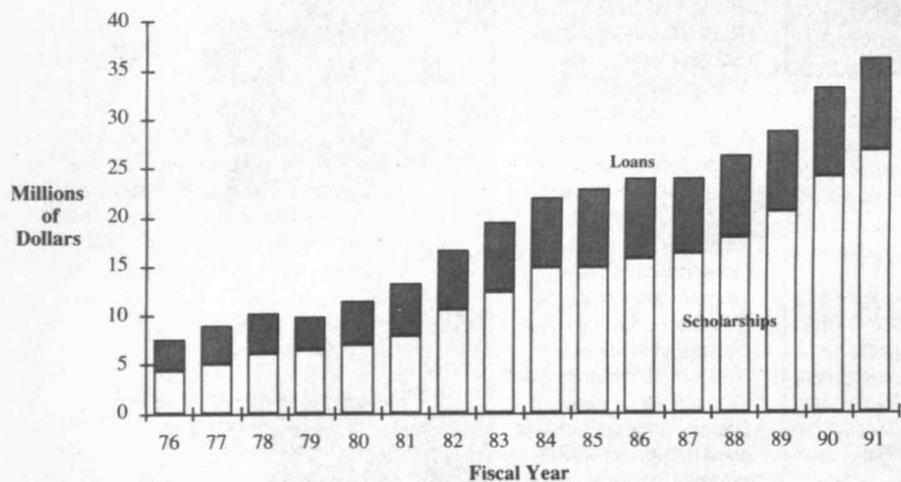
Dr. Vest praised the university faculty and staff for trimming costs. Program budgets have been generally flat this year and last year, although there have been moderate pay increases for faculty and staff. "Vigorous efforts to contain costs will continue," he said.

Dr. Vest remarked, "People often try to compare the costs of running a university with the cost of running a house, as measured by the Consumer Price Index. It's really an apples and oranges comparison. There's just no way of avoiding the fact that maintaining the cutting edge in education—with

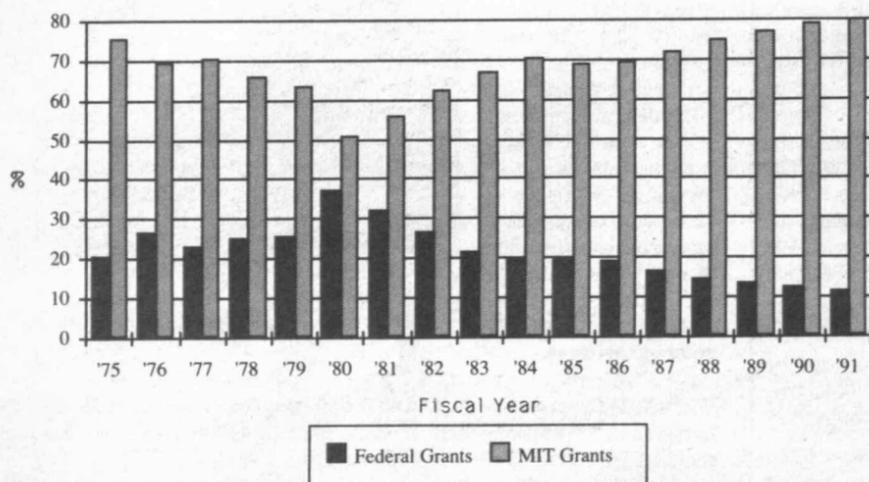
modern scientific instruments, computers, high costs of energy and utilities, the need to stay competitive on faculty salaries in order to attract and keep the best people—is a more expensive proposition than running a household."

MIT has approximately 4,400 undergraduates, of which about 4,000 are American citizens. The undergraduate population includes 34 percent women, about 13 percent underrepresented minorities, and about 19 percent Asian Americans. A recent geographic profile of the American undergraduate students at MIT showed that 84 percent came from outside of New England, including 26 percent from New Jersey, New York and Pennsylvania; 17 percent from the North Central midwestern states; 16 percent from Western states; 16 percent from New England; 12 percent from the South Atlantic states; and 13 percent were from the South/Southwest or Americans living abroad.

Scholarships & Loans Awarded to Undergraduates



Federal & MIT Grants



4 IN MARCH

Lectures to Address Gulf War Issues

The media in the Gulf war, strategies of international security, air power and chemical/biological warfare are the topics of four public lectures related to the war in the Persian Gulf that will be held at MIT over the next week.

On Friday, March 8, "The Gulf War, the Media and Public Opinion" will be discussed by Professors Sut Jhally and Justin Lewis of the University of Massachusetts, Amherst, from 3:30-5:30pm in Room 4-129. It is part of the "Critical Perspectives on the Persian Gulf War" sponsored by Political Science for Peace and the MIT Department of Political Science.

On Monday, March 11, "Aggression, Defense and Common Security: Reconsidering the Response to Saddam" will be discussed by Randall Forsberg, Director of the Institute for Defense and

Disarmament Studies, at 6:30pm in Room 37-252. The occasion is a meeting of the IEEE Society for Social Implications of Technology, Boston Chapter.

On Tuesday, March 12, "Air Power in Historical and Contemporary Perspective" will be discussed by Richard Hallion of the National Air & Space Museum, Smithsonian, from 3:30-5pm in Room E38-714 as part of the MIT Defense and Arms Control Studies Program Seminar Series.

On Wednesday, March 13, "Chemical and Biological Warfare" will be discussed by Professor Matthew Meselson of Harvard from noon to 2pm in Room E38-714 as part of the MIT Seminar on Technology, Defense and Arms Control in a Changing World. Bring a lunch; drinks are provided.