

2 TONS A DAY

Recycling to Begin

■ By Elizabeth A. Thomson
News Office

MIT will initiate a pilot program for recycling white paper in five Institute buildings beginning next month, Harmon E. (Gene) Brammer, director of Physical Plant, has announced.

The program, which will affect buildings E17, E18, E19, E23 and E25, will be run for three months, after which time Mr. Brammer will review its effectiveness.

"If the pilot program succeeds it is our plan to go Institute-wide," said John C. Berlinguet, superintendent of support services and building maintenance in Physical Plant and coordinator of the recycling program.

Groups in the pilot program buildings will be given short briefings before recycling begins to address how the program will work and answer questions. Specifically, the custodial force will collect white ledger and computer paper every other day from distinctly marked wastebaskets provided for each desk. Larger containers will be provided for each copy machine or other large source of recyclable material.

Mr. Brammer has given top priority to the program for environmental and economic reasons. "Landfills are getting fewer and farther between and we just have to get something out of the waste stream," he said. MIT currently sends more than 2,000 tons of waste to landfills annually.

Furthermore, he continued, for every ton of white paper we recycle we will save 17 trees, three cubic yards of landfill space, 7,000 gallons of water and 4,200 KWH of electricity (enough to heat your home for half a year). According to MIT's new environmental group SAVE—Share a Vital Earth—the Institute uses two tons of paper every day, or about 80 boxes of copier paper.

MIT also stands to save some dollars by recycling. "At Brown, they figure that for every ton of paper they salvage they save \$50 in dumping charges," Mr. Berlinguet said.

Mr. Brammer is quick to point out that many groups around the Institute are already recycling paper. Earthworm, Inc., a local recycling contractor founded in 1970 by three MIT graduates, picks up paper from more than 30 such groups. "Some of those programs have been in place for 20 years," Mr. Brammer said.

"We don't want to interfere with what they're doing," he emphasized, "we just hope to pick up the balance. If people want to drop what they're doing and join in with us, that's fine, but they don't have to."

To summarize, Mr. Brammer said, "the new program will not work without the help of the community. Please pitch in. You make the difference."

4TH IN SERIES

Earth Day Colloquium Is Planned

Green: A Colloquium on the Planet," on Wednesday, April 18, will launch a series of events scheduled to call attention to this year's Earth Day on Sunday, April 22.

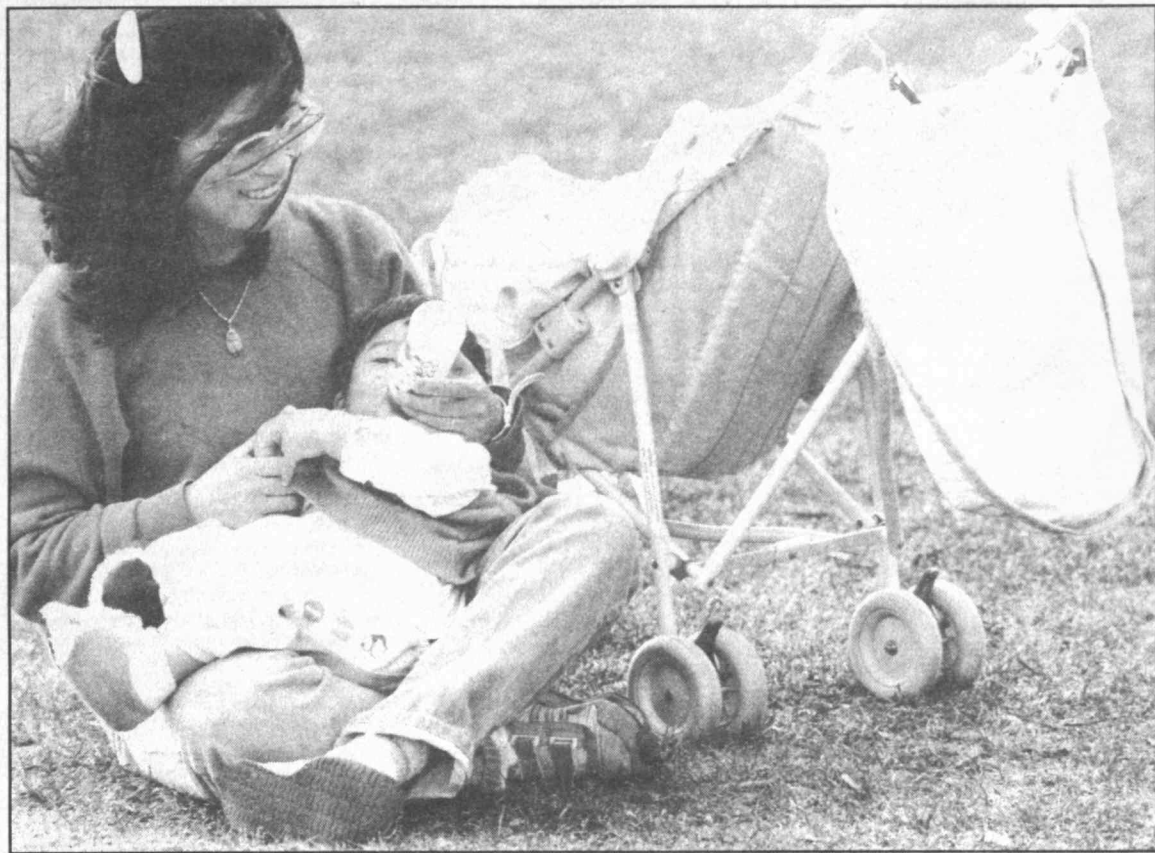
Like its three predecessors, this colloquium will begin with a reception and "environmentally sound" refreshments at 4:45pm in Kresge Lobby. Formal presentations will begin in the auditorium at 5:30.

The speakers will be Ted Flanagan, energy program director of the Rocky Mountain Institute, and Bill McKibben, author of *The End of Nature*. After a question-and-answer period, the audience will disperse for further discussion over dinner at most campus and independent living groups.

The colloquium will look at the causes of the sad condition of the earth from economic, political and cultural points of view and try to uncover ways that people at MIT—individually and collectively—can help improve matters.

The colloquium is open to all members of the community. Faculty and staff members who would like to be invited to dinner in a living group should call Donna Friedman, x3-9762, to request an invitation.

Next week's Tech Talk will have more details.



Tri-Rung Yew, a graduate student in materials science, feeds her son George Chang as they enjoy the sunshine outside Kresge Auditorium recently.
Photo by Donna Coveney

28 RECOMMENDATIONS

Family and Work Committee Reports at Faculty Meeting

The MIT Committee on Family and Work has presented to the faculty and the administration 28 recommendations for making it easier to combine work and family life.

"We believe that some people at MIT would lead more productive and rewarding lives if the culture did not imply that everyone should be able to do everything, full time, all the time," the committee said. The report was presented at the March 21 faculty meeting by Professor Peter Elias, EECS, committee chairman.

Over the last 20 years, the committee said, the demographic profile of MIT "has changed more than its policies, procedures and benefits have." The concepts of family and household and the range of family responsibilities all have broadened, the committee said.

As a result, the problem of meeting work and family requirements is not one which MIT can ignore, the report said.

(The full report of the committee will be published soon in Tech Talk.)
"About half of our faculty, gradu-

ate students and staff with children under 13 have thought about leaving MIT because of conflicts between work and family: about a quarter of the men and a third of the women have given that possibility serious consideration," the committee said, basing its report on surveys sent in March 1989 to every member of the community on campus (except undergraduates) and at Lincoln Laboratory.

"If the other universities now dealing with these issues make it easier to

(continued on page 3)

LONG HISTORY

MIT Reviews ROTC Relationship

■ By Robert C. Dilorio
News Office

The long relationship between MIT and the Reserve Officer Training Corps has been under review for a year and will continue to be examined, Professor Margaret L.A. MacVicar, dean for undergraduate education, told members of Defeat Discrimination at MIT and others interested in the relationship at a meeting two weeks ago. Dean MacVicar is the senior MIT officer responsible for ROTC programs.

The review began long before the recent disclosures that students at MIT, Harvard and Washington University have been dismissed from ROTC programs and asked to repay scholarships because they are homosexuals. The dismissal actions and the efforts to have scholarship funds repaid have led to wide discussion of the ROTC-campus link here and elsewhere and to articles in the March 5 issue of *The Thistle* and the March 20 issue of *The Tech*.

On Wednesday, March 21, Defeat Discrimination at MIT, which wants MIT to sever its ROTC ties by 1994 if

the Department of Defense continues to refuse to commission or enlist homosexuals, sponsored an event at which two of the students disenrolled from ROTC spoke. The speakers were James Holobaugh of Washington University,

St. Louis, and Robert L. Bettiker of MIT. Mr. Holobaugh said he has been asked to repay \$25,000 in scholarship funds. Mr. Bettiker said he has been asked to repay \$38,000. Also speaking

(continued on page 3)

ACSR to Hold Hearing

The MIT Advisory Committee on Shareholder Responsibility (ACSR) will hold an open hearing from 7-9 pm Wednesday, April 11, in Huntington Hall (Rm 10-250). The purpose of the hearing will be to give members of the MIT community an opportunity to express their views on the matter of MIT investments and South Africa. (See President Gray's "Open Letter" on page 8.)

Since the ACSR intends to communicate the views to the Executive Committee of the Corporation, it would be helpful to receive them in written form. Those who have submitted such statements in advance to

the secretary of the ACSR (Rm 5-208, x3-5278) will be able to speak first and to read their full statements up to a limit of 10 minutes.

Others, who have not submitted written statements but who wish to be heard early in the evening, may sign up in advance with the secretary of the ACSR (x3-5278) and will be able to speak, up to a limit of five minutes, in the order in which their requests were received. Finally, in order to apportion the remaining time fairly, those who sign up at the door will be heard, in order, for five minutes each if time permits.

The hearing is open to all members of the MIT community.

IN BRIEF

NO TECH TALK

Tech Talk will not be published April 18 because of the Patriots' Day holiday, Monday, April 16. The Calendar in next week's issue will cover the period from April 11-29. Deadline for submitting listings will be, as usual, noon Friday, April 6.

WELLNESS, ANYONE?

Interested in fitness, nutrition and stress management and how they can be managed to pursue good health? Then come to the first meeting of The Wellness Equation, a new course open to the MIT community that will focus on making healthy choices in one's life. Sponsored by the Athletic Department and the Health Education Service of the Medical Department, The Wellness Equation begins this week and will be offered Mondays and Wednesdays, 3-4pm, or Tuesdays and Thursdays, noon-1pm. Students may take the course for two physical education credits. To register, sign up during today's class or Thursday's at the Conference Room in the Dupont Gym.

UROPE SEKS

UROPE is seeking three former staff members to help celebrate the program's 20th anniversary. Anyone who may know the whereabouts of Charles Admundwon, Cheryl Murphy or Scott Matthews should call Stacia Conklin or Jane Sherwin at x3-7909. An April reunion is planned for staff and supporters of UROPE since its 1969 beginning.

Student Notices

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

ANNOUNCEMENTS

Supercomputing Class—Apr 4 & Apr 6:** Session I: Introduction to Supercomputing on CRAY-2; Session II: Vectorization and Multitasking Techniques. With James Purdon, Cray Research, and Firooz Partovi, MIT Supercomputer Facility. 2-4pm, Rm 5-134. Call x3-8033 to register.

Open House for Freshmen, Dept of Aeronautics and Astronautics—Apr 6:** Facilities, demonstrations, programs, refreshments. 2-4pm, Rm 33-206.

Course IV Open House for Freshmen—Apr 10:** Brief presentations on the range of opportunities for majors in the Dept of Architecture: architectural design, visual arts building technology, and the history of art and architecture. All welcome! 3pm, Rm 7-437.

Final Examination Schedules: All students should obtain schedules at the Information Center, 7-121, or the Registrar's Branch Office, 3-123. Examinations not listed or a conflict in examinations (two examinations in the same period) must be reported to the Schedules Office, E19-338, by Apr 13.

Career Planning and Placement & Company Recruitment Presentations—CSI—Apr 5, 6-7pm, Rm 4-149.**

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.

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 Student Furniture Exchange—**MIT Women's League store, Tues/Th, 10am-2pm, 25 Windsor St (N52), x3-4293.

RELIGIOUS ACTIVITIES

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

MIT Hillel*—Apr 4: Passover booth, Lobby 10. **Apr 4:** See Calendar Lectures. **Apr 5:** Seder Reservations due, Call x3-2987. **Apr 6:** Shabbat Dinner, 6:45pm Kosher Kitchn, Rm 50-007, reserve by Apr 5. **Apr 8:** Project Mazon Food Collection for the Hungry. MIT Hillel is a collection site. **Apr 9:** First Seder, 6:30pm, Walker Hall Blue Rm. **Apr 10:** Second Seder, Dorm Seder. **Apr 11-17:** Passover meals served in the Kosher kitchen. **Apr 12:** Passover Study Break, 9:30pm, Burton. **Apr 13:** Shabbat Dinner, 6:45pm Kosher Kitchn, Rm 50-007, reserve by Apr 12. Info: x3-2982.

Tech Catholic Community—**Services for Holy Week: Palm Sunday: Sat, 5pm; Sun 10am & 5pm. Holy Week Monday: Communal Penance Service, 7pm. Holy Week Tuesday, 5:05pm Mass. MIT Chapel. Info/Holy Day schedule: x3-2981.

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.

United Christian Fellowship—**Large group meetings. Join us for worshipful singing, prayer, sharing and Bible teaching, and small group Bible studies during the week in various dorms,

Fri, 7pm, Rm 6-321. Info: Tracy, x5-9688 dorm.

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. **Apr 11:** Spring Dinner for all interested graduate students, 6pm, West Lounge, Ashdown. Movie & dessert to follow at 7pm. Info: John Keen x3-7706, Dave Otis x3-7193.

MIT Islamic Society*—5 daily prayers in the prayer room, Ashdown House (Bldg W-1) west bsm. **Friday congregation:** 1:10-1:45pm in Burton Hall. **Muslim Study Group:** open to men & women meets Fridays 8pm-9:30pm, Rm 1-135. Additional presentations available on request. Info: x8-9755.

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

Bible Study—**Fridays, 12 noon, all denominations and points of view welcome. John's Gospel is the book being studied, meets in the library of the Chaplain bldg, 312 Memorial Dr.

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

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

Noon Bible Study*—Every Wed, Rm 1-150, bring lunch. Ralph Burgess, x3-8121. (Since 1965.)

MIT Bible Study Group*—The Economy of God, a look at God's eternal purpose to dispense Himself into man based on the revelation of the Bible. Fri, 8pm, Student Ctr Rm 407. Singing, prayer, Bible reading, fellowship.

MIT Campus Crusade for Christ*—Fridays, 7:17pm, Marlar Lounge, Rm E37-252. TGIF weekly meeting of MIT Campus Crusade for Christ. We "thank God it's Friday" every week with singing, biblical input, discussion and fun. Info: x5-9153 dorm.

MIT Vedanta Society*—Meditation and discourse on the Bhagavad Gita, Swami Sarvagatananda, religious counselor, classes held Fridays 5:15pm, MIT chapel.

OPPORTUNITIES

The Writing Prizes—Cash prizes awarded in the following categories: Fiction, Short Story, Poetry, Drama, Essay, Scientific and Engineering Writing, and Science Writing for the Public. For applications and guidelines contact The Writing Program, Rm 14E-303. Deadline: April 12.

The Laya W. Wiesner Award—Established by the MIT Women's League in cooperation with women faculty members to honor Mrs Wiesner upon her retirement as first lady of MIT, will again be given this year at the Awards Convocation on Mon, May 14, 3:30pm, Rm 10-250. Nominations for the award, to be given to an undergraduate women student who has most enhanced MIT community life, are being accepted. A brief letter describing the candidate's qualifications should be sent to Dorothy Adler, Rm 12-092, as soon as possible. Info: Mrs Adler x3-8212.

INTERNATIONAL

MIT-Japan Program Prize. Up to \$2000 in travel and living expenses to attend any professional meeting in Japan this year. Open to graduate students in science and engineering. Applications require a letter of recommendation and a brief essay on why the applicant wants to go. Contact Kathy Schaefer x8-8208. Deadline: Apr 20, 1990.

MIT-Japan Program. A unique opportunity for MIT science, technology and management students to spend a year in Japan working at a major Japanese company or laboratory. Students are trained in Japanese language and culture at the Program's expense before being placed in Japan. Placement is tailored to the student's background and experience. Travel to/from Japan and living expenses will be covered. For further information, call Patricia Gercik, x3-3142, Ctr for International Studies, MIT-Japan Program, Rm E38-754.

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.

Experienced bar servers and cocktail servers, doorpersons, cashiers, coatcheckers, and hosts and hostesses needed for new nightclub. Club will serve about 200 people. Interviews 1-5pm Monday, Tuesday, and Wednesday. Hours: Fri and Sat 6:30pm-2:30am, Contact: Ann Marie Casey, Back Bay Hilton, 40 Dalton Street, Boston, 236-1100

Dental office needs a receptionist. Must have a decent amount of common sense, a pleasant and confident phone voice, legible handwriting, ability to communicate with people, and the ability to follow instructions and work

independently. Duties will be to answer phones, make appointments, light typing, easy desk-work, errands, vacuuming, dusting, sweeping, sinks, emptying trash. Hours: very flexible 20/wk., 9am-7pm. Salary: \$8.00/hr. Contact: Matthew Zizmor, 304 Columbus Ave, Boston, MA 02116, 536-3453

Part time positions available in the Cambridge Hospital Emergency Department. Every other weekend. Good typing skills, some CRT experience helpful, but not necessary. Opportunity to pick up extra shifts during the week exists. Extensive contact with public by phone and in person. Willingness to learn quickly a must. Salary: \$8.71/hr. Contact: Patricia Armenio, Cambridge Hospital, 498-1620

Person needed to assist with laboratory preparation for a field research program in Greenland this summer. The project involves measurement of trace chemical constituents in snow and ice, and ability to carefully carry out cleaning procedures of sample containers is important. Will be involved in planning, packing, and logistics. Other responsibilities interested and motivated. Hours: 2 hrs/day, 6-7 days/wk. but time of day is flexible. Salary: \$7.00/hr. Contact: Rob Sherrell, E34-246, x3-7935

VOLUNTEERS

The Elizabeth Peabody House is social settlement house that provides child care programs and social services for teenagers and minority women. They need a filing cabinet, bookcase and office chairs. If you or your group have any donations or fundraising efforts, ideas, contact Julie Yeh, 623-5510.

Girl Scouts Literacy Project every Sunday involving 100 5th graders in tutoring and activities for 4 hrs. Volunteers, for a week, a month or longer, are needed to help coordinate activities and tutor. Contact: Dawson Lynch or Nancy Anderson, 482-1078.

The Cambridge YWCA is a non-profit organization that serves the community, especially women, with low-cost housing, programming and a homeless family shelter. Help is needed on Apr 14 & 21 in preparation for their Annual Meeting. Contact Linda Sheets, 491-6050.

UROP

MIT and Wellesley students are invited to join with faculty members in pursuit of research project of mutual fascination. New IAP and Spring term projects are now posted on the bulletin boards in the main corridor and in the UEO. Faculty supervisors wishing to have projects listed should send project descriptions to the UEO. Questions? Contact UEO at x3-7909, 20B-141.

UROP T-Shirts are now on sale for \$6.00 in the UEO. Come by and pick one up.

Wei Undergraduate Research Award. Faculty are urged to nominate undergraduates who have made outstanding contributions in their research at the interface of the life sciences and engineering. Nominations for this award should be sent by April 17, 1990 to N McGovern, Undergraduate Education Office, 20B-141, x3-7909.

Deadlines for Summer Funding. For summer, 1990, UROP is introducing two deadlines for students seeking summer funding. The first deadline is Monday, April 23. Since summer UROP funding is targeted at projects continuing from spring, most proposals should be in by this date, and most funding will go to these proposals. A second deadline, Monday, May 21, is to accommodate plans which cannot be made sooner. Funding guidelines remain the same: faculty enthusiasm for the student, unusual projects with no other sources of funding, new faculty in need of support, and (in most cases) sixty percent of funds to come from faculty supervisors and forty percent from UROP. Questions: call the Undergraduate Education Office, x3-7909.

A Comparison of the Scalar and Electromagnetic Diffraction Theories Applied to Periodic Surfaces. The goal is to calculate the fields diffracted from a periodic surface (grating) illuminated with a plane wave at optical frequency. The diffraction is first derived from the scalar Fresnel integral. It is then computed from Maxwell's equations. This yields a linear system of equations which can be inverted to calculate the reflection coefficients. The computer program will be written, preferably in FORTRAN, to solve these equations, with the use of existing subroutines. Student must have taken 6.014 and preferably 6.611. Great opportunity to practice E & M theory, programming and a lot of assistance. Faculty supervisor: Prof George Pratt; contact: John Farah 13-3045, x3-2013.

Instrumentation/Oceanography/Remote Sensing. EECS or student with similar electronics background to participate in a project to measure ambient sound in the ocean. The project initially involves the design and construction of analogue and digital circuits to interface hydrophones to data acquisition systems. Subsequent research may involve deployment of instrumentation and analysis of data. Contact faculty supervisor: Prof W. K. Melville, 48-331, x3-6577.

Experimental Accelerator/Nuclear Physics at The Bates Linac. Juniors or sophomores in Physics or Engineering are needed for the summer to assist in three dimensional magnetic field measurements using computer controlled field measuring systems. The students will learn about beam transport and modern

FESHBACH LECTURES

'Great Attractor' Mass Discoverer to Speak

The co-discoverer of an extraordinary concentration of mass in the cosmos, the so-called "Great Attractor," will speak at MIT next week.

Astrophysicist Sandra M. Faber, a professor at the University of California at Santa Cruz, will present this year's Herman Feshbach Lectures in Physics and will talk about the Great Attractor, whose enormous gravitational influence has become known in recent years. The mysterious mass seems to be pulling many galaxies in its direction 150 million light years from our own Milky Way galaxy.

The Feshbach Lectures, named for the Institute Professor Emeritus and former head of the Department of Physics, bring distinguished physicists here to report on frontier research in physics.

Professor Faber's Feshbach Lectures this year are scheduled for the week of April 9-13. The first lecture, "The Far Side of the Great Attractor," will be held in Rm 54-100 at 4:15pm Tuesday, April 10. The second lecture, "The Keck Telescope: The First of a New Generation of Optical Observatories," will be held April 11, 2:15pm in

data acquisition and analysis techniques by assisting in these activities and documenting the results. Participation in precision surveying activities is also part of this project. Work will take place at the Bates Linear Accelerator Center in Middleton, MA. A daily shuttle will be provided. Faculty supervisor: Dr Wade Sapp, x183-319.

Lab for Computer Science. This summer program is intended for undergraduate students who are interested in participating in research projects in the Laboratory for Computer Science. No prior experience is necessary and the program is open to all undergraduates not currently or formally associated with the Laboratory. We hope to identify creative and energetic students interested in computer science and to encourage their development. Informational meeting: **Wed, Apr 18, NE43-512a, 4pm.** Contact: Leora Wenger, x3-2006, or leora@hq.lcs.mit.edu.

Unusually High Mutant Yields in Stationary E. Coli. When kept in stationary state, around 50% of E. coli cells acquire mutations in flagellar or chemotaxis genes. We have indications that this phenomenon is due to an unusually high mutation rate, rather than to selection of non-motile cells. Previous lab experience is required. Faculty supervisor: Prof Kim Lewis, x3-0542 or x3-5109, 16-229.

Want to See the World? GPS, Wants You! Project aimed at measuring and interpreting deformation of the earth's surface in tectonically active areas. The project utilizes Global Positioning System (GPS) satellite technology. Field projects in Southern California/Northern Mexico, Yellowstone National Park, and the Eastern Mediterranean. Need is in data reduction with strong possibility of participating in field work. Applicants should be comfortable with computer work and preferably have an interest in geology/geophysics, planetary science, computer science, or microwave instrumentation. Contact supervisor: Robert Reilinger, x3-7860.

CABLE SCHEDULE

MIT Cable Television serves the MIT campus. For connection and programming information, call x3-7431. This schedule is subject to change. For up-to-date information, call Randy Winchester at above number.

WEDNESDAY, APRIL 4

Channel 8:—11am-12noon—Live coverage of the MIT Optics and Quantum Electronics Seminar.

MONDAY, APRIL 9

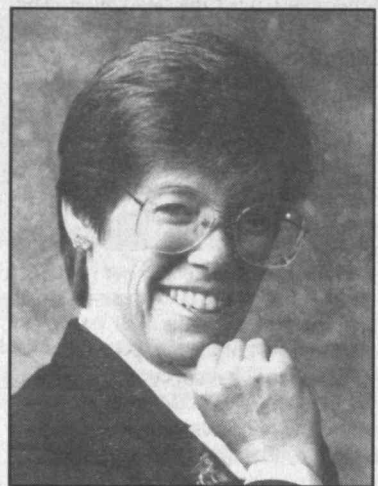
Channel 8:—4-5pm—Live coverage of the MIT-EECS Colloquium Series: "Parallel Processing" Arvind, MIT.

TUESDAY, APRIL 10

Channel 8:—4:5-5:30pm—Live coverage of the MIT VLSI Seminar: Yoshio Nishi, Hewlett Packard.

WEDNESDAY, APRIL 11

Channel 8:—11am-12noon—Live coverage of the MIT Optics and Quantum Electronics Seminar.



Dr. Faber

Rm 54-100. The last lecture, "Structure in Today's Universe as a Probe of the Big Bang," will be on April 12 at 4:15pm in Rm 10-250.

Dr. Faber is Professor of Astronomy and Astrophysics at UC Santa Cruz. Her many contributions to optical astronomy and theoretical astrophysics include studies of the origin and evolution of galaxies, research on the consequences of unseen "dark matter" in the universe, and mapping the cosmos using the motions of galaxies as a probe of gravity. Professor Faber and several colleagues and former students discovered the Great Attractor.

Professor Faber is affiliated with the University of California Observatories, which include the Lick Observatory on Mount Hamilton near Santa Cruz and the Keck Telescope, a 10-meter diameter telescope presently under construction at the top of the extinct volcano Mauna Kea in Hawaii.

She is also a member of the Wide Field and Planetary Camera team for the Hubble Space Telescope. By coincidence, during Professor Faber's visit to MIT the Hubble Space Telescope is scheduled to be placed into orbit by space shuttle Discovery.

Professor Faber is a member of the National Academy of Sciences. In 1985 she was awarded the prestigious Dannie Heineman Prize for Astrophysics by the American Institute of Physics and the American Astronomical Society.

TECH TALK

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MIT Reviews ROTC Relationship

(continued from page 1)

was Joseph Steffans, who said he was dismissed from the Naval Academy a few weeks before his scheduled graduation in 1987 when he stated that he was a homosexual. Also speaking was William Rubenstein, a lawyer for the American Civil Liberties Union. The event drew a full house to Rm 6-120. Several people had to stand and others sat in the aisles.

A printed statement by Dean MacVicar on the MIT-ROTC connection was available at the meeting. Professor David M. Halperin, literature section head and spokesman for Defeat Discrimination at MIT, read from the statement as he opened the meeting.

[The text of the statement is printed below.]

A key part of the discussions in the MIT community concerns the sharp difference between MIT's policy of nondiscrimination and the Department of Defense policy of discrimination based on sexual preference.

Professor MacVicar said the recent review got under way a year ago when she appointed an ad hoc committee to identify issues needing attention in the MIT-ROTC partnership.

The committee was headed by Professor J. Kim Vandiver of the Department of Ocean Engineering. Other members were Professor Elizabeth Garrels, foreign languages and literatures; Lt. Col. Edward Hammond, ret., then head of Army ROTC at MIT; Stanley G. Hudson, associate director, Student Financial Aid; James R. Tewhey, associate dean, Student Affairs; Margaret S. Richardson, assistant dean, Undergraduate Education; Professor Richard K. Yamamoto, physics; Marc S. Block, Class of 1990, Air Force ROTC, and Lynore M. Abbott, Class of 1991.

"The issues delineated by the report (of the ad hoc committee) are a reference point for the current work of the presidentially appointed standing committee on ROTC," Dean MacVicar said in her statement.

The standing committee is chaired by Professor Alvin W. Drake, EECS. Other members are Professor Susan Carey, brain and cognitive science; Associate Professor Stephen M. Meyer, political science; Professor Kenneth R. Manning, head, Writing Program; Professor Winston R. Markey, astro; Maj. Ralph J. Gabriel, Army ROTC; Capt. Robert W. Sherer, Navy ROTC; Col. Gary G. Nelson, Air Force ROTC; James R. Tewhey, associate dean, Student Affairs; Stanley G. Hudson, associate director, Student Financial Aid; Vice President William R. Dickson, Margaret S. Richardson, assistant dean, Undergraduate Education, and Mark S. Block, Class of 1990, Air Force ROTC. Another student remains to be appointed, Dean MacVicar said.

Professor Drake, Maj. Gabriel, Professor Vandiver and Kathryn W. Lombardi, executive assistant to President Paul E. Gray, were among those at the March 21 meeting.

AD HOC REPORT

The executive summary of the ad hoc committee's October 1989 report to Professor MacVicar says that a majority of its members concluded that ROTC programs "are a benefit to both MIT and the nation" and endorsed a continued ROTC presence on campus. However, MIT "should continue to take a leadership role in attempting to change objectionable policies," the executive summary said.

A minority of the committee, the summary said, saw no significant university or national value from ROTC and opposed continued ROTC presence on campus because of what it saw as differences in intellectual styles and structures between the military and the university.

The minority also felt that MIT "cannot allow itself to make exceptions with regard to such vital community standards as, for example, that which espouses nondiscrimination based on sexual identity, an area in which there is direct conflict between MIT and

Department of Defense policy."

The executive summary said, "The majority of the committee is also concerned with those practices of the Department of Defense and the ROTC programs that are contrary to MIT policy."

The executive summary concluded: "The history of the MIT-ROTC relationship reveals that MIT has in the past been quite influential in shaping ROTC programs on our campus as well as campuses nationwide. In the future the committee feels that MIT should continue to take a leadership role in attempting to change objectionable policies..."

In a section headed Sexual Orientation Standards, the committee said:

"Since MIT established its policy of nondiscrimination based on sexual orientation (the late 1970s) it has consulted with the military over this issue. MIT has apparently accepted, with some discomfort, that an exception to its nondiscrimination policy would be made in the case of the ROTC units... Until this is resolved the Institute should in its own statements of policy make this exception clear. Furthermore, the Institute should take every reasonable step to convince the military services to accept nondiscrimination policies based on sexual preference.

"Some members of the committee feel that if MIT is unsuccessful in convincing the Department of Defense to change this policy within five to seven years, MIT should consider terminating ROTC on the MIT campus. Others are strongly convinced that the need for an ROTC program is so compelling that it should remain even if the conflict is not resolved."

HISTORICAL ACCOUNT

Addressing the history of the program and the Institute, the ad hoc committee's report said military instruction "has existed at MIT from the time of the first classes in 1865, and is specified in the Institute's charter."

The committee quoted the relevant charter text as: "...said Massachusetts Institute of Technology, in addition to other objects set forth, shall provide for instruction in military tactics."

ROTC was established by the National Defense Act in 1916. Military training existed on many campuses, including MIT's, before that under the Morrill Act or Land Grant Act of July 2, 1862, the report said. (MIT is a land grant college.) Under the act funds were to be provided for a college in each state "where the leading object shall be, without excluding scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and mechanical arts..."

The ad hoc committee cited what it called a motivation for the Morrill Act described in a 1970 historical review of ROTC programs at MIT. The ad hoc committee's report said the motive "is compelling to the committee's majority, which feels that it is still an appropriate one to consider in our current review of the MIT/ROTC relationship."

The motivation cited reads: "Justin Morrill, the Vermont congressman who gave his name to the bill, was quite clearly motivated in his advocacy of the measure by a desire 'to reduce the Army to its regular dimension' and hence protect a free society from a large, centrally controlled standing army while providing a 'means by which a democratic people could gain a competent officer corps for a military reserve without endangering basic liberties.' These goals have been achieved with marked success throughout our history since the Morrill Act with a military officer corps that is for the most part a product of ROTC type training."

The ad hoc committee found that in the mid 1970s, following the end of the draft, ROTC programs found it difficult to recruit students in sufficient numbers. A major change in the programs was the expansion of scholarship programs.

"Another significant change at MIT was a gradual resurgence in the number

of ROTC subjects taught by ROTC staff, instead of MIT faculty..."

"It is the conclusion of this committee that many of the problems and tensions associated with the ROTC programs could be alleviated by more involvement and communication between the ROTC programs and the extended MIT community. Such involvement should, once again, include the substitution of regular MIT subjects for non-credit, required ROTC subjects..."

OTHER ISSUES

On the matter of having to repay scholarship funds when a student leaves the program, the ad hoc committee said that ROTC awards are based on merit and on the needs of the military services, compared with MIT grants which are based solely on need.

"However, the ROTC awards are different than other outside awards in that, when a student no longer meets the criteria for the award, he or she can still be required to serve in the military as an enlisted person. In addition, in certain circumstances, students can be required to pay back the scholarship."

"ROTC at MIT has not had many instances where students have entered the military without their commission, nor have many students been required to repay their entire ROTC scholarship. However, it is not uncommon for students to be required to repay the ROTC scholarship for all or a portion of the term in which they have been withdrawn from the program. While other outside donors have requirements for eligibility, such as course enrollment or grade point average, there are no sponsors other than ROTC that require repayment of scholarship awards after credits have been posted for the term. The committee feels that ROTC should cease this practice."

The committee said that some students who receive ROTC scholarships would be eligible for MIT's need-based awards. For the academic year 1989-90, MIT students will receive \$3.3 million in tuition and stipend scholarships from ROTC programs. Of this, the potential replacement cost to MIT for aid to the needy students is estimated to be \$670,000.

Under the heading "Truth in Advertising," the ad hoc committee called for a "thorough review of materials produced by the ROTC program and published in MIT publications..." The Student Affairs subcommittee on ROTC proposed several revisions to the Freshmen Handbook to better highlight the terms and conditions that students agree to when entering the programs.

MEDICAL STANDARDS

The ad hoc committee reviewed the medical standards of the ROTC programs and made these points:

"Students are subject to the same disenrollment and suspension of scholarship for not adhering to weight limits as they are for other more serious conditions. The weight requirements for women scholarship recipients offer less leeway than those for men. Athletic, muscular women at MIT have on occasion been unable to stay within the standards, and consequently have been disenrolled. The committee feels the weight standards are unreasonable and should be revised or preferably eliminated."

"MIT does not require Human Immunodeficiency Virus (HIV) testing, while the military does, thereby creating a potential conflict between MIT and ROTC on this issue..." The ROTC programs have different procedures concerning how dismissal takes place if a student tests HIV-positive. "The committee recommends that MIT stay well informed about the different procedures followed by the three ROTC units regarding dismissal and disclosure of students who test HIV-positive, and that it should periodically verify that all branches adhere to general Institute guidelines regarding privacy of students."



Nicole Metzger, a sophomore in environmental engineering, plays with her remote-controlled truck near the Johnson Athletic Center recently. The truck chassis was an "anniversary" gift from her boyfriend; Nicole herself invested a good deal more to make the toy wholly operational.
Photo by Donna Coveney

LEGAL POST

McGrory Promoted

Frank McGrory has been promoted to associate treasurer and director of the Office of Capital Gifts and Legal Affairs. Mr. McGrory had been assistant treasurer and associate director of the office since 1986.

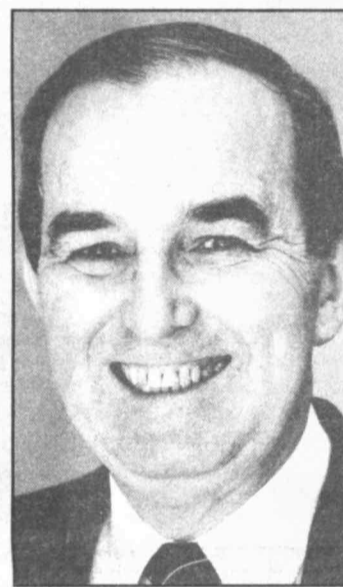
The announcement was made by Glenn P. Strehle, vice president and treasurer of MIT.

In his new position Mr. McGrory is responsible for all matters relating to gifts in trust, bequests and life income plan arrangements. He is the principal staff legal and tax officer for all fundraising efforts, and is also responsible for preparing legal documents for gifts to endowment and other funds in coordination with the Resource Development staff.

Mr. McGrory succeeds Hugh Darden, who recently retired as director of the Office of Capital Gifts and Legal Affairs. Mr. Darden continues to work with the office part time as associate treasurer, maintaining relationships with alumni and others who have provided generously for MIT over the years. Mr. Darden has served the Institute for 32 years.

Mr. McGrory has been at MIT since 1957. During that time he has held a number of positions across the Institute including assistant director of the Energy Laboratory, executive director of the Office of Sponsored Programs and financial adviser to the MIT Press.

He has also served on a number of committees and forums, including the



Mr. McGrory

Advisory Council for Administrative Information Systems Strategic Planning, the Research Policy Forum Working Group and the Carroll L. Wilson Awards Committee.

Mr. McGrory received his Juris Doctor degree (cum laude) from New England School of Law following undergraduate studies at Boston College. He is a member of the American and Massachusetts Bar Associations, and while on leave from MIT practiced law, including service as assistant district attorney in Middlesex County.

Statement on ROTC

(The following statement was issued by Professor Marvaret L.A. MacVicar, dean for Undergraduate Education.)

MIT encourages its students to consider careers committed to serving the public good. I am glad that such considerations lead some students to choose careers as military officers.

The Institute welcomes—and should continue to welcome—qualified individuals whose sponsorship is provided by military programs, including ROTC scholarship programs.

Current Department of Defense policies that exclude gays from participation in its ROTC programs run counter to the values of inclusion and equality which are at the foundation of this institution. I find these and other policy differences between the military and MIT deeply troubling.

Our attention should be directed to affecting national policy so that ROTC scholarship eligibility encompasses all talented people who might choose to attend MIT.

In addition, we should evaluate the current and potential compatibilities of MIT and ROTC policies

overall. ROTC programs enjoy a special status at MIT as compared to other scholarship programs which also carry training, employment, or internship obligations. Special status usually derives from a special compatibility between partners. Our consideration of the MIT-ROTC partnership is underway already.

In anticipation of institutional deliberations about ROTC, last year I appointed an ad hoc committee to identify critical issues arising from the differing missions and practices of ROTC and MIT. Chaired by Professor Kim Vandiver, the committee completed its work this past fall and submitted its report to me in October, 1989. The committee's work included a thorough compilation of historical documents and a review of the evolution of the MIT-ROTC partnership.

The issues delineated by the report are a reference point for the current work of the presidentially appointed standing committee on ROTC. Its academic-year 90-91 members have agreed to begin their terms immediately to ensure continuity of attention to the important matters at hand. Professor Alvin Drake is chair.

Institute Calendar

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

April 4 - 15

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, APRIL 4

Recent Developments in II-VI/III-V and II-VI/II-VI Heterostructures**—Prof Robert L. Gunshor, Heterostructure Device Seminar, 9:45am, Rm 34-401A. Refreshments, 9:30am.

Coherence and Two-Color Squeezing in Doubly Resonant OPOs**—C D Nabors, MIT Lincoln Laboratory, EECS/RLE Seminar Series on Optics and Quantum Electronics, 11am-12pm, Rm 34-401B.

HELP! I'm Trapped in the Mainframe*—Information Systems seminar describing services available to mainframe users, 10-11:30am, Rm 37-252.

Mainframe Tools: Looking for Mr. Goodwrench*—Information Systems seminar discussing easy-to-use tools available to MIT VMA and VMC users, 12:45-1:45pm, Rm 37-252.

A Preliminary Description of the AMASEDS Project in the Amazon Shelf*—Dr Robert Beardsley, Woods Hole Oceanographic Institute, Oceanography Seminar, 12:10pm, Rm 54-915.

Some Problems in the History of Mathematics: a General History Survey, part 2*—Dirk J. Struik, MIT Professor Emeritus and author of *Concise History of Mathematics*, 2:30pm, Rm 2-102.

Effects of System Complexity Upon Safety**—J R Tang, and **The Scaling Experiments Involving Steam Water Mixing****—K S Liang, Nuclear Engineering Dept Reactor Engineering Section Doctoral Seminars, 3pm, Rm 24-115.

A Nodal Synthesis Method for the On-Line Experimental Determination of Reactivity and Three-Dimensional Neutron Flux Shapes**—Robert Jacquemin, Seminar in Nuclear Engineering, 4-5pm, Rm 24-213.

Open Ocean Deep Convection**—Dr J C Marshall, Imperial College of Science and Technology, Blackett Laboratory, England. Sponsored by the Dept of Earth, Atmospheric, and Planetary Sciences, 4-5pm, Rm 54-915.

In Search of Collective Efficiency: Implications for the Promotion of Small Scale Industry*—Prof Hubert Schmitz, Institute of Development Studies, University of Sussex. The MacArthur Seminar on Institutional Perspectives on Third World Development, 4-6pm, Rm E 38-714. Refreshments.

On the Work of Desiré Despradelle*—Kimberly A Shilland, guest curator, 7pm, MIT Museum Bldg.

Arab-Jewish Co-Existence in Israel*—Zeidan Atashi, Sponsored by MIT Hillel, 7pm, Student Center West Lounge.

Western Approaches to the Study of Sufism**—Prof Anne Marie Schimmel, Harvard. Sponsored by the Aga Khan Program for Islamic Architecture at Harvard & MIT, 8:30pm, Rm 6-321.

THURSDAY, APRIL 5

Flow Field Measurement of a Rotating Pitched Body of Revolution**—Thomas J Eccles, MIT, Dept of Ocean Engineering. Hydrofoil and Propeller Seminar, 12-1pm, Rm 5-314. Coffee.

Connectivity Options: An Overview*—Joanne Costello, User Services Manager for Network Services, Information Systems Noon-time Seminar discussing reasons why you may wish to connect your computer with others on campus and around the world, 12-1:30pm, Rm 5-234.

Managing a Family Firm**—Rosalind E Gorin, President, H N Gorin, Inc. Rose Lunchbox Series, sponsored by the Center for Real Estate Development, 1pm, Rm W31-301. Brown bags welcome.

Women and American Competitiveness**—Ellen I Rosen, Radcliffe College and Nichols College. Co-sponsored by the Political Economy Seminar Series and the Women and Politics Series, 3:30-5pm, Rm E51-332.

Computational Experiments in Network Optimization*—James B Orlin, MIT, Sloan School of Management. Sponsored by the Operations Research Center, 4pm, Rm E40-298. Refreshments following.

US Shipping: Big Problems, Poor Policies, Great Potential and Challenges for MIT Graduates*—Ole Skaarup, Skaarup Shipping Corporation. Sponsored by the MIT International Shipping Club, 4:15pm, Rm E51-328.

Inflation and False Vacuum Bubbles**—Prof Alan Guth, MIT, Physics Colloquium, 4:15pm, Rm 10-250. Refreshments, 3:45pm, Rm 26-110.

The 14 Musts for the Successful Entrepreneur*—Steven Belkin, President, Trans National Travel, Sloan New Venture Association Series, 6pm, Rm E51-140. Dinner following, \$20 charge. For info call: 508-655-7354.

Lecture and Excerpts from One-Man Show on Paul Robeson*—Avery Brooks, Actor (Hawk on "Spenser for Hire"). Abramowitz Memorial Lecture, 8:30pm, Kresge Auditorium.

FRIDAY, APRIL 6

Development of the Heterogeneous Morphologies for Tough Polymers**—Prof R E Cohen, Center for Materials Science and Engineering Colloquium Series, 12-1pm, Rm 12-132. Lunch, 11:45am.

Why Does Atherosclerosis Affect Only Specific Arteries?*—Dr David Ku, Dept of Mechanical Engineering and Surgery, Georgia Institute of Technology, Fluid Mechanics Seminar, 2pm, Rm 1-203.

Accident Thermohydraulics of Pressure Liquefied Gas Vessels*—Prof James E S Venart, University of New Brunswick, Mechanical Engineering Spring Seminar Series, 3pm, Rm 3-370.

Instabilities in Flows of Polymeric Fluids**—Dr Ronald Larson, AT&T Bell Laboratories. Sponsored by the Chemical Engineering Dept, 3pm, Rm 66-110.

Production and Identification of the Ion Temperature Gradient Instability*—Prof Amiya Sen, Columbia University, Plasma Fusion Center Seminar Series, 4pm, Rm NW17-218.

On the Life Cycle of Convective Storms**—Dr Robert Fovell, University of Washington. Sponsored by the Dept of Earth, Atmospheric and Planetary Sciences, 4pm, Rm 54-915.

MONDAY, APRIL 9

Multibody Dynamics of Flexible Satellites**—Dr Dave Kang, Draper, Materials, Structures and Aeroelasticity Seminar Series, 3pm, Rm 33-206.

Ion Bombardment Energy and Angle Distributions in rf Plasmas**—Joanne Liu, Sponsored by the Chemical Engineering Dept, 3pm, Rm 66-110.

Molecular-Thermodynamic Approach to Predict Micellization and Phase Behavior of Micellar Solutions**—Sudhakar Puvvada. Sponsored by the Chemical Engineering Dept, 3:30pm, Rm 66-110.

Parallel Processing**—Arvind, MIT, MIT-EECS Colloquium Series, 4-5pm, Rm 34-101. Refreshments, 3:30pm.

AutoRadiography Update: New Stimulable Phosphor Plate Technology*—Chemistry Dept Seminar, 4pm, Rm 4-163.

Corruption, Surveillance, and Bureaucratic Sprawl: State-Society Relations in North India*—Prof Akhil Gupta, Dept of Anthropology, Stanford University. Asian Council Seminar Series on Political Reform & Social Change, 4-6pm, Rm E38-714.

Integration of Design and Construction*—James M Becker, The Beacon Companies. Abraham Wolf Lecture Series on Design of Constructed Facilities, 4-5:30pm, Rm 1-350.

Feedback Stabilization of an Autonomous Uncycle**—Dave Vos, MIT, MIT/Draper Joint Seminar Series in Dynamics, Guidance and Control, 4:15pm, Draper 1409B.

TUESDAY, APRIL 10

The Measurement of Ultra-Low Absorption and Electrostriction in Gases**—Steven F Fulghum, Science Research Laboratory, Inc. Seminar on Modern Optics and Spectroscopy, sponsored by George R Harrison Spectroscopy Laboratory, Research Laboratory of Electronics, Schools of Science and Engineering, Plasma Fusion Center and Industrial Liaison Program, MIT, 11am-12pm, Rm 37-252 (Marlar Lounge). Refreshments following.

Underwater Polarization and Sun Compasses in Aquatic Animals**—Prof Talbot Waterman, Yale University Biology Dept, Autonomous Underwater Vehicles Seminar Series,

Sponsored by the MIT Sea Grant, Draper Labs and Dept of Ocean Engineering, 12pm, E38-300. Lunches welcome.

Favorite Macintosh Utilities*—Tony Jackson, Information Systems Noontime Seminar demonstrating software for a wide variety of uses, 12-1pm, Rm 5-234.

Islamic Tremors in Soviet Asia: Some Regional Ramifications**—Prof Myron Weiner and Prof Ali Banuazizi, MIT, Center for International Studies. Defense and Arms Control Studies Program Seminar Series, 3-5pm, Rm E38-714.

VLSI/ULSI Research in US and Japan**—Yoshio Nishi, Hewlett Packard, VLSI Seminar, 4pm, Rm 34-101. Reception, 3:30pm.

The Early History of British Aircraft Gas Turbines*—Prof W.R. Hawthorne, Dept of Aero/Astro, MIT, Gas Turbine Laboratory Seminar Series, 4pm, Rm 31-161, Refreshments at 4:15pm.

Antigen Recognition by MHC Molecules**—Don C Wiley, Harvard. Host: Alex Rich. Biology Colloquium, 4:15pm, Rm 10-250. Coffee, 3:45, outside Rm 10-250.

The Far Side of the Great Attractor*—Prof Sandra M. Farber, Lick Observatory and University of California at Santa Cruz, Herman Feshbach Lectures in Physics, 4:15pm, Rm 54-100.

Medical Applications of Laser-Induced Fluorescence**—Kevin Schomacker, Wellman Laboratory. Seminar on Lasers in Biomedical Research, sponsored by MIT Laser Biomedical Research Center, MGH Wellman Laboratory, MIT Industrial Liaison Program, and Harvard-MIT Division of Health Sciences and Technology, 5-6pm, Rm E25-117/119. Coffee 4:30pm, buffet dinner and discussion following lecture.

WEDNESDAY, APRIL 11

Apple Engineering and Science Day*—Information Systems seminar featuring demonstrations by 5 MIT faculty members and a hands-on software evaluation area, 10am-4pm, Rm 10-105 (Bush Room).

Opto-Electronic Integrated Circuits**—M Eitenberg, David Sarnoff Research Center, EECS/RLE Seminar Series on Optics and Quantum Electronics, 11am-12pm, Rm 34-401B.

Microsoft Word (for the PC) User Group Meeting*—Information Systems Noontime Seminar for users of Word on the PC, 12-1pm, Rm E19-117.

Diurnal Cycles in the Equatorial Upper Ocean*—Rebecca Schudlich, MIT/Woods Hole Oceanographic Institute Joint Program, Oceanography Seminar, 12:10pm, Rm 54-914.

The Keck Telescope: The 1st of a New Generation of Optical Observatories*—Prof Sandra M. Farber, Lick Observatory and University of California at Santa Cruz, Herman Feshbach Lectures in Physics, 2:15pm, Rm 54-100.

Developing and Modeling Desirable Scenarios for the Effective Implementation of Nuclear Power in the Future: Solving the High-Level Radioactive Waste Dilemma**—Bill Holloway, Nuclear Engineering Dept Reactor Engineering Section Doctoral Seminars, 3pm, Rm 24-115.

A 'Multigrad' Extension of the FFT*—Germond Dahlquist, Royal Institute of Technology, Sweden, Dept of Mathematics Numerical Analysis Seminar, 4pm, Rm 4-163. Refreshments, 3:30, Rm 2-349.

Frontogenesis in Three-Dimensional Baroclinic Waves**—Dr Christoph Schär, Yale University. Sponsored by the Dept of Earth, Atmospheric and Planetary Sciences, 4pm, Rm 54-915.

Comprehensive Reconstruction of an Urban Core Area: The Riyadh Justice Palace District*—Prof Ralph Gakenheimer, MIT, Dept of Urban Studies & Planning. The Workshop on Reconstruction in the Middle East, 4-6pm, Rm E38-615.

Application of Point Synthesis Method to Multidimensional Transient Analysis**—Kookjong Lee, Seminar in Nuclear Engineering, 4-5pm, Rm 24-213.

The Society of Mind*—Marvin Lee Minsky, Donner Professor of Science, MIT, Dept of Electrical Engineering and Computer Science. 1989-1990 James R Killian, Jr, Faculty Achievement Award Lecture, 4:30pm, Rm 10-250.

An Award-Winning Restoration: Codman and Despradelle's Berkeley Building*—James G Alexander, AIA, principal, Notter Finegold and Alexander Architects, 7pm, MIT Museum Bldg.

THURSDAY, APRIL 12

FileMaker User Group*—First meeting of new user group for current or potential users of this popular database for the Macintosh, 12-1pm, Rm 5-234.

Affordable Housing**—I Donald Turner, President, BRIDGE Housing, San Francisco. Rose Lunchbox Series, sponsored by the Center for Real Estate Development, 1pm, Rm W31-301. Brown bags welcome.

A Large Volume Close-Range Photogrammetric System*—Peter K. Mansfield, Dept of Mechanical Engineering, 3:00pm, Rm 5-134.

Structure in Today's Universe as a Probe of the Big Bang*—Prof Sandra M. Farber, Lick Observatory and University of California at Santa Cruz, Herman Feshbach Lectures in Physics, 4:15pm, Rm 10-250. Refreshments served, 3:45pm, Rm 26-110.

New Putative DNA Helicase and Topoisomerase Genes Identified as Hyper-Recombination Mutants of Saccharomyces Cerevisiae*—Dr Hannah Klein, Dept of Biochemistry New York University Medical Center, Whitehead Institute Seminar, 4pm, Whitehead Auditorium.

Equipment: Out of Control or Under Control?*—Daniel J. McDade, General Manager, Logistics/Atlantic Container Line, MIT International Shipping Club, 4:15pm, Rm E51-328.

Did Communication Make the Revolution?*—Speaker to be announced, MIT Communications Forum, 4-6pm, Rm E15-070.

Fast Heuristic for Large Scale Euclidean Matching Problems*—William Pulleyblank, UMass/Boston. Sponsored by the Operations Research Center, 4pm, Rm E40-298. Refreshments following.

TBA*—Michael Singer, sculptor, Dept of Architecture Lecture Series, 6:30, Rm 9-150. Reception 6:30.

Land, Power and Identity: From Ethnic Conflict to Autonomy in Revolutionary Nicaragua*—Dr Charles Hale, U of Washington. Peoples and States: Ethnic Identity and Struggle, co-sponsored by the MIT Anthropology/Archaeology Program., 5-6:45, Rm E38-714. Refreshments.

FRIDAY, APRIL 13

New Well-Characterized Redox Active Polymers for Electro-Service Derivatization**—Prof M S Wrighton, Center for Materials Science and Engineering Colloquium Series, 12-1pm, Rm 12-132. Lunch, 11:45am.

Cenozoic Plateau Uplift and Climate Change**—Dr William Ruddiman, Lamont-Doherty Geological Observatory. Sponsored by the Dept of Earth, Atmospheric and Planetary Sciences, 4pm, Rm 54-915.

COMMUNITY MEETINGS

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

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

Co-Dependents Anonymous (CoDA)*—Meetings every Thurs, 6:30-8pm, Rm 66-144. Info: Sarah, x3-4911.

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

Graduate Student and Postdoc Parents Support Group*—Co-leaders: Dawn Metcalf, Social Worker, MIT Medical Dept; Rae Goodell, Coordinator of Parent Programs, MIT Child Care Office. Info: x3-1592 or x3-4911.

Habitat for Humanity*—Apr 5: Building affordable housing, meeting, 12pm, Rm 1-050.

Informal Embroidery Group*—MIT Women's League Group meets March 7 & 21, April 4 & 18, May 2 & 16, June 6, 10:30am-1:30pm, Rm 10-340.

Japanese Lunch Table**—Every Tues, 1pm, Walker Rm 220. Bring bag lunch and speak Japanese with native speakers. All levels welcome. Further info x3-8095.

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: Sarah, x3-4911.

Office Workers Issues Group**—Women's Forum informal support staff meetings, Wed, 12:10-1pm, Rm 8-219. Bring your lunch; network or talk about office worker's issues.

Wives' Group**—All women in MIT community welcome. Afternoon Group: meetings 3-5pm, Rm 491. Student Center: babysitting, Rm 407. Apr 4: "Making Friends - What Makes It Harder or Easier," Rae Goodell, Coordinator of Parent Programs, Child Care Office; Lynn Ikach and Melanie Johnson, Wives Group Members; and Kathy Flanagan, MIT Graduate Student. Further info: x3-1614. Apr 11 "Portugal" Isabel Rajao & Fatima Branco, Wives' Group members.

HEALTH EDUCATION

Better Back Program**—Apr 10: First meeting of 3 weekly sessions presenting updated information on back pain prevention and new back exercises. Led by Connie Bean, Coordinator of the Medial Dept's Health Education Service, 12-1:30pm. Fee: \$30, \$25 MIT Health Plans, students.

Breastfeeding Your Baby**—Apr 15: Video, covers working and breastfeeding, techniques for pumping milk. Led by Margery Wilson, Nursing Mothers' Support Group, 7pm, Rm E23-297. No fee.

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: Connie Bean, x3-1316.

Working Mothers Support Group**—An ongoing support group that meets to discuss parenting-related issues in a casual atmosphere. Meets every other Wednesday, 12-1:30pm (drop in anytime), Rm E23-364. Next meeting: Apr 4. Info: Janette Hyde x3-4290.

MITAC

Tickets may be purchased at the MITAC Office, Rm 20A-023 (x3-7990), 10am-3pm Monday-Friday. Tickets are also sold in Lobbies 10 and E18 on Fridays, 12-1:15pm. Lincoln Lab sales in Rm A263, 1-2pm Tuesday-Friday. Further details on events are included in MITAC's monthly flyer. To avoid disappointment, make reservations and purchase tickets early. Because MITAC is non-profit, refunds are not available.

MITAC, the MIT Activities Committee, offers discount movie tickets for General Cinema (\$3.75/ea) and Showcase (\$4.25/ea). Tickets are good 7 days a week, any performance.

Museum of Fine Arts—The Council for the Arts has 10 passes employees may borrow for free admission (not including the Monet exhibit). Call the MIT libraries, x3-5651, for availability. At Lincoln Lab, MFA passes are available in A-150.

City Books are here! \$1/ea (reg. \$7.50/ea) Discounts on dining, car washes, limo service, haircuts, etc in the Boston area.

The following April events are still available:

Taking Steps—Apr 19: Alan Ayckbourn's comedy gem. Lyric Stage, 8pm; tkts \$12.50/ea (reg \$14.50/ea), must be purchased by Apr 5.

Red Sox Tickets—Apr 25: Angels; Sept 5: Oakland. All games 7:35pm at Fenway; tkts \$10/ea, grandstand seating, limit 6 tkts/pp/ea game.

Boston Classical Orchestra—Apr 27: Mozart's "Abduction from the Seraglio" Overture; Tansman's Musique de Cour; Wagner's Siegfried Idyll; Haydn's Symphony No. 96 in D. Faneuil Hall, 8pm; tkts \$10/ea (reg \$12/ea), must be purchased by Apr 13.

Preservation Hall Jazz Band—April 8: Dixieland music at its finest at Symphony Hall, 8pm. Tkts \$21.50/ea (reg. \$24/ea). Tkts are limited.

And the new May & June events:

Theatre District Murders!—May 10: An evening of murder, mystery, and mayhem at Nick's Comedy Shop Building, 8pm. Tkts \$9.00/ea (reg. \$14.00/ea), and must be purchased by Apr 26.

Spirit of Boston Cruise—May 17: Reservations must be made by Apr 17.

Swan Lake—May 18: An "American/Soviet collaboration" featuring stars of the Bolshoi and Kirov ballets, 8pm, Wang Center. Tkts \$29.00/ea (reg. \$36.50/ea). Tkts are limited!

Day Trip to Sandwich, MA—May 20: Reservations must be made by Apr 20.

Spring Weekend in Washington DC—May 25-28: Reservations must be made by April 10.

Tech Night at The Pops—June 7: Sponsored by the Alumni Association as part of the Technology Day Festivities, 8pm, 2 choices of ticket prices: \$21/pp, 1st balcony; or \$6/pp, 2nd balcony (*please specify desired seating location/price when purchasing tkts). Tkts. must be purch'd by May 24.

Overnight Cruise to Nova Scotia—June 8-9: Bus leaves West Garage Fri, Jun 8, 5pm; boards the M/S Scotia Prince in Portland (for Casinos!-dancing!-entertainment! & more!) Stops briefly in Nova Scotia; & cruises back to Portland Sat, Jun 9. Bus arrives back at West Garage approx. 12 midnight, Jun 9. \$117/pp/dbl occup includes round-trip transportation, full breakfast, buffet, cruise, and lodging aboard the Scotia Prince (2 lower berths with private bath facilities in the room). Reserve by Apr 17.

Balloon Festival in Quechee, VT—Jun 15-17: Includes lodging and meals (2 hearty country breakfasts and 1 delicious country dinner) at MIT's Talbot House in nearby South Pomfret, Vermont. Dorm style accommodations in a cooperative living environment. Room sizes for 4, 5, and 6 people/room (reservations must be made by the room). You provide your own transportation. Only \$58.50/pp. One room per customer. Space is limited (always a sellout!).

Whitewater Rafting in Calumet, Quebec—Jun 22-24: Incl round-trip transportation, 2 hearty breakfasts, 2 on-the-river lunches, 2 carbohydrate-filled dinners, & campsite (Yes! that means tents, bug spray, & naughty songs around the campfire!) Only \$145/pp! Bus leaves West Garage Fri, Jun 22, 12 noon; & returns approx. 12 midnight Jun 24.

Summer Weekend Escapes at Talbot House in Vermont—Jul 6-8, Jul 13,15, Aug 3-5, Aug 10-12: Hike, bike, canoe, shop—your weekend away is up to you. Lodging at MIT's Talbot House in South Pomfret, VT, plus 3 scrumptious meals Dorm style accommodations in a cooperative living environment. Room sizes for 4, 5, or 6 people/room, & reservations must be made by the room. \$58.50/pp for the wkend, meals included. Your provide your own transportation. One room per customer. Reserve by Jun 29!

Summer in Montreal: Labor Day Weekend—Aug 31-Sep 3: Bus leaves West Garage Fri., Aug 31, 7am; & returns Mon., Sept. 3, approx., 7pm. Cost: \$165.00/pp/dbl occupancy (incl. transportation, 4 days in Montreal, & 3 nights' lodging at Journey's End Hotel). Reserve by Jul 31.

■ SOCIAL ACTIVITIES

Noche Latina—Apr 7:** Sponsored by Club Latino at MIT and Graduate Student Council, 8pm, Thirsty Ear Pub (Ashdown House), \$2.

Campus Preview/Minority Weekend—Apr 5-7:** The Admissions Office has invited minority and women students in the Class of 1994 to visit the campus For info: Call x3-4791.

Chinese Culture Week—Sponsored by MITCSC. Apr 2-8,** Chinese movies w/ English subtitles 1-5pm, Rm 10-250, free; Apr 9-13, Events and refreshments each day, 11:30am-1pm, Student Ctr, 3rd fl. Apr 9, dough modeling; Apr 10 Chinese music (Zither); Apr 11 water-color painting; Apr 12 paper folding; Apr 13 Chinese cooking.

■ FILMS

Film Festival: Women in the Arab World: Political, Social and Religious Perspectives—Apr 5:** *Women of South Lebanon*, film; *Measures of Distance*, video. 7pm, Rm 66-110; Apr 12: *A Wife for My Son*, Algerian feature film. 7pm, Rm 10-250. Discussions follow films. Co-sponsored by the Program in Women's Studies, the Arab Student Organization and Women in International Development.

Looking for Langston and Tongues Untied—Apr 9:** Two films about black gay male identity. Sponsored by the Ad Hoc Committee on Gay and Lesbian Studies at MIT, 7 & 9pm, Rm 66-110. Donation \$2.

■ 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 Moveline, x8-8881.

The Maltese Falcon, Apr 6, 7:30pm, Rm 10-250. **The Princess Bride,** Apr 6, 7 & 9:30pm, Rm 26-100. **The Little Mermaid,** Apr 7, 7 & 9:30pm, Rm 26-100. **For Your Eyes Only,** Apr 8, 6:30 & 9:30pm, Rm 26-100. **The Adventures of Robin Hood,** Apr 13, 7:30pm, Rm 10-250. **Peter Pan,** Apr 14, 7 & 9:30pm, Rm 26-100. **The Name of the Rose,** Apr 15, 6:30 & 9:30pm, Rm 26-100.

■ MUSIC

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

MIT Symphony Orchestra Openings in bassoon, cello and percussion. Rehearsals Tues & Thurs 7:30-10pm. To schedule an audition, call x3-6962 or x3-2906.

Thursday Noon Chapel Concert—Apr 5:** The Mannheim Quartet. Works of Bach, Haydn, Mozart and Viotti. Apr 12: Joel Press and the Evolutionary Jazz Ensemble. 12:05pm, MIT Chapel.

Piano Recital—Apr 5:** Whitehead Noontime Concerts presents Ira Braus, music by Mozart, Stravinsky, Narcorrow, 12pm, Whitehead Institute Auditorium.

Advanced Music Performance—Apr 6:** Jee-Hoon Yap '90, piano. Works of Liszt and Schumann. Apr 13: Amy Huey-Zu Lin '92, piano. Works of Brahms and Saint-Saens. 12:05pm, Killian Hall.

Makoto Takenaka Jazz Combo—Apr 6:** Makoto Takenaka and his jazz combo present Japanese music and classical selections transposed into a jazz style. Sponsored by the MIT Japan Program. 8pm, Kresge Auditorium.

MIT Guest Artist Concert—Apr 7:** The Croll String Quartet, England. Works of Mozart, Shostakovich, Beethoven. 8pm, Kresge Auditorium.

■ READINGS

An Evening of Poetry—Apr 5:** John Ashbery. Sponsored by the MIT Writing Program, 8pm, Rm 6-120.

Poetry at the Media Lab—Apr 5:** Sam Cornish, 7:30pm, Bartos Theatre, Wiesner Bldg.

■ DANCE

MIT Ballroom Dance Club Workshops—Apr 7:** Spring Semi-Formal Dance. Apr 8: 1-2pm, Viennese Waltz 1; 2-3:30pm, Swing 2; 4:30-5:30pm, Tango 3. General dancing from 4:30-5:30pm, free. Costs: Level 1: 50¢ member, 75¢ non-member; Level 2: 75¢ member, \$1 non-member; Level 3: \$2 member, \$3 non-member; Level 4: \$3 member, \$4 non-member; Semi-formal: members \$4 adv/\$6 door, non-member \$6 adv/\$8 door. Location (unless otherwise noted): Morss Hall, Walker Memorial. No partner necessary, info x8-6554.

MIT Folk Dance Club—weekly dancing—Sun,** Beginning International Dancing, 7pm, Student Ctr Sala de Puerto Rico (except Dec 24, 31); Tues, Advanced Balkan and Western European Dancing, 8pm, Student Ctr Rm 407; Wed, Israeli Folk Dancing, 7pm, Lobby 13 (subject to change). Info: x3-3655.

Aerobics Classes—Sponsored by the MIT Dance Club,** Every Mon, Wed, Fri, 6-7pm, Bldg W31 Dance Studio, \$3/per class. Info: Julia, 492-1369.

Aerobics/Workout Class—Open to activity card users/MIT Health Plan.** Sponsored by the Phys Ed Dept. Tues & Thurs, 1:10-2pm, Swimming Pool, Racket Court Rm #1.

Rhythmic Gymnastics Classes for Women—MIT Women's League classes,** Thurs, 12-1pm, Rm 10-340. Info: Helena, 596-2396.eves.

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

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; Discussion, Tu 4-5pm, Rm 4-148; Composition/Improvisation, Tu 11-12:30, Walker-201; Technique/Repertory/Improvisation, Tu 11-12:30, Walker-201. Info: x3-2877.

■ EXHIBITS

LIST VISUAL ARTS CTR

Reconstructed Cameras. Chicago-based artist Jno ("Jon") Cook's exhibit of cameras and photographs. The cameras are made from reclaimed optical and mechanical materials as well as common household objects. **Paper Architecture from the Soviet Union.** Exhibit of nearly 100 works by 25 contemporary Soviet architects of schemes which were never intended to be built, commenting on the stagnation of architecture during the Khrushchev and Brezhnev years. **Rebecca Purdum: Paintings.** Eight major paintings representing nearly five years of work by this New York artist who paints large canvases with her fingertips. Through Apr 22.

THE MIT MUSEUM

MIT Museum Bldg (N52)—From the Ecole to Tech: Desiree Despradelle, His Colleagues, and Students. Drawings from the museum's extensive architectural collections will be featured in discussing the nationwide influence of the Ecole des Beaux Arts trained architect Despradelle. Mar 23-June 10. Gallery Talks, Apr 4, 11, see Calendar Lectures. **Richard Bertman: Architect and Sculptor.** Drawings, sculpture, and architectural plans by the eminent Boston architect. Through July 29. **Math in 3D: Geometric Sculptures by Morton C. Bradley, Jr.** Revolving sculptures based on mathematical formulae. Form and color relations lend these works a unique visual appeal, ongoing. **Holography: Types and Applications.** Changing exhibit demonstrating the uses of this three-dimensional imaging medium. Works include scientific, medical, technical, and artistic imaging drawn from the

work of the Spatial Imaging Group at MIT's Media Laboratory, ongoing. **Light Sculptures by Bill Parker, MIT '74.** Changeable, touchable plasma sculptures by the artist who developed this medium, ongoing. **Marcia Oakes Woodbury.** Gils, watercolors and drawings by celebrated turn-of-the-century artist, ongoing. Hours: Tues-Fri 9am-5pm. MIT Museum closed to the public on Mondays; Open 12-4pm Sat-Sun.

HART NAUTICAL GALLERY

Ongoing exhibits: George Owen '94: Yacht Designer—Line drawings and half-models designed by one of the early professors of naval architecture at MIT. **Half Models in Naval Architecture and Ship Building**—Half-models, ship drawings and photographs illustrate how the half model has aided ship and yacht designers and builders.

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). Bldg 7, 4th fl. (Architecture Gallery): **The Traditional Arts and Architecture of San'a Yemen Arab Republic:** Contemporary artistic expressions of women in the ancient walled city of San'a. Apr 11-20.

WIESNER STUDENT ART GALLERY

Observations: Photographs by Anastassios E. Petropoulos and Christopher B. Moore, Apr 2-14.

COMPTON GALLERY

Alchemical Reconnaissance. Color photographs depicting natural and man-altered landscapes which explore the imagery and physics of light, quantum mechanics, synchronicity, cosmology and the entrance of consciousness into physics theory. Through Apr 6. 77 Massachusetts Ave. Hours: Mon-Fri 9-5.

OTHER EXHIBITS

Institute Archives and Special Collections—1887: The Founding of the Lawrence Experiment Station. Second in a series of three exhibits in commemoration of the Lawrence Experiment Station's 100th anniversary. **Jerome C. Hunsaker, Father of Aeronautics at MIT.** Chronicles his founding of aeronautics at the Institute; his design and construction of Navy airships and NC-4, the first airplane to cross the Atlantic, and his role in leading the Dept of Aeronautical Engineering from 1939-51. **Happy 50th, Class of '39.** Hall exhibit cases in 14N, 1st floor.

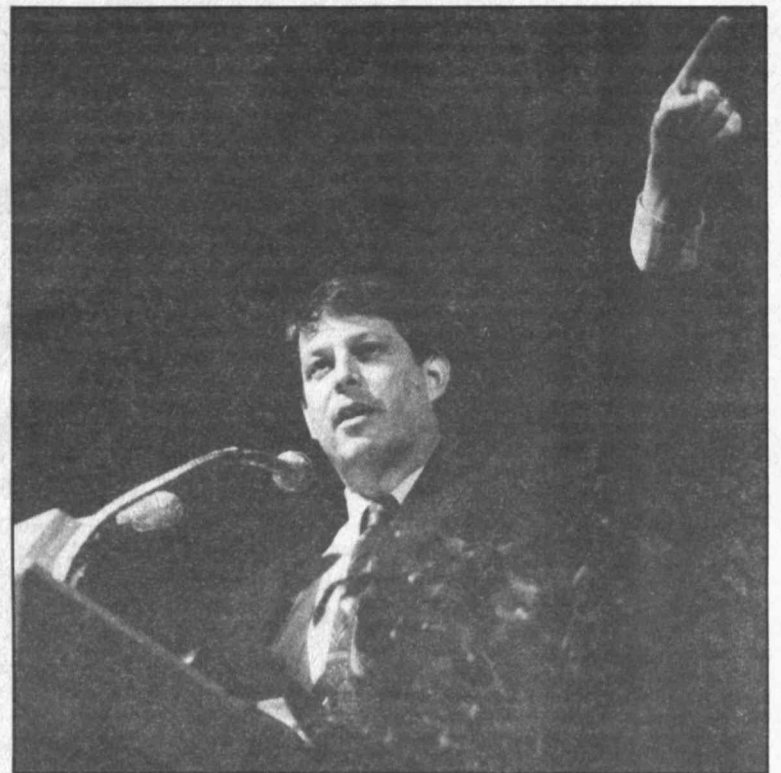
■ SPORTS

HOME EVENTS: Apr 4: Baseball vs Wentworth, 3pm; W's Lacrosse vs Colby Sawyer, 7pm. **Apr 6:** M's V Tennis vs Vermont, 3:30pm; V Golf vs Clark & Brandeis, 1:15pm. **Apr 7:** M's V Sailing vs Invitational, 12pm; Baseball vs Tufts (2), 1pm; Heavyweight Crew vs Columbia; W's Crew vs Radcliffe. **Apr 8:** Freshman Sailing vs Freshman Invitational, 9:30am. **Apr 9:** M's V Tennis vs Brandeis, 3:30pm; JV Outdoor Track vs Naval Academy Prep, 4pm. **Apr 10:** M's Lacrosse vs Curry, 3pm; Softball vs WPI, 4pm; W's Lacrosse vs Clark, 4pm. **Apr 11:** V Golf vs Northeastern, Lowell & WPI, 1:15pm. **Apr 12:** Baseball vs Bates, 3pm. **Apr 13:** W's Tennis vs Middlebury, 6pm. **Apr 14:** W's Tennis vs Middlebury, 9am; M's Lacrosse vs Trinity, 11am; Baseball vs US Coast Guard Academy (2), 12pm; M's V Sailing vs Norther Series III, 12:30pm; Heavyweight Crew vs Arlett Cup - Northeastern & BU; Lightweight Crew vs Yale; W's Crew vs Rutgers & Columbia; W's Tennis vs Bentley, 1:30pm; Outdoor Track vs RPI & WPI, 2pm. **Apr 15:** M's V Sailing, Geiger Trophy, 9:30am.

■ WELLESLEY EVENTS

Jewett Arts Center—The Wellesley Method:** Work by collaborative artists Kate Ericson and Mel Ziegler. Eye glasses are the central image for this project, which refers to the role of the museum as an interpreter of the object. Apr 6-Jun 11. **Arcadia in America: Mt Washington from the Valley of Conway by John Frederick Kensett:** This exhibit reunites Frederick Church's *New England Scenery*, Jaspers Cropsey's *America Harvesting*, and John F. Kensett's *Mount Washington from the Valley of Conway* for the first time since their initial showing in 1851. Apr 6-Jun 11. **Recent Acquisitions and Alumnae Gifts:** This annual exhibit presents additions to the permanent collection, including a rare calotype by 19th-century photographer Eugene Cuelvier and a watercolor by American painter John LaFarge. Apr 6-Jun 11. Museum hours: 10-5 MThFSat, 10-9 TuW, 2-5 Sun. **Gallery Talks**—Sundays, 2:30pm.

Send notices for Wednesday, April 11, through Sunday, April 29, 1990 to Calendar Editor RM 5-111, before 12 noon Friday, April 6.



Senator Albert Gore speaking to the Conference on Energy and the Environment. Photo by Donna Coveney

OVERVIEW OF FIELDS

Energy/Environment Conference Draws 500

As befits a wide-ranging conference whose thousand-page proceedings will be published this summer by the MIT Press, last week's three-day "Energy and the Environment in the 21st Century" symposium drew more than 500 registrants and hundreds of interested people.

The first day of the conference was concerned with a broad overview of the technical and policy issues that surround energy usage and its effects on the environment. Two keynote speakers launched the proceedings in Kresge Auditorium.

Richard Morgenstern, director of the Office of Policy Analysis in the US Environmental Protection Agency, spoke of possible global warming as "an area of significant uncertainty" yet one with "significant consequences." He warned that "we should not expect verification of real world warming soon."

Quoting a Japanese "100-year plan" proposed to deal with the matter, Morgenstern saw the next 50 years as a period of transition, the first decade of which would be devoted to narrowing the uncertainty in the global warming question and in improving the efficiency of energy use. Only after five more decades of energy research and development could he foresee the introduction of radically new electric power generation technology such as fusion and solar power satellites.

Following Morgenstern with a contrasting view, US Senator Albert Gore (D-Tenn.) proclaimed a sense of urgency about global environmental problems. He said that we are in the "midst of a paradigm shift in explaining our relationship to the Earth." Expressing his impatience for the country to get on with action, he said "Sometimes the scientific community can focus so much on the details that the overall pattern is obscured." He also said that "science is sometimes part of the problem."

Senator Gore said that people have difficulty distinguishing gradual change from "sudden systemic change," because what seems slow and gradual in a lifetime is dramatic in the context of geologic time. He likened the emergence of global environmental problems to the gradual buildup of nuclear arsenals in past decades. Prominent among his many recommendations, he again called for a "Strategic Environmental Initiative," in which the United States would take the lead in disseminating new technologies worldwide.

Physicist John Gibbons, who directs the Congressional Office of Technology Assessment, closed the first

morning of presentations. He said that despite the shortcomings of the last 20 years in accommodating energy and the environment we have learned some key things: "that the solution to pollution is not dilution; that atmospheric chemistry is complex; that technology can work well in reducing pollution; that there is more natural gas in the world than we had thought; and that we can have a positive change in the economy without a significant growth in energy use." Dr. Gibbons also said that we "should not wait to act" but "should invest substantially as a hedge against risk."

Following the first day of presentations the conference separated into six concurrently running specialized sessions: Transportation Systems; Industrial Processes; Building Systems; Electric Power Systems; Economics and Policy; and Advanced Energy Supply Technologies.

The symposium was sponsored by the MIT Energy Laboratory and Center for Energy Policy Research.

—Eugene F. Mallove

IS Spring Catalog Out

Recently all MIT faculty and staff were mailed the IS Spring '90 Computer Training Catalog. The catalog covers Macintosh, IBM PC and mainframe hands-on courses offered during April, May, and June, as well as the April Seminar series (April 4 through 26).

New offerings include full-day advanced courses on DOS and FileMaker. Our selection of short Institute Business Modules includes Business Charts with Excel, Updates to WordPerfect 5.1 and Lotus 2.2. IS has also begun offering free one-hour demonstration classes on Word 4.0 for the Mac and WordPerfect 5.1 for the PC. Details on these "Quick Start" classes are available in the catalog.

Early enrollment for the spring courses has been heavy, so anyone considering taking a course during this quarter is encouraged to enroll as soon as possible.

For information on the status of any course, or if you did not receive a copy of the Training Catalog, please contact Tawney Wray at x3-7685.

Classified Ads

Tech Talk ads are intended for personal and private transactions between members of the MIT community and are not available for commercial use. The Tech Talk staff reserves the right to edit ads and to reject those it deems inappropriate.

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.

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

Deadline is noon Friday before publication.

■ FOR SALE

Moving! Great deals on shelves, desks, etc., + Zenith XT computer, color mnt, modem, multifont printer & much softwr, all for \$1700 or bst. Dave or Adolfo 864-8651 lv mssg.

4-pc Fr Prov BR set, complete w/mattress-box springs, \$500; beds & night table, only \$300; chaise lounge, \$25. Marie 471-6030.

New steel radial tire, P185/80R13, \$35. Call 862-1935.

Toro S-120 elect snow blower, used once, exc cond, \$100 or bst. Maureen x3-2519.

HP 7470A plotter for sale; cable, sftwr incl, \$1100 new, ask \$550 or bst. Alan x3-6557 or 577-8094 eves.

Platform bed frame, finished pine, full sz expandable to Q, 6 drawers, hbrd, side shelf, \$125 or bst. Steve x3-8946 or 738-6346.

Zenith 19" solid state b&w TV, \$15; Creative Playthings indoor slide, \$20; Magnavox mono monitor, 12", amber, \$25; IBM XT monitor, green, \$20. Harry x3-1637.

Mt bike, '88 GT Karakorum, grt shape, 17" frame, Shimano Deore components, 18-sp, Araya RM20 rims, Richey Force 2.0 trs, Hite Rite, \$400. Sarir x4011 Linc or 893-8010.

Estate sale: furniture, rugs, refrigerator, dishes, etc. Tony x3-3922 or 623-8573.

Golden oak butcher block dining table & 4 Benwood chrs, \$250. Jean Jackson, x3-6953.

New Voit RM/4 precision row machine, \$125; card table, \$25; Bontempi elec organ, stand-up unit w/instruction book (never used), \$200. Call x3-4437 or 269-2377.

China cab, corner unit, like new, \$100; 3 small crystal lamps, \$20 ea or 3 for \$50. Kathy x3-7245 or 269-2377.

Walnut drop-lf DR tbl, 29.5" high w/casters, 51"x45" w/lvs up, 22"x45" w/lvs down, \$250. Call x2854 Linc.

Beautiful gray sofa & love seat, must sell! Mark x3-8417 lv mssg.

Rollaway twin bed w/mattress, \$75; sofasleeper, beige, full sz, 2 cushion, \$250; coffee tbl, walnut, \$10; cassette player-recorder deck peripheral nds receiver hkup. Soundesign TX0487, \$30. Call x3-1484.

Mens 10spd bike, \$65; Scand Design teak sectionals w/shlvs, doors, \$85/ea; 2 spkrs, \$45; stereo equip, cheap; desk chair, \$25; Rossignol 200+ Lange boots, sz 9M, both, \$25; Fischer X-ctry skis, \$25. Call x3-3175 or 332-8251.

Rug, 8x13, beige, 1yr old, \$40. Call 547-2245.

Love seat, exc cond, cotton navy blue floral fabric, bst offr. Robert x3-8064.

Yamaha YPR-9 portable piano, brand new, barely touched, must sell, \$300 or bst offr. Kathleen x8-8407 or 868-6041.

Plane tkts, cheap, fly to Chicago before 6/30/90, only 2 tkts avail, \$69. David 254-1355 or 573-3745.

Mattress, K-sz, Stearns & Foster, firm, 2 box springs & frame, \$200. Call days x8-2239 Draper or 749-0892 afr 6pm.

Red Sox tkts, 1 or 2 pairs, lwr box seats, Sun Apr 15, vs Milwaukee, \$32/pair. Call 508-877-9518.

Mac Plus w/80MG HD, exc cond, will sell separately, \$1,400 or bst offr; Scott AM/FM receiver/amplifier, \$30; for hackers only: ext HD enclosure w/power supply, \$100. Richard x5-8132.dorm.

DR chandelier, wood & glass, \$35; fresh maple syrup. Call x3-7235.

Wardrobe, beautiful, was \$400, now \$170; unpainted bookcases, 6x2", \$25/ea. Call x3-2446 or 628-8460.

IBM AT computer, reliable, fast, fully-loaded, 1MB RAM, 30MB HD (28MS) math co-processor, two disk drives, Hercules Graphics Plus, \$1,500 or bst offr. Call x3-2527 or 391-2673.

DR set, mahogany, 6 uphstrd chairs, exc cond, \$1,500; mahog drop-lf tbl, \$300; mahog Queen Ann style coffee & end tbls, \$450; 5 brass lamps; lace tblclth, 58x94", \$75; photos available. Call Kim x3-1740 or 483-7355.

Waterbed, Q-sz, medium, baffled w/pad & sheets, bst offr. Bill x8-2597 or 965-2803.

Camp trunk, good cond, 36x20x12", \$50; suitcase, \$25. Paul x3995 Linc or 893-2841.

Tkt to New York, Apr 7, offered thru MITAC, \$25. Joanne x8-8011.

Womens 3 spd bike, exc cond, \$40. Jane x3-2281.

HP2645A Smart terminal w/grphcs, char set, perf cond, \$300; Z80 development systm, in-circuit emulator, assmblr, linker, editor, debugger, w/trace, exc cond, \$500. Call 648-6389.

Cutco cutlery, many pcs, never usd. Steve x5-6660 dorm.

Figure skates, Lake Placid, white, 2pairs, sz 1&2, exc cond, \$5/ea. Charlotte x3-4738 or 286-1731.

Wind surf, never usd, complete w/ gear. Rob x3-1481.

Vanity sink, green marbled w/white cabnt; white lavatory sink w/wall mnt; \$50/pair or will sell separately. Bob x8-2357 Draper.

Moving sale, 3 RMs of furn, furnishings, utensils, all must go, Apr 7&8, 4 Homer Sq, Somerville, (behind Union Sq PO). Call 625-7296.

IBM PC, classic, 2 singl-side disk drives, standard kybd&montr, 1982 model, expanded RAM, lots of softwr. Mark x3-0375 or 868-0435.

Portable fans, 20", 1/515, 2/525; Multitech 1200bps Hayes comptible modem, \$115; Touchtone desk phone, \$10; all items exc cond. Call 497-1479 afr 5pm.

■ VEHICLES

1975 Volvo 164E, 4dr sedan, solid body & eng, many new parts, \$1,500 or bst. Chris x3-0412 or 938-6994.

1977 Olds Cutlass Supreme, lrg, 4-dr, powerful eng, runs v well, 4 new all-season radials, htr, def, Pioneer AM/FM/cass stereo, \$600 or bst. Tom 623-7991.

1979 Toyota Celiza, hbk, AM/FM/cass, a/c, new clth int, cover & ski racks incl, \$1,800. Call x3-8707.

1980 Mercedes Benz 240D, 4dr, 4 spd, a/c, cruise, sunroof, dk blue, exc cond, \$5,500 or bst offr. Jerry x5485 Linc or 508-393-6421 after 6:30.

1981 Chevette hbk, blue, 58K, a/c, rear def & wipers, AM/FM, looks & runs great, \$950 or bst offr. Jiping x3-2475, x3-6357 or 625-4659 eves.

1982 Datsun GX 310, 5-spd, perfect city car, mech gd, v econ, \$900. Eric 617-354-0018.

1982 Ford Fairmont, 95K, 2dr, auto, no rust, runs well, \$400. John x8-2479 Draper.

1984 Ford Escort, 47.3K, 4-spd, 2-dr, \$850. Hou 492-4906 10am-11pm.

1985 Toyota Corolla LE, 5-spd, a/c, AM/FM/cass, exc cond, \$4,200. Call x3-5547 or 508-263-6645.

1986 Yamaha Virago 1100, 7400 miles, from Calif, exc cond, \$3,500. Todd x3-8599 or 547-1098.

1986 Toyota Corolla SR5, 1 ownr, red, 2-dr sport coupe, dual lock, stereo w/cass, a/c, cruise control, stand trans, cloth int, 58K, avail 5/90. Call 497-7322 or lv mssg.

1988 Mazda B2200 pickup truck, SE5 sports pkg, a/c, AM/FM stereo, sliding r wind, 5-spd, black metallic w/cap, sports whls w/raised letter trs, exc cond, \$6900. Dave 617-684-2218 days or Ellie x3-4765.

1988 Conquest TS1, loaded, mint cond, lthr interior, 29K, \$11,500. Judy 965-0384 or Paul x3-9660.

1988 Honda NX 250, 750 miles, \$1,600. Jackie x3-4255 or x3-9489.

Honda 900CC motorcycle, full faring, carrier rack, complt overhauled, \$1,500 or bst offr. J. Blair x8-2843 or 492-4759 lv mssg.

■ HOUSING

IBR apt for rent, June 2-Sept or June 1991, completely renov & furn, walk to MIT, \$1000/mo incl util (except phone). Kathy or Bill 497-5525.

Single home minutes from MIT, 7 lrg rms w/high ceilings & hdwd flrs, fully appl ktchn w/pantry, v lrg tile bath w/linen closet, partially fin basement w/ 3/4 bath & fam rm, \$214,900. Call 508-664-0150.

Back Bay: Sublet avail in sunny apt, priv bedrm, shr w/2 MIT grad students, avail Apr 15 w/option to stay through coming yr, \$400/mo or bst. Akhil x3-5095 or 353-0177.

Bethel, ME: new 2BR furn carriage-hse condo in town ctr, Sunday Rvr & Pleasant Mt skiing nearby, appraised \$107K, ask \$94K. Call x3-5618.

Cape Cod: N Eastham, 2BR, nr Bay beaches, D/W, W/D, deck, \$550/wk, 2 or more weeks, \$525/wk. Call x3-3492 or 899-4253 eves.

Chelmsford, perf starter home, mod cond, quiet nghbrhd, oak cabinets ktchn & bath, by ownr, \$129,000. Donna x7765 Linc or 508-251-7407 eves.

Davis Sq, Bed&Brkfst, avail for Commencement, nr Red line T, 10 mins to MIT, can see rms now, \$60/night incl brkfst, 2 nights min. John x8-5331 or Mike 625-8847.

Glenco, NS, vac retreat, v priv, 12 acre site overlooking E. River Valley, 2BR, 1/2 loft, swim nrby waterfall pools, relax, hike, bird watch, rock hunt, \$275/wk. Call x3678 Linc or 508-396-3973.

Gloucester: Eastern Pt, 3BR hse on beach, last 2 wks in July still avail, \$1200/wk. Deerfield Beach, FL: 2BR condo, 1 block from beach, \$400/wk. Janine x3-3437 or 964-2191.

Lexington, 4yr old house, 3BR, 1&1/2 bath, \$239,000. Call 863-5332 or 508-371-2021.

Maine: 50% partnership or rental, spect mod waterfront 4BR hse on pristine Norway Lake (900 acres), dock, boating, etc, close to Sunday Rvr, \$135,000 partnership, \$700/wk rental. Call x3-1064 or 862-2220.

Maine: Midcoast on Muscongus Bay, 3BR ranch, gorgeous view, fully furn, swimming, July & Aug. \$700/wk. Call 1-508-443-2862.

Melrose, 8 mi MIT, 1 BR apt in Vict hse, redecd, lg rms, hdwd flrs, eat-in cabinet ktchn, refrig, disp, storage, off-st prkng, 5 min to bus or train, deck&yard, non-smkg, no dogs, \$775 incl util. Call x3-3834 or 662-9425.

Nantucket/Madaket: 3BR, 2b twnhs, ocean vw, deck, pool, tennis courts, avail June 2-16, \$750/wk. Call x7048 Linc or 924-0264 eves.

Sebag Lk, Maine, 2 cottages, fully equipped, steps to sandy beach, swim, fish, hike, 2-1/2 hrs from Boston, \$315-450/wk. Steve x8-3383 Draper or 508-745-6511.

Somerville: lg, sunny, quiet, Vict home for rent, priv cul-de-sac, nr Davis Sq T & Tufts, 6BR, 2bath, study, 3c-gar, stained glass, lg yard, hdwd flrs, w/d dw, \$2,000/mo w/poss opt to buy. Andrew Jeffries x3-6410 or 623-5864.

Sweden, ME: lakefront modern log cabin avail for wkly summer rental, slps 5, dock, swimming, fishing, \$550/wk. Mark x3-4488.

Watertown: furn 2BR apt, LR, DR, ktchn, bath, on T, \$730/mo + util. Call Audrey x3-1751 or 926-2577.

Wayland, Claypit Hill area, 3BR ranch, 2c-gar, frplc, quiet dead end, exc cond, low \$200Ks. Dayle x0344 Linc or 508-358-5928 eves.

Westgate: summer sublet, May 21-Aug 31, spacious studio apt right on campus, vw of Boston skyline, util incl, furn, prkg, pay my subsidized rent. Rob x3-2690 or 621-2952.

West Woburn, 8rm, tri-level, full DR, fp, LR, 4BR, garage, porch, public transp to MIT. Call 933-4510.

Woburn: 1BR inlaw apt, brand new bath & w/w carpet, on bus line, close to 93/128, 25 mi to Camb, nice nbrhd, \$450 + util. Call x3-0998 or 933-2869.

■ WANTED

Mature Phd student sks 1BR apt, must be quiet & nr T, perhaps a bit of sun, can pay \$675 incl heat. Andy x3-4935.

Young working-class couple, expctng twins in fall, would appreciate info leading to rent-controlled or v affordable home. Diana x3-2650.

Home wanted, 6/90-6/91 to swap w/London 4BR hse, prosperous leafy Dulwich, 6 mi from center of city, 10 mins by train, exc schools, car swap also. Call 437-0677.

Visting Prof & family sk 4BR house, 8/90-6/91, Boston or surrounding area, has dog & 2 cats. Phyllis x3-9778.



HINTS OF SUMMER--David Sachs, a technical assistant in the Medical Department, enjoys some spring sunshine recently on the benches outside Building E23. Photo by Donna Coveney

QUESTIONS ANSWERED

Benefits Announces Information Sessions

The Benefits Office is pleased to announce a series of meetings this spring that will provide opportunities for benefits-eligible members of the MIT community to learn more about their benefit plans.

The series, which will run through the month of April, will provide information on the Tuition Assistance Plan, the MIT Retirement Plan and tax-deferred annuities.

The schedule of meetings is as follows:

TUITION ASSISTANCE PLAN

Representatives of the Benefits Office will summarize the important features of the Plan, including who may participate, what courses qualify for reimbursement and how to apply for assistance. Three meetings will be held: On Campus on April 10 in Rm 4-270, 1-2pm; April 23 in Rm 10-250, 5:15-6:15pm, and at Lincoln Laboratory April 25 in Rm A-166, noon-1pm.

MIT RETIREMENT PLAN

Representatives from the Benefits Office will conduct two sessions detailing the various features of the Plan. Session 1 will focus on aspects of the plan of concern to those who are think-

ing of retiring, while session 2 will concentrate on issues of general interest such as savings and investment options.

On Campus, Session 1 will be April 11 in Rm 9-150, 10am-noon. Session 2 will be April 17 in Rm 10-250, 2:30-4:30pm. At Lincoln Laboratory, both sessions will be held April 25 in Room A-166, with Session 1 running from 1:15-3pm and Session 2 from 3:15-5pm.

TAX DEFERRED ANNUITIES

Plan representatives will discuss the tax advantages of these retirement savings vehicles. The focus of the TIAA-CREF meetings will be on the two new investment options that the plan introduced this spring.

Four meetings are planned. On Campus, the TIAA-CREF meeting will be April 9 in Rm 54-100, 2:30-4:30pm. The Prudential meeting will be April 24 in Rm 54-100, 2:30-4:30pm. At Lincoln Laboratory, the TIAA-CREF meeting will be April 25 in Rm A-166, 10:30-11:45am, and the Prudential meeting will also be April 25 in A-166 from 9-10:15am.

■ ROOMMATES

Arlington Hts, wntd F non-smkg for 2BR, frplc, wd flrs, Mass Av bus at cornr, \$362.50 + util. Sandy x3-0411 or 641-4753.

Brighton, M grad student sks non-smkg, share 2BR condo, fully furn, bldg w/pool & jacuzzi, 20 min drv/bike to MIT, \$400/mo incl heat & wtr., Ayad 789-4946.

Dorchester: new brick twnhs condo, 1 block from Savin Hill T, a/c, 2 balconys, w/d, w/w carpet, prkng, nr ocean, free tennis, \$400 +1/3 util. Judy x3-5749 days or 436-9009 eves.

Somerville: 3 MIT affiliates sk non-smkg M roommate for lrg rm in spacious 2-fl apt, quiet, safe nbrhd, \$375. Craig x3-4533.

Watertown: Hse to shr w/3 professionals, on Belmont St, next to golf course, on bus line, close to Hvd Sq, hdwd flrs, sunlight, non-smkr, no pets. \$325 + util. Call 924-7546.

Spacious 2nd flr, 2 family hse, 3 BR, 1 lg bath, lg ktchn, w/dw&disp, DR, LVs, attic & bsmt.

front & bk porch, furn excpt BRs, renov, gas ht, drvwy & st prkng, \$290+utils, Alfredo x8-2401 or Jeff x3-5881 or 625-5733.

Webster Av apt sublet w/2 M grad students, 10 min wk to MIT, now-Sept w/opt to renew lease, ampl prkng, nr park, \$300. Rumus x5-9577 dorm.

■ CARPOOL

Vanpool forming, Salem, NH & Dascomb Rd, Andover to Kendall Sq, Micky x3-8478.

■ LOST AND FOUND

Lost: keys on purple spiral chain & color-coded covers. Julie x3-1718.

■ MISCELLANEOUS

Expert word processing and/or editing, 10 yrs MIT thesis experience, IBM PC w/laser output. Marie x3-3490 or 547-1311.



APRIL 4 - 10

April Brings An Outpouring of Arts

Artists of many disciplines arrive to perform on campus this week, nine on Thursday alone, as spring turns once again into an unofficial arts festival at MIT. This "festival," not identified as such until today, has been developing for the past few years, concentrated mostly in April and May. At least 46 arts events are scheduled on campus during April and an early count reveals 28 already reported for May.

As a result, Month-at-a-Glance Arts Pages will not be possible. During these festival days each Arts Page will be formatted to cover one or two weeks. Before moving on to the April 4-11 chronology below it's worth simply noting the names of four artists appearing on campus tomorrow night, Thursday, April 5: Pulitzer Prize winning poet John Ashbery, actor Avery Brooks, performance artist Robert Whitman (a "Happenings" pioneer), and poet Sam Cornish. A new film series also opens that night. All events, except for Whitman's, are free. Details follow.

WEDNESDAY

Flamboyant Early Teacher of Design Celebrated

As a prelude to torrential Thursday, a single arts event occurs tonight, Wednesday, April 4, at 7pm in the MIT Museum. An illustrated talk will be given by a young architecture historian who has specialized in studying works and influences of the "flamboyant and charismatic" Désiré Despradelle, one of MIT's great design teachers (1893-1912). The speaker for this illustrated talk is Kimberly A. Shilland, a PhD candidate at Boston University and guest curator of the Despradelle exhibit now at the Museum, 265 Mass Ave. 253-4444.

THURSDAY

Mannheim Quartet Performs in Noon Chapel Series

The Thursday Noon Chapel Series, one of MIT's most popular weekly concerts, will present the Mannheim Quartet, Boston-area musicians playing Bach, Haydn, Mozart, and Viotti on the flute, two violins, the viola, and cello, at 12:05pm in the MIT Chapel. 253-2906.

Women in The Arab World Portrayed in Film Series

The first of a three-part series, "Women In the Arab World," presents *Women of South Lebanon*, award-winning short film (1988, England), focusing on the survival and resistance of women during the 1982 Israeli invasion of Lebanon; and *Measures of Distance*, a 71-minute video (1986, Lebanon) by Palestinian-born Mona Hatoum, exploring a brief mother-daughter reunion in wartorn Lebanon. Co-sponsored by the MIT Women's Studies Program, the Arab Student Organization, and Women in International Development. 7pm, Rm 66-110. 253-8844.

Poet Sam Cornish Reads at The Bartos

A reading in the Media Lab Poetry Series by Baltimore-born Sam Cornish who now lives in Brighton and teaches AfroAmerican Literature at Emerson College. As one critic said, "His verse forms are of exceptional craftsmanship, the work of a genuine poet who writes about being black with authenticity and artistry." 7:30pm, Bartos Theater, Wiesner Bldg. 253-7368.

Avery Brooks Plays Kresge

Actor Avery Brooks, known for his movie portrayal of Malcolm X and also as "Hawk" in television's *Spenser for Hire* will speak and present excerpts from his one-man show on singer Paul Robeson. The annual Abramowitz Lecture, 8pm, Kresge Auditorium. 253-4892.

Poet John Ashbery Reads in Building 6

An Evening of Poetry with John Ashbery, presented by the MIT Writing Program's Writer's Series. In 1976 Ashbery's *Self-Portrait in a Convex Mirror* won a Pulitzer Prize, the National Book Critics Circle Award, and the National Book Award. He is currently delivering the Charles Eliot Norton lectures at Harvard University. 8pm, Rm 6-120. 253-7894.

Performance Artist Presents World Premiere of *Black Dirt* at The List Center

Opening tonight--the world premiere of *Black Dirt*, a large-scale performance work by internationally recognized New York artist Robert Whitman. He is one of a few key figures associated with "Happenings," the phenomenon that revolutionized notions of art and performance in the early 1960s. This is his first performance in the Boston area. Tickets are available from the Gallery Desk of the co-sponsoring List Visual Arts Center. \$8 general, \$6 MIT/student IDs. Performances April 5-7 and 12-14, 8pm, in The Cube on the lower level of the Wiesner Building. 253-4680.

FRIDAY

AMP Student Performs Recital at Noon

Jee-Hoon Yap '90, piano student of David Deveau, plays her individual recital in the Advanced Music Performance program. Liszt's *Sonata in B minor* and Schumann's *Fantasia, Op. 17*. 12:05pm, Killian Hall. 253-2906.

MIT Language Teacher Introduces Japanese Jazz

Makoto Takenaka performs with his own Jazz Combo, introducing Japanese music and classical selections transposed into a jazz style. A lecturer in the Japanese language at MIT, Professor Takenaka also is on the faculty at Berklee College of Music in Boston and is a frequent performer on the Boston jazz circuit. Sponsored by the MIT Japan Program, part of the Institute's Center for International Studies. 8pm, Kresge Auditorium. 253-2839.

SATURDAY

"Exuberant" British Quartet Performs

In the MIT Guest Artist Series, the Coull String Quartet of England, performs Mozart's *K. 465 "The Dissonance"* and Shostakovich's *Quartet No. 8*; Beethoven *Op. 59, No. 1*. Hailing the Coull's New York debut in 1988, the *New York Times* praised its "bright, robust sound...and stylistic command that matches its exuberance." 8pm, Kresge Auditorium. 253-2906.

MONDAY

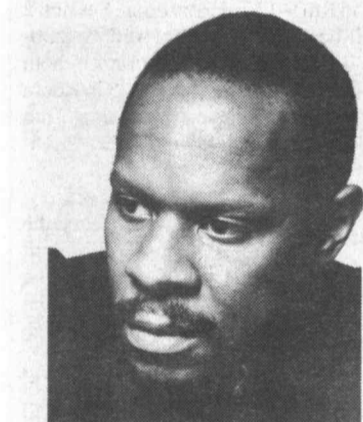
Two Films on Black Gay Life

Looking for Langston (1989), directed by Isaac Julien, presents images comparing Black gay life in the 30s and 80s, and *Tongues Untied* (1989) directed by Marlon Riggs, who said "My hope is to rip apart the cloak of invisibility." Sponsored by the Ad-Hoc Committee on Gay and Lesbian Studies at MIT. \$2 donation. 7 & 9pm, Rm 66-110. 253-3599. --China Altman

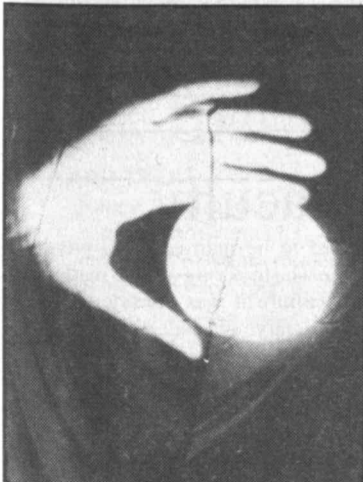
The Arts Page is produced by the Office of the Arts in collaboration with ARTSNET--253-4003.



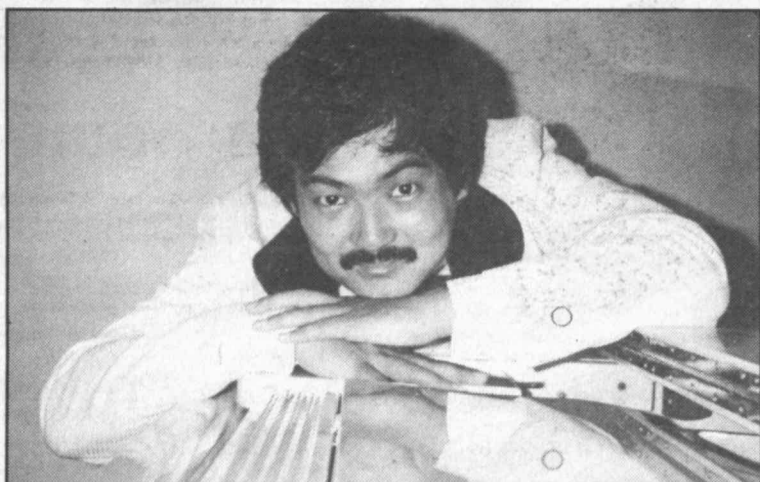
THURSDAY--Poet John Ashbery



THURSDAY--Avery Brooks



THURSDAY--Performance Art

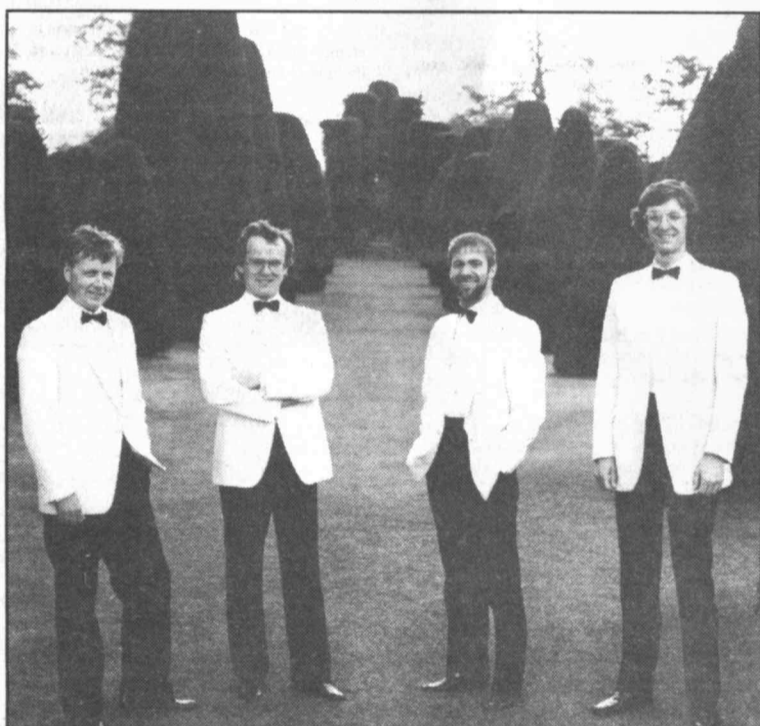


FRIDAY--Takenaka Brings His Jazz Combo to MIT



FRIDAY--Jee-Hoon Yap '90

Photo by Robert D. Newman



SATURDAY--Musicians from a Topiary Garden, England's Coull Quartet

Council Offers Arts Grants

One week remains in the fourth and final round of the 1989-90 Award Program of the Council for the Arts at MIT. The deadline is Wednesday, April 11. Forms and information are available in the Office of the Arts, E15-205, 253-4003.

To date this academic year the Council has awarded 32 grants, totaling \$43,323. A sampling of these awards follows.

Christopher Moore '90 and **Anastassios Petropoulos '91** for *Observations: An Exhibit of Photographs* that opened April 2, in the Wiesner Student Art Gallery.

WMBR-FM, MIT's campus radio station, to purchase equipment to expand in-house production capability, and to advertise in Boston-area "underground" magazines.

Hatice Yazar, graduate student in architecture, for a photography exhibition and lecture on contemporary artistic expressions by women in the city of San'a in the Yemen Arab Republic.

Pilgrim Theater, artists-in-residence in MIT Theater Arts, for

Leonardo: Anatomy of A Soul, a multi-media performance.

Kevin Gurney, graduate student, Earth, Atmospheric and Planetary Sciences, for a coffeehouse concert series in the Stratton Student Center.

MIT Medical Department and **ARMIT** (AIDS Response at MIT) for *Change in the Age of AIDS*, a juried art exhibit by MIT students, displayed in the Student Center.

Peter Quinn, staff member, MIT press, for a performance reading of the poetry of Seamus Hogan.

Helga Franz, graduate student, Center for Advanced Visual Studies for lightweight sculptures borne aloft by helium balloons in Lobby 7.

MIT Festival Jazz Ensemble, to produce and distribute a compact disk of the repertoire over the last decade, highlighted by several original compositions.

Next Act Productions, a student performing group, to present *Brigadoon* in Next House.

MIT Hillel and **MIT Folk Dance Club**, for a folkdance weekend.

An Open Letter to the MIT Community Concerning South Africa and MIT Investments

In recent weeks questions have arisen about the Institute's investments and South Africa. Several years have passed since there was extensive and broad discussion of these issues here, and many members of this community are thus unaware of the Institute's policies, the basis for them, and the facts about our investments.

CORPORATE INVOLVEMENT WITH SOUTH AFRICA

The questions at hand center on the involvement of publicly owned U.S. corporations in South Africa. Involvement takes a variety of forms:

- *Operations in South Africa.* This means that corporations own facilities in South Africa, have business operations there, and have South African employees. In other words, they have an equity investment there.
- *Non-equity links with South Africa.* Such links do not involve ownership or operations in South Africa, but may include licensing of products, distribution arrangements, franchise agreements, or trademark or technology agreements.
- *Bank loans.* This includes banks that have made loans either to the South African government or to South African corporations.

MIT'S POLICY

In general, MIT's investment decisions are made on the basis of what makes most sense for the long-term financial security of the Institute. A strong endowment, for example, helps MIT provide adequate salaries for faculty, meet the financial aid needs of our students, support first-rate teaching programs, and provide the support services necessary for this academic community.

We apply an additional criterion to our investment policy with regard to U.S. companies that have operations in South Africa. MIT policy opposes new loans, but does not prohibit investment in companies with non-equity links. Our policy with respect to companies with operations in South Africa is predicated on the belief that:

- those companies in which MIT invests should foster equal opportunity in the conduct of their business in South Africa and that they should work to eliminate the laws and customs that impede social and political justice in that country, and
- those companies that are making demonstrable progress towards these goals represent a positive force in that nation.

Accordingly, MIT's policy is to invest only in corporations that are signatories to the Statement of Principles as put forth by the Reverend Leon Sullivan more than a decade ago, and that are making significant progress in the implementation of those principles. This policy was most recently reviewed by the Executive Committee of the MIT Corporation in May of 1989.

The Statement of Principles, which applies to U.S. corporations with operations in South Africa, requires the following positive actions in that country:

1. Nonsegregation of the Races in All Eating, Comfort, Locker Rooms, and Work Facilities
2. Equal and Fair Employment Practices for All Employees
3. Equal Pay for All Employees Doing Equal or Comparable Work for the Same Period of Time
4. Initiation and Development of Training Programs That Will Prepare Blacks, Coloureds, and Asians in Substantial Numbers for Supervisory, Administrative, Clerical, and Technical Jobs
5. Increasing the Number of Blacks, Coloureds, and Asians in Management and Supervisory Positions
6. Improving the Quality of Employees' Lives Outside the Work Environment in Such Areas as Housing, Transportation, Schooling, Recreation, and Health Facilities
7. Working to Eliminate Laws and Customs that Impede Social, Economic, and Political Justice.

Citing South Africa's lack of progress toward ending apartheid, Reverend Sullivan repudiated this strategy in 1987, and urged the prompt departure of companies with operations there. Nonetheless, some 123 U.S. companies operate in South Africa, with 59 of them being signatories of the Statement of Principles. Their performance with regard to these principles continues to be monitored, with 42 ranked in Category I (Making Good Progress) and 10 ranked in Category IIA (Making Progress and Filing Detailed Reports). U.S. corporations that practice these principles have set examples that cannot be ignored by South African corporations. They have provided leadership in the move toward economic and political justice in that country, and it is not at all clear that their departure would either benefit the majority of the population or hasten the end of apartheid. In the light of recent changes in South Africa, this is not the time to take a vote of no confidence in those very companies that can help support the fragile infrastructure of economic and political equity in this African nation.

DIVESTMENT AS A STRATEGY FOR CHANGE

Aside from the question of whether divesting in companies that follow the Statement of Principles is giving the right signal, there is the question of whether divestment (that is, the simple selling of shares for which there will always be a buyer) is an effective means to press for change.

I would argue that consumer boycotts and purchase restrictions are far more influential in persuading companies to disinvest — that is, to cease operations in South Africa. And even in those cases where companies have ceased operations, the South African economy has not been greatly affected. Either South African organizations have purchased the companies and have continued operations, or non-U.S. operators and suppliers have filled the gaps, and in many cases U.S. companies have developed non-equity links to South Africa.

As can be seen in the table below (based on reports by the Investor Responsibility Research Center), many U.S. corporations have ceased operations in South Africa in recent years — some by liquidating their assets there, others by selling their assets to South African (or non-U.S.) entities — and there has been a simultaneous increase in companies with non-equity links.

MIT INVESTMENTS IN COMPANIES WITH OPERATIONS IN SOUTH AFRICA

As of March 23, 1990, MIT held investments in thirteen U.S. companies with operations in South Africa, six of which are pharmaceutical companies. Eleven of these companies are rated in Category I, and two are in Category IIA. One company had 1.2 percent of its total sales attributable to South African activity, the other twelve had less than one percent of their worldwide sales in South Africa.

Over the years, using a consistent definition, the Institute's investments in companies with operations in South Africa have steadily decreased, primarily as a result of companies' ceasing operations there. The securities of the thirteen companies presently held by MIT have a value of \$84 million, which is 5.4 percent of the total market value of the general investments as of March 23, 1990. Just over four years ago, on December 1, 1985, the corresponding figure was \$168 million, or 18 percent of the general investments.

The assertion by the Coalition Against Apartheid that MIT's investments in companies doing business in South Africa has grown is based on a broader definition of "doing business." That definition includes 52 companies that have any of these involvements with South Africa: employees, licenses, distribution agreements, franchises, or outstanding loans. Even using the Coalition's own calculations and their broad definition, MIT's investments declined in the past year from \$322 million to \$289 million.

IMPLICATIONS FOR OTHER PROGRAMS AND POLICIES

The Coalition's call for divestment of companies involved in South Africa raises other questions affecting the Institute. Divestment by an institutional investor is a public act of disapproval of the policies and practices of the affected corporations. If MIT were to disapprove of the practices of these fifty-two companies because of their involvement in South Africa to such a degree that we were to refuse to own their securities, then logically, we should refuse gifts from these companies. Along these lines, we should also refuse to continue other relationships with them, such as recruiting access to our graduates, participation in work-study and internship programs, research sponsorship, and membership in the Industrial Liaison Program. Our relations with these companies directly contribute to and strengthen the Institute's academic programs, and weakening these relationships would not, in my view, be in MIT's interests.

CONSIDERATION BY THE EXECUTIVE COMMITTEE

The Advisory Committee on Shareholder Responsibility (ACSR) will hold an open meeting to give members of this community an opportunity to express their views and concerns about these issues. These views will be communicated to the Executive Committee of the Corporation, which is responsible for policy on the issue of investments and South Africa, and will be considered by that Committee at a meeting this spring. Members of the Committee will act on the basis of their best judgment, exercising their individual and collective responsibility as trustees concerning what is best for this university.

Paul E. Gray
March 1990

	Dec. 1984	May 1985	Oct. 1987	Jan. 1989	Jan. 1990
Operations in South Africa	284	267	168	138	123+
Non-equity links to South Africa	24	63	108	149	175
Reporting banks with loans to South Africa*	23	20	N/A	11	11
+Includes thirty-nine privately owned corporations.					
*A similar number of reporting banks did not divulge loan information.					

Source: IRRC, U.S. (and Canadian) Business in South Africa, Foreign Investment in South Africa.

Family and Work Committee Reports 28 Recommendations to Faculty

(continued from page 1)

combine work and family life than MIT does, they will attract graduate students and academic staff who would otherwise come here. If universities as a whole do not change significantly, they may find it even harder to compete for faculty and staff with the industrial laboratories, some of which are ahead in this sphere."

MIT has taken steps in the face of demographic changes over the last 20 years, the committee said, "but the changes are spotty. Many are not recorded in policy documents, and even those that are do not reach all who could profit from them."

The committee said a number of its recommendations "have to do with making current policies and services more visible." Other recommendations concern "propagating to more offices and laboratories" techniques that provide work flexibility in many areas.

The committee's 28 recommenda-

tions are grouped under the following headings that say MIT should:

- Adopt a statement of principle dealing with the relation between work and personal life.
- Make its informal policies about flexibility more explicit.
- Clarify and improve its parental and personal leave policies.
- Create a family and work program and council.
- Use a broader concept of family in defining family privileges and benefits.
- Help parents attend meetings held at MIT.
- Provide more housing near campus.

Professor John M. Deutch, provost, called the report timely, very important and deserving of careful consideration throughout the community, but he said he was concerned about whether the report raised expectations that there would be "a significant flow of re-

sources to this area."

There is no doubt, he said, that each of the proposals would improve the community and that some could be implemented without major economic concerns, but "the matter of affordability" is involved in a number of the recommendations. He has asked that those familiar with administering benefits programs be requested to determine the costs for implementing the recommendations.

Professor Deutch also observed that flexibility in work for one category of worker "has to be seen with a sense of fairness by other workers in the same area and in other areas." He also said that a major decision confronting all major employers in considering these issues is how much compensation to allocate to benefits and how much should be in direct salary.

The committee was appointed in June 1988 by President Paul E. Gray

and Professor Bernard Frieden, urban studies and planning, then chair of the faculty. The appointment followed discussions of these issues by women faculty and several standing faculty committees and the presentation of specific recommendations on parental leave policy by the Working Group on Support Staff Issues.

The committee was asked to determine current demographics and related needs of faculty, staff and students; review current services, policies, procedures and benefits affecting family responsibilities, and suggest ways of meeting needs within the constraints of financial resources; and suggest policies that would help harmonize family and career responsibilities at MIT.

In the introduction of its report, the committee said, "The MIT culture of 20 years ago assumed that women employees were single and had no family responsibilities. Men were as-

sumed to be married, with wives at home who took care of such matters. In that culture it was considered to be unnecessary, and indeed improper, to discuss personal as well as work constraints in arranging conditions of employment.

"Those assumptions were not accurate then. They are almost irrelevant now. Two out of seven working mothers and one of 16 working fathers at MIT are single. If a working parent has a spouse, the spouse is likely to be working. Fewer extended-family members and other human service providers are available to help care for children and for adult dependents, who live longer."

A copy of the committee's summary and recommendations was distributed with the call of the March 21 faculty meeting. A preliminary analysis of its survey findings was available at the meeting.

Robert C. Dilorio