

Open House Coming

Students at MIT are once again gearing to show the public their world of science and technology—plus humanities and social sciences—at their biennial Open House on Saturday, April 24, from noon to 5pm.

Some 100 exhibits and activities for Open House are already scheduled according to Mark Munkacsy, a sophomore in physics from Cherry Hill, N.J., general chairman of Open House '76. The total number of events is expected to exceed 150.

Included among the events for the first time will be a major exhibit from the Department of Nuclear Engineering focusing on safety factors of nuclear reactors.

Also scheduled are a number of activities that have been favorites at

previous Open Houses, such as the Chemistry Magic Show, demonstrations in the Engineering Systems Laboratory and Strobe Alley.

A portable cable television studio in MIT's main lobby will run late scheduling notices and lost children announcements in addition to some of its regular programming.

Open House is being organized by the Alpha Chi chapter of Alpha Phi Omega, the national service fraternity. Altogether nearly 150 MIT students are expected to participate as guides and tour leaders during Open House.

Open House coincides this year with the Massachusetts State Science Fair sponsored by the Boston Globe and held in MIT's Rockwell Cage.

Food Day Events Planned

Food Day, a day devoted to the problems of world food and hunger, will be observed nationally Thursday, April 8.

At MIT, Food Day will be recognized by an international meatless dinner served at 6:30pm in the Sala de Puerto Rico and by an address by Dr. F. James Levinson, director, MIT International Nutrition Plan-

Auto Club Plans Community Rally

The MIT Auto Club has announced plans for a campus-wide auto rally May 2 during Kaleidoscope Week-end.

David A. Schaller, a sophomore in mechanical engineering who is club vice president and rally director, said the event is open to anyone connected with MIT.

Any kind of auto can be driven in a rally, Schaller said. The only requirement is that the car have a working speedometer and an odometer, he said.

The Auto Club has scheduled a "learning school" at 7:30pm April 25 in Rm. 491 of the Student Center to explain the details and techniques of rallying. Rally participants must follow a specific set of instructions with respect to time and distance. The key to success, Schaller said, is the ability to maintain a constant speed.

Those interested in entering can call president Robert Humphrey at 494-8683 or Schaller at 494-0076 or on dorm line 5-9640.

A small entry fee, Schaller said, will be used to buy trophies. Both individual entries and team entries of two cars will be accepted. The rally course, of about 100 miles, will begin somewhere on Route 128 and end somewhere in Cambridge. Details will be announced at the learning school.

ning Program.

Two national aims of Food Day 1976 are encouraging people to gain control of food quality and production, and to eat lower on the food chain. The MIT international meatless dinner will emphasize the second aim. Many campus groups, including Tech Catholic Community, Hillel, Sangam and Chinese Student Club, will prepare such dishes as mushroom berkeley, spiced beans and rice, and bean curds with mushrooms. Recipes of all dishes served will be provided.

"The dinner will focus on the solution to the world food problem," said Food Day coordinator, Chiu-Nan Lai, a graduate student in chemistry from Kaneohe, Hawaii.

"The world food supply would increase tenfold if consumers bypassed just one link in the ecological food chain. It is estimated that if Americans alone stopped feeding

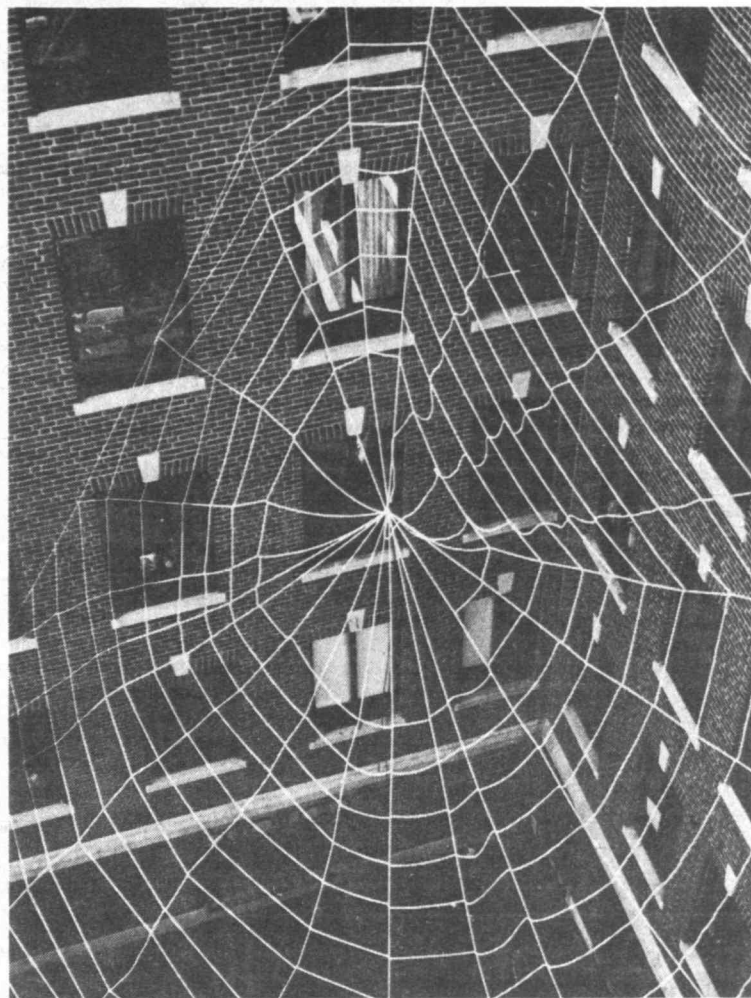
(Continued on page 8)

'Review' to Focus On Loch Ness

The March-April issue of *Technology Review* featuring "Search for the Loch Ness Monster," the first publication and full analysis of all the pictures of the fabled creature, by Robert H. Rines, Charles W. Wyckoff, Harold E. Edgerton and Martin Klein, will be published Thursday, April 8.

Also in the issue are articles by Dennis L. Meredith, managing editor of *Technology Review*, on "The Loch Ness Press Mess," and Roy P. Mackal, a director of the British Loch Ness Investigation Bureau, on "The Environment at Loch Ness."

An article and pictures from *Technology Review* will be published in next week's *Tech Talk*.



What may be the world's largest man-made spider's web was secured to two wings of MIT's Burton House (410 Memorial Drive) on Sunday afternoon, April 4. The web, six stories high and more than 30 feet wide, was designed and executed by three students as course work for "Art and the Environment" (4.801) taught by Otto Piene, professor of visual design in the Department of Architecture and director of the Center for Advanced Visual Studies. The student "spiders" are Elliot Lach, a junior in life sciences from Brookline, Mass., Carmen Ribera, a freshman from New Rochelle, NY, and Ruth Shragowitz, a sophomore in architecture from Port Chester, NY. The mammoth web is patterned after nature's own. The students used scanning electron microscopy to determine the texture of natural webs. They also consulted Harvard Professor Herbert Levi, curator of arachnology at the Harvard Museum of Comparative Zoology. Web construction took place successively in the dorm (too small), Briggs Field (too windy), the Sala de Puerto Rico (web got too tangled each time it was put away), and finally the traffic island in the middle of Memorial Drive. It is made of 1,250 feet of nylon cord with galvanized and stainless steel wire securing the joints. Elliot Lach sees the sculpture, a work of environmental art, as one that would change with the weather—falling leaves catching on the strands in autumn, icicles glistening on them after a winter storm, and rain drops shimmering on the strands after a spring shower.

—Photo by Calvin Campbell

Adam Smith Celebration Set

Five of the nation's leading university economists will speak April 12 at a lighthearted celebration arranged by the Graduate Economics Association of MIT to commemorate the 200th anniversary of the publication of Adam Smith's *The Wealth of Nations*.

Paul A. Samuelson, Institute Professor and professor of economics, will be the master of ceremonies for this "evening of feasting and merriment featuring testimonials and learned discourses." Approximately 250 economists from throughout the Northeast area of the U.S. are ex-

pected to attend the celebration which will begin at 7pm in the Sheraton Commander Hotel, 16 Garden Street, Cambridge.

Other speakers will be Professor Robert M. Solow of MIT, Professor Alan S. Blinder of Princeton University, and Professors William N. Parker and James Tobin of Yale University. The awarding of the bi-centennial "Invisible Hand Award" invented by the Graduate Economics Association for this one-time presentation, will be made during the course of the festivities.

Eight Elected To NAE

Five MIT faculty members, a Lincoln Laboratory staff member, the president of the MIT Development Corporation and a visiting professor have been elected to the National Academy of Engineering.

They are among 104 American engineers whose election to the Academy—which is the highest professional distinction that can be conferred on an engineer—was announced by Academy President Courtland D. Perkins. The total membership is now 685.

Academy election honors those who have made important contributions to engineering theory and practice or who have demonstrated unusual accomplishments in the pioneering of new and developing fields of technology.

Those elected from MIT, and their principal engineering accomplishments as cited by the Academy:

Dr. Fernando J. Corbato, professor of computer science and engineering and associate head of the Department of Electrical Engineering and Computer Science: "Contributions to the development of multiple-access computers."

Dr. Ira Dyer, professor of ocean engineering and head of the Department of Ocean Engineering: "Founder of research and educational programs in ocean engineering and an authority on noise and turbulence."

Dr. Merton C. Flemings, Ford

(Continued on page 8)

Engineers' Group Honors Forrester

Jay W. Forrester, Germeshausen Professor of Management at MIT's Sloan School of Management, has been elected to honorary membership in the Society of Manufacturing Engineers.

A gold ceremonial membership medallion will be presented at the Society's 1976 awards banquet April 26 in Cleveland, Ohio. The 45-year-old society has only 21 living honorary members, including Professor Forrester.

The citation honoring Professor Forrester reads, in part: "His mercurial brilliance has led to the random access memory of the digital computer, the contouring capabilities of numerical control, and the SAGE system of intercontinental defense, all of which are products of a thought process geared to the general betterment of all mankind."

American Girls No Longer Reaching Maturity Earlier

By BARBARA BURKE
Staff Writer

Middle-class American girls are no longer reaching sexual maturity at a younger and younger age, according to a 10-year study of 781 girls living in a Boston suburb.

The average age at which these girls first began to menstruate was 12.8 years—unchanged in the past 30 years. Previous studies had indicated that each decade over the past century girls were reaching menarche (first menstruation) about four months earlier.

The study also does not support the belief that each generation of Americans is taller and heavier than the

last: the girls were about the same height and weight as girls of the same age, and similar background, who were studied in 1943, 1954, and 1973.

More important, in the opinion of the investigators, the study found that within reasonable limits, there is no "normal" age, weight or height at which girls first begin to menstruate.

The girls' age at menarche ranged from 9.14 to 17.7 years, their weight from 69 to 180 pounds, and their height from four feet six inches to five feet ten inches.

"The most striking aspect of our data is their extreme variability," reported the researchers, from the

Vincent Memorial Hospital (the gynecological service of the Massachusetts General Hospital) and MIT.

"Certainly, to regard averages as representing the 'norm' might give rise to needless concern to those who differ in age or size from these values."

The study, reported in the April issue of *Obstetrical and Gynecological Survey*, was conducted by Leona Zacharias, PhD, associate biologist at Massachusetts General Hospital's Vincent Memorial Hospital and research associate in the MIT Department of Nutrition and Food Science, and by William M. Rand, PhD, associate professor of biostatistics in the

Department of Nutrition and Food Science, and Richard M. Wurtman, MD, professor of endocrinology and metabolism in the Department of Nutrition and Food Science, and clinical assistant in medicine at the Massachusetts General Hospital.

The girls in the study attended the public schools of Newton, Mass., a middle-class Boston suburb with a population of about 90,000.

Of the 781 girls who entered the study in 1965, 633 (81 percent) remained in it through menarche and subsequent menstruation.

One important aspect of the study lies in the "large quantity of carefully handled and accurate data," Dr. Wurtman said. "Never before

has a group of girls anywhere near the size of this population been studied prospectively in relation to sexual maturation. Prospective data are much more likely to be accurate than retrospective, or remembered data."

The researchers studied a number of factors including weight, height, size and parents' occupation, to see whether there was any correlation with the girls' age at menarche.

They found some correlation between menarcheal age and height, but almost none between menarcheal age and weight.

But the researchers did find a "significant correlation" between

(Continued on page 8)

Long Wharf Is Focus Of ICA-CAVS Exhibit

By KATHARINE C. JONES
Staff Writer

What promise does the future hold for Long Wharf, which was built out into the Boston harbor in 1710 as a public way "for use forever"?

"You Are Here, Boston Celebrations Part II," which continues at the Institute of Contemporary Art (955 Boylston St.), Boston, through April 12, suggests six artists' visions for the future of the site.

The artists, all former or present fellows at the Center for Advanced Visual Studies, MIT, are Lowry Burgess, Michio Ihara, Gyorgy Kepes, Carl Nesjar, Otto Piene and Harold Tovish. Their designs include a variety of sculptural, environmental and celebrative suggestions for the future shape and use of Long Wharf.

Amplifying the artists' designs is a companion display of Long Wharf's history, structures, and weather. Several multi-media presentations survey celebrations and monuments around the world, as well as details of Long Wharf in its present disrespected state.

Lowry Burgess suggests a "ceremonial entrance and axial focus" for the City of Boston. At the end of the Wharf rises a 3,000 foot rainbow Beacon, and a Landing Stone is a great and intricately carved stone wave. His Bell Tower, Commemorative Park, and Ceremonial Way connect the tip of Long Wharf with the Old State House and the new City Hall.

Michio Ihara designs a giant "Wind Flower" for Long Wharf, a glass enclosed promenade topped with metal flowers that spin individually in the wind.

Gyorgy Kepes makes of Long Wharf an "urban oasis," with a "benchescape" where people can watch the water and harbor events. He also suggests a giant wind harp.

Central to Carl Nesjar's design is his Clipper Ship all-weather fountain that works mechanically and esthetically year round, functioning with water in warm weather and building up ice in temperatures below freezing, thus acting as a visual expression of the weather. Nesjar strongly advocates submerging the expressway.

The magic which Otto Piene suggests for Boston's Long Wharf is the lobster and a Lobster Fountain where youngsters can play in good weather. A laser beacon shines from a flag pole that flies lobster, rainbow, state and/or federal flags de-

pending on the occasion.

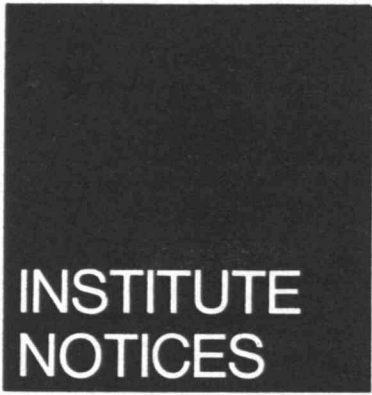
Harold Tovish, believing that public art must "emerge from the people," designs "Our People," a wall covered with life-masks cast of people living in the neighborhood.

The above designs were reviewed March 22 by a consulting panel composed of architects, urban planners, city officials and arts administrators. Visitors to the exhibition are invited to indicate which proposals they consider to be most interesting. The hope is that from this substantial effort a plan will emerge for the future use and shape of Long Wharf.

The exhibit was made possible by grants from the Boston Redevelopment Authority, the Massachusetts Council for the Arts and Humanities, the MIT Council for the Arts, and the National Endowment for the Arts.

Graphics for the exhibit were designed by MIT Design Services.

The Institute of Contemporary Art is open Tuesday through Friday, 10am-5pm; Saturday, 10am-9pm; and Sunday, 12 noon-5pm. Admission is \$1.00; \$.50 for senior citizens, students and children; free for ICA and Boston Visual Artists Union members. The museum is open free to the public on Friday afternoons, 2-5pm.



Announcements

Course XVIII Orientation Meeting—Mathematics orientation for freshmen Wed, Apr 7, 4:15pm, Rm 4-163. Professors will discuss programs, answer questions. Refreshments & informal talk with dept members. Upperclass majors also invited.

Care Program for Mother's Day Cards—TCA has forms for ordering Mother's Day cards thru the Care Program. Forms will be put in form and fraternity mailboxes, and will also be available at TCA office, Stu Ctr Rm 450.

Preprofessional Meeting—Are You Applying to Medical School for Admission in 1977?—Frederick G. Hoffman, associate dean for admission, Columbia University College of Physicians & Surgeons, will speak. All students welcome. Thurs, Apr 15, 12n, Rm 12-222.

I. Austin Kelly III Prize Competition—Deadline for competition is Fri, Apr 16. Full time undergraduates eligible. Submission should be scholarly/critical paper in any field of humanities. 5,000-10,000 words. Details: Rm 14N-305.

Undergraduate Seminars—Faculty members are needed to teach undergraduate seminars next fall. Please call undergraduate seminar office (x3-3621) or Ernie Cravalho, faculty chairman (x3-3282) for information.

Nominations—Award nominations are being accepted for Compton, Stewart, Murphy and Baker awards. Deadline is Wed, Apr 7. Information: Dean Robert Holden, Rm 7-101, x3-6774.

Student Furniture Exchange—Open Tues & Thurs, 10am-2pm. Buy and sell to students, tax-free donations gratefully accepted. 25 Windsor St. x3-4293.

Postgraduate Year of Apprenticeship in Teaching—Shady Hill School in Cambridge offers a postgraduate year combining full-time classroom experience with the study of education ideas and practices. Apprentice teachers may also pursue a Master's degree program in elementary education through the cooperation of Shady Hill School and Lesley College Graduate School. Graduates of this combined program will qualify for Massachusetts Elementary and Junior High Certification. Tuition: \$575. Additional cost of joint Master's Degree program: \$1475. A limited number of fellowships are available for the 1976-77 school year. Minority candidates are encouraged to apply. Applications should be submitted immediately. Information, Preprofessional Advising and Education Office, Rm 10-186, x3-4158.

IPC April Courses—Improving Program Efficiency, Apr 21. Preregister with Lynne Penney, Rm 39-427, x3-6320.

Child Care—Immediate opening for child 3-5 years old in Technology Childrens Center Day Care Program. Information: x3-1592 or drop by office, Rm 4-144.

Technical Typing Mini-Course—Office of Personnel Development is offering six 1½ hr sessions, beginning Tues, Apr 13, 11am-12:30pm, meeting thru May 18. Designed to acquaint secretary or experienced typist with spacing techniques for typing equations, characters of Greek alphabet, format of technical reports,

etc. Open to MIT employees. Info and/or registration: Priscilla Mead, x3-4277, by Fri, Apr 9.

Placement

The following companies will be interviewing during the time period covered by the current Institute Calendar. Those interested may sign up in the Career Planning and Placement Office, Mon-Fri, 9am-3pm, Rm 10-140, x3-4733.

Wednesday, April 7—Aerospace Research, Inc. Thursday, April 8—Mechanics Research, Inc. NE Electric System; Northrop Corp. electronics div. precision products dept; RCA/Burlington; Teradyne, Inc. Monday, April 12—Univ of Michigan, Industrial Eng Dept, College of Eng (faculty openings) Tuesday, April 13—Analog Devices Semiconductor.

New UROP Listing

For more detailed information on UROP opportunities listed, MIT undergraduates should call or visit the Undergraduate Research Opportunities Program Office, Room 20B-141, Ext. 3-5049 or 3-4849 unless otherwise specified in the listing. Undergraduates are also urged to check with the UROP bulletin board in the main corridor of the Institute.

Summer UROP: 2nd Call

UROP will have a summer program again this year. Eligibility will be limited to undergraduates who are continuing ongoing UROP projects. Support for research, personal expenses or for overhead waiver will be awarded according to the usual UROP proposal procedures and negotiations. Such proposals are now welcome, and should be submitted through the UROP Coordinator of your faculty supervisor's department. Award decisions will not begin until late in April. Proposals will receive priority according to the date of receipt in the UROP office and according to tangible evidence of faculty enthusiasm for the proposed activity. If you apply for UROP's own funds for all or part of your summer wages, remember that payment will be limited to a maximum amount of \$1500 total for your UROP summer. New UROP wages rate: \$3/hr. Probably you should reread the How to Participate section of the UROP Directory.

Department of Nutrition and Food Science

Nitrosamines (N-nitrosodialkylamines) are potent chemical carcinogens via conversion to biologically active metabolites. The carcinogenic activity of some nitrosamines can be altered in experimental animals by changing the diet which the animals are fed. A large scale study is in process to determine if these diet-related differences can be correlated with differences in rates and pathways of metabolism. Experience with gas chromatography and biological analyses is required. Contact Dr. John Wishnok, Rm 56-315, x3-6795.

Dynamic Control of Urban Transportation Systems

Several openings exist for students who are interested in understanding the dynamics and control of freeway and signalized arterial traffic systems using optimization techniques. The research will involve both analytical and digital simulation studies (FORTRAN programming is sufficient). The students will interact with an existing research team under the direction of Prof. M. Athans. Contact Dr. Paul K. Houpt, Rm 35-318, x3-2351 or Dr. Stanley B. Gershwin, Rm 35-407, x3-3149.

Orshonsky Transmission Corporation Belmont, Ma.

A student interested in mechanical systems with a knowledge of FORTRAN is invited to participate in a study of automobile transmission design and its effect on auto performance and fuel economy. Work will be done on a digital simulation model to simplify an existing program. Pay available.

Massachusetts Consumer Council Boston, Ma.

The Mass. Consumer Council would like to involve a junior or senior engineering student in the analysis of engineering standards for automobile theft prevention. Although the Department of Transportation has already accepted standards for auto theft prevention, the Mass. Consumer Council would like to petition to raise these standards. The work will include policy recommendations as well as engineering design and testing of improved anti-theft devices. Pay available.

Engineered Precision Casting Co.

A research project funded by the Engineered Precision Casting Co. for a student to study a wax molding process used in precision investment steel castings. A knowledge of chemistry and some materials science is required. Work will be done at MIT. Pay available. Contact Professor Nicholas Grant, Rm 13-2090, x3-5638 or UROP.

Graduate Studies

Fellowship Program of the Committee on the Challenges for Society NATO

The Fellowship Program of the NATO Committee on the Challenges of Modern Society (CCMS) is designed to stimulate serious study of public policy in relation to natural and social environment. The Fellowships are aimed at helping scholars increase their skills and knowledge in the field and at disseminating this knowledge through published reports, where appropriate, of the work resulting from their studies. Fellowship grants are available through open competition to any national or NATO member countries for studies requiring a period of work for six and not more than twelve months. Applicants must hold a degree equivalent to the first degree offered at the university level. Normally, graduate work would be expected in order to qualify for a grant, but this requirement may be waived for exceptional candidates. Studies should preferably have relevance beyond a single country and may be comparative. Proposals dealing with the purely scientific or technical aspects of environmental problems will generally not be taken into consideration. For the purpose of

guidance, the Committee has selected the following topics for the 1976 competition: a) Selected aspects of noise abatement, b) Waste recycling and protection of natural resources, c) Problems related to implementation of national environmental policies at local levels, d) Chemical pollution, and e) Quality of drinking water. Contact the Graduate School Office, Room 3-136, for further information. Deadline: April 30, 1976.

Foreign Studies

Internships in Latin America

The Latin American Teaching Fellowships Program of the Fletcher School of Law and Diplomacy, Tufts University, has two business internship programs. 1) Business Internships in Latin America—positions for the period June 1976-June 1978 are now being offered to MBA and PhD degree recipients in engineering, computer science, systems design and business administration. Under the program requirements, Fellows work part-time for a corporation in Latin America and also teach business-oriented courses in a major Latin American university. Spanish or Portuguese language ability is preferred. Salary: \$10,000-\$18,000 per year plus travel allowance. 2) International Business Summer Internship Program—internships are available in computer science, systems design, engineering and business administration for the period June 1976-September 1976. Spanish language ability is preferred. Salary: \$800-\$1200 per month. For further information contact: Neil A. Allen, Director, Latin American Program Development, Latin American Teaching Fellowships, Fletcher School of Law and Diplomacy, Tufts University, Medford, MA 02115. Telephone: 623-8474.

Club Notes

MIT Auto Club**—Meetings third Sun of each month, 7:30pm, Stu Ctr Rm 491.

MIT Ballroom Dance Club**—We will be very active this term. For info on workshops & dances call Carl Sharon or Doug King, 536-1300.

MIT/DL Bridge Club**—ACBL Duplicate Bridge, Tues, 6pm, Stu Ctr Rm 407.

MIT Chess Club**—Meetings Sat, 12n-7pm, Stu Ctr 407.

MIT Flying Club**—Last club meeting. Talk & movie on air traffic control, election of officers. Wed, Apr 7, 7:30pm, Stu Ctr West Lge.

MIT Goju Karate Club**—Mon, Wed & Fri, 7-9pm, Stu Ctr Rm 407. Info: 536-1830.

Hobby Shop**—Mon-Fri, 10am-6pm, Rm W31-031. Fees: \$10/term for students, \$15/term for community. Info, x3-4343.

MIT Juggling Club**—Juggling for beginner thru expert. Sun, 12n-2pm, Walker Gym.

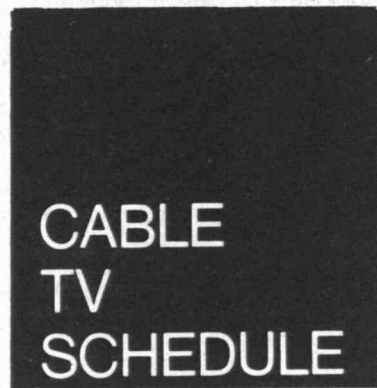
Math Club—Meetings Sun, 4pm, Rm 4-182.

MIT Science Fiction Society**—The Society insists that you visit its incredible library (Stu Ctr Rm 421, x5-9144 Dorm) and attend its unusual non-business meetings Fri, 5pm, Rm 1-236.

MIT Shim Gum Do Club—Instruction by 10th degree black belt in zen swordsmanship, karate and stick fighting techniques. Beginners always welcome. Mon-Fri, 5-7pm, Stu Ctr 4th fl or Sala, Jeff, x3-5934.

Shotokan Karate Club**—Rigorous training for intercollegiate competition & self-defense, given by 6th degree black belt. Mon & Wed, 8pm, Fri, 6pm, duPont T Club lge.

MIT Soaring Association**—General meeting



April 8-14, 1976

Channel 8
Friday, April 9:
9:00am Decision Analysis #9—Dr. Myron Tribus

Monday, April 12:
9:00am Decision Analysis #9—Dr. Myron Tribus

5:00pm Electromagnetic Fields and Energy (6.013), Problem Solving, Prof. H. Haus (live)

8:00pm Electromagnetic Fields and Energy (6.013), Problem Solving, Prof. H. Haus (repeat)

Tuesday, April 13:
8:00pm Electromagnetic Fields and Energy (6.013), Problem Solving, Prof. H. Haus (repeat)

Channel 10
Thursday, April 8:
12:00 to 5:00pm MITV News

Friday, April 9:
9:30am New York Primary Discussion—Alan Levy

Tuesday, April 13:
9:30am New York Primary Discussion—Alan Levy

Thurs, Apr 15, 7:30pm, Stu Ctr Rm 491. Speaker: coffee & donuts.

MIT Space Habitat Study Group*—Meetings Thurs, 7pm, Rm 37-252. Interdisciplinary studies on space colonization. Everyone interested is invited. Office: Rm 24-415. Info: B. Hazleton, x3-6625.

Student Homophile League*—Gay Lounge, Rm 50-306, open daily for lunch & random other hours, x5-6745 Dorm. Tom, Contact Line, x3-5440, provides info, referrals, counseling or just talking to gay persons. Meetings 1st & 3rd Sun every month, Gay Lge. Consult bulletin board, Bldg 3, for info.

MIT Tae Kwon Do**—Workouts Mon & Thurs, 5-7pm, Stu Ctr West Lge.

Tau Beta Pi**—Meeting of new members to elect new officers. Sun, Apr 11, 5pm, Rm 37-252. Refreshments.

Tiddlywinks Association*—Wed, 8pm, Stu Ctr Rm 473.

Voo Doo Magazine*—Meetings Sun, 2pm, 3rd floor river side of Walker.

Religious Activities

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

MIT Buddhist Association*—Weekly social hour/informal discussion. Wed, 5pm, Rm 8-105. Cider & fruits. All welcome! Wed, Mar 31: discussion of Apr 17-18 retreat.

Campus Crusade for Christ*—Family Time Fri, 7:45pm, Rm 37-252.

Celebration of Holy Communion**—MIT Lutheran & Episcopal Ministry. Wed, 5:05pm, Chapel. Supper following, 312 Memorial Dr.

Christian Worship Service*—Sun, 10:45am, Chapel. Refreshments following service.

Hillel*—Traditional services Fri, 6pm, K kosher Kitchen & Sat, 9am, Chapel.

Islamic Society**—Prayers Fri, 12n, Kresge rehearsal Rm B.

Prayer Time**—Lunch hour Bible classes led by Miriam R. Eccles. Fri, 1-2pm, Rm 20E-226. All are welcome.

Tech Catholic Community*—Weekday masses: Tues & Thurs, 5:05pm; Fri, 12:05pm, Chapel. Sun masses: 9:15am, 12:15pm, 5:15pm, Chapel.

Vedanta Society*—Meditation and Gita led by Swami Sarvagatnanda. Fri, 5:15pm, Chapel.

Echoes

50 Years Ago

Joe Levis '26 captured the national intercollegiate title in fencing and thus established himself as the best foinman in college ranks in the country.

The first of 10 lectures on the structure of the Earth was delivered by Dr. Robert B. Sosman, geologist of the Carnegie Geophysical Laboratory.

40 Years Ago

Ralph J. Slutz '38 found his car perched on the balcony between 4th and 5th floors of Goodale. On the car's roof was painted the motto, "Tech is Hell!"

Further resolutions of the newly organized Veterans of Future Wars included a Home Fire Division to be open to all future wives of VFWs and future mothers of male children. The demands of this segment of VFW was an immediate trip to Europe in pilgrimage to view the future battlefields where their future husbands or sons would fight.

25 Years Ago

Dr. Charles S. Draper '26 was appointed to succeed Dr. Jerome C. Hunsaker '12 as Head of the Department of Aeronautical Engineering.

Edward P. Brooks, Vice President and Director of Sears, Roebuck & Co., was chosen to head the new School of Industrial Management.

Prepared by Ethel I. Newell, MIT Historical Collections, x3-4444.

TECH TALK

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Summer Camp Applications Due

Applications are now being accepted for the 1976 season of the MIT summer day camp for children between the ages of six and 14, Peter Close, camp director, has announced.

The 1976 camp season is divided into four two-week sessions beginning Monday, June 28, and extending through Friday, August 20. The Monday through Friday activities last from 9am to 4pm.

Tuition is \$71/quarter or \$254/season. Parents with more than one child in camp will receive each total of eight weeks for \$254. Campers must arrange for their own transportation and bring lunch each day.

The day camp program provides an active schedule of physical recreation and creative activity geared to the interest and abilities of each child. Activities include archery, arts and crafts, swimming and painting. Qualified swimmers can take sailing and those with parents' permission, rifle.

For further information and application forms, call Jill Gilpatrick on Ext. 3-2913.

Magnuson Honored

Norman H. Magnuson, administrative assistant in the Housing Office, last week received the 12th annual Outstanding Service to Youth Award of the Arlington Boys Club. He was cited for his work with the Boy Scouts and the First Baptist Church.

ME Includes Tech Talk In Faculty Recruiting Effort

"Department Heads are encouraged to announce in Tech Talk searches to fill faculty positions whenever it appears likely that qualified candidates may be found by that means either by direct application or referral."

—Affirmative Action Plan

The MIT Department of Mechanical Engineering is in its second year of advertising for faculty recruitment and this year has included Tech Talk as part of its program, in conformance with MIT's 1976 Affirmative Action Plan.

Professor Herbert H. Richardson, head of the Department, has advised Tech Talk of several openings over the next two years for assistant and associate professors in the following fields: manufacturing and materials processing; instrumentation and measurement; thermal and fluid sciences; mechanics and materials; and digital and analog computer modeling.

Professor Richardson said the Tech Talk listing was an addition to a broad, intensive search program the Department has developed in a vigorous effort to meet its Affirmative Action goals.

Over the last two years, he said, ads have been placed in *Mechanical Engineering*—which yielded the best results in both years, *Affirmative Action Register*, *Engineering Education News*, *Society of Women Engineers Newsletter*, *The Black Collegian*, *The Spokeswoman* and the *Chronicle of Higher Education*, in an effort to locate minority or women candidates.

In addition, the Department has written to other engineering schools, including several predominantly black schools, has listed the openings with the Educational Employment Service, has made a search of the Di-

rectory of *Black Engineers in the United States*, and faculty search committees have written their personal and professional contacts in an effort to locate women and minority candidates.

Although the advertising campaigns, faculty contacts and, to a lesser extent, the letters to engineering schools yielded over a hundred candidates last year and will probably top that this year, the number of qualified women or black candidates among them has been disappointing. Grace Kelly, the Department Equal Employment Representative, believes this is because the pool of qualified candidates is extremely small.

Because of the limited pool, the Department plans to concentrate more effort on encouraging its own minority students to consider academic careers and to acquire the necessary preparation, Professor Richardson said.

For example, in cooperation with the Office of Minority Education, the Department is making a strong effort to support its black undergraduate students. The organization of black students in Mechanical Engineering (BlackME) has recently been reactivated under the leadership of James E. Hubbard, a junior from Baltimore, Md., with Professor Stephen H. Crandall as faculty advisor, and is successfully providing help and support to these students.

In spite of the difficulties in recruitment, the Department has already exceeded its July 1976 Affirmative Action goals with respect to academic appointments. In addition to the minority faculty and employees in the Department, in the current year four women have been appointed: an assistant professor, an adjunct professor, a technical instructor and a research associate.

Allan S. Bufferd Appointed Assistant to the Treasurer

Allan S. Bufferd has been appointed assistant to the treasurer, effective April 1, 1976.

Glenn P. Strehle, treasurer, said Mr. Bufferd will work closely with the treasurer, associate treasurer and the trustees of the retirement plans on the financial and legal aspects of the Institute's retirement plans for employees and staff. He will provide liaison among the treasurer and the trustees with outside actuarial and auditing services as well as those Institute departments concerned with retirement and other benefits plans. In addition, he will perform other financial studies for the treasurer and will assist in the development and administration of gifts to MIT in trust and by bequest.

Prior to 1972, when he joined the

Ali Akbar Khan Concert Planned

Indian sarodist Ali Akbar Khan, one of the world masters of Indian raga music, will give his fourth concert at MIT Sunday, April 11, 8pm in Kresge Auditorium.

Khan will be accompanied on the tabla drums by Zakir Hussain, a noted Indian tabla player.

Khan, who is from a distinguished family of musicians, first worked as court musician to Maharaja of Jodhpur. Since Indian independence in 1947 he has spread the Indian music tradition to the Western world.

He has toured extensively, frequently appearing with sitarist Ravi Shankar and western musicians Julian Bream and Yehudi Menuhin. He has performed in Newport Folk Festival, Festival from India at Philharmonic Hall and Berkeley and Monterey Jazz festivals. He records for Connoisseur Society and Apple record labels.

The sarod, an unfretted stringed instrument made of teak and played with a coconut shell, is related to the mandolin, lute and oud.

Tickets are \$3.50 and \$5.00 and may be purchased in Building 10 Lobby, 9am-4pm through Friday, April 9. For information and reservations, call 491-6543.

staff of the Alumni Fund at MIT as

Associate Director, Mr. Bufferd had been employed in industry in the area of metals and metals processing. In 1974 he was appointed an Institute Secretary in Resource Development with responsibilities relating to gifts received through estate planning. He is also a lecturer in Northeastern University's graduate school of engineering, and is a director of Northeast Materials Laboratory.

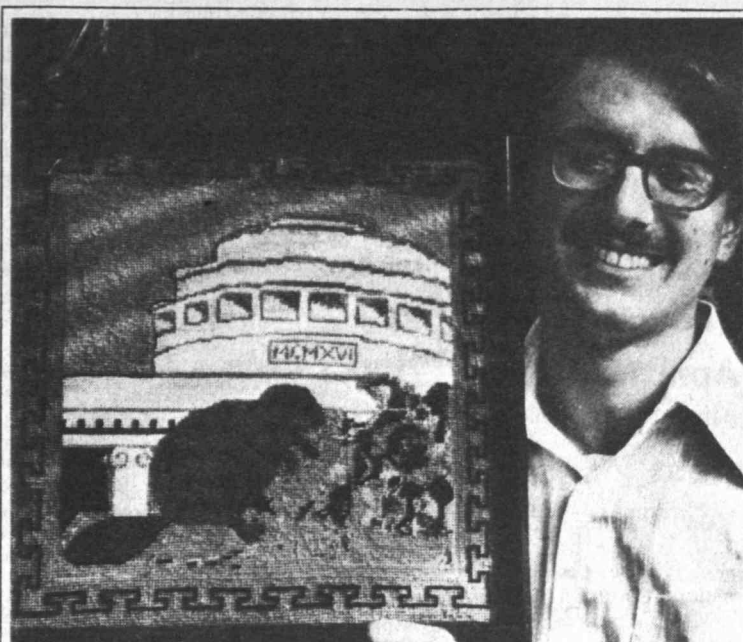
He received SB, SM and ScD degrees in metallurgy from MIT, and expects to receive a JD from Suffolk University in June 1976. Mr. Bufferd is a member of a number of professional organizations including the American Powder Metallurgy Institute. He is also a member of the American Bar Association Committee on Charitable Giving and serves on the Editorial Advisory Board of the *International Journal of Powder Metallurgy*.

He lives in Newtonville with his wife Rhea, and their two children, Lauren and Steven.

Rathjens Book

Professor George W. Rathjens of the MIT Department of Political Science is co-editor with Professor Franklin A. Long of Cornell University of a new book of essays by distinguished scholars entitled *Arms, Defense Policy and Arms Control* just published by W.W. Norton & Co., Inc., New York.

The book includes essays by Professors Rathjens and Long and by US Rep. Les Aspin; Graham T. Allison, Harvey Brooks, Abram Chayes, Paul Doty, Frederic A. Morris, Thomas C. Schelling, and John Steinbruner, all of Harvard; Richard A. Falk of Princeton; Marshall Shulman of Columbia; and Barry Carter and R. James Woolsey, Washington attorneys.



A needlepoint wall hanging showing symbols of MIT is displayed by John D. Chisholm, a graduate student in the electrical engineering cooperative program from Jupiter, Florida. John's mother, Elda Chisholm Demarest, wanted to give her son something special for his upcoming MIT commencement. She executed the needlepoint hanging which shows the school mascot, the beaver (engineer of the animal world), in the foreground and the dome of the Maclaurin Building in the background. The border design is stitched in MIT's colors, cardinal and gray. Mrs. Demarest learned about MIT firsthand in the 1940s when she worked in the libraries. John's father, John Chisholm, also worked at MIT during the 1940s.

—Photo by Calvin Campbell

First College Dance Festival To be Held April 23-25

The MIT campus will vibrate with the rhythms of modern dance the weekend of April 23-25 when the first New England College Dance Festival is held at MIT.

The Festival, which will feature several public performances, is presented under the auspices of the MIT Department of Women's Athletics, the dance company New England Dinosaur, and the American College Dance Festival Association.

Highlight of the weekend will be a public performance Saturday evening, April 24, 8:30pm in MIT's duPont Gymnasium at which nine New England college dance groups will present their best works. Participating colleges will be Yale University, Rhode Island College, the University of New Hampshire, Bates College, Harvard University, Boston University, Boston Conservatory of Music, Brandeis University, and the Five College Dance Company (representing Smith, Amherst, Mount Holyoke and Hampshire Colleges and the University of Massachusetts-Amherst). Admission is \$1 at the door.

Works for this performance were selected by Carolyn Brown and David Vaughan after a tour of 14 New England colleges. Ms. Brown is former lead dancer with Merce Cunningham and an outstanding performer in modern dance. She teaches at the Cunningham studio in New York City. Mr. Vaughan is editor of *Ballet Review* and dance critic for several dance magazines.

A second event to which the public is invited is a free workshop performance Sunday, April 25, 3:30pm also in duPont Gymnasium. At the workshop, all colleges participating in the Festival will perform works of their choosing.

Other Festival activities for the student dancers will be a videotape dance session presented by Nancy Mason, dance coordinator at WGBH

New Television Workshop; a lecture on Boston dance history by Dr. Iris Fanger, teacher, writer and dance critic; a folkdance workshop by Mandala, the Boston area folk dance group; a workshop in labanotation (the method of notating dance) by K. Dunkley, chairman of the Dance Department, State University of New York at Potsdam, and professional notator with the Dance Notation Bureau. There will also be open house at schools and studios of dance in the Boston area.

Support for the Festival comes from the Massachusetts Council on the Arts and Humanities, the MIT Department of Women's Athletics, the MIT Council for the Arts, the American College Dance Festival Association and the Capezio Foundation.

All New England college dance groups are invited to participate in Festival activities.

Alumnus Wins Johnson Award

Dr. George O.G. Lof (MIT '40), professor of civil engineering at Colorado State University and director of the university's Solar Energy Applications Laboratory, recently received the 1975 Lyndon Baines Johnson Foundation Award.

The award, established in 1972, is presented annually to living Americans who have made substantial contributions to the betterment of mankind in their fields of endeavor. In 1975 the field of endeavor, which changes from year to year, focused specifically on solar energy. The award carries a \$25,000 cash prize. Dr. Lof, a pioneer in solar energy utilization, particularly in the development of solar heating and cooling systems, received the ScD degree in chemical engineering from MIT in 1940.

Haseltine, Malcolm Named Visiting Faculty

Dr. William A. Haseltine and Dr. John D. Malcolm have been appointed visiting assistant professors at MIT for the spring term.

Professor Haseltine, whose recent research has been on transcription of avian and murine RNA tumor virus, is visiting assistant professor in the Department of Biology.

He received the BA degree from the University of California, Berkeley, in 1966 and the PhD degree from Harvard University in 1973.

Professor Haseltine was a Harvard teaching fellow the spring of 1970 and a visiting professor at the University of Copenhagen, Institute of Microbiology, the summer of 1973. From March, 1973, to September, 1975, he was a postdoctoral fellow at MIT working in the Center for Cancer Research with Dr. David Balti-

more. His current appointment is assistant professor, Harvard University Department of Pathology and Sidney Farber Cancer Center.

His research has been published in such professional journals as *Science*, *Nature*, *Proceedings of the National Academy of Sciences*, and *Journal of Molecular Biology*.

Professor Haseltine resides in Cambridge.

Professor Malcolm, whose current research is in the fields of fluidics, dynamic systems and instrumentation, is visiting assistant professor in the Department of Mechanical Engineering where he is collaborating in research with Professor Henry Paynter.

He received the BSc, MSc and PhD degrees in mechanical engineering from the University of

Phi Beta Kappa Elects 8 Seniors

Eight members of the MIT Class of 1976 have been elected to membership in the MIT Chapter of the Phi Beta Kappa Society on the basis of their outstanding academic records at the end of their junior year.

Such early election represents the highest honor which the Chapter can provide and sets the students apart from those elected during the last terms of their senior year.

The Phi Beta Kappa members, their courses and addresses are:

Shaun R. Coughlin, life sciences, Milton, Mass.; Lawrence H. Dubois, chemistry, Beverly Hills, Cal.; Raymond E. Erny, life sciences, Napa, Cal.; Jeffrey M. Jaffee, mathematics, Brooklyn, N.Y.; Herbert Levine, physics, Brooklyn, N.Y.; Robert W. Scheifler, mathematics, Krikwood, Mo.; Albert G. Smith, physics, Jacksonville, Fla.; and John-Stephen A. Taylor, chemistry, Summit, N.J.

Membership in Phi Beta Kappa is an honor conferred in recognition of scholarly attainment in the liberal arts and sciences. MIT's Xi Chapter is headed by Professor Charles E. Holt III, academic officer in the Department of Biology. Other officers are Professor Evsey D. Domar, Ford International Professor of Economics in the Department of Economics, vice president; John I. Mattill, editor of *Technology Review*, secretary, and Jay K. Lucker, director of libraries at MIT, treasurer.

The Xi Chapter's annual meeting, at which new members will be elected, will be held at 4:15pm Tuesday, April 13, in Rm. 4-151. The Chapter has invited all members of Phi Beta Kappa—no matter where initiated—who are members of the MIT staff or faculty to affiliate as members of the Xi Chapter. Those who wish to do so may have additional information from Mr. Lucker, Rm. 14S-216, x3-5651.

Sapolsky Receives 1976 Fellowship

Harvey M. Sapolsky, associate professor of political science at MIT, is one of 12 scholars to receive a fellowship from the German Marshall Fund of the United States under its 1976 program.

The program supports scholars whose work is designed to contribute to the better understanding and resolution of contemporary problems of industrial societies. There were 128 applicants.

Dr. Sapolsky will compare the blood resources policies of the United States, the United Kingdom, Sweden and the Federal Republic of Germany.

Final Weil Lecture

The final lecture in a series of public symposia on Simone Weil will be Friday, April 9, 8pm in Room 9-150, when Conor Cruise O'Brien speaks on "Patriotism and the Need for Roots."

Dr. O'Brien, minister for posts and telegraphs, Ireland, and pro-chancellor of the University of Dublin, is currently visiting fellow at Nuffield College, Oxford.

Dr. Michael Walzer, professor of government at Harvard University, will be respondent.

The lecture is jointly sponsored by the Technology and Culture Seminar and the Department of Humanities.

Waterloo, Waterloo, Ontario, in 1965, 1968 and 1973 respectively.

From 1969-72 Professor Malcolm was lecturer, Department of Mechanical Engineering, University of Waterloo. Since 1973 he has been assistant professor, Faculty of Engineering, Memorial University of Newfoundland, where his duties include teaching control systems, heat transfer and fluid power systems.

For the 1974-75 academic year he was visiting assistant professor in the MIT Department of Mechanical Engineering.

Professor Malcolm has received several patents and presented papers at professional conferences.

THE INSTITUTE CALENDAR

April 7
through
April 18

Events of Special Interest

Food Day Benefit Dinner* - Thurs, Apr 8, 6:30pm, Sala. International meatless dishes. Tickets \$1.50, available Bldg 10 Lobby thru Tues, Apr 6. After dinner speaker: James Levinson, international nutrition, director of International Nutrition Planning Group Program, and "World Hunger and the American Response".

TWO Crafts & Bake Sale - Thurs, Apr 8, all day, Bldg 10 Lobby. Baked goods and hand-made crafts made by Technology Wives Organization members.

Fifth Annual Black Students Conference on Science & Technology* - Harry Morrison, visiting professor in physics; Julia Purnell, educator, will speak at opening session "The Development and Participation of Blacks in Science and Technology". Fri, Apr 9, 3pm, Sala. Conference Fri & Sat.

Seminars and Lectures

Wednesday, April 7

Deep Ocean Mining** - Judith T. Kildow, ocean policy. Women's League Seminar. 11am, Rm 10-340. Followed by sherry, 12:30pm, & luncheon, 1pm. Cost: \$2.25. Reservations: Mary Pinson, Rm 10-342.

Some Aspects of Density-Driven Shelf Circulation* - Jack Whitehead, WHOI. Oceanography Sack Lunch Seminar. 12n, Rm 54-311. Bring lunch, coffee available.

Plasmas and Controlled Fusion Seminar* - Nat Ceglio, G. Nuclear Engineering Seminar. 3pm, Rm 38-136.

Psychoanalytic Politics and Social Institutions* - Sherry Turkle, research fellow, humanities. DSRE Luncheon Seminar. 12n, Rm 20C-117.

Towards a Critical Theology of Technology in Contemporary Culture* - E. Klaaren, religion, Wesleyan University. Technology Studies Seminar. 4pm, Rm 20D-205. Coffee 3:30pm.

The Problem of High Temperature Stress Rupture Prediction for Metals and Ceramics* - Richard Charles, General Electric. Materials Science Williams Lecture. 4pm, Rm 9-150. Refreshments 3:30pm.

Probabilistic Analysis of the Consequences of Nuclear Reactor Accidents* - M. Maekawa, G. Nuclear Engineering Seminar. 4pm, Rm NW12-222.

Magnetism Among Stars* - Stanislaw Olbert physics. Undergraduate Physics Colloquium. 4:15pm, Rm 4-339. Social hour follows.

Science, Technology, Morality, Reflections after the Holocaust* - Irving Greenberg, chairman, Jewish studies, CCNY. Hillel Lecture. 7:30pm, Rm 9-150.

Thursday, April 8

Some Thresholds Based on Orientation Discrimination* - John L. Brown, Center for Visual Science, University of Rochester. Psychology Seminar. 12n, Rm E10-013.

Time-Resolved Measurements with Ultraviolet and Visible Subpicosecond Pulses* - E. P. Ippen, Bell Laboratories. 2pm, Rm 36-428.

Microbial Secondary Metabolites and Possible Involvement of Plasmids in their Biosynthesis* - Hamao Umezawa, director, Microbial Chemistry Research Foundation, Institute of Microbial Chemistry, Tokyo, Japan. Organic Chemistry Seminar. 2pm, Rm 2-390.

Human Fetal Malnutrition* - Dr. Jack Metcalf, pediatrics & biochemistry, University of Oklahoma. Harvard-MIT Nutrition & Food Science Seminar. 3pm, Rm 16-310. Sherry following, Rm 16-322.

Raw Materials Requirements of the US Steel Industry* - John Elliott, metallurgy. Materials Resource Policy Seminar. 3pm, Rm 13-5101.

The Potential of Ceramics in High Temperature Rotating Machinery* - Richard J. Charles, General Electric. Materials Science & Engineering Williams Lecture. 4pm, Rm 6-120.

An Inexpensive General Purpose Biomedical Computer System* - Robert Fleming, Department of Anesthesia, VA Hospital, San Diego, Calif. Arteriosclerosis Center & Biomedical Engineering Center for Clinical Instrumentation Seminar. 4pm, Rm 36-428.

Turbulent Combustion and Nitric Oxide Formation in Stratified Charge Engines* - Josette Bellan, Princeton University. Mechanical Engineering Thermal-Fluids Seminar. 4pm, Rm 5-234. Coffee 3:45pm.

Asymptotically Optimal Subset Selection Procedures* - Joseph Yahov, mathematical statistics, Columbia University; statistics, Tel Aviv University. MIT Seminar on Statistics. 4pm, Rm 2-338. Refreshments 3:30pm, Rm 2-349.

The Implications of Linguistics for Contemporary Literature** - George Steiner, Churchill College, Cambridge; literature & comparative literature, University of Geneva. Humanitas Seminar. 4pm, Rm 9-150. Refreshments after, Stu Ctr Mezzanine Lge.

Design and Analytical Applications of a Repetitively Scanning UV Spectrophotometer* - Linda Anthony, G. Analytical Chemistry Seminar. 4pm, Rm 8-105.

Inhibition of Hepatic Mixed Function Oxidases by Thionosulfur-Containing Compounds* - Andrea Hunter, biochemistry, Vanderbilt University. Nutrition & Food Science Seminar. 4pm, Rm 16-134.

Turbulence, a Tempest in a Teapot* - Paul Martin, Harvard University. Physics Colloquium. 4:15pm, Rm 26-100. Refreshments 3:45pm, Rm 26-110.

The Brain of the Whales: The Anatomy of Intelligence* - Peter Morgane, Worcester Foundation for Experimental Biology. Migrants in the Sea: Sharks, Whales and Man, Lecture sponsored by New England Aquarium and MIT Sea Grant Program. 7pm, NE Aquarium auditorium.

The Wheel and the Ladder* - John C. Graves, former MIT philosophy professor. MIT Objectivist Study Group's Philosophy Forum. 8pm, Rm 10-105.

Friday, April 9

Transport Conditions in Guatemala* - Ernst Frankel, marine systems, director of Commodity Transport Lab. Center for Transportation Studies Luncheon/Seminar. Buffet 12n (\$1), lecture 12:45pm (free), 20 Chimneys, Stu Ctr.

World Nutrition: Political and Economic Aspects* - Ambassador Edwin M. Martin, chairman, consultative group for food production & investment in developing countries. Nutrition & Food Science Seminar. 1:30pm, Rm 37-252.

Enzymatic ATP Regeneration Reactors* - M. I. Nemet, G. Chemical Engineering Seminar. 2pm, Rm 66-110.

The Log-Normal Distribution in Cumulus Cloud Statistics* - Raul Lopez, University of Puerto Rico. Meteorology Seminar. 3pm, Rm 54-100.

Electron Microscopic Visualization of Low Density Lipoprotein in the Arterial Wall* - J. J. Schnitzer, G. Chemical Engineering Seminar. 3pm, Rm 66-110.

Plasma Physics of Cosmic Rays* - Russell Kulsrud, Princeton University. RLE Plasma Dynamics Seminar. 4pm, Rm 36-261.

History of Seafaring* - W. A. Baker, ocean engineering, curator of Hart Nautical Museum. Ocean Engineering Tankard Seminar. 3pm, Rm 3-446. Refreshments 4pm, Rm 5-314.

Real Time Ultra Sound Imaging in Cardiovascular Diagnosis* - Frederick Thurestone, biomedical & electrical engineering, Duke University. Mechanical Engineering Seminar. 3pm, Rm 3-133. Coffee 4pm, Rm 1-114.

The Positron as a Probe in Metal Physics: A Progress Report* - Stephan Berko, Brandeis University. Materials Science Colloquium. 4pm, Rm 9-150. Refreshments 3:30pm.

Genetic Analysis of Learning in Drosophila* - Chip Quinn, biology, Princeton University. Psychology Colloquium. 4:30pm, Rm E10-013. Coffee 4:15pm.

Parallax: Perspectives on Photography* - Henry Holmes Smith, photographer. Sponsored by Creative Photography Gallery & Polaroid Foundation in conjunction with Hayden Gallery exhibit. 8pm, Rm 26-100. Free.

Patriotism and the Need for Roots** - Connor Cruise O'Brien, minister for posts and telegraphs, Ireland; pro-chancellor of the University of Dublin; Michael Walzer, government, Harvard University. Simone Weil Lecture. 8pm, Rm 9-150.

Monday, April 12

Functional and Structural Analysis of Information Processing in Guitarfish Semicircular Canal* - Dennis P. O'Leary, Pittsburgh Eye and Ear Hospital. Joint Man-Vehicle Lab & HST Seminar. 11am, Rm 39-500.

New Patterns of Urbanization and Migration in the US* - Peter Morrison, Rand Corporation. CIS Migration & Development Seminar. 1pm, Rm E53-482.

Large-Scale Modes of Galaxies* - Alar Toomre, applied mathematics. Applied Mathematics Colloquium. 4pm, Rm 2-338. Coffee 3:30pm, Rm 2-349.

Theories on the Improvement of Flood Forecasting Techniques* - Dieter Gutknecht, Technische Universität Wien. Ralph M. Parsons Laboratory Water Resources and Environmental Engineering Seminar. 4pm, Rm 48-316. Coffee 3:45pm, Rm 48-410.

Tuesday, April 13

Time Evolution of a Plasma Discharge in Toroidal Geometry* - James McCune, aero/astro. Plasma Theory Seminar. 11am, Rm 36-261.

Evaluation of a Solar-Collector Heat Pump System Using Water as Storage for Heating* - Madjid Abbaspour, G. Mechanical Engineering Systems and Design Division Seminar. 12n, Rm 3-465. Bring lunch, coffee & tea provided.

The Effects of Western Technology on Peasant Societies** - Manning Nash, anthropology, University of Chicago. Seminar on Technology, Merit & Equality. 12n, Stu Ctr Mezzanine Lge.

Wilderness Development by Helicopters-Andes and Amazon* - Jean Frand DuVivier, Boeing Co. Aero/astro General Seminar. 4pm, Rm 35-225. Coffee 3:30pm, Rm 33-222.

Large Displacement Transient Analysis of Structures* - Ted Belytchko, University of Chicago. Applied Mechanics Seminar. 3pm, Rm 3-133. Coffee 4pm, Rm 1-114.

Cumulus Cloud Populations in the Tropics and in a Prefrontal Squall Line in Mid-Latitudes* - Yoshi Ogura, University of

Illinois at Urbana, director of Laboratory for Atmospheric Research. Meteorology Seminar. 4pm, Rm 54-100.

Precision Weapons: Is Less Really More?* - James Digby, Rand Corp. CIS Seminar on Technology and International Security. 4pm, Faculty Club Penthouse.

High Temperature Chemistry* - James L. Gole, chemistry. Seminar in Physical Chemistry. 4pm, Rm 4-370. Coffee 3:45pm, Rm 6-321.

Myxobacteria and Development* - Dr. Dale Kaiser, biochemistry, Stanford University. Biology Colloquium. 4:30pm, Rm 6-120. Coffee 4pm, Bldg 56, 5th floor vestibule.

The Search for Black Holes from CYG X-1 to Globular Clusters* - Stuart L. Shapiro, Cornell University. Center for Space Research Seminar. 4:15pm, Rm 37-252. Coffee 3:45pm.

Wednesday, April 14

Off-Shore Oil** - John W. Devaney III, Marine Systems Women's League Seminar. 11am, Rm 10-340. Followed by sherry, 12:30pm & luncheon, 1pm. Cost: \$2.25. Reservations: Mary Pinson, Rm 10-342.

Alpha Particle Distribution Function in Fusion Reactors* - Hark Chi Chan, G. Nuclear Engineering Seminar. 3pm, Rm 38-136.

Strain Aging* - Walter S. Owen, head of materials science & engineering. Materials Science Panel Seminar. 4pm, Rm 13-5101. Refreshments 3:30pm, Rm 13-5002.

Thursday, April 15

Molecular Spectroscopy with Neutrons* - C. V. Berney, senior research associate, nuclear engineering. Laser Spectroscopy Seminar. 11am, Rm 10-105. Coffee 10:30am.

Fiber Transmission for Light Wave Communications* - G. Gloge, Bell Laboratories. Optics Seminar. 2pm, Rm 36-428.

The Contributions of Recycling to Materials Supplies* - Michael Bever, materials science & engineering. Seminar on Materials Resource Policy. 3pm, Rm 13-5101.

The Analysis of Acid Rain by Gas Chromatography of TMS Derivatives* - Joseph Sumpson, G. Analytical Chemistry Seminar. 4pm, Rm 8-105.

Comments on Entropy, Information and Statistical Thermodynamics* - Wolfgang Ugrau, physics, University of Colorado; editor of Foundation Physics. Mechanical Engineering Thermal-Fluids Seminar. 4pm, Rm 5-234. Coffee 3:45pm.

Repair Capacity and Mutagenesis in Yeast* - Dr. Louise Prakash, radiation biology & biophysics, University of Rochester. Nutrition & Food Science Seminar. 4pm, Rm 16-134.

The Lambshift Revisited* - Francis M. Pipkin, Harvard University. Physics Colloquium. 4:15pm, Rm 26-100. Refreshments 3:45pm, Rm 26-110.

Wings in the Sea: The Story of the Humpback Whale - Past, Present and Future* - Howard Winn, University of Rhode Island. Migrants in the Sea: Sharks, Whales and Man, Lecture sponsored by New England Aquarium and MIT Sea Grant Program. 7pm, NE Aquarium auditorium.

Friday, April 16

Development, Reform and Malnutrition in Chile* - Dr. Giorgio Solimano, public health & nutrition, Institute of Human Nutrition, Columbia University; Peter Hakim, program officer, The Ford Foundation, visiting professor at Institute of Human Nutrition. INP Program Seminar. 1:30pm, Rm 10-340.

Modeling of Methanators* - S. M. Senkan, G. Chemical Engineering Seminar. 2pm, Rm 66-110.

The Gelation of Liquefied Natural Gas* - L. M. Shanes, G. Chemical Engineering Seminar. 3pm, Rm 66-110.

Capsizing Experiments* - O. H. Oakley, ocean engineering. Ocean Engineering Department Tankard Seminar. 3pm, Rm 3-446. Refreshments 4pm, Rm 5-314.

Safety Hazards of Liquefied Gas Spills* - James A. Fay, mechanical engineering. Mechanical Engineering Seminar. 3pm, Rm 3-133.

Community Meetings

Food Day/Week* - Sale of Vegetarian lunches and books on food. Wed, Apr 7, Bldg 10 Lobby, 11:30am-1:30pm. Recipes available.

Health Foods, Useful Foods and Macrobiotic Principles* - Sponsored by the groups participating in Food Day. Guest speaker from the East-West Foundation. Wed, Apr 7, 4pm, Rm 3-133.

Conscious Cookery* - Members of Golden Mountain Conscious Cookery. Talk on philosophy, samples of food. Sponsored by groups participating in Food Day. Thurs, Apr 8, 3pm, Rm 3-133.

MIT Club of Boston Luncheon Meeting - Speaker Thurs, Apr 8 will be Dr. Peter Glaser, vice-president and head of engineering sciences, Arthur D. Little, Inc. Topic: Solar Energy Applications Present and Future. Luncheon 12:15-1:30pm, Aquarium Restaurant, Boston. Cost: \$4.25, payable at door. Reservations please Ms. Kiarats, x3-3878.

MIT Women's Forum** - Meetings Mon, 12n, Rm 10-105 (Tuesday in case of holiday.)

Urban Studies & Planning Open House - Mon, Apr 12, 2:30-6pm, Rm 7-335. Come meet students and faculty, learn about opportunities in Course XI, including joint program with civil engineering and concentrations in: environment & policy; political economy & development; law, urban institutions & social change; and public systems & management. Refreshments. Reports available on alumni post-graduation employment & education. Info: Ruth Kolodney, x3-4409.

Women's League Evening Dinner - Tues, Apr 13, Faculty Club. Judah L. Schwartz, engineering science & education, will speak on

"Why Johnny Doesn't Count; Some Thoughts on Math Competence." Cocktails (cash bar) 6pm, dinner 7pm. Reservations: Mary Pinson, Rm 10-342.

International Cooking - Sponsored by TWO. Lidice Majlus of Chile will cook Wed, Apr 14, 8pm, Rm 10-340. Members \$50, non-members \$75. Info: Judy Cooper, 625-1062 or Jenny Gordon, x3-4062, 547-6471.

The Wives' Discussion Group** - Led by Myra Rodrigues, social worker; Charlotte Schwartz, sociologist, & Carol Hulsizer, faculty family in residence, Ashdown. 2:15pm, Stu Ctr West Lge. Baby-sitting Stu Ctr Rm 473.

Social Events

Swinging '60s** - Party sponsored by Ashdown, GSC & Tang. Live DJ, Jimmy Vincent of CKLW, Detroit. Fri, Apr 9, 8:30pm, Burton Hse. Free for Ashdown & Tang residents, \$1 others. Refreshments.

Strat's Rat - Sat Apr 10, 8:30pm, Sala or Lobdell, Free, light & dark beer sold (\$.35/16 oz glass). Bottles of wine & coke also available. WTBS providing live announcer & records. College ID required.

Cafe Keshet - Coffee house sponsored by Hillel with live entertainment, Israeli folk music, falafel, etc. Sat, Apr 10, 9pm, 312 Memorial Dr. Admission \$1.50, \$1 Hillel members.

24 Hour Coffeehouse* - Enjoy relaxing conversation, piano playing, inexpensive food, candy & drinks. Open 24 hours per day, 7 days per week, Stu Ctr 2nd fl lge.

Movies

Black Natchez (Pincus); **Queen of Apollo** (Leacock); **Black Star: Autobiography of a Close Friend, part 1** (Tom Joslin)** - Film Section. Wed, Apr 7, 7pm, Rm E21-010.

An Interview with G. I. Taylor; Rheological Behavior of Fluids* - Fluid Mechanics Films. Thurs, Apr 8, 4pm, Rm 33-319. Free.

Return of the Tall Blonde** - LSC. Fri, Apr 9, 7 & 9:30pm, Rm 10-250; 11pm, Rm 26-100. Admission \$.75, MIT or Wellesley ID required.

Billy Liar (Schlesinger) * - MIT Film Society. Fri, Apr 9, 7:30 & 9:30pm, Rm 6-120. Admission \$1.

Carnal Knowledge** - MidNite Movie. Fri, Apr 9, 12m, Sala or Lobdell. Admission free, MIT or Wellesley ID required. Bring blanket to sit on.

The Eiger Sanction** - LSC. Sat, Apr 10, 7 & 10pm, Rm 26-100. Admission \$.75, MIT or Wellesley ID required.

Julie* - Sangam movie. Sun, Apr 11, 2:30pm, Rm 26-100. Admission \$.50 with MIT ID.

Scaramouche** - LSC. Sun, Apr 11, 6:30 & 9pm, Rm 26-100. Admission \$.75, MIT or Wellesley ID required.

Slash & Burn Agriculture** - Humanities Film. Mon, Apr 12, 10:30am, Rm 14E-304. Free.

Cavitation; Waves in Fluids* - Fluid Mechanics Films. Mon, Apr 12, 4pm, Rm 33-319.

King Lear** - Humanities Film. Mon, Apr 12, 7pm, Rm 10-250. Free.

Where Man Lies Buried** - Humanities Film. Tues, Apr 13, 2pm, Rm 39-400. Free.

Jules and Jim (Truffaut); **Zero for Conduct** (Vigo)** - Film Section. Tues, Apr 13, 7pm, Rm E21-010. Free.

Black Star: Autobiography of a Close Friend, part 2 (Tom Joslin); **Coming Home**** - Film Section. Wed, Apr 14, 7pm, Rm E21-010. Free.

Cavitation; Waves in Fluids* - Fluid Mechanics Films. Thurs, Apr 15, 4pm, Rm 33-319. Free.

The Four Musketeers** - LSC. Fri, Apr 16, 7 & 9:30pm, Kresge. Admission \$.75, MIT or Wellesley ID required.

The Knack (Lester)* - MIT Film Society. Fri, Apr 16, 7:30 & 9:30pm, Rm 6-120. Admission \$1.

The Graduate** - MidNite Movie. Fri, Apr 16, 12m, Sala or Lobdell. Bring blanket to sit on. Free.

West Side Story** - LSC. Sat, Apr 17, 6:30 & 10pm, Rm 26-100. Admission \$.75, MIT or Wellesley ID required.

Bride of Frankenstein** - LSC. Sun, Apr 18, 6:30 & 9pm, Rm 26-100. Admission \$.75, MIT or Wellesley ID required.

Lobby 7 Events

Lobby 7 Is A Sundial* - By Mark Faverman. Thru-Fri, Apr 9, Bldg 7 Lobby.

MIT Brass Choir* - Wed, Apr 7, 12n, Bldg 7 Lobby. Free.

Wellesley College Madrigal Singers* - Wed, Apr 14, 12n, Bldg 7 Lobby. Free.

Choral Works - Christ Lag in Todebanden, Cantata No. 4 and other works. Bring your own score. Thurs, Apr 15, 12n, Bldg 7 Lobby. Free.

MIT Madrigal Singers* - Midnight concert Thurs, Apr 16, Bldg 7 Lobby. Free.

Music

Noon Hour Concert* - Marian Ruhl, Organ recital, Thurs, Apr 8, 12n, Chapel. Free.

Chinese Music Concert* - Vocal and instrumental concert Sponsored by Chinese Choral Society. Sun, Apr 11, 3pm, Kresge Little Theatre.

Ali Akbar Khan* - Indian music concert. Sun, Apr 11, 8pm, Kresge. Admission \$3 & \$5.

Noon Hour Concert* - Violin Recital by Janet Parker. Thurs, Apr 15, 12n, Chapel. Free.

Chamber Music Society Concerts* - Wed, 5:15pm, music library, Bldg 14E. Free. Info: x3-4892.

Theater and Shows

Fiddler on the Roof* - MIT Musical Theatre Guild production. Performances Apr 9 & 10 at 8pm; Apr 10 at 2pm; Kresge. Tickets: \$3.50, \$2.50 with MIT ID, \$2 children under 12 with an adult. Reservations & info: x3-6294 or x5-9155 Dorm.

Dance

MIT Folk Dance Club - **International:** Sun, 7:30-11pm, Sala. **Balkan:** Tues, 7:30-11pm, Stu Ctr 491. **Informal:** Fri, 12n-2pm, Kresge Oval (in good weather). **Israeli:** Thurs, 7:30-11pm, Sala.

Exhibitions

Photographic Exhibition* - Hayden Corridor Gallery exhibit in conjunction with lecture series, Parallax: Perspectives on Photography, cosponsored by MIT Creative Photography Gallery and Polaroid Foundation. This week's lecture: Fri, Apr 9: Henry Holmes Smith. See seminar listings.

Helene Aylon: Paintings that Change in Time* - Public opening Fri, Mar 12, 8pm. Exhibit Sat, Mar 13-Sat, Apr 10, Hayden Gallery. Hours: 10am-4pm, Mon-Sat.

Creative Photography Gallery Exhibit* - David Ulrich and Jim Haberman. Thru Tues, Apr 20, Mon-Fri 10am-6pm, weekends 12n-6pm, 120 Mass Ave.

Center for Advanced Visual Studies Exhibit* - Works by John Newman and John Goodyear. Thru Fri, Apr 23, Mon-Fri, 9am-5pm, 40 Mass Ave.

Lowell Nesbitt: Selections from an Autobiography* - Hayden Gallery exhibition. Sat, Apr 17-Sat, May 15, hours 10am-4pm Mon-Sat. Fri, Apr 16: Gallery Talk 7-8pm, public opening 8-10pm.

Selections from The Catherine N. Stratton Collection - Original graphic art exhibition Sat, Apr 17 thru June. Open daily, Hayden Corridor Gallery.

Strobe Alley* - High Speed photographs by Harold E. Edgerton, Insitute Professor and Professor of Electrical Measurement, Emeritus. Bldg 4, 4th fl.

Music of the Celestial Dieties* - Music Library exhibit of manuscript facsimiles & pictures. Daily, Bldg 14E.

Hart Nautical Museum* - Permanent exhibit of rigged merchant and naval ship models of yachts and engine models. Bicentennial exhibit: "1776-1976" - a frigate, 2 schooners, a gondola, and the Durham boat of the American Revolution. Open daily in Bldg 5, 1st floor.

MIT Historical Collections* - Permanent exhibition Mon-Fri, 9am-5pm, Bldg N52, 2nd floor. **Bicentennial Exhibits:** Katharine Dexter McCormick, '04; Vannevar Bush, '16; Karl Taylor Compton, and Norbert Wiener, Bldg 4 corridor. **The New Technology Exhibit:** 2nd floor balcony.

Athletics

Home Schedule* - Wednesday, April 7 - V Lacrosse. Tufts, 3pm, Briggs Field.

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.

*Open to the public

**Open to the MIT community only

***Open to members only

Send notices for Apr 14 through Apr 25 to the Calendar Editor, Room 5-111, Ext. 3-3279, before noon Friday, Apr 9.

Sussman Named in Chem E

Dr. Martin V. Sussman, professor of chemical engineering at Tufts University, has been appointed visiting professor in the MIT Department of Chemical Engineering for the spring term.

Professor Sussman, whose research interests include continuous chromatography, mechano-chemistry, bubble nucleation and thermodynamics, is doing research on separation processes and is planning a film on thermodynamics while at MIT.

He received the BS degree from City College of New York and the MS and PhD degrees from Columbia University in 1958.

From 1953-58 he was an engineer with Pioneering Research Laboratory, E.I. duPont de Nemours Co. He helped establish the Department of Chemical Engineering at Robert College, Turkey, and taught there from 1958-61. Since 1961 he has taught at Tufts University.

As chairman of the Tufts Department of Chemical Engineering from 1961-71 Professor Sussman initiated MS and PhD programs and revised the undergraduate curriculum. He developed a new course, "Technology and Culture," and has taught such courses as classical and statistical thermodynamics.

Other positions he has held include coordinator for engineering education, NSF Office of International Science Activities, New Delhi; special research fellow, NIH, Weizmann Institute of Science, Israel; and visiting professor, Indian Institute of Technology, Kharagpur.

Professor Sussman is the author of *Elementary General Thermodynamics* (Addison-Wesley, 1972) and the editor of the *Chemical*

Engineering and Applied Science Series (Garland Publishing Co., New York). His articles have appeared in such professional journals as *Nature*, *Chemical Engineering Education* and *Science*. He also holds a number of patents.

A resident of Lexington, Professor Sussman is an elected representative to the Lexington Town Meeting.

55 NSF Fellows to Come to MIT

Of the 550 first and second year graduate students awarded National Science Foundation Graduate Fellowships for 1976-77, 55 Fellows—an even 10 percent—have designated MIT as their fellowship institution.

Eleven of the 55 students will complete undergraduate studies at MIT this year and three are currently at MIT as first-year graduate students. The remaining 41 Fellows will come to MIT from other universities. In addition, 22 Fellows who earned SB degrees at MIT have received NSF grants to study elsewhere.

The NSF Fellows were selected from more than 5,330 applicants who competed on the basis of merit and were selected for their outstanding ability in the sciences, mathematics and engineering.

Each fellowship carries a stipend of \$3,900 per year for full-time study, and a cost-of-education allowance of \$3,400 is provided by NSF in lieu of tuition and fees.

The fellowships are awarded for three years of graduate study and may be used over a five-year period, allowing Fellows to become teaching or research assistants for a year or two without forfeiting the fellowship.

Shelter Monitors Return

Student monitors have returned to the bicycle compound behind the Bush Building (Bldg. 13), the Campus Patrol has announced.

The sheltered compound is monitored Monday through Friday, 7:45am-5:45pm. Bicycles are tagged with numbered decals and matching decals are given to the riders. Riders surrender the decals upon retrieving their bikes.

The shelter is open year round and is attended during periods of highest bicycle use. According to the Campus Patrol, the compound is one of the safest places on campus to park bicycles.

Killian to Receive Peabody Award

Dr. James R. Killian, Jr., honorary chairman of the MIT Corporation, was named Monday (March 29) as a recipient of the 1976 Peabody Award for "outstanding contributions to educational television in the United States."

Often considered "the father of public television," Dr. Killian earlier won a Peabody Award in 1968 for his leadership in establishment of the Corporation for Public Broadcasting. He also served as chairman of CPB from 1974-75.

Given by the University of Georgia School of Journalism, George Foster Peabody Awards are considered the Pulitzer Prizes of broadcasting. Dr. Killian will receive his award at ceremonies in New York City, May 5.

Six MIT Students Receive Health Sciences Fellowships

Six MIT doctoral candidates have been selected to receive fellowships from the Health Sciences Fund during the coming academic year according to Professor Irwin W. Sizer, dean emeritus and president of the Fund. The following Fellows were selected:

Barbara B. Gould, Department of Psychology, who is studying the neural circuitry of the cerebellum. Her work employs new techniques of radioactive labeling and special enzyme injection and may contribute to a better understanding of movement and posture.

David E. Hardt, Department of Mechanical Engineering, who is investigating the relationship between muscle tension at a joint and the control of human posture and mobility.

Joseph W. Orenstein, Department of Physics, who is devising a C-Band microwave radiometer system for use in clinical subcutaneous thermography.

Roderic I. Pettigrew, Department of Nuclear Engineering, who will study the role of calcium in bone disease by measurements which involve the radiation of the hand accompanied by induced activity of calcium. This work will also include clinical trial of capture therapy using the stable isotope 10-Boron.

Michael C. Scally, Department of Nutrition and Food Science, who is studying the role of tyrosine in the synthesis of the neurotransmitter dopamine, and its relevance to certain neural diseases.

Allen W. Wiegner, Department of Electrical Engineering, who is using

computer simulation in his studies of cardiac muscle and the peripheral circulation of blood.

Announcement of the fellowship awards was made by Dr. Kenneth R. Wadleigh, dean of the Graduate School. Candidates for the awards were nominated by their department heads and were selected from an outstanding group of students pursuing doctoral theses in the field of the life sciences and biomedical engineering.

The fellowships which are for 12 months commencing in September 1976, cover full tuition and medical fees and provide a stipend of \$3,900.

The Health Sciences Graduate Fellowship Program is part of the Health Sciences Fund which also supports research projects in the life sciences and biomedical engineering of MIT faculty members. In addition, the Fund supports collaborative research with faculty in hospitals affiliated with the Harvard Medical School.

ACS Elects Stevens

Dr. Kenneth N. Stevens, professor of electrical and bioengineering at MIT, and president-elect of the Acoustical Society of America, will become president of the society at its 91st meeting in Washington, D.C., Friday, April 9.

Dr. Richard H. Lyon, professor of mechanical engineering, has been elected to the Council of the Acoustical Society for a term of three years.

CLASSIFIED ADS

Ads are limited to one per person per issue and may not be repeated in successive issues. All ads must be accompanied by full name and Institute extension. Only Institute extensions may be listed. Members of the community who have no extensions may submit ads by coming in person to the Tech Talk office, Room 5-111, and presenting Institute identification. Ads may be telephoned to Ext. 3-3270 or mailed to Room 5-111. Please submit all ads before noon, Friday, Apr 9. They will be printed on a first come, first served basis as space permits.

For Sale, Etc.

Thomasville DR set, oiled wint, Cstm Covering, Inc, banquet tbl, 6 chrs (2 w/arms), oversized buffet, \$450 or best, Joe, x470 Linc.

Graphic art by mod masters, incl Miro, Dali, Calder, some lesser known artists, \$100 & up, John, x3-6933.

HP 45 calc, great cond, incl soft & hard cases, transformer, batt (rechargeable), instr booklet, \$160 or best, Jimmy, x5-6277 Dorm.

B nw European style shoes, \$10-\$20, sz 8, 8½, 9, x5-7137 Dorm, aft 7pm, kp try.

Sony STR 6050 revr, gd cond, \$125, Phil Yang, x5-9355 Dorm, evgs.

Aquar, 10 gal, w/access & stand, \$45, x414 Linc.

Mpl 4 pc BR set, incl dbl bed, matt, stu desk, 4 drwr bureau, nitetbl, \$125, x5-7414 Dorm.

RCA b&w TV, nds fixing, \$15; stereo-phone-radio, Sechel Carlson, 2 lite wint cabs, nds fixing, \$25; RCA color TV, CTC-5 chassy, antique vintage, nds fixing, \$35, Call 484-3532.

Rotel 150A revr, Fisher XP 44S spkrs, 2 yrs old, \$125, Roger, 266-4796.

Scuba tanks, US Divers twin 72's J reserve, out of test but exc cond, best, x3-7508.

Marvel & DC comics, Arkham Hse, books, sci fi paperbacks; want out of print Arkham Hse books, Peter, x5-9490 Dorm; evgs & wknd.

Boy 20" Schwinn bike, w gd cond, \$30; 2 Volvo tires, \$5; baby carriage, \$25; long dresses & skirts, sz 14, \$5 & \$10; K cab, formica counter & sink/dw comb, best, Gundersen, x3-6085.

Must sell 10 spd Motobecane Nomad bike, superb cond, ask \$100, Joan, 237-1768, lve msg.

Used Coleman 2 bnrn gasoline camp stove, paint chipped but still functional; misc plastic cups, saucers, dishes, etc, \$10, Call 646-7158.

Realistic "Americana" coaxial 12", 8 ohm spkr, nvr used, \$10; canvas camp cot, \$5, Hank, x8-3484 Draper.

Elec clothes dryer w/auto, low heat, cool settings, lg capacity, gd cond, \$65, Dave, x5514 Linc.

Zenith 17" b&w TV, works gd, \$35; Texas Instr calc TI-1200, \$10, Kirt, 494-8889, evgs.

Mdl 2200 addresser, box bland stencils, adequate supply ink, AB Dick mimeo machine mdl 416, \$350 or best/both, John Arnold, x3-4896.

Car fm stereo 8 trk player, many tapes, home 12 V power supply, Jim, x3-2245, lve msg.

Framus folk guitar for sm hand, w/elec pick up, stl str, exc cond, \$75, Call 876-0718.

Deluxe Samsonite card tbl, 4 chrs \$40; yel tblcloth & 4 napkins, \$5; lg collection Depression ware, \$50; ornate hand-tooled leath purse, \$20; Tempura set, \$8, Carol, x3-1332.

F sz 7½ dark brn Dunham hiking boots, worn 2X, \$10; lg m karate gi, wht belt, gd cond, \$10, Susan, x3-4701.

Yng m sport coat, sz 20, handsome brndy plaid, b nw, org \$22, \$15; f Pappagallo wht leath shoes, 9M, ankle strap, b nw, org \$28, \$8; lawn spreader, lk nw, \$5, x8-2577 Draper.

AR trntbl w/wint base, dust cover, 2 mounted crtdrds, (ADC 90QE & Shure V15 type II supertrack), exc cond, \$50, Bruce, x3-1949.

Tires, 2 pr H78x14, almost nw tread, \$18/pr or best, Masa, x3-6472.

Frigidaire gas dryer mdl DAG, vr old, exc cond, \$135, Bob, x7796 Linc.

Pentax Spotmatic w/50 mm fl. 4-28 mm f3.5, 200 mm f4 super coated lens w/cases & UV fltrs, \$350/all, Call 521-0431.

Sears Best salon type hard hat hrdryer, hrdly used, exc cond, \$9, Janis, x3-4716.

Car parts: MBG eng, trans; Alfa 5 spd trans; many Sunbeam, Hillman parts, all cheap, Call 628-3046.

Computer terminal: Kleinschmidt teleprinter & keybrd, prints at up to 40

CPS, requires moden & keybrd interface, \$120, Dana Backman, 267-2199.

AR 2A spkrs & Stanton crtdrds, best, Ken, x5-6640 Dorm.

Sears zig zag console sew mach w/wint cab, compl w/attach, exc cond, \$35 or best, x3-7138.

Aquarium, 20 gal, w/pump, \$20, x3-6979.

Btchr block tbl, fryl nw, \$75; Phillips girls bike, used 2X, \$45, Call 625-8229, 10am-2pm.

Amer Optical mdl 4 binoc microscope w/3.5, 10, 20, 43X AO objectives, 10X WA eyepce, fulstop illum & transformer, \$350; Nikon F body, '67, w/FT meter & case, exc cond, \$175, Carl, x7537 Linc.

Barca lounge, grn vinyl, prac nw, \$95, Ruth, x3-4441.

Record cabinet, \$30 or best, Hope, x3-6330.

Hoover port auto waher w/spin dryer, ideal for apt, \$75; 9x12' gold rug w/runner, \$25 or best, Tony, x7420 Linc.

Pr m tennis shoes sz 11, 1 wk old, ¼ price, Myron, x3-2416, lve msg.

Full sz box spr & matt w/frame, selling bec bought qn sz, \$60 or best, Ruth, x8-1811 Draper.

Hi protein fish food: flakes \$1.25/2 oz; pellets \$.50/lb, Exotic Fish Society, x3-7921 or sign up bsmnt Stu Ctr 002.

Bird watchers: prismatic telescope, 10X, compl w/tbltop tripod, car wndw adapter, steady pistol gnp, \$18, Mary, x3-3115.

Sony TC-366 tape deck, \$200 or best, Ray, 862-4307, evgs.

Ginet 10 spd, '72, nds some work, \$70, x3-7555.

Pr stud snows on VW rims, gd cond, \$35; used TV set, nds work, Call 494-8741.

Sgl matt, \$7, Madeline, x3-3636.

Unpainted chests: 2 sgl, \$15/ea; dbl, \$28; drop leaf tbl, wint finish, 36x42", \$25, x3-1996.

Tapes, 50, 1½ ml polyester, ¼" x 1200", variety brands, \$.50/ea, x5-8663 Dorm.

Dbl bed w/bkese hbrd, matt, spr, \$100; dresser, \$25; sm bkese, \$25; all gd cond, Call 353-0569, evgs.

Desk-top amfm revr/8 trk tape player, inexpensive & works well, make offer around \$35, Melvin, 277-0144.

Compl 20 gal aquarium w/lighted hood, fltrs, temp regulation, etc, sev beaut fish, best, Call 267-7397.

Lg, nr nw drafting tbl, mpl top, height & angle adjust, \$20, x3-2235.

Grasscloth, muted forest grn, 10 rolls unopened, \$180; 2 radial stud snows, 195 R-14, mtd, used 2 seas, \$75 or best, x3-4588.

Dresser; desk; K tbl; Zenith color TV; FRM2 spkrs; much more, Alan, x3-5907.

Miracod 50H trmtbl, \$125; Marantz 1060 amp, \$125, John, x3-1851.

Polaroid SX-70 Land camera, unused, \$145; 3 packs film, \$4.50/ea, Call 494-8882, evgs.

Land in Dennisport, Indian Tr, hse lot 100'x95' deeded rights to Swan Pond, 3/4 mi to ctr, \$5,600, Dave, x8-1194 Draper.

Sofa & chr, mtch pr, exc qual, could use nw seat covers but generally gd shape, \$25, Bob, x252 Linc.

Pilot 254 stereo revr, 65 W RMS/ch, 2 phono inputs, 2 tape inputs, front panel tape input, connect 3 prs spkrs & mic mixing, \$325, Joe, x8-1226 Draper.

Vehicles

'58 Ford Cstm 300 tudor sed, exc cond, only 92 K, Greg, x3-3157.

'63 Ply Val, auto, runs well, sm dimensions & relatively economical, \$225, Norman, 492-7869, evgs best.

'64 Kharman Ghia, exceptionally ratty but still runs, \$150, Call 494-0414.

'64 VW bug transmission, \$75 or best; front end (fenders & hood), \$60 or best; doors, x8-3379 Draper.

'67 Ford Frine, mint cond, 4 dr, std, amfm radio, Bethellen, x8-1163 Draper.

'67 Cougar, V8/289, gd mech cond, body nds work, \$200, Michael, 289-2701.

'67 Volvo 122 wgn, runs v well, gd cond, some rust, xtras, orig ownr, \$785, Fred Cohen, x3-7668.

'68 Pont, gd cond, auto, hrdtp, fully powered, \$550, Call 494-0092, kp try.

'68 Mustang conv, rebilt eng, nw alt, starter, carb, ask \$750, Mike, 661-9137, evgs.

'70 Dodge Coronet, V8, p st & br, std, exc cond, \$850, Bill, x8-4520 Draper.

'70 Renault R10, amfm, Michelin tires, \$550 or best, Call 489-1623, aft 6pm.

'70 Volvo 1800E, grn, 65 K, amfm, overdrive, \$2,100, Stan, x8-4570 Draper.

'71 Saab 95 wgn, runs well, \$1,000 or best, Call 354-2835, aft 6pm.

'72 Toyota Corolla 1600 wgn, 4 spd, gd cond, \$1,650, x3-1827.

'72 Merc Montego, 42 K, exc cond, best over \$2,000, x3-2772.

'72 Vega, 30 K, exc cond, \$1,250; '68 Bennelli 250 w Bell helmet & chn, \$150, x5-7216 Dorm.

'73 Impala, 4 dr hrdtp, vinyl roof, amfm, AC, 45 K, gd cond, \$2,695, Joe, x470 Linc.

'74 Gold Duster, 25 K, sunrf, nw shoeks, \$2,950 or best, Tony, x8-1319 Draper.

'74 Datsun 710, 2 dr, radials, nw carb, batt, brakes, other xtras, 25 mpg, exc cond, \$2,500, nego, Chris, x3-2375.

'75 Toyota Corolla Deluxe, auto, radio, radials, 6 K, still under wrnty, \$3,600 nw (5 mos ago), \$2,795, Barbara, x3-5957.

'69 Honda Scrambler mdl 175 CL, 5,877 orig miles, wndshld, lugg rack, exc cond, \$400 firm, Call 263-5964.

'73 Kawasaki Sl, 250 cc, exc cond, 8 K, luggage rack, alarm, \$685 or best, Gene, 267-2199.

'74 Honda CB 360 mtreycl, luggage rack, exc cond, \$800, Rod Cook, x3-5318.

'75 Honda MR 175, perf cond, compl w/ignition lock, fender mtd tool bag, \$795, Dave, x7241 Linc.

Housing

Back Bay, BR apt avail 5/1 w/fall opt, \$285 incl ht, gas, x3-5918.

Belmont, furn hse avail June-July sub, 3 BR, LR, DR, sunrm, B, fam pref, pleasant nbrhd, \$450 + util + dept, Tom, x3-3739.

Belmont, 6 rms w/eat-in K, nr T, \$285 + ht, Call 489-0732, aft 6pm.

Bri, 7 rm apt in 2 fam hse, 2nd & 3rd fl, mod K & B, recently redecorated, nr T & bus Cent Sq, \$320 + util, Magda, 787-0026.

Bri, sum sub w/Sept opt, 3 lg BR, 3rd fl, 2 T lines, \$270, Myra, x3-1609.

Bkline, sum rental 6/6-9/6, lg home, well furn, all conv, AC K & mstr BR, lg grdn, nr T, shops, refs, \$600, Call 566-5089.

Camb, sub 6/1-9/1, beaut b nw lg BR apt, 3 blocks H Sq, central AC, ww, d&d, pkg, lndry rm in bldg, furn, Call 267-6755.

Camb, sub apt 6/1-8/31 w/opt, lux 2 BR, 2B, LR, K, AC, d&d, ww, Ellery St nr Orson Welles, \$320, Peter, 354-3919, aft 6pm.

Camb, sub 6/1-8/31, nr H Sq & Mass Ave, furn, 2 BR, DR, LR, mod K & B, d&d, wash/dry, sm encl yard, porch, pkg avail, \$270 + util, x3-6979.

Camb, Grn St (Cent Sq), 3 BR apt avail 6/1-8/31 w/opt, ww, AC, mod K & B, paneled walls, \$350, Call 661-2092.

Clev Crcl, sub BR apt 6/1 w/Aug opt, access to T, \$185 incl ht, ht wtr, Linda, x3-4229.

Jam Pl, furn 2 rm apt w/B, priv enr, nr T, frpl, off-st pkg, qt area, \$185 incl all util, Nancy, x3-7649.

Jam Pl, 3 BR nr VA Hosp, sec dept & refs, \$220 + ht, Call 749-1037, evgs.

Lex, lg 7 rm Garrison colonial on wded ½ acre, frpl LR, beamed ceil DR, 3 BR, eat-in K, fam rm, nr Rt 2, \$53,500, x7030 Linc.

Pembroke, b nw architect designed 3 BR contemp, on 1 of many scenic lakes in area, water sports easy reach, many xtras, U finish at \$59,500 finished for U at \$69,500, x8-1598 Draper.

Som, BR, LR, DR, K w/dw, AC, lndry in bldg, sub 6/1 w/fall opt, Call 625-0761.

N Waltham, nr Bel line, v cin, economical 3 BR ranch, ww thruout, eat-in paneled K, tile B, full bsmnt, nice treed, shrubbed lot on qt side st, \$38,900, Jim, x7864 Linc.

Wrtwn, 6 rm duplex, 3 BR, nwly redecorated tile K, B, 2 car pkg, ww, paneled bsmnt, sec dept, \$300 unhtd, Call 924-7511, evgs & wknd.

Wayland, spae 3 BR ranch, beaut yard, fam rm, low 40's, Call 655-3192, evgs.

Weston, 3 BR hse, avail 5/28-mid or end July, lg porch overlooks woods, 20 min Camb, use of car nego, pref sgl prsn or cpl, \$400 incl util, x3-7586.

Waterboro, Me, lakefront chalet, 2 hrs Bos, slps 8 comf, 2 lvls ea/w wd stove, full bsmnt, lg DR-LR w/sliders to deck, facing water, port TV, lg rowboat, \$150/wk, Marilyn, x181-56-296 Haystack.

Animals

AKC reg buff cocker spaniel pups, m or f, ready in May, \$150, Pat, x8-2376 Draper.

Lost and Found

Found: m jckt Mar 26, btwn bldgs 33 & 9, identify, Suzi, x3-2168.

Wanted

Youth bed, chest drwr, bkases, Ms Stewart, x3-2747.

HS stu wants short wave ham equip, transceivers, etc, must be reas price, John, 547-0524.

Want to buy or rent dog kennel suitable for airline travel, Bruce, x3-2297.

Refrig, sm or apt size, Call 266-2102, aft 4:30pm.

Stus, 2, looking for living arrangements & employment, if psbl, for sum in Mexico City, pref to live w/fam, any advice or help appreciated, Glenn, 787-3565.

Black Students Plan Meeting

The Fifth Annual Black Students' Conference on Science and Technology, "The Development and Participation of Blacks in Science and Technology," will be held at MIT on Friday and Saturday, April 9 and 10.

The conference, designed for black students at MIT and other area colleges, is open to all. It hopes to raise questions and concerns affecting black people in science and engineering fields.

Registration will begin at noon Friday, April 9, in the Student Center West Lounge. The conference will convene at 3pm that day in the Student Center Sala de Puerto Rico. Dr. Harry Morrison, visiting scientist in

the MIT Department of Physics from the University of California at Berkeley, will be guest speaker at the opening session. A reception and concert in the Sala will follow.

Saturday morning, April 10, a symposium on "The Education of Black Students in White Institutions" will be held in Room 9-150. Luncheon in the Sala will feature Dr. Julia Purnell, associate professor of education, Southern University, Baton Rouge, Louisiana, as guest speaker.

Afternoon workshops will be held in science and engineering, medicine and behavioral sciences, and social sciences. The conference will close with a wrapup session.

Alexander J. Bone Dies, Emeritus in Civil Engineering

Alexander J. Bone, associate professor of transportation emeritus in the Department of Civil Engineering at MIT, died Sunday, March 30, in Newton. He was 76.

Known by generations of students as "Mr. Transportation," Professor Bone was involved in the planning of the Massachusetts Turnpike, the Garden State Parkway, the John F. Fitzgerald Expressway, Route 128, and conducted major studies for the Association on American Railroads, Railway Association of Canada, and others. He directed the two-year analysis of the economic impact of Route 128, which served as a model for similar studies throughout the country.

K.B. Chand Dies Suddenly

A funeral service will be held today (Wednesday, April 7) at 12:30pm at Woodlawn Cemetery, 302

Copies of 16 Mag, '67-'72, Angie, x3-5374.

Steady babysitter, some evgs & wknds, Call 547-3415.

Std French poodle, approx 10 mos, George, x3-2398.

Research quality binocular microscope, Barbara, x3-5783.

Rolls of HS Ektachrome for hand processing to compl E-4 run, exc qual, Stu Ctr 451 (Technique), or x3-2980, lve msg.

Nd volunteer readers 1-2 hrs/wk, Call 494-9077.

Apt sz AC to rent or buy just for sum, Call 262-6153.

F 3 spd bike, x7180 Linc.

F 5 spd bike, reas price, Phyllis, x3-4237.

Used cement mixer, x7033 Linc.

Fbglas canoe, Mary Anne, x7551 Linc.

Knuth, Art of Computer Programming, vol 1, L. Burkholder, x3-4141.

Roommates

M or f, 1 or 2, for lg 8 rm Arl hse, 2 B, ww, garage, exc nbrhd, nr T, avail immed, own rm, \$118, Steve, x8-1422 Draper.

F rmrate, 23+, 2 BR twnhse, d&d, ww, off st pkg, exposed brick wall, elec ht, avail 4/1 w/sept opt, \$167.50, Call 266-6382.

F to share lg sunny 2 BR apt, exc lve (Bway, Camb), bus line, avail 5/1, \$112 incl ht, Marie, x3-1473.

M or f, share lg sunny 2 BR apt nr cnrr Mass Ave & Marlborough St, w/2 m stus, \$110 incl ht, George or Mitch, 266-6281.

Rmrate for lg 10 rm Arl hse, 4 stus, lg mod K, 2 B, carpeted, 10 min H Sq, free pkg, avail now w/Sept 1 opt, \$90, Call 641-0680.

F, 23+, share safe, mod 2 BR apt, Bkline, nr T, pref grad stu or working, avail 5/1, \$156 + util, Ann, x3-7431.

Rm in lg 4 BR apt, 7 min walk 77 Mass Ave, 5 min Bldg 36, \$45 + util, Call 876-6939, aft 6pm.

Carpools

Wish to join carpool from Winchester to MIT, Howard, x3-3496.

Miscellaneous

Wl do gen & thesis typing, Nina, x8-1886 Draper.

Typing: theses, term papers, manu, etc, on IBM Correct Selec II, Linda, x3-7023.

Nursing assistant, hosp trained, seeks priv duty in home, Gretchen, x3-4433.

Professor Bone received his SB and SM degrees from MIT in 1924 and 1936 respectively. He began his teaching career at MIT as an instructor in 1933. In 1951 he became director of the Joint Highway Research Project of the Massachusetts Department of Public Works and MIT. From 1954 to 1962 he was acting head of the Transportation and Surveying Division of the Civil Engineering Department. He retired in 1967.

Professor Bone is survived by his wife, Esther; two daughters, Barbara J. Leavitt of Scituate and Dorothy J. Warren of Little Compton, R.I.; a son, Richard J. of Needham, and six grandchildren.

Elm Ave., Everett, for Kanwar Bidhi Chand, a staff member of the laser group in the Department of Physics, who died Thursday, April 1, following a heart attack. He was 47.

Professor Ali Javan, head of the Laser Group, said, "Mr. Chand's technical skills, his ingenuity and inventiveness were most unique and invaluable. He made basic contributions to our many research projects. "He will be missed not just as a colleague but as a friend. Those of us who worked with Mr. Chand will remember him with great affection and admiration."

Mr. Chand's association with MIT began through his participation in the MIT-Kanpur Indo-American Exchange Program between faculty and staff members of MIT and the Indian Institute of Technology (IIT) in Kanpur. After working in India with Dr. D.R. Rao, an IIT professor who had been a visiting member of the MIT Laser Group for two years, Mr

POSITIONS AVAILABLE

This list includes all non-academic jobs currently available on the MIT campus. Duplicate lists are posted on the women's kiosk in Building 7, outside the offices of Special Assistants for Women and Work (10-215), and Minority Affairs (10-211), and in the Personnel Office (E19-239). Personnel interviewers will refer any qualified applicants on all biweekly jobs Grades II-IV as soon as possible after their receipt in Personnel. Persons who are not MIT employees should call the Personnel Office on extension 3-4251.

Employees at the Institute should continue to contact their Personnel Officers to apply for positions for which they feel they qualify.

- | | |
|-------------------------------------|--------|
| Dick Higham | 3-4278 |
| Pat Williams | 3-1594 |
| Carolyn Scheer | 3-1595 |
| <i>(secretary — Sally Erickson)</i> | |
| Virginia Bishop | 3-1591 |
| Mike Parr | 3-4266 |
| Ken Hewitt | 3-4267 |
| <i>(secretary—Joy Dukowitz)</i> | |
| Sally Hansen | 3-4275 |
| Lewis Redding | 3-2928 |
| Richard Cerrato | 3-4269 |
| <i>(secretary — Susan Bracht)</i> | |

Admin. Staff, Programming Assistant, in the Information Processing Center to assist programmers in maintenance of libraries and subsystems in various areas. Position offers opportunity for development of programming skill. Two years of college training, experience with any programming language and IBM job control language required. A76-4.

Sponsored Research Staff, Theoretical Solid State Physicist, to conduct theoretical studies on the physics of the interaction of radiation with matter, including Raman scattering in a magnetic field and non-linear phenomena induced by intense laser radiation. May also work on the theory of magnetism and super conductivity. PhD in Theoretical Solid State Physics, demonstrated ability to carry out significant original theoretical research in solid state physics and to successfully collaborate with experimental physicists in interpretation of experimental results and in suggesting new experiments. D76-50 (4/7).

Sponsored Research Staff, part time, in Earth and Planetary Sciences to identify and count organisms in samples of particulate matter obtained from Atlantic Ocean hemispheres, using Large Volume In-situ filtration system; prepare for microscopy, identify and quantify samples. Good dissecting microscope technique, familiarity with protozoan life cycles, background in plankton ecology required. Position includes opportunity for independent research. Masters degree in Marine Biology preferred. Position is half-time and funded through 12/31/76 only, but may be extended. D76-51 (4/7).

Sponsored Research Staff, postdoctoral research, in the Laboratory for Nuclear Science to work in the area of experimental high energy physics. Thorough knowledge of multi-wire proportional chambers, Cerenkov counters, high pressure vessels, fast electronics, working knowledge of foreign language (preferably French) required. Candidates must also possess PhD in experimental high energy physics, a minimum of 2-3 years relevant experience, and be available to spend long periods of time, possibly with short notice, at foreign sites (Geneva and Hamburg). Position begins 10/1/76. D76-44 (4/7).

Sponsored Research Staff, Plasma Physicist, in the National Magnet Laboratory to do postdoctoral research in the Alcator controlled thermonuclear research experiment; design and operate advanced plasma diagnostic systems such as Thomson scattering systems, neutral particle spectrometers, neutron detectors and spectrometers, vacuum ultraviolet and soft x-ray spectrographs. Will also interpret measurement results in terms of basic plasma behavior. PhD in plasma physics required. Background in high temperature plasma diagnostic techniques and familiarity with tokamak confinement systems desirable. D76-45,46,47,48,49, (4/7).

Sponsored Research Staff in the Center for Advanced Engineering Studies to develop innovative curricula for technical education at post high school level. Work is part of a 5 year curriculum research and development project for an Iranian agency. Initial emphasis will be in development of electronics and related technologies curricula (curriculum design, evaluation, materials development, teacher training). Related industrial experience as well as previous experience in curriculum development at 2-year technical college level desirable. Position begins 7/1/76. D76-53 (4/7).

Sponsored Research Staff in Nuclear Engineering to conduct medical research on the use of radioactivity in disease diagnosis and treatment. Will be responsible for coordinating research efforts and maintain a small laboratory. Bachelors or Masters degree in Chemistry, experience with modern counting equipment and the

ability to conduct independent research required. Experience in the handling of radioisotopes desirable. D76-52 (4/7).

Academic Staff, Technical Asst. in Biology will carry out experiments in protein chemistry and immunochemistry using following techniques: gel filtration, column chromatography, immunodiffusion, peptide fractionation, radioactive labeling. Primary responsibility will be in operation of automated amino acid analyzer. Bachelors degree in Biology or Biochemistry, experience with Durrum D500 and/or Beckman analyzer, previous laboratory experience required. Position begins 9/1/76. C76-4 (3/31).

Admin. Staff, Systems Programmer, in Programming Development Office to work on design, implementation and documentation of subsystems and operating system modification for Multics, IBM System/370 and minicomputers. Applicants must be familiar with operating system design concepts and be capable of system programming in PL/1 and assembler languages. At least 2 years of system design and programming experience required, preferably on IBM System/370 or Multics systems. Some familiarity with minicomputers also desirable. Bachelors degree, or equivalent combination of education and experience required. A76-7 (3/31).

Admin. Staff, Applications Programmer, in Office of Administrative Information Systems to translate detail specification into computer code; test code and documents program for operation use and future maintenance. Associates degree, or equivalent, 1-2 years experience in COBOL and one other language, familiarity with financial applications required. Ability to test, debug and document programs according to prescribed standards also necessary. A76-8 (3/31).

Admin. Staff, Industrial Liaison Officer to provide interface and act as liaison among MIT faculty and staff and member companies of the Program (major industrial firms). Duties also include solicitation of new member companies. Masters degree and at least 3 years industrial experience, or PhD in Chemistry or Food Technology, the ability to communicate effectively with corporate executives and technical staff required. Ability to speak and write French and German desirable. A76-9 (3/31).

Exempt, Microbiology/Histology Technician (Veterinary) to diagnose pathogenic microorganisms in laboratory animals; prepare and stain tissue for histology; handle other duties related to diagnostic activities of the laboratory. Formal education as well as practical training in histology and microbiology required. Candidates must be knowledgeable concerning the pathogenic microorganisms present in animals and, preferably, have a bachelors degree in a biological science. E76-10 (4/7).

Histology Trainee III, part time in Nutrition and Food Science to assist in animal pathology laboratory. Will make microscope slides, trim and process tissue specimens. Techniques include mixing of solutions for presentation of tissues, use of microtome for paraffin sectioning, and routine staining procedures. Requires high school graduation, or equivalent. Biology background, familiarity with histology preparation preferred. Ability to handle detailed work also required. 20 hrs./wk. B76-126 (4/7).

Tech. Asst. IV in Nutrition and Food Science will assist in dietary experiments involving animal subjects; mix special diets; feed and weigh animals; perform autopsies; administer toxic or carcinogenic chemicals; observe, record and maintain records of experiment results. Experience in studies involving toxicologic or carcinogenic evaluation of chemicals preferred. 40 hrs./wk. B76-128 (4/7).

Technical Asst. IV in the Energy Lab will compile and edit data for use in technical reports, budgets and financial reports; prepare inputs for computer program and read outputs. Will also assist with clerical duties; answer; type; file; monitor accounts. Facility with figures, familiarity with computer programming, ability to compile graphs and tables required. Typing skill also necessary. B76-122 (3/31).

Secretary IV-V to the Director and four others in the Office of Facilities Management Systems (Planning Office). Will arrange travel and appointments; monitor accounts; prepare payrolls; expedite purchase orders; type help set-up conferences; edit and layout newsletter. Requires secretarial or business school training, excellent typing, plus 3-5 years experience. Short-hand/speedwriting and machine dictation skills desirable. Must be able to work independently and under occasional pressure. B76-129 (4/7).

Secretary IV, part time, Psychiatry Service in the Medical Dept.: will perform secretarial duties including typing, filing and general clerical projects relating to Health Plan. Duties involve some shared responsibilities with other secretarial staff as well as independent projects. Ability to interact well with people essential. Sensitivity and judgment in handling confidential matters required. Careful attention to detail, excellent typing and organizational skills a necessity. Responsible job in busy and stimulating office with emphasis on personal and telephone contacts. (Approx. 20-25 hrs./wk.) B76-131 (4/7).

Secretary III-IV in Treasurer's Office to perform general office duties: type correspondence, other materials; draft simple letters; file; answer phones; arrange appointments and travel; open and distribute mail. Will also handle office expense accounts; order supplies. Required excellent typing and organization skills, shorthand, flexibility. Knowledge of investment and financial terms desirable. Non-smoking office. B76-120 (3/31).

Secretary III to provide support for technical group at National Magnet Lab. Will type proposals, technical papers, correspondence; maintain files, records; answer phones; arrange appointments, travel. Requires good typing and organizational skills. College or secretarial school background preferred. B76-125 (4/7).

Lib. Gen. Asst. III to assist in the operation of the Reserve Book Section: process reserve lists from faculty; maintain circulation records and statistics; prepare overdue notices; maintain physical order of Reserve shelves; supervise student assistants. Accurate typing skill required, as well as organizational ability. Previous library experience preferred. Position may include some evening or weekend work on a pre-scheduled basis. B76-130 (4/7).

Clerk/Keypuncher III in Physical Plant to keypunch (will be trained) on Inforex data input machines or IBM 129 keypunchers from varied sources. Will also provide clerical backup: type purchase orders; process invoices; bath source documents; answer phones. Excellent typing, 1-2 years office experience required. B76-65 (3/31).

Waitress/Waiter, Set tables, take orders, serve food and beverages on banquet trays. Clear and reset tables. Dust chairs, wipe table clean. Experience is helpful but not necessary. 11am-3pm, Mon.-Fri. Position may include some weekend shifts. H76-39 (3/31).

Hourly, Cook's Helper, in the Food Service to prepare and cook vegetables; prepare and grill breakfast foods or other short order items provide general assistance in kitchen; maintain clean, sanitary work area; perform other related duties as required. 1 year experience in quantity cooking, as well as the ability to read and understand recipes in English language required. MIT experience preferred. 40 hrs./wk. H76-32 (3/31).

ADMINISTRATIVE STAFF:

- A75-65, Acquisitions Editor, MIT Press (12/3)
- A75-71, Documentation Mgr., Off. of Admin. Inf. Syst. (1/7)
- A76-2, Prog. Analyst, Inf. Proc. Center (2/18)

BIWEEKLY:

- B75-543, Sec. IV, Chemical Eng. (3/31)
- B76-19, Editorial Sec. IV, Graphic Arts (3/31)
- B76-69, Tech. Asst. V, Medical Dept. (2/25)
- B76-83, Sec. IV, Medical Dept. (3/10)
- B76-90, Sec. IV, MIT Devel. Foundation (3/17)
- B76-91, Sr. Slt. IV, Comptrollers Benefits Office (3/17)
- B76-93, Sec. IV, Mechanical Eng. (3/24)
- B76-100, Sec. IV, Resource Devel. (3/24)
- B76-103, Clk. Typist III, MIT Devel. Office (3/24)
- B76-104, Sec. IV, Nutrition & Food Science (3/24)
- B76-107, Tech. Asst. IV, Architecture (3/31)
- B76-109, Sec. IV, Science Library (3/31)
- B76-110, Sec. III-IV, MIT Assoc. (3/31)
- B76-113, Sec. IV, Chemistry Dept. (3/31)
- B76-115, Sec. IV, Humanities & Social Sci. (3/31)
- B76-117, Sec. IV, Chemistry Dept. (3/31)

ACADEMIC STAFF:

- C76-3, Systems Analyst/Sr. Systems Analyst, Medical Dept. (3/24)

SPONS. RES. STAFF:

- D75-48, Economist, Energy Lab. (6/25)
- D75-120, Systems Programmer, Lab. for Nuc. Sci. (11/26)
- D75-161, Economist/Policy Analyst, Energy Lab. (9/10)
- D75-219, continuing education, Chemical Eng. (11/15)
- D75-229, Research Engineer, Energy Lab. (11/19)
- D75-232, Programmer, Center for Space Research (11/26)
- D75-243, postdoc. res., computer science, Artificial Intell. Lab. (1/7)
- D75-244, postdoc. res., computer science, Artificial Intell. Lab. (1/7)
- D75-249, postdoc. res., Physics, Lab. for Nuclear Sci. (1/14)
- D75-250, postdoc. res., Physics, Lab. for Nuclear Sci. (1/14)
- D76-7, Project Coordinator, Energy Lab. (1/28)
- D76-12, postdoc. res., National Magnet Lab. (2/18)
- D76-14, Tech. Asst. Arteriosclerosis Center (2/18)
- D76-17, Biochemist, Res. Lab. Elec. (2/25)
- D76-18, postdoc. res., Lab. for Nuclear Sci. (3/3)
- D76-19, postdoc. res., Lab. for Nuclear Sci. (3/3)
- D76-21, Data Analyst, Energy Lab. (3/3)
- D76-22, Laser Physicist, National Magnet Lab. (3/3)
- D76-24, Programmer, Artificial Intell. Lab. (3/10)
- D76-28, Energy Analyst, Energy Lab. (3/17)
- D76-30, Staff Scientist, Neurosciences Res. Program (3/24)
- D76-31, Staff Scientist, Neurosciences Res. Program (3/24)
- D76-32, Staff Scientist, Neurosciences Res. Program (3/24)
- D76-33, Computational Physicist, Res. Lab. Elec. (3/24)
- D76-34, Project Coordinator, Energy Lab. (3/24)
- D76-40, Tech. Asst. Architecture (3/31)

EXEMPT:

- E76-7, Nurse Practitioner or Physician Asst., Medical Dept. (3/24)
- E76-8, House Mng., Housing Dept. (3/31)

Student Team Wins Award For Urban Planning Report

The American Society of Planning Officials, the largest national professional organization of urban planners, has presented its top prize to seven undergraduate and graduate students and former students from the Department of Urban Studies and Planning at MIT.

The Ted Aschman Memorial Prize is awarded annually for the best student report about planning ideas and programs.

The prize-winning paper, *Capacity Building: An Alternative Approach to Citizen Involvement in Planning*, was based on the students' experience in providing technical assistance to a citizens' committee seeking to guide the future development of Rockport, Mass., a small community on the North Shore 35 miles from Boston.

The paper was written by Jay W. Wollenberg of Delta, British Columbia; Vic Frankiewicz of Bay St. Louis, Miss.; Julie A. Moir of Wilton, Conn.; James B. Gust of Minneapolis, Minn., and John B. Wilbur 3rd of Worthington, Ohio. They were assisted by Kay M. Anderson of Rockford, Ill., and Elizabeth R. Lund of Weston, Mass.

The winners divided their \$1,000 prize. Each also received a letter of commendation from the Society praising the paper and noting that it was unusual to receive one written by so many people. Papers are evaluated without knowledge of the authors' identities.

Recalling the experience of writing the report, Wilbur said the students "learned a lot about how to work as a group and to share responsibilities. It was frustrating at times, but ultimately well worth it." Frankiewicz said the project "gave us more insight into our field work, plus a good opportunity to improve our writing abilities."

"Capacity building" is an experimental approach to community planning which encourages citizens to take on a greater role in their own local affairs.

The concept was conceived and fostered by Professor Lawrence E. Susskind, assistant head of the Department of Urban Studies and Planning and supervisor of the Rockport project.

Although citizen involvement in decision making is widely accepted, the students wrote, "in practice, citizen involvement has failed to grant people genuine and informed control

of policy." Existing concepts of involvement, the students wrote, offer inadequate structures for citizen participation in decision making and do not recognize that citizens can increase their competence to confront problems and make decisions, given appropriate professional inputs and services.

The main responsibility of the planner under the "capacity building" concept is to educate citizens in ways of dealing with and making decisions on local matters and to provide direction while at the same time increasing the citizens' confidence to act on their own.

Wollenberg and Gust have been graduated from MIT; Wilbur, Anderson, Frankiewicz and Lund will be graduated this June from the department's five-year joint bachelors and masters program.

Wollenberg is employed by William Graham Consultants of Vancouver, British Columbia, architects and planners, doing technical work. Moir is studying and working in Japan. Gust works for the Norfolk, Va., Planning Board studying declining neighborhoods and determining which neighborhoods are most suitable for rehabilitation.

Wilbur plans a career in urban planning or environmental management. Anderson intends to work in a consulting firm doing research and writing. Frankiewicz will return to his native Mississippi or elsewhere in the South for employment in economic development and growth policy.

Lobby 7

Swingshift—billed as the reality rock and roll—will perform in Lobby 7 on Tuesday, April 13, at noon.

Telephone Policies Are Monitored

The MIT Telecommunications Office is keeping a close watch on recent actions of the Federal Communications Commission (FCC) relative to the direct connection of terminal equipment to the telephone network.

Within the past few months, the FCC has issued regulations relaxing some restrictions on connections of customer-owned equipment to telephone lines, according to Morton Berlan, superintendent of telecommunications. However, he noted that there may be Congressional action overturning some or all of the FCC's recent rulings, and that litigation also is threatened.

Mr. Berlan said the Telecommunications Office will keep the community informed as developments become clear. Meanwhile, he urged anyone who may want to connect terminal equipment to MIT's telephone lines to discuss their plans in advance with the Telecommunications Office, x3-3650.

Ocean Engineering Flume Symposium

A precision flume, the first of its kind known to exist, has been designed and constructed by researchers in MIT's Department of Ocean Engineering, in order to test and extend existing theoretical understanding of the behavior of oil spills in seawater. The flume will demonstrate experimentally the interaction of currents and oil slicks, and will facilitate R&D efforts on slick collection equipment.

A Sea Grant symposium, to be held on Tuesday, April 13, in the Vannevar Bush Room (10-105) from 10am to 3pm, will review the current research in the MIT Department of Ocean Engineering and will introduce the flume and its proposed uses to those from industry and government who are concerned with methods for oil pollution control. Actual demonstrations of the flume in operation will be held at 9am and 3pm in Room 3-270. Interested MIT students and faculty are invited to attend both the demonstrations and the symposium.

Urban Studies Invites Students

The Department of Urban Studies and Planning will hold an open house Monday, April 12, from 2:30 to 6pm in the Urban Studies Office, Rm. 7-335.

Students and faculty will be available throughout the open house to explain opportunities in Course XI, including the joint program with civil engineering in the concentrations in environment and policy; political economy and development; law, urban institutions and social change, and public systems and management.

Reports on the department alumni's post-graduation employment and education experience will be available. Refreshments will be served. Ruth Kolodney at Ext. 3-4409 may be called for additional information.

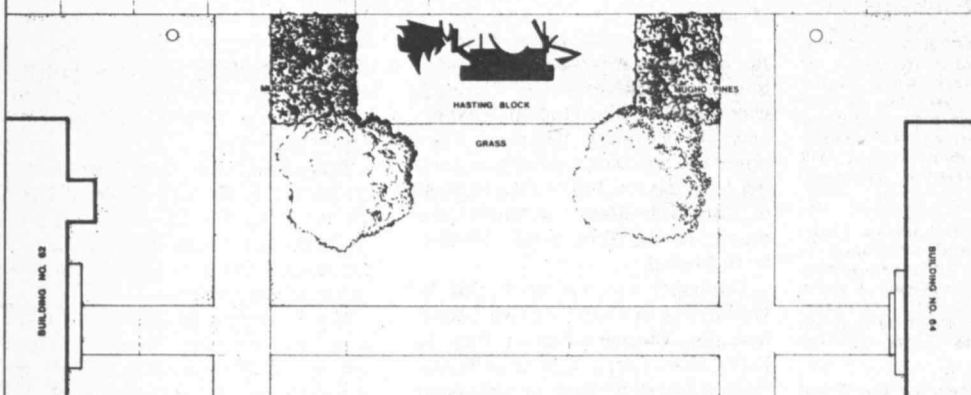
- E76-9, House Mng., Housing Dept. (3/31)
- E76-10, Microbiology/Histology Tech., Medical Dept. (3/31)

HOURLY:

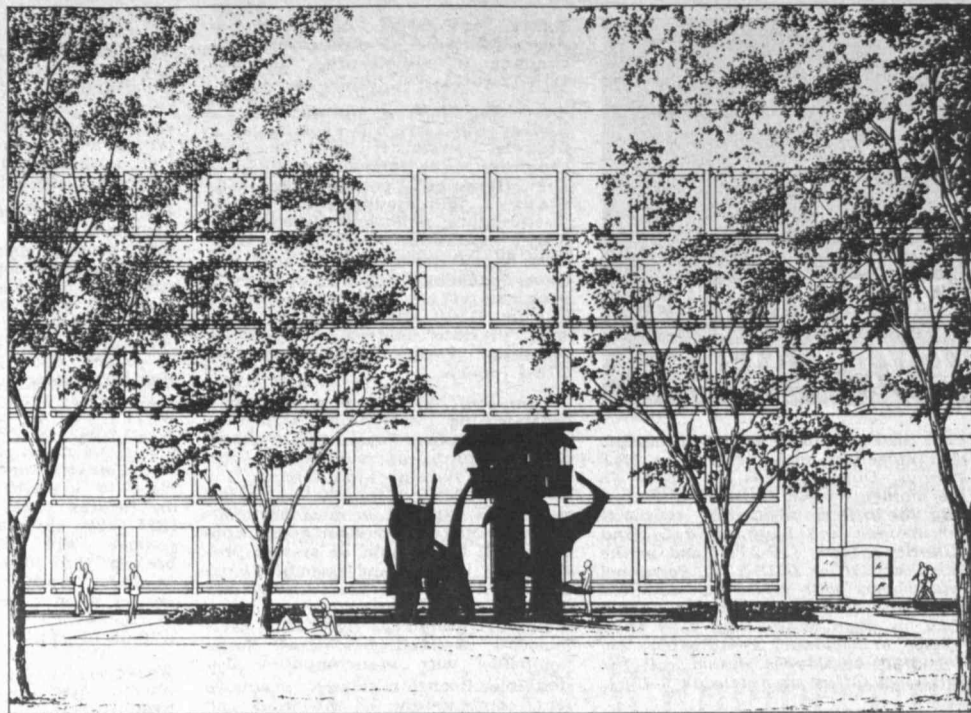
- H75-143, 2nd Cl. Eng. (10/15)
 - H76-20, Cook Endcott House Dedham (2/25)
- The following positions have been FILLED since the last issue of TECH TALK:
- H76-39 Sr. Clk Typist III
 - H76-55 Tech. B "CANCEL"
 - H76-38 Waiter
 - H76-99 Editorial Sec. IV
 - B76-114 Sec. III
 - B76-97 Sec. IV
 - H75-117 Tech B
 - B76-102 Sec. III-IV
 - B76-118 Lib. Asst.
 - A76-3 Admin. Staff
 - B76-94 Clk. III

The following positions are on HOLD pending final decision:

- B76-108 Sec. IV
- B76-112 Sec. IV
- B76-123 Lib. Asst. III
- B76-115 Sec. IV



The proposed revised site plan was prepared by the MIT Planning Office to resolve the safety issues that have been suggested exist at Louise Nevelson's *Transparent Horizon* sculpture in front of the New Chemical Engineering facility and adjacent to the north end of East Campus Houses. The removal of the paved walkway on the East Campus side of the sculpture and the placement of



THE LOUISE NEVELSON SCULPTURE
REVISED SITE PLAN

planting areas on either end of the piece are designed to prevent the walk around the sculpture from being a short-cut for cycles and joggers and to ensure that the experience of the sculpture from the East Campus side is intentional rather than accidental. Comments are invited and may be directed to Harry Portnoy, Planning Office, x3-5831.

Eight Elected To NAE

(Continued from page 1)

Professor of Engineering and associate director of the Center for Materials Science and Engineering: "Innovations on solidification processing."

Dr. John B. Goodenough, group leader of the Electronics Materials Group at Lincoln Laboratory: "Designing materials for electronic components and expositor of the relationships between properties, structures and chemistry."

Dr. Hermann A. Haus, Elihu J. Thompson Professor of Electrical Engineering: "Contributions to the theory and practice of microwave

and quantum electron devices."

Dr. Joseph H. Keenan, professor of mechanical engineering, emeritus: "Contributions to engineering thermodynamics and engineering education."

Dr. Richard S. Morse, president of the Massachusetts Institute of Technology Development Foundation and senior lecturer at the Alfred P. Sloan School of Management: "Pioneering in high-vacuum technology which led to the introduction of a wide variety of products and processes."

Dr. John P. Longwell, senior scientific advisor in corporate and government research for the Exxon Research and Engineering Company of Linden, N.J., and visiting professor in the Department of Chemical Engineering: "Contributions to the basic knowledge of combustion, particularly the design basis for gas turbines, rockets and ramjets."

Food Day Events Listed

(Continued from page 1)

grains to feed animals, the food surplus would suffice to meet the present world protein deficit," she said.

Admission to the buffet style dinner is by ticket only. Tickets must be purchased in advance.

Everyone, however, is welcome to come to the Sala at 8pm for Dr. Levinson's speech, "World Hunger and the American Response." Dr. Levinson will discuss the US response to world hunger on governmental and individual levels, and explain how that response is changing dramatically.

Proceeds from the dinner will be donated to Oxfam-America, Inc., an agency which supports long-term self-help agricultural projects in Third World countries.

Other Food Day/Week events are planned.

There will be a sale of vegetarian lunches and books on food in Building 10 Lobby, 11:30am-1:30pm Wednesday, April 7. Recipes of food served will be provided.

A representative of the East West Foundation will give an introduction to the principles of macrobiotics and will tell how proper diet can restore and maintain good health Wednesday, April 7, 4pm, Room 3-133.

The staff of Conscious Cookery, a vegetarian restaurant in Boston, will give a talk and provide food samples Thursday, April 8, 3pm, Room 3-133.

Lenny Jacobs, field director of ECHO (Earth Campaign against Hunger and Overeating), will speak on "Food Ecology" Wednesday, April 14, 4pm, Room 3-133.

Draper Laboratory employees are invited to bring their lunch to two noontime discussions about food and health facts, and about changing poor eating habits. The discussions will be noon-1pm on Thursday, April 8, in DL6-103 and on Friday, April 9, in DL7-275. Sam Benichasa (Ext. 8-3686) is coordinating Food Day/Week activities at Draper.

The MIT Vegetarian Community is coordinating campus events.

American Girls

(Continued from page 1)

menarcheal age and shape—stoutness or thinness. (Shape, described by the term "ponderal index," expresses the relationship between height and weight. The ponderal index is small when there is much weight for height, and the girl is stout; it is large when there is little weight for height, and the girl is thin.)

"Early menarche is associated with stoutness; late menarche with thinness," the researchers reported.

The researchers also found a correlation between the menarcheal ages of the girls and their mothers and sisters.

In addition, they found that fewer girls reached menarche during the spring than during the other seasons. They speculate that the increasing daylight in spring may account for this.

They found no correlation between the occupation of the head of the household and the girls' health or their menarcheal age, weight or height.

The study was supported by the National Institute of Child Health and Human Development, the Vincent Memorial Hospital Research Fund, and the MIT Department of Nutrition and Food Science.

Klaaren to Speak

Dr. Eugene M. Klaaren, associate professor of religion at Wesleyan University, Middletown, Conn., will speak on "Toward a Critical Theology of Technology in Contemporary Culture" at the Technology Studies Seminar Wednesday, April 7, at 4pm in Room 20D-205.

Professor Klaaren will argue that Jacques Ellul's way of criticism in *Technological Society* is theologically insufficient.

Commentary will be provided by Dr. Langdon Winner, MIT assistant professor of technology studies and political science.

MIT Students Play Baseball, Too

(The following article by Joanne Boyer appeared in the *Hollywood, Fla.*, Sun-Tattler, Saturday, March 27, during the spring tour of the MIT baseball team. The team finished the tournament in second place.)

By JOANNE BOYER

Sun-Tattler Staff

Talk to most people about Massachusetts Institute of Technology and most likely the conversation will center on high academic standards or engineers. Talk to Fran O'Brien about the school and he'll give you a different perspective on it.

"When we're this far away from Boston I usually get two reactions," O'Brien explained. "First people ask me what the MIT stands for on my uniform and when I tell them they recognize it as some sort of college. Or for people in Florida to associate MIT and baseball is almost an unknown happening."

But O'Brien and his MIT Engineer baseball team are for real and they are in Florida to participate in the Florida Bible College Invitational Baseball Tournament this week at Dowdy Field.

"Baseball is only one of 22 varsity sports we offer at MIT," O'Brien said. "We're very sincere in what we're trying to do. We have a progressive and quality athletic program."

While MIT may make more strides in the classroom than it does on the baseball field, the Engineers were invited to the National Collegiate Athletic Association Division III regional baseball tournament two years ago, the first time in the school's history that such an invitation was extended.

"We had the talent and we were able to put it all together," O'Brien said. "It was the first time any team had been invited and that in itself is a tremendous source of pride for the school and me."

O'Brien doubles as the basketball coach for MIT and is an associate professor in the physical education department. Having played both sports while attending Tufts University, O'Brien finds himself getting wrapped up with each sport.

"I'd have to say I don't have a preference," the coach said. "I get caught up in both of them. When I'm coaching basketball that's all I think about and the same's true when I'm coaching baseball. The only problem is that we start baseball while basketball is finishing up and then there's a little bit of a hassle."

MIT offers no athletic scholarships and is one of the few schools in the Northeast to list physical education as a prerequisite for graduation.

"MIT has a tremendous amount of competition in academics," O'Brien explained. "Kids come there wanting to be the best and as a result they find thousands of others wanting to be the best too."

"The kids that come to MIT are usually in the top two percent of their high school class and because of this it really affects the intercollegiate

practice time.

"We can't start basketball practice until after 5pm because of all the labs that are required. With baseball I usually have one group start at around 4pm and another will come in later. Here academics is first and we have to work around it."

While lack of practice time may be frustrating to some coaches, it's just part of his job and O'Brien accepts it as such.

"I don't care if it's MIT, or FIT or

Florida Bible College, a lot has to do with the quality of the kids and we've been fortunate to have some good players come to MIT. The key thing to do is to put together a respectable team."

Once the team heads back to Boston, they will play a 20-25 game schedule and while the lingering winter weather will be one problem the Engineers face, there is yet another one—final exam period which starts around May 12.

Track Team Victorious In Season Opener

By PETER M. CLOSE

Director of Sports Information

MIT's track team (1-0) opened its 1976 outdoor season with an impressive 81½-71½ upset victory over university-division New Hampshire.

The Engineers field event contingent outscored their New Hampshire counterparts 50½-21½. Senior Co-captain Greg Hunter (Rochester, N.Y.), MIT's only double winner, took the javelin 189 ft. 3 in. and the shot 44 ft. 10¾ in. MIT's only individual running victory was won by Tech's other co-captain junior Frank Richardson (Sac City, Iowa). Richardson won the two mile in 9:26.4.

The meet came down to the last event, the mile relay, with MIT leading 66½ to 61½ and needing to win the race for the overall victory. Junior Joe Egan (Melrose, Minn.) managed to hold off fast-closing UNH anchorman John Demars to give Tech the mile relay and the meet.

The Engineers were without the services of sprinter-hurdler junior Richard Okine (Aflao, Ghana) who was unable to compete. However, Okine and his Tech track teammates will be at full strength this Saturday when they take on Bates at Briggs Field at 12:30pm.

Crew Bows in Classic

A disappointed MIT head crew coach and heavyweight crew returned from California this week after making the poorest showing in three years.

Coach Peter Holland had anticipated rough going this spring as a result of losing seniors John Everett (South Easton, Mass.) and Gary

Piantedosi (Burlington, Mass.) to the US Olympic Team and junior Will Sawyer (Louisville, Ky.) to injuries.

Runnerup in both the Sprints and the National Championships last year, MIT had hoped to show well in their first appearance in the San Diego Classic last weekend. However, entered in a six crew preliminary heat that qualified three for the final, Tech could only go fourth in 6:34 to Navy, the winners 6:27.3. Relegated to the Petite or consolation finals, MIT again placed fourth in 6:32.7 to winning UCLA 6:27.4.

The Engineer pair of senior Doug Johnston (Auburn, N.Y.) and junior Mitchell Seavey (Framingham, Mass.) placed fourth in the open pairs event. MIT's heavies open their regular season on April 17 against Boston University and Columbia in New York.

Baseball Team Is 6-3

MIT's baseball team (6-3) got back to winning last Saturday, bombing Boston State 10-4.

Senior Roy Henriksson (Livonia, Mich.) led the hitting attack with two hits, including a grand-slam home-run. The rangy second baseman has now driven in eight runs this season and is batting .286 after nine games. MIT, down 3-2 going into the bottom of the fourth, went ahead to stay on Henriksson's bases-full homer. Freshman Pete Steinhagen (Princeton, Minn.) went seven innings, giving up four runs on six hits, to boost his record to 3-0 on the year.

MIT will host Tufts University this Wednesday at 3:00pm and Bowdoin on Saturday at 2:00pm.

MIT to Host Women's Sailing Races

As part of its observance of the nation's bicentennial, MIT will host the Tenth Annual National Intercollegiate Women's Sailing Championships on June 1 and 2.

The entries in the National Championships will be determined from the eight district eliminations, held in May.

The First National Women's Sailing Championships were held at the Shattemuc Yacht Club, Ossining,

New York, and were won by Wilson College, Chambersburg, Pennsylvania. Since then, Radcliffe College has won four national championships, MIT, two and Princeton University the last two.

This year's event will be held on the Charles River, and, because of unpredictable New England weather, participants will be allowed a two-day practice session before the actual competition.