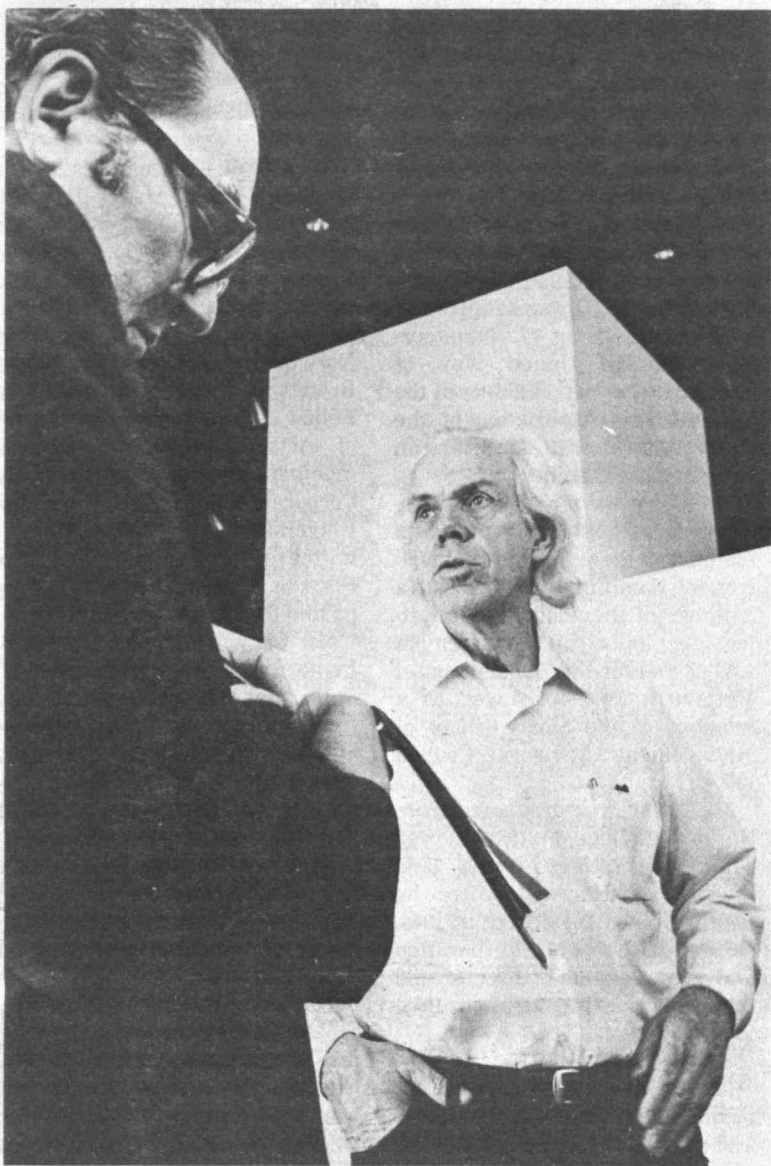


Celebrations



HILTON KRAMER, art critic of the *New York Times*, interviewed Minor White, MIT's renowned photographer, in Hayden Gallery prior to opening of Professor White's exhibition, "Celebrations." In his review March 1, Mr. Kramer said, in part: "The most commonplace comedies of life are joined with the most lyrical evocations of nature in a pictorial survey that brings together different generations and different points of view in a splendid affirmation of the photographic medium in all of its variety and strengths." Professor White met other representatives of the media at a press preview of the show last Friday. The exhibition, which is the last organized by Professor White before his retirement from the Institute next June, will be at the gallery through March 30.

—Photo by Margo Foote

Primarily for Women Greens Establish \$1 Million Fund

By JOANNE MILLER
Staff Writer

MIT has received a \$1 million gift from Cecil H. and Ida M. Green of Dallas, Tex., to be used to endow fellowships for graduate students—primarily women graduate students just beginning their studies at MIT.

The fellowships will be called the Ida M. Green Fellowships. The first awards will be made to women entering the MIT Graduate School in September, 1974.

Each fellowship will provide \$3,350 tuition for the 1974-75 academic year plus a nine-month stipend of \$2,700. The fellowships will not normally be renewable. In subsequent years fellowship holders will be expected to compete for support through existing departmental programs or independently through federal agencies or foundations.

"The fellowships are the latest in a long series of major leader-

(Continued on page 8)

Urban Legal Studies Project Call

MIT's Urban Legal Studies Project will hold meetings at 7:30pm Wednesday and Thursday (March 6 and 7) to discuss its summer program of law-related fieldwork positions.

The meeting Wednesday will be in Room 3-270. Thursday's meeting will be in Davis Lounge, Wellesley. Fieldwork experience isn't necessary, nor need students be considering a law career.

Program applications are available at the Pre-Professional Office in Building 10. They should be picked up by Tuesday, March 12, and returned by Friday, March 15. Although funding arrangements are not yet complete, it is estimated that students will be paid \$120 a week for 12 weeks work.

The student-initiated project began in 1971 in response to growing interest in legal careers among undergraduates.

For more information call Cliff Ragsdale (494-0344) or Martha Pary (235-3146) at Wellesley.

Grant Supports Technology Impact Program

The Alfred P. Sloan Foundation will fund two new programs at MIT aimed at enhancing the understanding of technology's impact on society.

The grant to the School of Engineering—totalling \$800,000 for the first two years of a five-year program—will support research into complex operations of a technological society and help give engineering education new directions.

The new programs are:

A master's program concentrating on the relation between technological problems and society, such as those posed in manufacturing, transportation, urban systems, construction, energy and, particularly, public systems.

A program to examine the major technology-related issues that face society. This will include an assessment of the consequences of present practices and

policies and the identification of possible alternatives that are likely to improve and affect society.

The first program, for which \$200,000 will be provided for the next two years, will be carried out by the School of Engineering in cooperation with the School of Humanities and Social Sciences and the Alfred P. Sloan School of Management.

(Continued on page 8)

Studies Reported on Earthquake Prediction

By DENNIS L. MEREDITH
Staff Writer

SAN FRANCISCO—An MIT geologist has described how he created miniature "earthquakes" in the laboratory to develop theories of earthquake prediction and the mechanism behind earthquakes.

Professor William F. Brace, of the Department of Earth and

Planetary Science, noted for contributions to the theory on which present earthquake prediction is based, said that, while scientists are cautious about extrapolating laboratory experiments to real life, laboratory earthquakes can give geologists a good idea of what they should look for in nature.

Brace described his laboratory findings, as well as those of others

in the field, in a paper delivered at the annual meeting of the American Association for the Advancement of Science here.

Brace and his fellow scientists create their laboratory earthquakes by subjecting thumb-sized cylinders of rock to the same intense pressures and high temperatures found deep in the earth's crust. The rock samples experience pressures up to 10,000 times that of the atmosphere at sea level and temperatures of 800 degrees Centigrade.

Mechanism of Earthquakes

To produce a tiny "earthquake" fault in his rock sample, Brace then subjects the sample to stress in one direction.

(Continued on page 8)

Grad Applications Up 7%

By ROBERT C. DIORIO
Staff Writer

Despite a general downward trend at many other large, private universities, MIT has experienced a 7 percent increase in graduate school applications.

Dr. Irwin W. Sizer, dean of the graduate school and professor of biochemistry, said the increase has occurred at a time when the sources of graduate-study financing available to students have dwindled sharply.

"Another interesting thing about the applications is that they have not only increased in number, but the quality of the students applying has risen too," said Ronald S. Stone, graduate school executive officer and assistant dean.

(Undergraduate applications—up 20 percent—also increased this year at MIT, primarily because of a 93 percent increase in applications from women.)

By Jan. 15, the preliminary closing date, the MIT Graduate School had recorded an increase of 7 percent in applications compared with the same date a year ago, Dean Sizer said.

Last year's final application figure was 5,813. Of that number 1,907 were accepted and 990 registered,

according to Dean Stone.

Why the increase at MIT in the face of a downward national trend?

"MIT is a special case for two reasons: Our reputation for professional excellence and our ability to aid graduate students financially," Dean Sizer said.

He cited a recent, widely reported study by a Columbia University professor and graduate student team that ranked MIT's graduate school of engineering number one in the nation and an earlier study by the American Council on Education that ranked 12 of MIT's graduate programs as among the top five nationally.

"These ratings are very important," Dean Sizer said. "Students heading for graduate school read these things very carefully and act upon them."

"As for financial aid, the chances of a graduate student getting some kind of assistance are greater here than at many other institutions. MIT, for example, has more research assistantships for students than any other institution."

There are more than 1,000 research assistantships at MIT

(Continued on page 8)

Bi-Weekly Salary Reviews Begin

The annual salary review for office and clerical staff is now under way in the Institute's departments, centers and laboratories, John M. Wynne, Vice President for Administration and Personnel, has announced. Salary increases approved during the review will be effective April 1. Recommendations for increases are due March 13.

"Again this year, we urge that supervisors make a special effort as part of the review process to discuss with each employee the content of his or her position and their performance in it," Mr. Wynne said. "The primary emphasis in this review is on merit and the amount of the individual's increase should be determined primarily on the basis of an evaluation of his or her performance.

Such discussions are a particularly useful time to talk about career goals, to review improvement in skills and knowledge required and to consider the ways in which Tuition Assistance or other forms of personal development can help," he said.

Mr. Wynne noted that the Women's Forum has developed a skit called "The April Review" which emphasizes the importance of supervisors distinguishing in the review between good and indifferent performance and of good communication between supervisor and employee.

It is hoped that many people, particularly supervisors, will have an opportunity to view the video tape of the skit prepared when it was presented last month to the

(Continued on page 8)

Topper Back



THE POPULAR TOPPER Carew is back...this time with his band for a concert of "Root Music"—a mix of jazz, blues, boogie and rhythm, noon, today (Mar. 6) in the Bldg. 7 Lobby. Carew, a former fellow in the MIT Community Fellows Program last year is an architect and veteran concert, TV and film producer, whose second nature is music. He plays guitar, harmonica, piano, synthesizer and baritone horn. He is currently producing the "Say Brother" show, seen weekly on WGBH-TV. The concert is sponsored by the Lobby 7 Committee.

Spring Symphony Concert March 16, Tour Planned

By WILLIAM T. STRUBLE
Staff Writer

Two members of the MIT music faculty—a violist and a composer—will be featured in the spring concert of the MIT Symphony at 8:30pm March 16 in Kresge Auditorium.

The orchestra, under the direction of David Epstein, professor of music, will give the premiere performance of *Incidental Music for the 'Merchant of Venice,'* by John Harbison, associate professor of music and a composer who is receiving ever wider recognition.

The same program will be presented later in concerts at Wellesley College and on a three-city tour to Buffalo, N.Y., and to Hamilton and London, Ontario.

Soloist for the concert will be Marcus Thompson, assistant professor of music, who is generally regarded as one of the distinguished young violists of his generation. He will perform Ernest Bloch's seldom-heard *Hebraic Suite for Viola and Orchestra.*

Last Week in March

The Harbison work, like a divertimento in character, was written with a dual purpose, according to the composer. In a stage production the music would serve as preludes, fanfares, songs and background of "practical" theater music. In concert performance, as it will be presented by the MIT Symphony, the segments are played in sequence, without pause. The composition is dedicated to Klaus Liepmann, professor emeritus and former director of music at MIT.

The Bloch suite was originally written for viola and piano but the orchestral version—which is rarely played—is thought to have been preferred by the composer for its added color and articulation. The program will conclude with Gustav Mahler's Symphony No. 1.

The concert, sponsored by the MIT Music Section, will be free to members of the MIT community. For others, tickets will be \$1 at the door.

The same program will be presented by the orchestra in a concert at 8pm March 19 at Wellesley College and in performances to be given on tour during the last week of March.

All three tour concerts will be by invitation—a direct result of the orchestra's television concert broadcast last September by about 200 stations of the Public Broadcasting System (PBS), Professor Epstein said.

The 105-member orchestra will open the tour March 25 in Hamilton Place, in Hamilton, Ontario, a new concert hall considered to have some of the finest acoustics among Canadian concert halls. The Hamilton concert will be under the sponsorship of McMaster University.

On March 27 the Symphony will be in Buffalo for a performance in the city's Kleinhans Music Hall under the auspices of the music department of the State University of New York at Buffalo. The tour will conclude with a concert on March 28 at the University of Western Ontario, London, Ontario.

* * *

Professor Thompson returned recently from a recital tour of universities in Tennessee, Minnesota, Iowa and California and will give recitals also on March 24 at the Isabella Stuart Gardner Museum, Boston, and on April 15 in New York City.

Nutrition Seminar

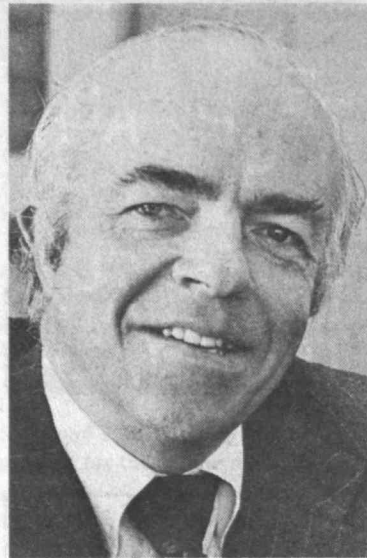
Dr. Hylton McFarlane, senior lecturer in the Department of Medical Biochemistry at the University of Manchester, England, will speak at a joint seminar on "Immunity and Malnutrition" Thursday (March 7) at 4:00pm at Rm 54-100, sponsored by the Harvard University School of Public Health, Department of Nutrition and the MIT Department of Nutrition and Food Science. A sherry hour in Rm 16-322 will follow the talk.

Asst. Professor Named

Dr. Keith D. Stolzenbach has been appointed assistant professor in the Department of Civil Engineering for three years, effective July 1, 1974. Dr. Stolzenbach received the SB degree in 1966, the SM in 1968 and PhD in 1971, all in civil engineering, from MIT. He presently is associated with the division of water control planning of the Tennessee Valley Authority.



Dr. Selby



Mr. Cabot



Mr. Cary

Three Are Elected to MIT Corporation

Two new members and one former member have been elected to five-year terms on the MIT Corporation, the governing body of the university, effective July 1, 1974.

They are:

Dr. Cecily Cannan Selby, national executive director of the Girl Scouts of the U.S.A. and an MIT alumna who becomes the fifth woman among the 84 members who make up the Corporation.

Louis W. Cabot, chairman of the board of directors of the Cabot Corporation, Boston, who served earlier as a Corporation member.

Frank T. Cary, chairman of the board of directors and chief executive officer of the International Business Machines Corporation, who—along with Dr. Selby—will be serving his first term on the Corporation.

Announcement of the elections was made by Howard W. Johnson, Corporation chairman, following the regular quarterly Corporation meeting last Friday. The Corporation also elected from among its membership chairmen for 1974-75 visiting committees for the university.

The three new members fill vacancies caused by recent deaths and retirements. The Corporation's annual election of new members to fill regularly expiring terms will be held at the spring quarterly meeting May 31.

Dr. Selby, a native of England, received an AB degree from Radcliffe College in 1946 and the PhD in life sciences from MIT in 1969. She was with the Sloan-Kettering Institute for Cancer Research 1951-56, the Cornell University Medical College 1956-58, both in New York City, and the Lenox

School, Lenox, Mass., 1957-72, serving as headmistress 1959-72. She became executive director of the Girl Scouts in 1972.

Dr. Selby is a member of the board of directors of the National Assembly of National Health and Social Welfare Organizations, the National Academy of Volunteerism and the United Way of America. She was president of the Headmistress Association of the East 1970-72 and is now an honorary life member.

Mr. Cabot was a MIT Corporation member 1963-68. He also was a member of the university's Development Committee 1956-57 and a member of the Visiting Committees for Industrial Management 1952-65 and for the Department of Metallurgy 1964-68 as well as a member of the Sloan School of Management Advisory Council 1966-67.

Mr. Cabot was graduated from Harvard College in 1943, served with the US Navy 1943-46, and returned to Harvard where he received the MBA degree in 1948. He joined the Cabot Corporation that year, became a director and financial vice president in 1953,

Maslov Exhibit

An exhibition of silkscreen prints and stained glass panels and designs by Victor M. Maslov, systems analyst in Administrative Information Systems, is currently on view at the Faculty Club.

Lincoln Drive

Lincoln Laboratory's annual blood drive, conducted by the Lexington Red Cross, will be held Monday, Tuesday, and Wednesday, March 11, 12 and 13 in Room A-166.

president in 1960 and chairman in 1969.

Mr. Cabot is a member of the Board of Overseers of Harvard University, a director of the Massachusetts Bay United Fund and the Boys Club of Boston, and a trustee of the Boston Museum of Science, Northeastern University, Norwich University and Brookings Institution. He is a Fellow of the American Academy of Arts and Sciences and a member of the Committee for Corporate Support of American Universities, the Business Committee for the Arts, the Council for Foreign Relations, Phi Beta Kappa and the Society of Sigma Xi.

Mr. Cary, a native of Gooding, Idaho, grew up in Inglewood, Calif., and received his BS degree from the University of California at Los Angeles in 1943 and his MBA degree from Stanford in 1948. He joined IBM in 1948 and spent several years in various sales assignments, becoming president of IBM's Data Processing Division in 1964. In 1966, he became IBM vice president and group executive and general manager for IBM's Data Processing Group.

Mr. Cary was elected senior vice president of IBM in 1967 and became a member of the IBM board of directors in 1968. He was elected executive vice president and member of the executive committee in March, 1971, and elected president in June, 1971, became president and chairman of the board on Jan. 1, 1973, and chairman of the board and chief executive officer last month.

Mr. Cary is a member of the board of trustees of the American Museum of Natural History in New York City.

New UROP Listings

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. Undergraduates are also urged to check with the UROP bulletin board in the main corridor of the Institute.

American Science and Engineering, Inc. Cambridge

One of the mysteries of solar physics concerns the process whereby energy is transferred from the sun's magnetic field into heat energy. The recent Skylab undertaking provided a unique opportunity to study the birth and propagation of solar flares. Observations of flares through the lab's telescopes provided raw data for scientists' understanding of the transfer of energy on the sun—and elsewhere. The Solar Physics Group of AS&E would like to involve undergraduates in an effort in data reduction and analysis of solar X-ray images returned from an X-ray telescope experiment on Skylab. Individual projects could be arranged based on mutual interests and background. Students should have a background in astronomy, with an emphasis on solar research. Computer programming, especially in PL/1, or technical photography is desirable. Contact Mr. Jordan Carter of the MIT Associates, Room 4-240, Ext. 3-6291, for further information.

Decision Technology Incorporated Cambridge

DTI is a management consulting firm with considerable experience in designing and building computerized information systems for both operational control purposes, management decision making, marketing and sales information. A number of projects have been suggested: (1) Performance analysis of a multi-computer system which simultaneously supports conventional time-sharing, several different on-line query, on-line message switching and conventional batch processing; (2) Development of graphics packages; (3) Planning studies of various alternate communication network configurations; and (4) Marketing studies of possible new services and/or network configurations. Strong computer background desirable.

Eli Bulba, Inc. Cambridge

This small environmental consulting firm has suggested a potential project for a student with a background in chemical engineering or mechanical engineering. The project would focus on pollution and economic problems which result from the use of solvents for cleaning and chemical compounding in certain industrial processes. Specific research activities include: (1) Investigation of solubility data of solvent-absorbers; (2) Development of a computer program to obtain final design parameters; (3) Determination of feasibility and cost data of an optimal system. Interested students should contact the UROP Office, Room 20B-141, Ext. 3-4849, for further details.

Department of Civil Engineering
An opportunity is available for one un-

dergraduate who has taken 1.07 to join a six-man research team investigating the use of probability for selecting loadings for structures. Members of the team are working on probabilistic descriptions of each load type separately and on methods for combining load types. The study of the temperature loadings is an open project for a student, involving library and analytical tasks. The compilation of an annotated bibliography of previous papers on temperature loadings and the identification of available data sources would constitute the major library work. The library work would be followed by numerical validation of existing probabilistic descriptions of temperature loading or the identification of suitable probability models, should none exist. A final report is to be written presenting the best probability model with design examples of its application. Interested students should contact Dr. R. C. Garson, Room 1-272, Ext. 3-7140.

Massachusetts Forest and Park Assn.

Almost 75 years old, the MAFP has lobbied for environmental legislation and is the only conservation organization in Massachusetts which devotes substantially all of its time to the legislative process. Some areas of interest to undergraduates are (1) Energy, conservation research and evaluation of offshore oil and onshore facilities; (2) Land use planning; (3) Solid waste in communities; (4) Projects with the Bicentennial Commission; and (5) Opening a highway trust fund for use in mass transit.

General Electric Lynn, Mass.
The Aircraft (Jet) Engine Group has

proposed three instrumentation projects for undergraduate and faculty collaboration. (1) Instrumentation Miniaturization. The advent of small, high speed compressors has created the need for miniature hyperdermic and thermocouple sensors to determine overall aerodynamic performance and interstage performance of jet engines. The miniaturization of existing types of sensors poses many problems: reliability, accuracy, blocking, cost, and response time. New methods may be required to pick up where old methods fail. (2) Rake and Probe Stress Analysis and Distribution. Present methods for determining performance of large jet engines requires a great deal of time for the calculation of stress and vibration characteristics and considerable effort to ensure suitable mechanical integrity. A computer program could reduce the time to design and evaluate standard and innovative rake configurations. Experimental modelling is also needed. (3) Aerodynamic Probe Calibration. There is a major need to improve existing methods for jet probe calibration to eliminate potential problems and errors such as condensation shock, conduction and radiation error, and free jet temperature and pressure striations. For more information, contact the UROP office, Room 20B-141, Ext. 3-4849.

Graduate Studies

Fort Fellowship

Friday, March 8, is the deadline for filing applications for the Marron William Fort Fellowship for an outstanding minority senior who will pursue full-time graduate study at MIT in 1974-75. The Fort Fellowship was established last year to honor

the late Dr. Marron W. Fort, who is believed to be the first black American to receive a PhD from MIT. Purpose of the award is to encourage MIT minority undergraduates to consider graduate study at MIT, and to perform with distinction in order to be eligible for the Fellowship. The Fellowship covers tuition and living expenses for nine months. Applications may be made by individual minority seniors or departments and faculty members. Applications consist of a one-page essay about the student and his or her career plans. They should be submitted to Dr. Clarence G. Williams, Rm 3-140. Announcement of the award will be made in early April at which time the recipient must have been admitted as a regular graduate student for the 1974-75 year.

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Materials Science Center Names Assistant Directors



Professor Flemings



Professor Wolff

Professors Peter A. Wolff and Merton C. Flemings have been appointed assistant directors of the MIT Center for Materials Science and Engineering.

Announcement was made by Dr. Albert G. Hill, vice president for research, and Dr. Nicholas J. Grant, professor of metallurgy and director of the Center.

Dr. Wolff of Cambridge, professor of physics, is head of the Solid State and Atomic Physics Division of the MIT Department of Physics. Dr. Flemings of Lexington, is ABEX professor of metallurgy in MIT's Department of Metallurgy and Materials Science.

"The aim of these part-time appointments," Dr. Grant said, "is to broaden the scope and involvement of the Center beyond that possible under existing core-funded programs. Both individual and

interdisciplinary proposals will be encouraged with the hope that industrial and governmental support can be stimulated. The Center is well equipped with excellent central facilities for support of research in materials."

Professors Wolff and Flemings will continue to serve as members of the Center's Internal Advisory Committee, which advises and assists the director in its current research and contractual activities.

Dr. Wolff, who has been on the MIT faculty since July, 1970, received an AB in 1945 and PhD in 1951, both from the University of California at Berkeley.

Dr. Flemings received SB, SM and ScD degrees from MIT, in 1951, 1952 and 1954. He was appointed to the faculty in 1956.

Film Producers Will Discuss Work

Three documentary film producers will show and discuss their work starting at 7pm Wednesday (March 13) in Building 26-100 as part of MIT's Compton Lecture Series.

The films and their creators are:

Janie's Janie by Geri Ashur, about a Newark, N.J., white working-class woman struggling toward and finding a new definition of herself after separation from her husband.

Wishes, Lies and Dreams, by Alan Jacobs, about poet Kenneth Koch teaching poetry to grade school children in New York City.

Lordstown Workers Speak, by Peter Herman, a videotape of interviews with young assembly line workers at General Motors'

Lordstown, Ohio, plant. Mr. Herman is an assistant professor of humanities at MIT.

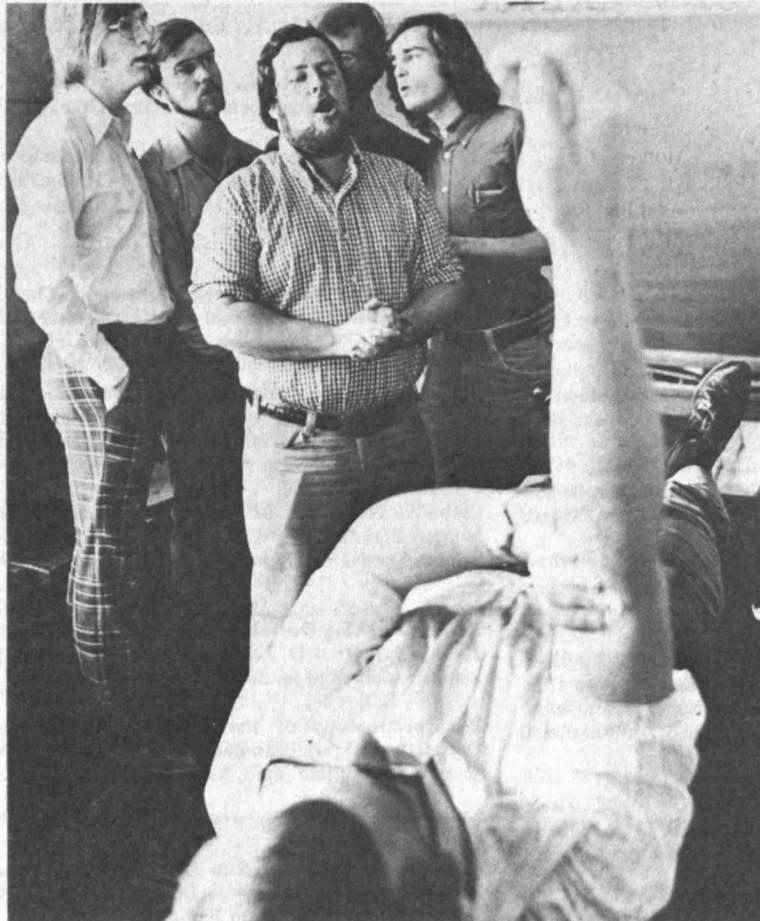
First Aid Course

The Technology Matrons will sponsor a free Red Cross first aid and personal safety course open to the MIT community in April.

The 18-hour course, covering a wide range of emergency situations, will meet at the Student Center Tuesday and Thursday evenings, 7-10pm, for three weeks beginning April 9. Registration for the course is being handled by Millie Wilkerson, 868-6667 days or 646-6035 evenings.

If sufficient interest is shown, the Matrons will try to arrange a daytime course.

Blood Drive Starts



Music to give blood by is provided by the Logarhythms, a student singing group, as David T. Brown, a sophomore from Shelton, Conn., rests a few moments after donating blood Monday at the start of MIT's annual spring Red Cross Blood Drive. It was the eighth time Brown had given blood, making him a gallon donor. Drive is being held weekdays through Friday, March 15, at the Sala de Puerto Rico in the Student Center. Hours are 9:45am to 3:30pm except for this Thursday (March 7) and next Wednesday (March 13), when there will be evening hours until 9:30. The Logarhythms will give another concert Thursday evening at 8. Nearly 1,500 students, faculty members, staff members and employees, as well as Draper Laboratory personnel, signed up to give blood before the drive began. "No-wait" appointments are still available by calling x3-7911, and walk-in donors also are welcome.

—Photo by Margo Foote

Tucker Concert Friday

An evening of sonatas for violin and piano and an announcement of a commemorative album of recordings will mark the 1974 Gregory Tucker Memorial Concert at 8pm Friday (March 8) in Kresge Auditorium.

John Buttrick, pianist, and Eric Rosenblith, violinist—who were both musical colleagues of the late Professor Tucker—will present a program of music by Mozart, Beethoven, and Brahms. The concert is sponsored by the MIT Music Section and will be open to the public free of charge.

John Buttrick is director of music at MIT and Eric Rosenblith, brother of MIT Provost Walter A.

Rosenblith, is chairman of the String and Chamber Music Department at the New England Conservatory of Music.

The commemorative recordings, which will include works by Professor Tucker, are part of an effort to perpetuate the memory of the accomplished pianist and composer, according to Professor Buttrick. Members of the concert audience may register to obtain the free albums, which have been made possible by an anonymous donor.

In addition, an established fund is devoted to promoting the performance of works by Professor Tucker and new music by other

Student Group Builds Space Experiment

By CHARLES H. BALL
Staff Writer

Over the years, the MIT Center for Space Research has prepared a number of experiments that have been carried aboard space probes and satellites.

But there is something different about a solar wind experiment that will be launched in 1975 aboard the Naval Research Laboratory's SOLRAD 11 satellite.

In this case, a major portion of the design work for the experiment was done by undergraduate students in physics and electrical engineering.

"It is most unusual to use students, particularly undergraduates, to build something as sophisticated as this," Dr. Alan J. Lazarus, a senior research scientist in the Department of Physics, said.

Dr. Lazarus and two of his colleagues—Dr. Stanislaw Olbert, professor of physics, and Dr. John W. Belcher, assistant professor of physics—got the project going with a month-long series of lectures during the Institute's January Independent Activities Period two years ago. IAP enables students to pursue a variety of activities between semesters that they might not have time for

otherwise—both to relax and to learn.

The work on the experiment, which has been used by several students as the basis for master's and bachelor degree theses, has been supervised largely by Dr. Lazarus and Dr. James K. Roberge, associate professor of electrical engineering.

The students were responsible for designing the electronics—through the breadboard stage to the final testing—doing essentially what professional electrical engineers do.

The electronics construction itself, with the mechanical design and layout for the experiment, was done by professional technicians under the direction of Daniel H. Galvin Jr. of the Center for Space Research.

The Naval Research Laboratory provided \$300,000 for the experiment, which is one of a series of projects to measure solar phenomena and interplanetary solar winds—and how they interact with the earth.

"The budget is a relatively small amount for such an experiment," Dr. Lazarus said. "A number of people, such as parts suppliers, have been willing to give us a break on prices knowing

Assistant Dean For Minorities Being Sought

A search has begun for a new Assistant Dean for Minority Graduate Student Affairs, Dr. Irwin W. Sizer, Dean of the Graduate School, has announced.

The successful candidate will succeed Dr. Clarence G. Williams who was recently appointed Special Assistant for Minority Affairs to the President and Chancellor.

The new Assistant Dean will be a member of the Committee on Graduate School Policy and will be expected to be involved and knowledgeable in the full range of operation and decision making in the Graduate School Office.

Responsibilities of the Assistant Dean include: recruitment of minority graduate students, advising departmental graduate admissions committees with respect to admission of minority students, and advising the Dean of the Graduate School on matters of financial aid for minority students. Academic, personal, professional and placement counseling are also important responsibilities of the Assistant Dean.

Those wishing to be considered for this position or to recommend a qualified candidate, may call Dean Sizer, x3-4869.

Recorder Warning

Some portable cassette recorders—notably those that automatically recharge their batteries while plugged into 120 volt current—are potentially dangerous, according to a report received recently by the purchasing office.

The problem arises with non-rechargeable alkaline batteries. They leak—and can explode—if an attempt is made to recharge them. Recorder users are urged to check their machines, or, if in doubt, remove the batteries whenever using line voltage.

composers.

Professor Tucker served on the MIT music faculty from 1947 until his death in July, 1971, and was a major force in planning and establishing the present vigorous music program at MIT. He performed as an ensemble player with the Juilliard String Quartet, with many other groups, and as a solo recitalist. His compositions included chamber music as well as works for theater and modern dance.

that students were involved in the project."

About six students—divided between electrical engineering and physics majors—have worked on the project.

The electrical engineering students, who came out of Dr. Roberge's class on advanced circuit techniques, included Joseph Gorin of Cambridge, who recently received his master's degree, and Patrick W. Bosshart of Arlington Heights, Ill. He has received his bachelor's degree and has been hired by MIT's Laboratory for Space Experiments to do professional electronics design work on the upcoming Mariner-Jupiter-Saturn spacecraft due to be launched in 1978.

Student participants from the Department of Physics included Grzegorz M. Madejski of Westbury, N.Y., who will receive a combined bachelor and master's degree in June; Esther Hu of New York City, Kyle Richardson of Rutland, Vt., and Robert G. Hohlfield of Roseland, Neb., who will receive bachelor degrees in June.



Dr. Alan Lazarus and three of the students who worked on space project—Grzegorz Madejski, Esther Hu and Patrick Bosshart—show parts of the solar experiment.

—Photo by Margo Foote

THE INSTITUTE CALENDAR

March 6
through
March 15

Events of Special Interest

Bake Sale* – Co-sponsored by the Health Advocates of Somerville and Somerville Women's Health Project. Thurs, Mar 7, from 8am, Bldg 10 Lobby. Including lunch foods.

The People's Right to Know – Daniel Ellsberg will speak, followed by a question and answer period. Mon, Mar 11, 8pm, Kresge Auditorium. MIT or Wellesley ID required. Free.

Oceans of the World: The Last Frontier – Elizabeth Mann Borghese, writer, daughter of author Thomas Mann, will speak at an all-day symposium co-sponsored by the Mass League of Women Voters annual School of International Relations, MIT Sea Grant Program, and the United Nations Association of Greater Boston. Also film and panel discussion. Thurs, Mar 14, 9am Kresge Auditorium. Tickets: \$4, \$2 for students, available at School of International Relations and at door.

Spring 1974 MIT Red Cross Blood Drive – Mar 4-8, 11-15, Sala de Puerto Rico. Appointments preferred, forms available from Bldg 10 Lobby or TCA. Information, x3-7911.

Seminars and Lectures

Wednesday, March 6

Acoustics and Vibrations* – Introduction by Huw G. Davies, mechanical engineering. Mechanical Engineering Seminar. 12:15-2pm, Rm 10-105.

Fully Renormalized Kinetic Theory – Dr. Gene F. Mazenko, Stanford University. Nuclear Engineering Doctoral Seminar. 2-3pm, Rm 24-117.

Women in Industry – Dr. Phyllis Fox, '49, technical staff, Bell Telephone Labs. Career Planning & Placement Seminar. 3pm, Rm 10-340.

Employment in Aerospace, 1974* – Eugene Bowman, assistant director, engineering; G. Fred Dunmire, '48, director of operations, product development; Grumman Aerospace Corp. Career Placement & Planning Seminar. 4pm, Rm 3-133.

The Arms Control Implication of the New Defense Budget* – Dr. Herbert Scoville, Jr., former assistant director, US Arms Control & Disarmament Agency. Harvard CFIA Seminar. 4-5:30pm, seminar rm 1, 6 Divinity Ave.

Sunsets, Rainbows and Other Beautiful Phenomena of the Sky* – Walter Lewin, physics. Undergraduate Physics Colloquium. 4:15pm, Rm 6-120.

Thursday, March 7

X-Ray Astronomy Lunches* – Discussion of preparations for the impending balloon flight to search for hard x-rays from the Perseus and Coma Clusters and the Crab will be led by Drs. Anton Scheepmaker & George Ricker, CSR, DSR. 12:05-1pm, Rm 37-696. Bring food.

Accident Prevention* – Edward Swartz, LLD; Dr. Benjamin Sachs, Mass Department of Public Health. The Human Life Cycle: Children and Adolescents Lecture. 1:30-3pm, Rm 7-102.

Immunity and Malnutrition – Dr. Hylton McFarlane, medical biochemistry, University of Manchester, England. Joint MIT Nutrition & Food Science-Harvard University School of Public Health Seminar. 4pm, Rm 54-100. Sherry hour following, Rm 16-322.

Contamination Flashover of Transmission Line Insulation – Dr. T. C. Jolly, DSR; T. C. Cheng, G. Electric Power Systems Engineering Lab Seminar Series. 4pm, Rm 10-280.

Effect of Molecular Weight on Mechanical Properties of Polymers* – Julian F. Johnson, University of Connecticut. Polymer Science & Engineering Seminar. 4pm, Rm 4-231. Tea 3:30pm, Rm 8-314.

Some Thoughts Concerning Information Structures in Many-Person Optimization Problem* – Y. C. Ho, Harvard. Operations Research Center Seminar. 4pm, Rm 24-121. Coffee & donuts.

Aerodynamically Induced Pressure Oscillations in Shallow Cavities – Physical Mechanisms and Suppression* – Hanno H. Heller, Bolt, Beranek & Newman. 4pm, Rm 5-134. Coffee 3:30pm, Rm 1-114.

Superconducting Generator Research – Phillip Thullen, mechanical engineering. Thermodynamics Seminar. 4pm, Rm 3-343. Coffee.

Careers for Physicists* – Philip M. Morse, professor emeritus of physics. Physics Colloquium. 4:15pm, Rm 26-100. Refreshments 3:34pm, Rm 26-110.

Transfer and Adaptation of Housing Technologies in Developing Nations* – Ian D. Terner, urban studies & planning. Technology Adaptation Program Seminar. 5pm, Rm 3-133.

Rural Development: For Better or Worse?* – Cole Dodge, Oxfam-America. Seminar on Foreign Students and Participation in Development. Discussion of Oxfam's rural development overseas. 7pm, Int'l Students Lge, Walker Memorial. Coffee.

Molecular Virology and Virus Disease* – Alice Huang, Harvard Medical School. Science Club Seminar. 8pm, Stu Ctr West Lge. Refreshments.

Friday, March 8

Superheating of Cryogenics and Their Mixtures* – W. Porteous, G. Chemical Engineering Doctoral Seminar. 2pm, Rm 39-500.

A Look at Professional Societies with Emphasis on the Society of Naval Architects & Marine Engineers – Phillip Eisenberg, president, SNAME; Robert Mende, sec/treas, SNAME. Ocean Engineering Tankard Seminar. 3pm, Rm 5-314.

Applications of Magnetic Separations in Bio-Chemical Engineering* – A. LaMotte, G. Chemical Engineering Doctoral Seminar. 3pm, Rm 39-500.

Research Planning in Materials Development* – Roy V. Harrington, vice president, corporate director of research, Ferro Corp, Independence, Ohio. Mechanical Engineering Seminar. 3pm, Rm 3-133. Coffee 4pm, Rm 1-114.

Cathodic Protection of Metals** – Dr. John Morgan, director, Morgan Berkeley Co, Winchester, England. Metallurgy & Materials Science Seminar. 3:30pm, Rm 13-2101.

Report on IAEA Workshop on Fusion Reactors – Culham, January, 1974 – Part II* – D. J. Rose, nuclear engineering. Plasma Dynamics Seminar. 4pm, Rm 36-261.

Rheospectroscopy of the Vibrational and Electronic Levels in Crystals* – A. K. Ramdas, physics, Purdue University. Materials Science Colloquium. 4pm, Rm 9-150. Refreshments 3:30pm.

Monday, March 11

An Engineering Approach to Estimation and Hypothesis Testing of Dynamic Social Models** – David Peterson, G. System Dynamics Seminar Series. 3-5pm, Rm E52-461. Coffee.

Errors in Diagnostic Radiology – Barry Blesser, electrical engineering; David Ozonoff, M.D., nutrition & food science. Cognitive Information Processing Group-CIPG Seminar. 3:30pm, RLE Conference Rm. Coffee 3pm.

Core Catchers and Reactor Safety* – Dr. Richard Peckover, UKAEA. Nuclear Engineering, ANS Seminar. 3pm, Rm NW12-222. Coffee & donuts.

Floating Nuclear Power Plants* – H. H. Fawcett, Jr, manager, facility planning & B. A. Grubbs, manager, employee relations, Offshore Power Systems, Jacksonville, Fla. Ocean Engineering Seminar. 4pm, Rm 3-446. Coffee 3:30pm.

Recent Studies in the Ising Model* – Eytan Barouch, mathematics. Applied Mathematics Colloquium. 4pm, Rm 2-338. Tea 3:30 pm, Rm 2-349.

Model Studies of a Surge System – Dr. Hans Kaldenhoff, civil engineering, Technical University of Berlin. Civil Engineering, Water Resources and Hydrodynamics Seminar. 4-5pm, Rm 48-316. Coffee 3:45pm, Rm 48-410.

An Anthropologist Observes Research Institutions (Speculations for More Comparative Work)** – Robert S. Anderson, visiting professor, anthropology & sociology, University of British Columbia. Technology Studies Workshop. 4:10pm, Rm 14E-304. Coffee 4pm.

The Dynamics of Freezing and Thawing Mammalian Cells: The Hela Cell – John J. McGrath, Cryogenic Engineering Lab. Harvard-MIT Program in Health Sciences and Technology/Interdisciplinary Program in Biomaterials Science Seminar. 4:30pm, Rm 37-212. Coffee 4pm.

Tuesday, March 12

Single Frequency Stable CO₂ Laser – J. Hsia, G. Nuclear Engineering Plasma Physics Group Doctoral Seminar. 12n, Rm 38-166.

Transport Effects in Toroidal Plasmas – D. J. Sigmar, nuclear engineering. Nuclear Engineering Plasma Physics Group Doctoral Seminar. 1pm, Rm 38-166.

Man-Machine Systems Analysis via Modern Control Theory* – Dr. Sheldon Baron, Bolt, Beranek & Newman. Electrical Engineering Decision & Control Sciences Group Seminar. 4-5pm, Rm 39-500.

Rainfall over the Ocean from Satellite-Born ESMA (Electrically Scanning Microwave Radiometer)* – Dr. M. S. V. Rao, Goddard Space Flight Center, NASA. Meteorology Seminar. 4pm, Rm 54-100.

Satellite Nuclear Power Station* – J. Robert Williams, Georgia Institute of Technology. Aero/Astro General Seminar. 4pm, Rm 33-206. Coffee 3:30pm, Rm 33-411.

On the Structure and Stability of Vortex Rings – Sheila Widnall, aero/astro. Interdepartmental Fluid Mechanics Seminar. 4pm, Rm 2-338. Coffee 3:30pm, Rm 2-349.

Making Homozygous Zebra Fish – Dr. George Streisinger, University of Oregon. Biology Colloquium. 4:30pm, Rm 6-120. Coffee 4pm, Rm 56-520.

Wednesday, March 13

Educational Energy: How to Recharge** – Joan Bishop, director, Career Services Office, Wellesley College; Hilda Kahne, assistant dean, Radcliffe Institute; Carol Pooler, director, Continuing Education, Simmons College. Matrons' Seminar. Wed, Mar 13, 10am, Rm 10-105.

Molecular Dynamics Experiments in Liquid Crystals – Joseph Kusik, Columbia University. Nuclear Engineering Doctoral Seminar. 2-3pm, Rm 24-117.

Response Matrix Techniques for Solving Static Group Diffusion Equations – Y. Lukic, G. Nuclear Engineering Seminar. 3pm, Rm NW12-222.

Mechanical Integrity Considerations in LWR Fuel Management – S. Schultz, G. Nuclear Engineering Doctoral Seminar. 4pm, Rm NW12-222.

The Laws of Chinese Science are the Laws of Chinese Art* – Nathan Sivin, history of science & Chinese culture. Course 4.603: Aesthetic Perspectives in Science and Technology Seminar. 8pm, Rm 3-133.

Thursday, March 14

Children in Hospitals* – Dr. Herbert Needleman, B. J. Seabury, Children's Hospital. Course 11.547, The Human Life Cycle: Children and Adolescents Lecture. 1:30-3pm, Rm 7-102.

Friday, March 15,

The Effects of Texturing on the Dyeability of Synthetic Fibers* – S. Rose, G. Chemical Engineering Seminar. 2pm, Rm 10-105.

Failure Detection through Signature Analysis of Machinery Vibration – Joseph B. Gibbons, manager, Automation Equipment Branch, General Electric Co, Schenectady, NY. Mechanical Engineering Seminar. 3pm, Rm 3-133. Coffee 4pm, Rm 1-114.

Secondary Nucleation Mechanisms in Continuous Crystallizers* – E. Woltz, G. Chemical Engineering Seminar. 3pm, Rm 10-105.

Two Component Fusion Reactors* – H. Furth, Princeton University, Princeton Plasma Physics Lab. Plasma Dynamics Seminar. 4pm, Rm 36-261.

Community Meetings

Preprofessional Meetings – Dr. Robert Parke, Baylor Medical School, will speak to interested students especially juniors. Wed, Mar 6, 12n, Rm 4-146.

International Women's Day* – Susan Lamont, former coordinator, Women's National Abortion Action Coalition; speaker from NOW. Discussion of international abortion movement sponsored by MIT Committee for the Right to Choose. Wed, Mar 6, 7pm, Stu Ctr West Lge.

Student Committee on Educational Policy* – Open meeting Wed, Mar 6, 7:30pm, Stu Ctr Rm 473.

Grievance Committee* – Open meeting Sun, Mar 10, 6pm, Stu Ctr Rm 401.

Women's Forum* – Kerry Wilson, wage & salary administrator, will talk about the Hayes Classification Study. Mon, Mar 11, 12n, Rm 10-105.

MIT Community Players* – Monthly meeting will be an evening of all types of music. Mon, Mar 11, 7:30pm, Stu Ctr West Lge. If want to perform call Karen Barton. 868-0387. Refreshments.

Student Committee on Educational Policy* – Open meeting. Edgar Schein, organizational psychology & management, will speak on "Career Development." Wed, Mar 13, 7:30pm, Stu Ctr Rm 473.

MIT Club of Boston – Luncheon meeting featuring Nicholas DeWolf, founder, chairman, Teradyne, Inc. Thurs, March 14, 12:15-1:30pm (bar, 11:30am), Hotel Sonesta, 5 Cambridge Parkway, Camb. \$4 Cost: \$4, payable at door. Reservations: Miss Kairats, x3-3878.

MIT Club Notes and Meetings

Association at Tang Hall Recall referendum, Fri, Mar 8, 8am-10pm, ground fl elevator lobby, ID required.

Bridge Club* – ACBL Duplicate Bridge. Matchpoint pairs Thurs, 7-10:30pm; non-masters (less than 20 master points) Fri, 10pm-12m; small IMP-scored team of 4 (advance registration required) Fri, 8pm & Sat, 2pm; all Stu Ctr Rm 473. Jeff, 864-5571.

Chinese Choral Society** – Sun, 3pm, Stu Ctr Rm 473.

Goju Karate Club* – Beginners join class first week of each month. Meetings Mon, Thurs, 7-9pm, 4th fl Stu Ctr. Terry or Dick, 440-9631.

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

Israeli Student Club – Meetings Wed, 8pm, Stu Ctr Mezzanine Lge.

Judo Club** – Sport and self defense. Mr. M. H. Yanagi, 5th degree Black Belt, chief instructor. Mon, Wed, Fri, 5pm; Sat 1pm, Exercise Rm, duPont Gym. Beginners welcome. Info, Mike Portnoff, x3-7319.

LSC*** – General Committee Meeting. Motion for 16mm projector, free movie, lectures, nominations for Sunday Night director.

MIT/DL Bridge Club** – ACBL Duplicate Bridge. Tues, 6pm, Stu Ctr Rm 473. Jeff, 864-5571.

MIT Flying Club** – Meeting with 3 flying movies. Wed, Mar 6, 7:30pm, Stu Ctr Mezzanine Lge. Cider, coffee, donuts. Free

MIT Karate Club** – Evening classes Mon, Wed, 8-10pm, duPont Wrestling Rm. Harry Koba, x3-6232.

MIT Kung Fu Club* – Chinese boxing, northern praying mantis. Meetings Tues, Thurs, 7:30-9pm. Call, 876-5071 or 661-8765.

MIT Outing Club* – Meetings Mon, Thurs, 5-6pm, Stu Ctr Rm 461.

MIT Scuba Club** – Compressor hours: Mon, Fri, 4-6pm, Alumni Pool NOTE: members have use of pool to get in shape for warmer diving weather Wed, Mar 6, 8-10pm, Alumni Pool.

MIT Wheelmen* – Meetings Tues, 7:30pm, Rm 1-203.

Strategic Games Society* – Offers opponents and discounts on merchandise to members plus gaming and periodical library. Sat, 1pm-1am, Walker Rm 318. Info, Kevin Slimak, x0389 Dorm.

Student Homophile League* – Meetings 1st & 3rd Sun of each month, 4pm, Rm 1-132. Next meeting is Sun, Mar 17. Information, help in coming out, Hotline, 494-8227. Come out, come out, wherever you are!

Student Information Processing Board Meeting* – Mon, 7:30pm, Rm 39-200.

Tiddlywinks Association* — Meetings Wed, 8-11pm, Stu Ctr Rm 491.

Unicycle Club* — Meetings Sun, 1-3pm, Stu Ctr Rm 407. Beginners welcome. We have unicycles.

Volleyball Club** — Practice, advanced level team competition. Sun, 1-4pm, duPont Gym.

White Club Spring Meeting — White Water Club. Wed, Mar 13, 8pm, Stu Ctr. Info, Bruce Ackerman, 247-8764.

White Water Club** — Pool session. Tues, Mar 12, 8-10pm, Alumni Pool.

Women's Gymnastics Club* — Mon-Fri, 5-7pm, duPont Gym. Info, Ursula, x3-5954.

Wellesley Events

The Ascent of Man* — A series of 13 films on the history of science as a history of man, written and narrated by Dr. Jacob Bronowski. Wellesley Centennial Film Series. This week: "The Majestic Clockwork" and "The Drive Power." Sun, Mar 10, 2pm, 112 Pendleton East; Mon, Mar 11, 7:15pm, 105 Pendleton West.

Ethical Issues in Extreme Situations: Some Current Paradigms from Jewish History* — Series of lectures by Benjamin Halpern, visiting professor, history, Wellesley College. Topic for Wed, Mar 13 will be **Collective Guilt and Individual Responsibility: The Genocide Concept.** 7:30pm, Rm 112 Pendleton East.

Wellesley College Dance Group Concert* — Featuring guest choreographer, Toby Armour, artistic director, New England Dinosaur. Fri, Mar 15 & Sat, Mar 16, 8pm, Houghton Memorial Chapel.

Chamber Music Concert* — Sponsored by the music department. Sun, Mar 17, 8pm, Jewett Auditorium.

Social Events

Pot Luck Coffeehouse* — Fri & Sat, 8:30pm-12m, Stu Ctr Mezzanine Lge, sponsored by Stu Ctr Committee. Live music, free coffee, cider, donuts. Come & listen. If you want to perform call Ernest Perevoski, x9610 Dorm, for audition.

Hillel Coffeehouse* — Wed, 8pm, 312 Memorial Dr, basement. Refreshments.

Movies

Potemkin — Humanities Film. Wed, Mar 6, 7pm, Rm 10-250.

Lordstown — Humanities Film. Wed, Mar 6, 7:30pm, Rm 4-231.

Dead Birds — Humanities Film. Thurs, Mar 7, 4pm, 7:30pm, Rm 4-370.

Flow Instabilities; Turbulence* — Fluid Mechanics Films. Thurs, Mar 7, 4pm, Rm 33-419.

Urban Engineering — Cities Have No Limits; Big Yellow Taxi; Quickrise* — BEL Spring Film Series. Thurs, Mar 7, 5pm, Projection Rm off 10-400 Coffee.

Urban Engineering — Cities Have No Limits; Big Yellow Taxi; Quickrise* — BEL Spring Film Series. Fri, Mar 8, 12n, Projection Rm off 10-400, Coffee.

Radical Cinema — Fuera Yanqui; FALN; My Country Occupied** — Science Action Coordinating Committee. Fri, Mar 8, 6:45pm, Stu Ctr Rm 407. Donation \$1.

Up the Sandbox — LSC. Fri, Mar 8, 7pm, 10pm, Rm 26-100. Admission 50 cents, ID required.

The Adversary (Satyajit Ray) — MIT Film Society. Fri, Mar 8, 7:30pm, 9:30pm, Rm 6-120. Admission \$1.

Oblong Box — With Pink Panther cartoon. Midnite Movie Series. Fri, Mar 8, 12m, Sala. Free admission & popcorn. MIT or Wellesley ID. Bring blanket.

Puppet on a Chain — LSC. Sat, Mar 9, 7:30pm, 10pm, Rm 26-100. Admission 50 cents, ID required.

Naya Daur (B R Chopra)* — SANGAM. Indian film with subtitles. Sun, Mar 10, 3:30pm, Rm 26-100. Admission 50 cents with ID.

Pretty Maids All in a Row — LSC. Sun, Mar 10, 8pm, Rm 10-250. Admission 50 cents.

Flow Instabilities; Turbulence* — Fluid Mechanics Films. Tues, Mar 12, 4pm, Rm 33-419.

Earth — Humanities Film. Wed, Mar 13, 7pm, Rm 10-250.

Rotating Flows; Stratified Flow* — Fluid Mechanics Films. Thurs, Mar 14, 4pm, Rm 33-419.

Boy of Matto Grosso; Head Hunters of Ecuador; Amazon Family; Contact with a Hostile Tribe — Humanities Films. Thurs, Mar 14, 4:30pm, Rm 14N-0615.

Developmental Engineering; Lasers (NBC); Lasers (BBC); Laser Beam* — BEL Spring Film Series. Thurs, Mar 14, 5pm, Projection Rm off 10-400. Coffee.

Developmental Engineering; Lasers (NBC); Lasers (BBC); Laser Beam* — BEL Spring Film Series. Fri, Mar 15, 12n, Projection Rm off 10-400. Coffee.

Radical Cinema — Salt of the Earth** — Science Action Coordinating Committee. Fri, Mar 15, 6:45pm, Stu Ctr Rm 407. Admission \$1.

The Getaway — LSC. Fri, Mar 15, 7pm, 10pm, Rm 26-100. Admission 50 cents, ID required.

Crucified Lovers (Kenji Mizoguchi) — MIT Film Society. Fri, Mar 15, 7:30pm, Rm 6-120. Admission \$1.

Yellow Submarine — With Pink Panther cartoon. Midnite Movie Series. Fri, Mar 15, 12m, Sala. Free admission & popcorn, MIT or Wellesley ID. Bring blanket.

Chinese Connection — LSC. Sat, Mar 16, 7:30pm, 10pm, Rm 26-100. Admission 50 cents, ID required.

Agni Rekha (Hrshikesh Mukherjee)* — SANGAM. Indian film with subtitles. Sun, Mar 17, 3:30pm, Rm 26-100. Admission 50 cents with ID.

North by Northwest — LSC. Sun, Mar 17, 8pm, Rm 10-250. Admission 50 cents.

Music

The Topper Carew Band* — Selections of jazz, blues, boogie, and rhythms, sponsored by Lobby 7 Committee. Wed, Mar 6, 12n, Bldg 7 Lobby.

Noon Hour Concert* — Thomas Stephenson, bassonist. Thurs, Mar 7, 12n, Chapel. Free.

Gregory Tucker Memorial Concert* — John Buttrick, pianist; Eric Rosenblith, violinist, in a program of music by Mozart, Beethoven, Brahms, and Gregory Tucker. Fri, Mar 8, 8pm, Kresge Auditorium. Free.

Noon Hour Concert* — Ars Antiqua de Paris, early music ensemble. Thurs, Mar 14, 12n, Chapel. Free.

Spring Festival of Jazz* — Participating groups will be MIT Concert Jazz Band, MIT Festival Jazz Ensemble, Halbert White Sextet, Harvard University Jazz Band, Lowell State College Studio Orchestra. Fri, Mar 15, 8:30pm, Kresge Auditorium. Tickets free to MIT community in Bldg 10 Lobby, \$1 at door.

MIT Symphony Orchestra* — Conducted by David Epstein; viola solo by Marcus Thompson, humanities. Concert includes premiere of "Incidental Music for the 'Merchant of Venice,'" by John Harbison, humanities. Sponsored by Music Section. Sat, Mar 16, 8:30pm, Kresge Auditorium.

MIT Concert Band* — Program to be announced. Sun, Mar 17, 3pm, Kresge Auditorium. Free.

Recorder Ensemble** — Tues, 7pm, 6th fl Bldg 24. Info, David Dreyfus, x3-7787.

Dance

Folk Dance Club* — International, Sun, 7:30-11pm, Sala. Balkan, Tues, 7:30-11pm, Stu Ctr Rm 491. Israeli, Thurs, 7:15-10:15pm, T Club Lge, duPont. **Afternoon Dance Break**, Fri, 12:30-1:30pm, Kresge Oval.

Exhibitions

Imprint: Images of People and the Places They Build* — Organized by Jan Wampler, architecture, and sponsored by the Committee on the Visual Arts. Thru Wed, Mar 20, Hayden Corridor Gallery.

Celebrations* — Photography exhibit, assembled by Minor White, at Hayden Gallery Sat, Mar 2-Sat, Mar 30. Gallery hours: Mon-Sat, 10am-4pm, closed Sun.

Photograph by Jerry Greenfield* — Black & white prints by the Boston photographer. Thurs, Mar 7-Thurs, April 4, 12n-7pm, Creative Photography Gallery, 120 Mass Ave. Free.

Hart Nautical Museum* — Permanent exhibit of rigged merchant and naval ship models, half models of yachts and engine models. Open daily in Bldg 5, 1st floor.

Music Library Exhibit — Persian musical instruments.

Athletics

Wednesday, March 6 — F Swimming. Bridgewater, 6:30pm, Alumni Pool. **Saturday, March 9** — Pistol. Boston State, John Jay College, 9am, duPont Pistol Range. **Saturday, March 16** — Pistol. NRA College Conventional, 9am, duPont Pistol Range. **Sunday, March 17** — Pistol. NRA International Convention, 9am, duPont Pistol Range.

Religious Services and Activities

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

Campus Crusade for Christ/College Life* — Family time, singing, prayer, teaching from God's word. Fri, 7:30pm, Rm 37-252.

Celebration of Holy Communion* — The Revs John Crocker, Episcopal Chaplain; Peter Johnson, Boston/Cambridge Ministries; and Constance Parvey, Lutheran Chaplain. Wed, 5:05pm, Chapel. Supper following, 312 Memorial Drive.

Christian Bible Discussion Group* — Thurs, 1pm, Rm 20B-031. Prof. Schimmel, x3-6739, or Ralph Burgess, x3-2415.

Christian Science Organization* — Weekly meetings, including testimonies of healing. Tues, 7:15pm, Rm 8-314.

Hillel*: Services — Mon-Fri, 8am, Rm 7-102; Fri, Traditional 5:30pm, K kosher Kitchen, Non-Traditional 8:30pm, Chapel; Sat, 9am, Chapel. **Classes** — many interesting classes offered, for full schedule call Hillel office, x3-2982. **Shabbos Meal** — enjoy a traditional Fri evening meal at K kosher Kitchen, must order by Tues each week. Info and to order, Herbie Levine, x8403 Dorm.

Purim Services* — Thurs, Mar 7, 7:30pm, Stu Ctr Mezzanine Lge, followed by party. Fri, Mar 8, 8am, Stu Ctr Mezzanine Lge.

Islamic Society* — Juma prayers. Fri, 2:10pm, Kresge Rehearsal Rm B. Discussion on the Qur'anic Interpretations, Sat, 4pm, ISC Lge, 2nd fl Walker.

Latter Day Saints Student Association* — Discussion of beliefs. Thurs, 8am, Stu Ctr West Lge.

Protestant Worship Services* — Sun, 11am, Chapel. Sunday school and nursery at the same time in Stu Ctr Mezzanine Lge.

Roman Catholic Masses* — Sun, 9:15am, 12:15pm, 5:15pm; Tues, 5:05pm; Thurs, 5:05pm; Fri, 12:15pm. Chapel.

Lenten Schedule for Catholic Masses* — Wed & Mon, Mar 6-13, 12:05pm, Chapel.

Tech Catholic Community Programs* — Wrestling with Prayer: Lenten services lead by Fr. MacNevin, with a free, simple supper; Thurs, Feb 28-April 11. **Catholic Belief Study Groups**: lead by Rev

Basil DePinto, Tues, Feb 26-Mar 26, 7:30pm, 2nd fl seminar rm, Religious Counselors Bldg. **Creative Lunch Break**: Tues, Feb 26-Apr 30, 12n-1pm, 2nd fl seminar rm, Religious Counselors Bldg.

United Christian Fellowship* — Meet for dinner Thurs, 5pm, Walker; singing, sharing, praying meeting, 6pm, Rm 6-321.

Vedanta Services* — Fri (except school holidays), 5:15pm, Chapel.

Westgate Bible Study* — Covering the gospel of Mark. Wed, 8pm, Westgate apt 1202. Info, 494-8778.

Announcements

Goodwin Medal 1973-74 — Nominations for this graduate student award to a student-staff appointee who excels in teaching should be returned to the office of Irwin W. Sizer, Dean of the Graduate School, Rm 3-136, through the head of the nominee's department before Mon, Mar 18.

Auditions for MIT Community Players — Production of "Androcles and the Lion," by Bernard Shaw. Auditions Sun-Thurs, Mar 17-21, 7-9pm, Rm 1-375; callbacks Fri, Mar 22. Production dates: May 16-18, 23-25. Many actors & actresses needed.

Credit Union Banquet — Annual Banquet of the Employees' Federal Credit Union will be held Sat, Mar 23, 7pm, Montvale Plaza, Stoneham. Tickets available first come, first served, beginning Fri, Mar 1, 9am, Credit Union Office, E19-601; and at Lincoln Lab, Rm A-010, at 10am. Limit: 2 per member. Cost: \$9/ea.

Kaleidoscope is Coming — Kaleidoscope will be here April 19 & 20. If you want to help or have ideas, call x3-2696.

BSU Tutorial Program — Black Student Union offers a full program of assistance to minority undergraduates for second semester. Teaching assistants available Mon-Thurs, 7:30-10:30pm, Rm 4-145, 146, 148 & 149 by appointment. Info, Karen Scott, x0351 Dorm.

MIT Opera Workshop — Directed by John Cook, is recruiting for the upcoming production of "Orpheus and Euridice," an Italian opera composed by Christoph W. Gluck. The Workshop needs a large chorus, dancers, production crew, & costume designers. If interested, call John Cook, x3-6961, or leave message at x3-3210.

MIT Community Players* — Are looking for people interested in any aspect of theater. We have an ongoing program of monthly meetings, workshops, and five productions per year. Steve Ivester, 864-6000, x2839.

Placement Interviews

The following companies will be interviewing Wed March 6-March 15. Those interested may sign up in the Career Planning and Placement Office, Mon-Fri, 9am-4pm, Rm 10-140, x3-4733.

Wednesday, March 6 — General Atomic Co, Div of Gulf Oil Corp; The Analytic Sciences Corp; Bethlehem Steel Corp; Computer Corp of America; Continental Oil Co; Copperweld Specialty Steel Co; Ford Motor Co; National Steel Co; Uniroyal Inc; Raychem Corp; Aluminum Co of America.

Thursday, March 7 — Raychem Corp; American Smelting and Refining Co; Bethlehem Steel Corp; Grumman Aerospace Corp; Texas Instruments Inc; Applied Physics Lab of Johns Hopkins Univ; Ghost Dance Inc; Mobil Oil Corp; Union Carbide Corp, Chemicals and Plastics.

Friday, March 8 — Mobil Oil Corp; Union Carbide Corp, Chemicals and Plastics; Computer Sciences Corp; Hercules Inc; Philco-Ford Corp; Stone & Webster Engineering Corp; Whitlow Computer Systems, Inc; Applied Physical Lab of Johns Hopkins Univ.

Monday, March 11 — Crawford & Russel Inc; Cyphernetics Corp; Naval Ship Systems Command and Naval Ship Engineering Center.

Tuesday, March 12 — Firestone Tire & Rubber Co.

Wednesday, March 13 — Firestone Tire & Rubber Co, (summer).

Thursday, March 14 — Aqua-Chem, Inc; DHEW/PHS/Food and Drug Administration; Epsilon Data Management, Inc; Intertel, Inc; MTS Systems Corp; Pattern Analysis and Recognition Corp; Sanders Associates, Inc; United States Air Force; U.S. Atomic Energy Commission; Action/Vista/Peace Corps; General Electric Co, Research & Development; Hughes Aircraft, Industrial Products Div.

Friday, March 15 — Action/Vista/Peace Corp; General Electric Co, Research & Development; Hughes Aircraft, Industrial Products Div; Equitable Life Assurance Society; Farrel Company Div. USM Corp; Pfizer Inc.



Freshman 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 March 13 through March 24 to the Calendar Editor, Room 5-111, Ext. 3-3279, before noon Friday, March 8.

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 5-105. Please submit all ads before noon, Friday, March 8.

For Sale, Etc.

Sparkplugs, 6, N-12-Y, used 500 mi, \$3. Mark, 868-4890, evgs.

KLH sys 34: incl 2 KLH 32 spkrs, nw cond, \$200. Tom, x8153 Dorm.

BSR Metrotec asjust stereo equalizer, 5 freq divisions, less yr old, perf cond, \$50. Steve, x8339 Dorm.

Compl sgl bed, \$20; 9x12 oriental rug, \$12; or best. Ed Franks, 742-3140, x265.

All glass aquarium, 10 gal, w/heater, pump, filter, fish, \$15. Tom, x3-3133.

Furn in Bkline: coffee tbl, \$15; bridge tbl chrs, 3/\$6; pink & gold tbl lamp, \$5; Shetland vac, \$15; sunlamp, \$7; crtn rod, \$7; stereo, \$75; lg apt sz fan w/guaranty, 2 wks, \$50. Dave, x7689 Linc.

Kodak Super 8 movie proj, \$100; Chinese silk brocade, lined, reversible jacket, gold/blue, \$25. Ms. Sung, x3-6069.

F 3 spd bike w/dbl bskt, lock, exc cond, \$45, firm. Terry, x3-5788.

Solid wood crib, lt color, cln, v nw, w \$65, ask \$35. William Chu, x3-7756.

Pr AR3 spkrs, best. x3-5548.

GE reffig & dw; Welbilt stove; desk & chr; LR frun; rugs: used Amer oriental; 9x12 org; wd & brk shlvs; (2) 6000 BTU ac's; other hsehold items; old rcrvr, tape deck, trntbl. Susan, x3-2940.

Tensor stainless stl tennis racket, 4 1/2 lt, \$25. x8989 Dorm.

Violin. Bob, 247-7717, lve msg.

AMF Alcott minifish, 12' sailboat, 2 yrs, gd cond, \$200. x8737 Dorm.

Twin bed, gd cond, \$30. x7195 Linc.

Desk, bureau, mirror, mpl, best over \$75; want plate blocks for stamp collection, '47-'63. Linda, 262-4127.

Moving south, must sell: b nw f ski boots, sz 7 1/2; ice skates, sz 7 1/2. Call, 492-2291, aft 6.

Prpl winter dress, slvless, A-line, sz 10, nrly b nw, nego. x3-5666.

Calculus books, Thomas: 4th ed, lk nw, \$12; 3rd ed, \$4. x9633 Dorm.

Jalousy wndw w/screen for van, \$10; 6 V car batt, 2 1/2 yr wrnty, \$15; port fan, \$5; pr std 5 hole car rims, \$10; plastic plant pots & equip, \$10. Ed, x3-2270.

Ham radio: HA-410 10M transciever, exc cond; linear amp mdl HA-250, 100 watt; Cush Craft Bingo ant, 10m; all for \$125. Ralph Richardi, x5547 Linc.

BR suite, gd cond: dbl bed w/bkscse, hbrd, dbl dresser w/lg mirror, \$75; dark wd pine cone dbl bed & spr, gd cond, \$15. Call, 261-2442.

Tires, (4), 7.75x14, best. Chuck, x3-6275.

Refrig, wd grain, rm or office sz, 20"x20"x24", exc cond, cost \$90, \$50. Richie or Francine, 354-9109, lv info, kp try.

Shure M68 mic mixer, b nw, \$60; KLH mdl 41 tape deck, inbrd Dolby, 3 heads, 1 1/2 yrs, best. Jack, x3-6978.

Platform boots, brn leath, sz 6, worn once, cost \$30, \$15 or best. Call, 924-9182.

F genuine Lamb shearling coat, cocoa suede ext, wh lamb fur collar, cuff, hem, & int, midi, sz med, worn 5x, orig \$160, \$70. x8-2577 Draper.

Port r-to-r tape machine, suitable for sect'y use, best. Lydia, x3-4645.

Sony TC-366 tape deck, exc cond, w/cvr, \$190. x3-2445.

Pr AR4X spkrs, \$65, nego. Gordon, x8338 Dorm.

Port stereo rcrdr, Silvertone Reverberation, 2 detach 1x6x9 spkrs, orig \$135, ask \$65. Helen, x8-3501 Draper.

Addressograph, Elliot 2200, ok cond, best. x3-4841.

Golf clubs, Northwestern Signature, 4-PW, 1,3 woods, \$55. Dick, x5548 Linc.

Minuteman 3 pckt calculator, adapter, batt, adds, sub, mult, div, sq, constant, float decimal, \$40. Doug, 628-3194, aft 6.

Port b&w tv, 19", \$50. Call, 267-8476, aft 6.

Plants: begonias, prpl passion, coleus, etc, 50 cents & up. Wed, 12-2pm, Rm 13-3078. Peter.

Pr Ess Heil AMT 1, list \$600-\$630, wrnty cards, best. Rich, 247-7775.

Phillips GA 212 elec trntbl w/out crtrdg, perf cond, 3 mos into wrnty, \$150 or best. John, x8-2876 Draper.

Bed, qn sz, 6 mos, w/hbrd, \$40. A. Luraschi, x3-5069.

Barstools, pr org, swivel, Cosco, lk nw; lg cut glass Fr bowl, w/6 match smaller bowls, nvr used; adjust ski rack. Julie, x3-6908.

Pr 8 1/2 med Caber ski boots, bckl, worn once, \$25 firm. Ivan, x8-1379 Draper.

General winter cleat snows, G78x15, blk wall, used 1 seas, \$20/pr. James, x3-7287.

Fac new stereo equip w/wrnty: trntbl, amp, rcrvr, spkrs, cassette & tape deck, amazing price. Ken, 494-9140.

Sgl bed & matt, \$30. David, 494-9194.

Old ac's, 2, 110v, 220v, both \$15; Encyc Brit, 9th ed, 1891-92, fair cond, \$30; Victor 78 rpm wind up rcrd player w/rcrds, \$15. Tom, x3-4325, 12-1 only.

Hydro-Catalyst gas savers, easy to install, reduce consumption to 20%, no power loss, reduces emissions 80%, result in cooler, clnr eng. David, 494-0273.

Porsche 912 parts: spark plugs, hydrol front hood support, manuals, etc, 1/2 price; also, to Kerry who bought pole lamp: have found remaining pieces. Carol Cooper, x3-4710.

Electronic organ; mini pool tbl; misc items. Chuck, x8-3360 Draper.

Olympia port typwrtr, pretty new, ask \$20. Joe, x3-4207.

Pressure cooker; tent; cheap. Bill, x8-3546 Draper.

Wool carpet, fair-gd cond, approx 100 sq ft, (3 rms & stairs), lilac. Bert, x8-1272 Draper.

F 3 spd bike, \$25. Peggy, x3-6337.

Panasonic solid st tv, 10", nw, \$50; beaut handmade oriental style coffee tbl, \$10; Acme Supreme juicer, sldm used, \$50; lg B&H slide proj, gd cond, \$10. Susan, x3-1671.

Pr mod wd K chrs, yel w/nat rush seats, gd cond, \$15/pr; antique arrow-back Windsor chr, ptd blk w/stencils, ca 1840, \$40. Jim, x3-2173.

Johnson 40 hp motor, used 1 seas, manual start, 6 gal gas tank, xtra prop, \$550. Paul, x8-4573 Draper.

Asst USGS maps, 24, interesting places, Me, Vt, NH, Mass, \$6.50. Gary, x3-6710.

Dbl bed, box spr & frame, exc cond, \$20; bureau, \$15 couch, \$15; leath chr, \$15; vac clnr, \$10; carpets, \$5 & \$10. x3-4723.

OS700 skis, 210 cm, w/Salomon bndgs; Lange boots sz 10 1/2; Blk Panther hockey skates; Dual 1009 trntbl; 3 way bkshly spkrs. Roger, x8288 Dorm.

SR10 calculators, 2, highest bidder. Ken Shultz or Bengt Muten, 492-6983.

Vehicles

'65 Valiant, 6 cyl std, gd mech cond, xtra snows, \$275. x5898 Linc.

'65 Chrysler 300L, gd car, but big & old, ask only \$175. Peter, x3-3619.

'66 Volvo 122S, mech gd, nds paint, best. Leslie, x3-7001.

'66 Ply Fury III, 4 dr hdt, 68 K, nw exh, 14-18 mpg, p st & br, \$370. x8-3706 Draper.

'67 Austin, sed, 4 dr, r, gd tires, nw water pump, U joint problem, doesn't run, gd for repair or parts, \$45. Call, 494-8353.

'68 Ford Cortina, 66 K, radiator nds work, must sell, \$170. Wu, x3-1940.

'68 Chevy Caprice wgn, 59 K, fully powered 307 eng w/turbo trans, nw tires, \$995 or best. Al, x8-3368 Draper.

'68 Dodge Polara, 2 dr hdt, 15 mpg, hi mileage, exc transp, \$400. Don, x465 Linc.

'69 Chevy sta wgn, nds body work, 55 K, amfm, stereo tape, stud snows, gd mileage, \$500 or best. Bonnie, x0688 Dorm.

'70 Mustang Boss 302, nw eng, w/xtras. Call, 776-7253.

'71 Mustang, 302 eng, auto, 18 mpg, radials, stereo cassette, \$1,800. Dan, x7133 Linc.

'73 Merc Cougar, 4K, nw tires, auto, \$3,200. Diane, x3-4827.

'73 Olds Cutlass S, 2 dr, bckt seats, 4 spd, p st, amfm, 15+ mpg, 9 K, nw \$3,900, now \$2,800. Ross, x181-56-140 Haystack.

Housing

Allston, 5 rm, w BR, 1st fl of 2 fam hse, nr Comm Ave, 2, exc cond & loc, avail 4/1, \$225. Tasos, x8-4980 Draper.

Arl, 6 rm Dutch colonial, 1 1/2 B, fenced yard, \$28,000. Steven, x7687 Linc.

Camb, nw apt, comp furn, btwn MIT & H, BR, LR, K, B, avail 4/8, \$235. Call, 876-8805, aft 6pm.

Camb, Inman Sq, BR, super on premises & upkeep gd, avail 3/15, \$158 incl parking. Maria x3-4571.

Chestnut Hill, cape on 1/2 wd acre, lg rms, 2 BR, frpl LR, DR, 1 1/2 B, lndry, full bsnt, h garage, gas h & h wtr, exc cond, \$52,000. Jessie, x3-3141.

Lynn, Swamscott-Salem Line, 3 BR Ranch, dead-end st, nr conservation land, frpl LR & finished bsmnt, DR, lg K, 1 1/2 B, frpl, gd storage area, glass breezeway w/gar, 2 min walk to bus, xtras, \$40,900. Call, 599-0849.

Newton (Waban), 3 BR, 1 1/2 B, DR, LR, lg sunrm, K w/dw, gar, lg bkdyd, 5 min walk T, avail 4/1, lse til 8/31/75, \$335. x7778 Linc.

Wrtwn, 2 BR, unfurn, avail now to 6/75, exc loc nr transp. Johnson, x3-6175.

Animals

Spayed f cat, tortshell, 2 yrs, exc apt cat, free. Doug, x3-4170.

Siamese kittens; seal, bl, lilac, choc pts, champ sire, shots & papers. Dr. Kenneth Britting, x3-4428.

Beaut, frisky yr old AKC Newfoundland, m, nds gd country home. Bruce Bailey, x3-5821.

Someone who loves cats: gd homes for v beaut, angora cats: red m; pregnant red f, b & w f, all 10 mos; tortshell pregnant f, 2 yrs; \$10/ea. Call, 593-0832.

Horse, gelding, 10 yrs, approx 16 h, gd disposition, nds gd home & exp rider, ask \$450. Marilyn, x8-4101 Draper.

Reg blk Persian cat, neutered m, 6 yrs, w/bskt, comb, bowl, not for sm childrn, loveable w/adults, \$20. Jim Adcock, x3-4519.

Lost and Found

Lost: 1 lens from galsses, Mem Dr nr Burton-Connor. Dave, x9792 Dorm.

Lost: sm brn leath case containing harp strings & tuning key, in or nr Kresge, 2/12, \$20 reward. x3-3210.

Sterling silver Parker 75 fntn pen w/gold pt, 2/18 btwn bldg 1 & psych bldg, reward. Paul, x0517 Dorm.

Pr red knit mittens, in or nr Stu Ctr, 2/23 nite, part of outfit. x346 Linc.

Lost: shirt pocket pencil holder w/sm circular slide rule, chromatic pen, autopt pencil w/name Klumpp. Allan, x8-1137 Draper.

Lost: short brn wool cap, org inside, nr or btwn 8-205 & 4-402, pls return, I'm cold. Call, 547-5374.

Found: hand-made silver pierced earring, nr Tennis Cts. Debbie, x8657 Dorm.

Found: gloves in 9.60 psych lecture, Rm 10-250, 2/5. x3-5751.

Carpools

Carpool, Needham-MIT, flex hrs. x3-6280.

Ride to & from ski areas, Tues or Thurs; also sell TV w/out UHF, \$25. Chuck, x0526 Dorm.

Ride to Waitfield, Vt area, every wkend, Fri-Sun, share driving & exp. Debbie, x8657 Dorm.

Littleton-Acton area, 8:30-4:30, flex, Mort or Ginny, x3-3651.

Wanted

Part-Time Positions Available - Staff of 20 needed to conduct in-depth interactive interviews by long-distance telephone, as part of an Alumni survey. Opportunity to develop further a professional skill, as well as earn \$5 per hour. Experience helpful, but not mandatory. Those qualified will be given intensive training in both interviewing techniques and in understanding the objectives of the survey. Training will include the refinement of good listening skills, as well as strengthening abilities to ask thoughtful questions and to objectively interpret and record responses. Candidates must be reasonably articulate, capable of high quality work, and have knowledge of and commitment to MIT. Support staff also needed to verify addresses, prepare mailings, search for telephone numbers, and contact respondents by telephone to set up interview appointments. \$2.50-\$3.50 per hour. Candidates must have excellent telephone presence and be able to do careful work. Work-study applicants given in preference in support staff positions. Approximately 15 hours per week or more during March and April - days and/or evenings. For further information, contact David Wiley at extension 3-1706. Analytical Studies and Planning Group in the Office of the President and Chancellor.

Rmmates, 2, Camb apt, own furn rm, \$65 incl h. Masaaki, x3-1949.

Sm lot of land in NH town that permits mobile homes. Frank, x8-3560 Draper.

F rmmate, share furn Beac Hill BR apt, avail now, \$90 + util. Nicole, x8-1318 Draper.

Upright or baby grand piano, reas cond, \$100-\$500. Pete, 261-1555.

Rmmate, m or f, share 2 BR mod apt, pt furn, nr Inman Sq, bus Cent Sq, \$125 incl util. Martin, x3-1860.

F interested in truly co-operative living grp, plans for hse of 30 underway, open to ideas. Diane Gilbert, x8661 Dorm.

Beginners drum set, reas. Tony, x192 Linc.

Filing cab, 2 drwr, any cond. Peggy, x3-4841.

Radio & Electronics teletypewriter plans, \$1. Paul, x3-6805.

Rmmate, 1-2, lg rm in mod Camb St, Beac Hill apt, 2nd BR occupied by fairly straight but tolerant & adapt stu, avail 4/6 w/Sept opt. Call, 723-3608, evgs.

Stu to help w/childrn & lite hsework 3-4 hrs/day, wkends free, own rm & board, cntry hse, 35 min MIT. x3-6623, lve msg.

Electronic technician, pt or full time, Bos, varied job involves bldg & repairing instruments & computer interface. Mel Aden, 494-8683.

M rmmate, share lg panel, furn apt, N Camb, nr Porter Sq, w/2, \$125 incl util, parking. Jeff, x3-5958.

Used squash rckt, tennis rckt. Pat, 494-8857, lve msg.

Working wife of new faculty desires babysitting exchange for 16 mo old, 1 or 2 wkdays. Nicole, x3-3739.

Strong people, 2 to help w/moving Sat, Mar 9. Annette, x3-4003.

Blood donors for the Spring Blood Drive, Mar 4-8 & 11-15. Give today. Info, x3-7911.

M rmmate, v pleasant & cln 5 BR apt, nr Cent Sq, own v lg, sunny, furn rm, \$115 incl h. Dave, 868-8895.

Used computer output paper, to be reused by 2nd graders, will pick up. Dick, x3-7311.

Ride to NYC area, Fri, Mar 8, rtn Sat or Sun, wl share exp. Nick, x9237 Dorm.

Empty Falstaff tapper kegs. Bob, x8-1387 Draper.

M rmmate, 4th for 5 BR eat-in-K apt, Bos side river, 10 min walk MIT, own BR, part furn, generally quiet, \$100. Call, 267-7416.

Miscellaneous

Wl type term papers, theses, etc. Cathy, x3-3306.

Typing of theses, papers, reports done quickly, accurately, cheaply, Cheri, x3-4336.

Typing, theses, reports, stat, fast, accurate. Jean x3-7410.

Who cares? Get involved and make a difference in grad life at MIT. Grad Stu Council positions now open. x3-2195 or get petition Rm 50-110.

Positions Available

This list includes all non-academic jobs currently available on the MIT campus. Duplicate lists are posted each Tuesday preceding Tech Talk publication date on the Women's Kiosk in Building 7, outside the Office of Minority Affairs, 4-144, and in the Personnel Office E19-239, on the day of Tech Talk publication. Personnel interviewers will refer any qualified applicants on all biweekly jobs Grades I-IV as soon as possible after their receipt in Personnel. Employees at the Institute should continue to contact their Personnel Officers to apply for positions for which they feel they qualify.

Virginia Bishop 3-1591
Mike Parr 3-4266
Philip Knight 3-4267
(secretary - Joy Dukowitz)

Sally Hansen 3-4275
Jack Newcomb 3-4269
Evelyn Perez 3-2928
(secretary - Mary Ann Foti)

Dick Higham 3-4278
Pat Williams 3-1594
Claudie Liebsny 3-1595
(secretary - Dixie Chin)

New applicants should call the Personnel Office on extension 3-4251.

DSR Staff - Temporary in Economics will assist with research for the econometric model of Boston. Conduct data analysis, regression, model formulation and gather data. BS in Economics and training in econometrics required. Experience in programming desired. Position available March-August. 74-132-A (2/13).

DSR Staff Physicist in the National Magnet Laboratory will conduct original research in experimental solid state and low temperature physics with emphasis on the magnetic fields. Ph.D. in physics or related area and 3 years postdoctoral laboratory experience in magnetism and low temperature physics required. Familiarity with cryogenic and electronic instrumentation desired. Position available after 10/1/74. 74-130-A (2/13).

DSR Staff Junior Electronics Engineer for the National Magnet Laboratory will design, test and assemble electronic circuits for nuclear magnetic resonance spectrometer operating in the vhf region on line with PDP-11 computer. Assist in system design; maintenance of spectrometer system. BS degree in EE with experience in design development and testing of vhf low level, low noise, solid state circuitry required. Familiarity with electronic data processing procedures required. 74-129-A (2/13).

Assistant Dean of the Graduate School - Academic Staff will supervise the minority graduate student program. Will be concerned with recruitment, financial aid as well as academic and personal counseling of all minority graduate students. Work with department and administrative representatives in developing and supervising projects designed for such students. Candidate should have a background in graduate study and/or administrative experience dealing with problems of graduate education. The position also involves travel to other academic institutions for recruiting minority students and developing cooperative educational programs. 74-190-R (3/6).

DSR Staff - General Manager of Innovation Co-op will be responsible for the organization and operation; supervise support staff of engineers, marketing experts and technicians; make negotiations in legal matters pertaining to commercialization of the products developed in the Co-op; serve as clearing house for invention proposals originating from outside the Center; carry out business plans for each product. Degree in engineering, preferably electrical or mechanical (advanced degree preferred) and 5 years experience in engineering management required. Experience in small industry as an entrepreneur or marketing experience desirable. Applicants should show evidence of innovative talents; leadership qualities, inspiration to others. 74-68-A (1/23).

Administrative Staff General Manager of the MIT Food Services will be responsible for all phases of the operations of dormitory dining rooms, cafeterias, snack bars or lounges and catering services on campus. Will reorganize the department; develop and implement operational policies and procedures; perform financial planning; oversee the administration and supervise staff. Minimum 5 years experience in the management of college or university food services; ability to relate effectively to students, faculty, staff important. A degree in the food services field is preferred. Candidate must be innovative and creative in

developing new food service programs. 74-75-A (1/30).

Project Manager - Administrative Staff in the Office of Administrative Information Systems will develop major systems; perform feasibility studies; prepare budgets; work with clients in the evolution of each new development project. Applicants should have a strong background in the management area of administrative data processing. 73-1327-A (2/20).

Assistant Auditor - Administrative Staff in the Audit Division will perform EDP internal auditing, reviews of the systems development effort, evaluate internal controls, and post-audits of computer systems. Will develop audit programs, questionnaires, write and present reports. Must have four years of working experience in EDP, a degree in Accounting, knowledge of COBOL or PL/1, and public accounting experience. 74-150-A (2/20).

Assistant Auditor - Administrative Staff will develop audit programs and questionnaires, perform audits, direct junior staff members, write and present reports. Must have two or more years of diversified experience in public accounting or internal auditing. A degree is preferred. 74-151-A (2/20).

DSR Staff in the Energy Lab will design, build, and operate a high performance combustion facility for fluid mechanics and materials research directed toward the development of electrodes for a high power energy conversion device. Will also handle the instrumentation of a shock tunnel driven MHD generator. Ph.D. and minimum 5 years experience in experiment and engineering hardware. Interest and ability in dealing with MIT, local and US research and engineering communities desired. 73-47-A (1/23).

Systems Programmer - Administrative Staff in the Programming Development Office will work as a Multics System Maintenance Programmer. Duties include crash/problem analysis and possible correction, generation of new systems, and other support tasks. Minimum 3 yr. experience on PL/1 or other high level programming languages. 74-62-R (1/23).

Systems Programmer - Administrative Staff will provide technical expertise; develop and implement methods of improving computer performance. Minimum of two years S/360 or S/370 Programming experience. Knowledge of teleprocessing, and COBOL or PL/1. 73-265-R (4/73).

DSR Staff Systems Programmer at Project MAC will perform system analysis and system programming on a research version of the Multics operating system. SM or EE degree required; 2-3 years programming experience in the supervision of some advanced operating system required. Ability to contribute to research and work with students important. 73-1234-A (11/14).

Systems Analyst - Administrative Staff in the Office of Administrative Information Systems will design financial and/or administrative applications to be run on a medium sized computer. Make feasibility studies, system flow charting, define test, implementation, documentation and client education. Experience in designing financial application, teleprocessing applications, data base management systems and a working knowledge of ANS COBOL and/or PL/1 required. 74-196-R (3/6).

DSR Staff Member in Research Laboratory of Electronics will conduct experimental determination of sound pressure in the fluid of the inner ear. Recent Ph.D. in EE with background in physiological experimentation and acoustics. Knowledge of the auditory system, particularly the inner ear, is required. 74-120-A (2/20).

Medical Technician - DSR Staff in the Clinical Research Center will supervise and direct the activities of the clinical laboratory; responsible for quality control, setting up new procedures, teaching new personnel, automation and instrumentation, ordering supplies and equipment. Minimum of a BS in Medical Technology, Biology, or Chemistry including hospital laboratory training and ASCP certification or eligibility for certification required. Minimum 5 years clinical laboratory experience with interest in clinical chemistry and hematology required. Supervisory experience desirable; leadership qualities important. 74-126-R (2/13).

DSR Staff - Curriculum Developer at the Artificial Intelligence Lab will develop and write new mathematical curriculum material in the Logo language for elementary school use. The job will often require working outside normal office hours. Position requires academic qualification in developmental psychology and mathematics; experience in curriculum writing for elementary school, evidenced by at least one successful publication of teaching material; experience in computer programming, and teaching it to children; experience and certification in elementary school teaching and teacher training. Position available in May 1974. 74-153-R (2/20).

Systems Analyst - Administrative Staff in the Office of Administrative Information System will develop, under direct supervision, solutions to business problems; prepare, design, and program specifications for new programs and for modifications to existing systems. Applicants should have business and administrative experience, analytical ability and familiarity with computers. 73-1315-R (12/19).

Programming Analyst for the MIT Information Processing Center must have experience and thorough knowledge of large-scale time-sharing computer systems. PL/1 and FORTRAN language. Documentation and communication skills are necessary qualifications. The User Services Group requires an individual who understands and is responsive to the needs of the Center's users.

User Assistance - assisting users by providing programming information and debugging help and tracking down special problems.

User Information - Instructional documentation and conducting seminars, workshops, and short courses. 73-1294-R (12/12); 74-178 (2/27).

Computer Operator IV in the Laboratory for Nuclear Science will operate the IBM 360/65; determine equipment set-up and run operations; detect errors, make corrections; assist in the training of junior operators. Knowledge of OS-MFT is essential. Familiarity with large scale computers, preferably IBM, minimum one year experience required. Must be willing to work for development and maintenance of a Special Library required; minimal knowledge of data processing concepts and terminology desired. 74-91-R (2/6).

Computer Operator IV will operate IBM Model 135 and all peripheral equipment associated with it, including disk drives, tape units, card reader/punch, printers. Must have a good knowledge of DOS job control, multi-programming experience and be capable of understanding operating instructions. 4pm-12:30am shift. 74-191-R (3/6).

Keypunch Operator II in the Medical Department will provide support to information processing of patient contacts. One year experience of IBM 129 keypuncher and verifier preferred. Ability to work independently is important. 74-29-A (1/16).

Planner/Architect - Administrative Staff in Planning Office will concentrate in long-range planning for existing environmental conditions, define problems, develop plans and design concepts; degree in Architecture required; degree in Planning preferred. Minimum of 5 yrs experience and the ability to work independently important. 73-880-R (9/15).

Administrative Staff Planner will direct long-range physical planning for various efforts of the planning team; develop budgets and schedule of government agencies and community groups. Must have a Masters degree in Planning and a minimum of 5 yrs. experience. 73-535-R (6/13).

Night Manager - Exempt will be responsible for overseeing the operations of the Wallace Observatory (Earth and Planetary Science) and assisting observers, primarily at night. Train new observers in the operation of the telescopes, the computer control system and the auxiliary instruments. Familiarity with optical observatory operations and astronomy is highly desirable; experience and facility in handling mechanical and optical instruments, some electronic experience preferred. Ability to make decisions and assume responsibilities important. 3-11pm, 5 day/week. 73-1357-A (1/16).

DSR Staff in the Center for Space Research will analyze and interpret plasma data from satellite-borne plasma experiments. Recent Ph.D. in space plasma physics or related area required. Candidate should have had direct experience with the analysis and interpretation of experimental results related to the interplanetary plasma. 73-1184-A (11/14).

DSR Staff Part-Time/Temporary in the Research Laboratory of Electronics will assist in quantitative experiments on morphological features of erythrocytes. Prepare smears, operate an automated microscope system and analyze experimental data. Ability to program for PDP-9, knowledge of hematology; MS degree in EE required. 2-3 days a week; temporary through Sept. 1974. 74-121-A (2/13).

Senior Secretary V in the Arteriosclerosis Center will coordinate the office activities of the Director of a multifaceted medical research program. Schedule appointments, conferences, lectures, maintain student records and a variety of office files; periodically prepare reports; type manuscript reviews and other materials. Individual will have extensive telephone contact with other medical areas and patients. Good organizational skills; ability to establish priorities and supervise junior secretaries required. Knowledge of medical terminology and machine

transcription helpful. 9:30-5:30. 73-1088-R (10/10).

Secretary IV or Administrative Assistant V in Urban Studies and Planning will assist with administrative work on several government contracts. Type proposals, manuscripts, class notes and correspondence. May do some library research on economics. Background in Economics and shorthand skills preferred. Will learn manuscript editing on the computer. Ability to work independently with initiative required. Job offers the opportunity to do a wide range of different activities. 74-172-R (2/27).

Secretary IV for several members in the Analytical Studies and Planning Group will type reports and correspondence, schedule appointments and meetings, maintain files. Office focus is on central administration and faculty committee projects, and preparation of documents such as the Report of the President and Chancellor and the Institute Catalogues. Excellent typing and proofreading skills, ability to set priorities and occasionally work under pressure required. 37½ hour work week. 9-5:30. 74-133-R (2/13).

Secretary III-IV to the Assistant to the President and Chancellor will handle all secretarial duties in one-person office. Maintain appointment calendar, files; excellent typing skills needed for correspondence, occasional heavy typing under pressure. Office works closely with senior administrative offices and faculty groups with a wide variety of tasks. Flexibility, adaptability and cooperation; ability to organize and work independently, ease with visitors important. Occasional overtime necessary, MIT experience useful. 35-37½ hour work week. 74-136-A (2/13).

Secretary IV for Urban Studies and Planning, community Fellows Program will maintain budgets and keep records of the accounts; type letters, reports for the Fellows and Staff. Attend a weekly Tuesday evening seminar, transcribe recorded tape of the seminar. Will also attend a 10-day Orientation Program and a 3-day Wrap-up Program off campus. Previous secretarial experience, good office skills, ability to work for several people required. 40 hour work week. 74-103-R (2/6).

Secretary IV to two professors in the Lab for Nuclear Science will handle all general secretarial duties for several small projects. Good shorthand or the ability to take dictation desirable; highly skilled typing required. Initiative and organizational abilities important. 73-1374-R (1/9).

Secretary IV will handle all secretarial duties for the Institute Secretary. Plan travel schedules, make arrangements; assist in gathering and collating information on Corporations. Previous experience, excellent typing and shorthand skills required. Ability to organize and work independently important. 74-1-R (1/9).

Secretary IV in the Laboratory for Nuclear Science will handle all secretarial duties for a group of professors and staff. Good typing needed for technical reports and papers. Ability to work independently required. Technical typing experience most helpful. 74-189-R (2/27).

Secretary IV for the Graduate Student Council, its officers and committees will perform general secretarial duties and assist with some administrative functions. Act as coordinator of the Graduate Student Orientation. Maintain budget records, assist with surveys, prepare reports, arrange luncheons and meetings. Knowledge of Institute policies and procedures preferred. Good judgment; ability to work independently; willingness to assist students, answer questions important. Accurate secretarial skills required. 74-184-R (2/27).

Secretary IV to two associate professors of Computer Science at Project MAC will handle general secretarial duties; answer routine correspondence; maintain course records; perform some administrative duties for the research group. Excellent typing and editing ability; willingness to learn mathematical typing required. 74-202-A (3/6).

Secretary III-IV to several staff members of the Center for Theoretical Physics. Excellent typing needed for technical reports and correspondence (technical typing skills helpful); shorthand desirable. Ability to work effectively with students, guests, and faculty important. 74-185-R (2/27).

Secretary III-IV to three professors in the Sloan School of Management will handle all general secretarial duties in this one-secretary office. Good typing needed for course materials, correspondence, manuscripts, technical and statistical reports. Previous experience required; experience in or willingness to learn technical typing important. 74-187-R (2/27).

Secretary IV for a professor in Earth and Planetary Sciences will handle all secretarial functions; perform some administrative chores, some library

research and editing. Excellent typing (some technical); shorthand preferred. Editorial and organizational skills important. 74-8-R (1/9).

Secretary III to the Superintendent for Construction and Engineering (Physical Plant) will handle general inquiry telephone calls concerning construction activities; schedule meetings; and reports. Good typing and shorthand skills essential. Ability to work with individuals from outside the MIT community important. 74-20-R (1/6).

Secretary III to an Industrial Liaison Officer will assist with the Institute publication distribution, symposia and faculty travel, research of briefings. Handle all other general secretarial duties. Good shorthand (speedwriting) and typing skills necessary. 74-99-R (2/6); 74-100-R (2/6).

Secretary III in the Development Office will handle all general secretarial duties for the Assistant Director. Excellent typing needed for letters, reports, memos; shorthand helpful; general editorial skills useful. Organizational ability and good judgment important. 73-1351-A (1/9).

Secretary III in the Educational Council will be responsible for transcription of correspondence by dictaphone, several office procedures. Must be willing to assume responsibility and initiative; one to two years' experience preferred to work with a minimum of supervisor. 74-148-R (2/20).

Secretary III in Psychology will take shorthand, type correspondence, manuscripts and reports, file, answer phones, working with the Department secretary, but will also independently handle details of Introduction Psychology course, such as class lists, grades, papers, etc. Will also make some travel arrangements, arrange weekly colloquia, type occasionally for research staff. Good command of English. Shorthand and typing must be proficient. Some experience important; able to deal with confidential information discreetly. 74-154- (2/20).

Secretary III in Chemical Engineering will type quizzes, reports, technical manuscripts, proposals for three associate professors. Will arrange appointments, file, act as receptionist for the office. Dictation from tapes; technical typing experience preferred. Prompt, dependable, able to accept supervision, and follow through on details. 74-162-R (2/20).

Secretary III in the Flight Transportation Laboratory, Aeronautics and Astronautics, will handle general secretarial duties for two professors. Type correspondence and reports; monitor xerox account. Ability to establish priorities important. Previous office experience and good skills required. 74-57-R (1/23).

Secretary III will assist with secretarial functions to the Dean of Engineering and perform secretarial duties for the Assistant Dean. Type reports, manuscripts, speeches from rough draft and dictaphone. Maintain schedule for use of the conference room; make coffee for office and meetings; set up for food, perform general cleanup for Dean's meetings in conference room. Good secretarial skills required; shorthand helpful. Initiative, tact and discretion important. 74-177-R (2/27).

Secretary III - Temporary in Cambridge Project will perform online typing of documentation of programs, program routines, manuals, reports, etc. from rough drafts. Will also do some transcribing. Good typing required; familiarity with online work (Multics) important. Job ends 6/30/74. 74-168-R (2/27).

Secretary III Part-Time in the Physics Undergraduate Office will handle routine office duties, type course work, schedule classes, order books. Technical typing skills required; ability to work under pressure in a busy office is important. 20 hours per week/9-1 preferred. 74-197-R (3/6).

Secretary III - Temporary in the Department of Exhibitions will type manuscripts, correspondence, reports; maintain files and records; handle reception duties; perform a variety of other office functions. Good typing a must. Job is for approximately 19 weeks. 74-199-A (3/6).

Senior Clerk III to the Work Control Coordinator, Physical Plant will receive and dispatch service requests; assist with scheduling; monitor requisitions; perform other clerical assignments. Ability to learn details of procedures; good office skills required. 74-16 (1/16).

Senior Clerk III in the Comptroller's Accounting Office will be responsible for typing a variety of financial and Institute reports. Good typing required; ability to operate the 10 key adding and memograph machine desired. 74-201-R (3/6).

Senior Clerk III or II to the Director of Purchasing and Buyer for Furniture and Office equipment will handle a variety of clerical duties. Accurate

typing required for correspondence, purchase orders, budgets, price lists; process invoices; maintain log books, files, and schedules. Ability to work with details, cope with interruptions, establish priorities required. 74-192-R (3/6).

Senior Clerk IV - Temporary will handle a variety of clerical duties in a busy administrative office. Fast accurate typing needed for letters, rosters, vouchers. Will also assist with summer registration. Ability to work under pressure; previous work experience required. Job ends on July 31 or August 31, 1974. 74-193-R (3/6).

Library General Assistant III in the Dewey Library will maintain the Reserve book section, handle circulation, process materials. Assist with other library duties as required, including some evening or weekend work at the main Reference Desk (by pre-arranged schedules). Previous library experience helpful; ability to work with details and accurate typing skills required. Candidate must be able to establish and maintain good relations with library users. 74-182-R (2/27).

Technical Typist III at the Information Processing center will prepare technical documents relating to computer programming, mathematics and statistics. Set up and record original drafts, make corrections and produce final copy using the MTST. Maintain library of storage volumes or computer files. Technical typing experience, ability to learn MTST and work independently required. 74-179-R (2/27).

Technical Statistical Typist III in Comptroller's Accounting Office will type a variety of Institute reports including Financial and Treasurer's reports; Professorship, NIH, and Research Grant reports, etc; as well as other reports and typing that comes in from various departments. Will operate a 24 inch typewriter; work with A.B. Dick Masters; use the adding machine. Excellent typing skills and a minimum of one year statistical typing necessary. 73-1356-R (1/19).

Clerk Typist II in Physical Plant, Superintendent's Office will assist with various clerical duties. Accurate typing needed for purchase orders and forms; process invoices. Previous office experience required. 74-188-R (2/27).

Electronic Technician A in the Laboratory for Nuclear Science will service and operate high power radiofrequency transmitters. Candidate will be instructed in accelerator operation. Graduation from a two-year day technical school or its equivalent and a minimum of two years applicable experience required. Experience on high power radar systems desirable. Will work at lab in Middleton, Mass. 40 hour work week; rotating shifts. 74-22-R (1/30).

2nd Class Engineer must have a Mass second class Engineer's license or higher. Individual must be willing to work on any shift. 73-182-R (11/24).

Technician B in the Environmental Medical Service will perform general radiation protection technician duties at the MIT reactor. Repair and calibrate instruments; conduct radiation surveys and sample preparation, decontamination and lab clean-up. Package radioactive waste and assist in construction of shields. Training and experience in electronics and radiation protection required. Afternoon shift. 40 hour week. 73-1227-A (12/15).

Junior Detailer must know how to type, have one year of art school and must be able to do Leroy inking of graphs, wiring diagrams and block diagrams. 40 hour work week. 74-144-R (2/20).

Grounds crew member in Physical Plant will lift heavy loads such as rubbish, platforms, fertilizer, concrete blocks, lumber, gravel, and equipment onto trucks; shovel snow. Should be experienced in grounds crew duties such as cutting grass, watering lawns, and general care of lawns. Mechanical aptitude helpful. Special physical examination required. Hours will be irregular to meet needs of Grounds Operations. Mass driver's license required. 74-157-R; 74-158-R (2/20).

Locksmith in Physical Plant must have five years in the trade, have knowledge of current trade practices in Builder's Hardware, lock repairing, master keying, and key changes. Must be reliable; have excellent work record. 74-159-R. (2/20).

General Helper in the Graphic Arts Service will perform a variety of routine jobs such as cleaning, oiling and supplying raw materials to the bindery, press room, ozalid room, etc. Works in various groups doing other as assigned. 40 hour work week. 74-152-R (2/27).

Campus Patrolwoman Patrolman Minimum 10 years experience required in

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Grad School

(Continued from page 1)

and one-third of the Institute's graduate students are supported in this manner.

Another example of MIT's ability to provide financial aid to graduate students was cited by Dean Stone.

"We've been successful," he said, "in attracting students who have won National Science Foundation graduate fellowships.

"About 500 such fellowships are given yearly in the US and we have traditionally been able to attract from 12 to 14 percent of those students. That means we're usually first or second in the nation in attracting NSF fellowship students, and that allows us to use our own resources to help other students."

In addition, Dean Stone said, MIT is preparing a proposal aimed at securing funds from a new NSF program that will support 150 graduate students across the nation who are studying in energy-related disciplines.

"MIT has a very demonstrable and pre-eminent energy-related program by virtue of the Energy Laboratory and multiple research and graduate educational programs. We expect to produce a convincing proposal."

Greens Establish Grad Student Fellowships

(Continued from page 1)

ship contributions Mr. and Mrs. Green have made to MIT," President Jerome B. Wiesner said. "This support for graduate study comes at a particularly critical time when there has been a pronounced reduction in funding for graduate students, especially by the federal government. We are most grateful for the continuing interest and commitment Mr. and Mrs. Green have shown in MIT's educational mission."

The terms of the Green's gift emphasized the needs of women undertaking graduate study, but there is no specific restriction that the fellowships be solely for women.

Initially the fellowships will be used only for women, according to Dr. Irwin W. Sizer, Dean of the Graduate School.

"For some time a special need for fellowships for beginning women graduate students has been apparent," he said. "The creation of Ida M. Green Fellowships will give tangible ev-

Positions Available

(Continued from page 7)

all phases of law enforcement to include knowledge of court procedures and case preparation, investigation of criminal and other complaints and reporting on same. Rotating shift/40 hour work week. 74-94-A (2/6).

Laboratory Assistant in Biology will sterilize, wash, clean and prepare glassware for research laboratories. Ability to work well with people important. Maturity, reliability required. 40 hour work week. 74-186-R (3/6).

The following positions have been filled since the last issue of *Tech Talk* and are no longer available:

74-124-A	DSR Staff
74-142-R	Secretary III
74-77-A	DSR Staff-PT/Temp
74-1091-R	Secretary IV
74-156-R	Nurse-Exempt
73-1333-R	Secretary III
74-34-R	Nurse Pract
74-115-R	Waitress PT
74-104-R	Lab Asst
74-60-R	Sr Clerk III
74-141-R	Sr Clerk III
73-1221-R	Computer Opt IV
74-123-R	Secretary III
74-125-R	DSR Staff
74-169-R	Secretary IV
74-127-R	Sr Secretary V

The following positions are on HOLD pending final decision:

74-140-R	Admin Asst Exempt
74-119-A	Secretary IV

Daniel Ellsberg will speak on "The People's Right to Know" at 8pm Monday (March 11) in Kresge.

An MIT or Wellesley identification card will be required for admission. There will be no charge.

Mr. Ellsberg was a senior research associate at MIT's Center for International Studies when he made available to the *New York Times* in June 1971 copies of documents that came to be known as the Pentagon Papers.

The lecture is sponsored by the MIT Student Center Committee.

Bi-weekly

(Continued from page 1)

Faculty Council. Arrangements for viewing can be made through Mrs. Carol Grossman, x3-1801.

The skit centers around the article published last year in *Tech Talk* on the office-clerical review and satirizes the all too frequent form of the review compared to what was suggested in the article.

Last year, the percentage of the total Institute bi-weekly salary base allocated to be expended for the review was published, includ-

idence in the best possible way of MIT's commitment to graduate education for women, particularly in those fields of study where women are now underrepresented."

Two of the fellowships, Dean Sizer said, will be reserved for women who attended MIT as undergraduates.

"This new program will have an immediate positive effect on MIT undergraduate women planning to enter graduate school," he said. "Moreover as the availability of the fellowships becomes known at other universities, it will have an important effect in attracting more first rate women scholars to MIT."

Many promising women who are

Sloan Grant Will Support Technology Impact Program

(Continued from page 1)

The second program, which will receive \$600,000 in the next two years, will be under the auspices of the School of Engineering's Center for Policy Alternatives. Social Concern

President Jerome B. Wiesner said it is "widely recognized that changes in our society require major changes in engineering schools. The responsibility of engineering schools to develop engineering science and provide a basis for new technology must continue, while a new role to relate technology to the changing social and physical environment must be accepted."

Dean Alfred A.H. Keil of the School of Engineering noted that MIT in the past several years has "extended its research into these broader problems, enlarged its educational program, expanded the role of the Center for Advanced Engineering Study and pioneered in establishing new organization units." Among these, he cited the Center for Policy Alternatives, the new Energy Laboratory and the Center for Transportation Studies.

"The School of Engineering now seeks to pioneer the next steps toward adapting engineering education to its new and central role in our society," he said. "Our ability to meet new goals and bring these initial efforts to fruition will depend on the School of Engineering's ability to identify new and different subject offerings and degree programs, to support different kinds of problem-ori-

Studies Reported on Earthquake Prediction

(Continued from page 1)

By examining rock on either side of the fault with an electron microscope, Brace can study changes in the porosity of the rock with stress. An increase in porosity, called "dilatancy," is used to explain many of the changes which seismologists are using in earthquake prediction. Professor Brace was one of the first to recognize dilatancy in rocks, in laboratory experiments at MIT in the 1960's.

This application of laboratory studies to earthquake prediction shows the value of basic research, Professor Brace said. When he

ing suggested percentages by each bi-weekly grade. This is not being done this year because, as Mr. Wynne explained, "We found that in many cases publishing the percentage allocated conflicted with the goal of rewarding merit and encouraging supervisors to discuss job performance with their people. Rather than to give increases based on merit, publication of the percentage caused a tendency to give everyone the same percentage of increase and remove any basis for discussion of performance."

admitted to MIT elect to go to other institutions which offer financial assistance when none has been offered by MIT, Dean Sizer said.

The fellowships will be awarded on a competitive basis, with a nomination made by each MIT academic department from among its accepted entering students. A department may nominate two women if one of them will be entering from MIT.

The graduate School Office will administer the Ida M. Green Fellowship program. Nominations for 1974-75 should be submitted by March 22. For further information, contact Dean Jeanne Richard.

ented research and to develop continuously new areas of social concern."

Wide Variety

"These new research and study efforts must be aimed at understanding the complex operations of a technological society. The new educational program will be based on a full recognition of the interactions between technology and society," he said.

Dean Keil said the new master's degree program "is a natural out-growth of the planned new undergraduate program and the focus on issues and policies of the Center for Policy Alternatives."

He said the program will provide "a professionally oriented curriculum for people who will be engaged in working in industrial or government organizations involved in introducing advanced technology or different uses of existing technology."

"We envision a program," he said, "which will be available to a wide variety of students—not just those trained in science and engineering as undergraduates. It will serve as a basis for both graduate research and the later development of a doctor's degree program."

He said the school, where possible, intended to use a "clinical problem-oriented approach whereby students in the program can do their research in the field and gain first-hand experience through working with real problems."

Significant Roles

He said the program will

began the work, Brace and his colleagues were interested in the role dilatancy might play in the geological processes of mountain building, and did not realize that the theory might explain the mechanism of earthquakes.

Rock Becomes Weak

It was not until Soviet scientists at the Institute of Earth Physics in Moscow, in 1969, discovered changes in how sound waves travel through the earth prior to an earthquake that scientists believed they could predict earthquakes with any accuracy. Since then, one small earthquake in New York state has been predicted and scientists have discovered premonitory changes in seismic waves which had occurred before several other earthquakes. Scientists had also discovered that the ground's electrical conductivity changes just before an earthquake.

Dilatancy was first proposed as an explanation for these premonitory changes by Amos Nur of Stanford. Since then scientists at Columbia's Lamont-Doherty Geological Observatory and at the California Institute of Technology have expanded the idea.

Scientists theorize that stresses caused by pressure along an earthquake fault cause the microscopic cracks in rock on either side of the fault to enlarge and the volume to expand. Because there is not enough water in the rock to fill the pores, sound waves travel differently through the rock and so does electricity. When water does seep into the cracks, these properties return to normal, but because of the water the rock becomes too weak to hold the strain. It fractures and an earthquake occurs.

Not Seismic

According to Professor Brace, his laboratory earthquakes have produced some intriguing results, which could lead to greater understanding of earthquake mechanisms in nature.

For instance, in their laboratory tests Professor Brace and his col-

leagues discovered that the mineral serpentine does not go through the alternate stick-and-slip movement that characterizes the sudden movements of an earthquake.

On one side of the San Andreas fault, in central California, there are fairly large deposits of serpentine, and geologists point out that in this area the fault slides along smoothly without creating major earthquakes.

Professor Brace has also discovered intriguing indications that temperature plays a part in earthquake occurrence.

Fault Shifted

"In California, earthquakes are relatively shallow, only involving the upper tenth or so of the moving crustal plate. For some reason, the portions of the plate deep within the earth are not seismic in their motion.

"In our laboratory we found that as we raised the temperature in our pressurized rocks, stick-and-slip movement disappeared. The laboratory temperatures we used are similar to what one would expect at the depths where earthquakes die out in the San Andreas fault," said Professor Brace.

Professor Brace plans to continue his laboratory work to find out more about the phenomenon of dilatancy. He hopes someday to be able to study actual material from within the fault, and not just the rock from surface outcroppings.

Although scientists doing laboratory work have assumed that the fault line is a smooth break between two rock masses, it may be that the interface between the masses is more crushed. In real life, this may be the case with the San Andreas fault, which has shifted several hundred miles since its development.

Also speaking at the AAAS symposium on earthquakes, earthquake prediction and earthquake control was Dr. Tanya Atwater, assistant professor in earth and planetary sciences. Professor Atwater spoke on "Plate Tectonics and Earthquake Prediction."

concentrate on problems that relate primarily to the operation of complex industrial and public systems.

J. Herbert Hollomon, director of the Center for Policy Alternatives, said that the program dealing with the examination of issues is related to "the fantastic growth in man's technical capabilities over the last several decades, which has changed the way society views itself and its needs."

"No longer does the imperative of simple survival dictate where our energies should be applied," he said. "Technology offers us a choice of futures, yet affected by our values, our history and our institutions."

He said there is an increasing need in society for institutions "which will help illuminate choice and inform those who must choose."

The Center for Policy Alternatives was established within the School of Engineering in 1972 to examine major issues facing society, particularly those for which technology plays a significant role.

In the new program, Dr. Hollomon said, the Center "will build on the major activities now underway at MIT with respect to energy, transportation, communications and urban studies to suggest new ways in which these issues can be dealt with."

He said this research would take into account "the practical, political and social means by which the options can be adopted."

Some of the major issues proposed for study, he said, are:

Science, Technology and Public Policy. This involves the reduction in space and defense expenditures, the increase in interest in social problems and the crisis in international payments—all of which have highlighted the problem of the federal government's role in affecting the use of science and technology.

The Services Sector. This deals with the supply of services to the society, a primary economic activity in which more than half of the workers are engaged. Questions to be researched include the application of technology to the improvement of services delivery.

Communications and the Public Interest. This involves new techniques, such as satellite transmission and cable television, that will affect the world community. Not yet understood, for example, are the possible uses of television for other than entertainment and the potential effects of increased real time video reception—along with their possible influences on public attitudes, urban life and education.

Natural Resources, Recycling and Substitution. In this category, technological developments are necessary to make conservation-oriented utilization economically competitive with those based on the exploitation of virgin resources. In particular, new incentives for conservation and recycling will be suggested along with possible technological programs for these purposes.