

Submillimeter Waves Achieved With NML Lasers

By DENNIS L. MEREDITH
Staff Writer

Because man has been able to generate precise and high-powered electromagnetic waves in almost all regions of the spectrum, he has been able to turn them to his use. For instance, he uses microwaves for cooking and communications, infrared waves for precise analytical probes of molecules, and radio waves for broadcasting.

But in the region of the electromagnetic spectrum ranging from the middle infrared to the millimeter region, there has been one notable no-man's land—the so-called submillimeter wavelengths. Because there have been no adequate sources available for these waves, scientists have had considerable difficulty using them to probe molecules, and industry has been unable to turn them to man's use. The submillimeter region ranges between the wavelengths just beyond the long-wavelength far infrared (70 micrometers) to the millimeter wavelengths of microwaves.

Now, however, scientists at MIT's Francis H. Bitter National Magnet Laboratory and Lincoln Laboratory have successfully developed a device to generate coherent, tunable waves in this region. The device promises to open up the submillimeter wavelengths for scientific and practical use.

Dr. Benjamin Lax, MIT professor of physics and director of the Magnet Laboratory outlined these advances and their portents in a symposium at the joint meeting of the American Physical Society-Optical Society of America in Washington, D.C., on Tuesday (April 23).

In his paper, coauthored with Roshan L. Aggarwal of the Magnet Laboratory, professor Lax described how the MIT scientists had used two high-powered carbon dioxide lasers to produce the submillimeter waves.

According to Professor Lax, the scientists mixed the two laser beams at an angle and directed them into a crystal of gallium arsenide. The beams reflect a number of times within the crystal, resulting in the emergence of a coherent wave of

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"THE GLASS BLOWERS" by Charles Frederick Ulrich is one of 36 paintings to be on display at MIT in an exhibition of 19th century European and American works on loan from the Museo de Arte de Ponce, Ponce, Puerto Rico. The exhibition will open May 17 in Hayden Gallery.

By WILLIAM T. STRUBLE
Staff Writer

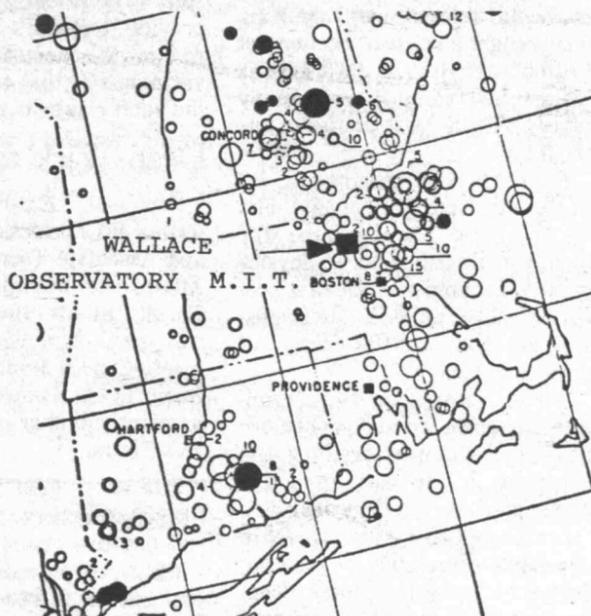
A major loan exhibition of rarely seen nineteenth-century European and American paintings from the Museo de Arte de Ponce, Ponce, Puerto Rico, will open at MIT's Hayden Gallery on May 18.

Coinciding with MIT Commencement and Alumni Days, the show will have a public preview on Friday, May 17, from 8-10pm and will remain on view through June 8. The exhibition is sponsored by the MIT Committee

on the Visual Arts and organized by the Office of Exhibitions.

Through the efforts of its founder, former Governor Luis A. Ferré, prominent Puerto Rican industrialist and patron of the arts, the Museo de Arte de Ponce has risen to international stature since it first opened in 1959. Ferré, who is president-elect of the 60,000 member MIT Alumni Association, received his SB and SM in mechanical engineering in 1924 and 1925 respectively. He is a Life Mem-

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EPICENTERS OF BOSTON area earthquakes from 1534-1959. Size of circle indicates intensity. Site of MIT observatory shown by black square.

Seismic Station Plans Announced

By CHARLES H. BALL
Staff Writer

A better understanding of potential earthquake activity in New England is a major goal of an underground geophysical observatory—a "seismic vault"—being constructed by MIT in Westford, Mass.

Construction of the observatory started this spring, and is expected to be completed before the end of the year.

When it is opened, the observatory will contain a variety of highly sensitive instruments to measure changes in the earth's crust, and record earthquake activity both globally and in the New England region.

(Continued on page 2)

King Named To Friedman Professorship

Professor John G. King, distinguished teacher and researcher in the MIT Department of Physics, has been named MIT's first Francis Friedman Professor of Physics.

The professorship is an outgrowth of the Francis Friedman Lectureship in Physics, previously held by Philip Morrison, Institute Professor and Professor of Physics.

The Friedman Professorship is named after a much beloved and outstanding young faculty member, active in improving the teaching of physics, who died in 1962. The lectureship was made possible

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Professor King

Accounts Due

The Office of Student Accounts reminded students this week that all fees are now past due.

Degree candidates, the office said, must be financially cleared with the office before their names can be added to the degree list. A \$20 late payment fine will be assessed on all past due accounts, the office said.

Personnel Offers Employee Workshops

By ADAM and MAUREEN YAGODKA
Co-Directors, Office of Personnel
Development

Q. Do you, as a supervisor, wish your employees would show initiative and take responsibility without waiting for prompting from you?

Q. Do you, as an employee, wish your supervisor would recognize your intelligence and give you more responsibility and challenge?

When two members of the same organizational team answer the above questions about each other with an emphatic Yes, something has gone amiss in their communication. This illustrates just one of a variety of problems in working relationships that can and commonly do develop in any organization.

Would you like to join a temporary

workshop group in which persons who supervise and those who are supervised will teach and learn about some of the human processes in organizations? Such a workshop is now being formed. In it, you may expect to improve your skills in communicating, listening, and leadership while helping others to improve theirs. You should increase your understanding of human factors that block and that facilitate problem-solving and decision-making, and learn ways of taking a more rewarding part in these processes.

This workshop is a pilot program at MIT. It is designed for a widely diverse group drawn from all areas of MIT and divided approximately equally between biweekly employees and persons in various positions who have supervisory responsibility for one or more biweekly employees. It has the support of Vice Presi-

dent John Wynne, who encourages broad participation by faculty members, research staff members, and persons in supervisory, administrative, and office positions.

Mr. Wynne points out that one important goal of the workshop will be to generate recommendations for new training and career development activities which could be used at MIT. At the same time, participants will be learning more about similarities, differences, and relationships among organizational units and individuals at the Institute.

Enrollment in the workshop will be limited to thirty persons. The goal in selection will be to achieve maximum variety in job function and location, length of MIT experience, and magnitude of responsibility. No supervisor will be enrolled in the workshop with his or her sub-

ordinate.

The workshop will consist of seven meetings of three hours each, from 2pm to 5pm, on the following dates: May 23, 28, 30 and June 4, 11, 18 and 20. For those who have questions, brief explanatory meetings will be held in the Bush Room on Monday, May 13 at 1pm (after the Women's Forum) and on Wednesday, May 15 at 12 noon.

To be considered, obtain an application form from your department or laboratory headquarters or from the Office of Personnel Development (Ext. 3-4076), and submit it not later than Wednesday, May 15 to:

Extended Workshop
Office of Personnel Development
E19-220

You will be notified by Monday, May 20 if you have been selected for the pilot workshop. If not, your application will automatically be considered for a future workshop if more are formed.

'Music in Public Spaces' Gala Planned for Lobby 7

MIT's cavernous Building 7 lobby will reverberate this month to a festival of music—in live performances and recorded sound—in a series of four experimental programs for "Music in Public Spaces."

Members of the MIT music faculty and students will participate in the gala programs—on May 9 and 14—that will reach from Bach to electronic music with lasers, from Renaissance songs to massive choral works, from Western compositions to music of the Orient and Africa.

Performers will play variously from the lobby balconies and from pedestals originally intended for sculpture in Wells Bosworth's neo-classical design for the Institute's main buildings.

Programs for the lobby—which measures 90 feet high and 64 feet across from column to column—have been organized by composer Paul Earls, visiting lecturer in humanities and fellow at the MIT Center for Advanced Visual Studies (CAVS). They are sponsored by the MIT Council on the Arts, CAVS, the MIT Lobby 7 Committee, and the MIT Chamber Music Society.

The programs—free and open to the public—will be at noon tomorrow, Thursday, May 9, and at noon, 5pm and 8pm on Thursday, May 14.

Composer Earls' work, *Parhelion*, which combines electronic music and lasers, will have its premiere performance in the major concert of the series beginning at 8pm, May 14. That program will be dedicated to Gyorgy Kepes, Institute Professor Emeritus and Director of the Center for Advanced Visual Studies, who will retire this year.

The 5pm program on May 14 will celebrate the 150th anniversary of the first performance of Beethoven's *Missa Solemnis* with a recorded performance of the *Missa* played through quadraphonic sound equipment.

The program schedule will be:

Thursday, May 9, noon:

MIT Chamber Music Society Brass Ensemble, conducted by William Draper, member of the music faculty; Canzona No. 3, by Giovanni Gabrieli; Sonata No. 15, by Gottfried Reiche.

Divertimento for Two Clarinets and Bassoon, by Mozart.

MIT Chamber Orchestra, conducted by

Marcus Thompson, violist, a member of the music faculty; Brandenburg Concerto No. 5 in D, by J.S. Bach, with Neil Rowe, violin, Nancy Epstein, flute, and Maryse Carlin, harpsichord.

MIT Chamber Music Society Brass Ensemble: *Rigaudon*, by Andre Campa, and *Two Pieces*, by William Brade.

Tuesday, May 14, noon:

Recorded ceremonial music from around the world—Africa, Bali, Italy, Japan, Tibet, Turkey, America.

Tuesday, May 14, 5pm:

Recorded performance of Beethoven's *Missa Solemnis*: Arturo Toscanini and the NBC Symphony Orchestra and the Robert Shaw Chorale (RCA Victor 6013).

Tuesday, May 14, 8pm:

Electronic music: *Sacred Service* by Bulent Arel.

MIT Schola Cantorum, conducted by John Oliver, member of the music faculty and director of the Tanglewood Festival Chorus: *Old C*, by Paul Earls.

MIT Concert Band Wind Ensemble, conducted by John Corley: *Suite in B Flat*, by Richard Strauss.

Four Solo Gestures—Joel Cohen, lutist; Elizabethan lute music; Stephen Erdeley, violinist and member of the music faculty; *Adagio from Partita No. 1*, by J.S. Bach; Rufus Hallmark, tenor and member of the music faculty; *Ayres*, by John Dowland; and Marcus Thompson, violist and member of the music faculty; Unaccompanied viola music.

MIT Schola Cantorum, John Oliver, conductor: *Mass for Four Voices*, *Kyrie* and *Gloria*, by Claudio Monteverdi.

Electronic music with lasers—*Parhelion*, by Paul Earls (first performance).

The audience is advised to bring cushions because no other seating will be provided.

The programs will be presented with the assistance of Artech, Bose Corporation, General Scanning, Inc., Massachusetts College of Art, media and performing arts division; the MIT Physics Department; and Tech Hifi.

—William T. Struble

* * *

Eleftherios (Ted) Eleftherakis, violist and assistant conductor of the MIT Symphony Orchestra, will be the featured performer in a concert at 5pm, tomorrow (Thursday) May 9 in the Music Library.

Accompanying Mr. Eleftherakis will be three guest soloists, Dianne Pettipaw and Beth Cohen, violins, and Debra Thompson, cellist, as well as 12 members from the string section of the Symphony Orchestra. The three soloists are associated with the chamber group, Annex Players of Boston.

The recital program will feature Walter Piston's *Duo for Viola and Violoncello*, Telemann's *Concerto in G for Viola and Strings* and the *Suite for Viola Concertante* by Cambridge composer Ervin Henning.

Mr. Henning, whose work is known in this country and in Europe, composed the *Viola Concertante* for Mr. Eleftherakis 24 years ago.

Mr. Eleftherakis, formerly a member of the Minneapolis Symphony Orchestra and the Stradivarius Quartet, performs frequently in Boston area recitals.

—Sally M. Hamilton

* * *

The MIT Women's Chorale will give a spring concert, 3pm, Sunday, May 12 in the MIT Chapel.

The program will include Faure's *Messe Basse*, Mendelssohn's *He, Watching Over Israel*, a collection of children's songs by Poulenc, *Child's Book of Beasts* by Berger, Schubert's *Valses Nobles* and a selection of English madrigals.

Pianist Charles Carlson will accompany the chorale.

The 25-member chorus, formerly known as the Matrons and Dames Chorale, consists of faculty and student wives.

The concert will be open to the public, free of charge.

—SMH

* * *

The Wellesley College Madrigal Singers will give a noon hour concert, Wednesday, May 15 in the Building 7 Lobby.

The program will feature Marco Cara's *Frottole*, country songs by

Awards Convocation

The annual Awards Convocation honoring students, faculty and employees who have made outstanding contributions to the Institute during the past academic year will be held Thursday, May 9, at 11am in the Kresge Auditorium Little Theatre.

President Jerome B. Wiesner has joined the Awards Committee in inviting the MIT community to attend.

Classes will not be cancelled that day.

Jean Berger and Hungarian folk songs by Matyas Seiber. Also on the program will be two chansons and the *Magnificat* by Orlando di Lasso and two chansons by Adrian Willaert—all of which are based on the monophonic model "Dessus Le Marche d'Arras."

—SMH

Members of the Chamber Music Society will give a concert, 5pm, today (Wednesday, May 8) in the Music Library.

The program will feature Vivaldi's *Concerto in G Minor* for flute, violin, oboe, bassoon and harpsichord, Beethoven's *Trio Op. 11* for violin, cello and piano and *Quantz' Trio Sonata* for flute, oboe and piano.

The concert is open to the public free of charge.

—SMH

King

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by a gift from the Friedman family, and the professorship by an additional gift from the O.F. Foundation.

In announcing the appointment, Robert A. Alberty, Dean of the MIT School of Science said:

"Through his innovative teaching and his research, the most recent example of which is the molecular microscope, John King has brought a sense of excitement to all his activities at MIT. He has also carried this spirit to the many places outside MIT where he has taught."

Professor King received his BS in Physics from MIT in 1950, and his PhD in 1953. He joined the MIT faculty as an instructor in physics in 1953, became an assistant professor in 1955, an associate professor in 1958, and professor of physics in 1965.

While an instructor he reorganized the freshman and sophomore physics laboratories, creating new experiments. He was an active participant in the Physical Sciences Study Committee project to develop a completely new secondary-school physics course, from its launching in 1957. Professor King contributed to the laboratory component of the course and made three of the instructional films for the course, and has produced others since for general physics instruction.

Throughout this period Professor King worked closely with Francis Friedman, becoming one of the principal staff members at the MIT Science Teaching Center, established in 1960 with Francis Friedman as director.

Professor King's contributions to educational innovation at MIT include the implementation of the independent project laboratory for undergraduates, beginning in 1964; novel ventures in laboratory instruction, such as "take home" kits for the study of experimental optics; and the concept of "concentrated study" in which complete and undivided attention is given by a group of students for about a month studying physics exclusively.

In 1965 Professor King received the Robert A. Millikan Award of the American Association of

Seismic Observatory Planned

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Ultimately, the data obtained should bring scientists closer to better understanding of the earth's interior, tectonic processes and earthquake predictions.

An important function of the observatory, according to Dr. M. Nafi Toksoz, professor of geophysics in the Department of Earth and Planetary Sciences, will be to monitor seismic activity globally and in New England.

"New England seismicity is an important problem," he said. "We have had a lot of conjecture about this, but it has not been studied sufficiently to be understood."

"We will have a whole set of instruments especially geared to the New England problem," he said. "It is an area that we have been increasingly interested in. It is an area where there has been significant historic seismic activity, and yet very little careful instrumental monitoring in recent times."

The underground facility is being built on a hill on MIT-owned land, between the Institute's Wallace Astronomical Observatory and Haystack (Radio Astronomy) Observatory.

The top of the observatory will be 15 feet below the ground, and the bottom 23 feet below the surface.

There will be a small work area at the entrance, at ground level.

The observatory's dimensions will be about 60 feet by 60 feet. It will have two long arms, to accommodate long instruments, and about three other rooms for other instruments.

Dr. Toksoz said the observatory had to be built underground for two reasons—for temperature control and to provide a bedrock base for the instruments.

"The temperature must remain constant in the vault throughout the year because of the great sensitivity of the instruments," he said. "The 15 feet of top cover will provide enough insulation to reduce the annual temperature variations so that temperature in the vault can be controlled to less

Dean Wick to Speak

Professor Emily L. Wick, former MIT professor of nutrition and Associate Dean for Student Affairs who became Dean of the Faculty at Mt. Holyoke College, will speak at a Women's Forum meeting, noon Monday, May 13 in Room 10-105. Professor Wick is a founding member of MIT's Women's Forum.

Physics Teachers "for his notable and creative contributions to the teaching of physics. In 1971, he was one of 10 recipients nationwide of the Harbison Award, conferred by the Danforth Foundation for gifted teaching.

His research as a graduate student with Professor Jerrold R. Zacharias on molecular beam measurements of measuring hyperfine atomic structure and nuclear moments was part of a program which led to the development of the ultraprecise cesium atomic clock.

Professor King's later research interests included precise measurements of atomic charge neutrality and studies of evaporation from superfluids at temperatures near absolute zero. More recently he has concentrated his efforts on the development of the "molecular microscope," an instrument that uses neutral molecules to study surface phenomena with spatial resolution.

Experimental versions of a number of different forms of the molecule microscope have indicated interesting possibilities for the study of weak binding forces at the surface of semiconductor materials and biological molecules.

then about plus-or-minus one degree fahrenheit throughout the year."

The doors on the vault and to the different rooms will be thermally insulated and air-tight, he said. The walls will be waterproof and the inner surfaces resistant to moisture and flaking.

There will be a heating system, plus dehumidification and some ventilation.

Once the instruments are installed, the tunnels and the rooms will be entered infrequently.

"Being underground will also enable us to anchor the instrument piers into the bedrock of the vault, in this case granite," Dr. Toksoz said.

Once anchored this way, he said, some of the instruments will be capable of making measurements in the milli-micron range, or approximately 10 to the minus 7th centimeters.

He said the observatory would record earthquakes anywhere in the world over magnitude 4.5 on the Richter scale.

Dr. Toksoz said part of the data from the instruments would be telemetered to the nearby Wallace Astronomical Observatory and part, for monitoring purposes, to the Cecil and Ida Green Building on the campus. The Department of Earth and Planetary Sciences is located in the building.

He said the new observatory also would share the existing computer at the Wallace Observatory.

In addition to the vault itself, Dr. Toksoz said, two 500-foot deep instrument wells will be drilled, about 500 feet apart, for special measurements.

Dr. Toksoz said MIT has instruments for measuring seismic activity in an observatory at Elat, Israel, which is a tunnel dug into the side of a mountain, and in a borrowed basement-type vault at Harvard, Mass., owned by Harvard University.

The new observatory, he said, "will expand our measuring capabilities and will make correlative measurements between the sites possible."

Dr. Toksoz said there are a few other seismic observatories of the kind being built by MIT.

But he said that the new observatory would be unusually valuable "because of the breadth of the things it will cover. It will cover a wide spectrum of activity in the earth's crust."

Essentially, he said, the observatory would be recording such phenomena as tilting of the ground and other motions of the earth's crust, which can be caused by tides and strain accumulations."

By measuring such strains and how they accumulate, he said, scientists eventually should be able to make accurate forecasts of earthquake activity, which occurs when stress or strain builds up and causes fractures.

On the basis of "immense progress" that has been made by seismologists in the United States, Soviet Union, Japan and China in recent years, Dr. Toksoz described as "very promising" the potential for accurate earthquake prediction.

TECH TALK

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Mail subscriptions are \$6 per year. Checks should be made payable to MIT and mailed to the Business Manager, Room 5-111, MIT, Cambridge, Ma. 02139.

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.

National Information Services Cambridge

NIS is heavily involved in the development of turnkey minicomputer systems designed to operate without operator intervention. Thus, specialized computer people are not necessary in day-to-day system operation. Problems develop, however, when software or hardware malfunctions. NIS has suggested a potential UROP project in which a student would work on the design of a "black-box" for use in diagnosing from Cambridge the causes of system failure in remote locations. Student participants should have advanced level digital hardware experience.

Massachusetts Commission for the Blind

Boston

A project opportunity has been suggested in which a student would design a mechanism which will enable a blind and handicapped individual to manipulate the controls of a cassette tape recorder. The recorder is used to receive instruction in a high school equivalency program for individuals who wish to acquire their diplomas.

Caro Named Fort Fellow

By DAMON P. WRIGHT
Staff Writer

Salvador V. Caro, Jr., of San Juan, Puerto Rico, has been selected as the recipient of the Marron W. Fort Fellowship for an outstanding minority senior to pursue graduate study at MIT.

Caro plans to use the fellowship, which provides full tuition and living expenses for one academic year, to complete the last year of a five year course in chemical engineering. He expects to receive SB and SM degrees in chemical engineering and an SB degree in humanities and engineering in June, 1975.

Caro is the second recipient of the award which was established by MIT last year in memory of Dr. Marron W. Fort, the first known black American to receive a PhD degree from MIT.

A native of San Juan, Caro studied piano at the Conservatory of Music in San Juan for a year before entering MIT.

He continued studying music at the Institute in the music section where he will have completed requirements for an SB degree this June. He has also served as rehearsal pianist for the opera workshop and participated in a chamber music group during the 1973 IAP.

In the chemical engineering department Caro has already begun graduate courses specializing in polymer science and applied chemistry. He plans to gain further experience this summer working in a laboratory in St. Nazaire, France. Caro is fluent in Spanish, English and French. He has picked up some Italian during his music studies and is currently



Salvador V. Caro, Jr., studying German.

Caro is a member of the Number Six Club at MIT. He is active in intramural sports and played on the first MIT inter-collegiate volleyball team.

As for long range goals, Caro says, "I am looking forward to working in France this summer—an experience through which my technical knowledge will be enriched and I will be forced to confront and deal with a different cultural environment socially and scientifically.

"If this summer project goes well, I may consider living in France for a couple of years. There is a lot of important and highly developed research being done there in the field of polymer science.

"Eventually, I intend to return to Puerto Rico, where a highly competent set of polymer industries, now in early planning and building stages, should be on their feet and in need of well prepared local staff."

ECRM Donates Autoreader

ECRM, Inc., a Bedford, Mass. manufacturing firm, has donated a device to translate typed pages into computer code to MIT's Research Laboratory of Electronics for use by MIT researchers.

The "optical character recognition" machine is being used presently in the printing, publishing and graphic arts industries, and will be used in several MIT research projects.

In a dedication ceremony last Thursday (May 2) the Autoreader was demonstrated by Professor Donald E. Troxel after presentation of the machine by ECRM President Bruce Cooperman, and acceptance by RLE Director, Henry J. Zimmermann. The demonstration was witnessed by Dr. Jerome B. Wiesner, MIT President, Dr. Albert G. Hill, MIT Vice President for Research, and Dr. Amram Rasiel, ECRM board chairman, as well as staff members of both ECRM and RLE.

During the demonstration, the machine "read" edited typed copy such as might be used to produce paper tape for controlling typesetting machines. It also "read" a typed computer program in order to convert it into computer code, and finally it "read" typed copy

which was converted into code useable by another computer to produce synthetic speech.

The Autoreader is part of the extensive computer facility of the RLE Cognitive Information Processing Group headed by Professor Murray Eden.

According to Professor Zimmermann, use of the Autoreader will be made available to other researchers in the MIT community.

Correction

An error in last week's *Tech Talk* caused the list of some of the officers and offices that make up the Institute Information Services to be garbled. The article should have said:

"Effective May 1, Kathryn W. Lombardi will be manager of Campus Information Services, in addition to continuing as Associate in the Analytical Studies and Planning Group. Her duties with the Institute Information Services will provide administrative liaison for the MIT Design Services, headed by Jacqueline S. Casey; the Registry of Guests, headed by Carolyn B. Cox; and the Information Center, headed by Mary L. Morrissey."

Summer Addresses

In preparation for the mailing of Fall Term financial registration material, the Student Accounts Office is sending to each student, a special summer address request form. The card should be returned before May 15 by any student who will not be at his/her home address during the summer and will not be registered for the summer term at MIT. Any student who does not receive a card may obtain one at the Student Accounts Office, E19-215 or the cashier's Office 10-180.

IPC Will Offer Computer Series

The User Services Group of the Information Processing Center will offer a series of computer courses during June and July for members of the MIT community who are now using or planning to use computers.

The courses, which will combine lectures and programming workshops with participants' own computer programs, include: "Introduction to PL/1" (June 3-14), "Introduction to FORTRAN" (June 18-28), "Job Control Language Tutorial" (July 1-8), "Introduction to TSO" (July 10-17), "PL/1 Check-out Compiler" (July 22-31).

In addition, the Center will offer an afternoon seminar on the new CalComp Plotting facilities June 17 and a lecture, "PL/1-Programming Efficiency and Pitfalls" on June 19 by H.S. Lahman, research associate in the Department of Ocean Engineering. Both events will be held in Room 39-530 from 1 to 4pm.

Information on the individual courses, which range from \$5-15, may be obtained from Lynne Penney in Room 39-427 (3-6320).

Nursery School Applications Open

Technology. Children's Center, Inc. (TCC) announced this week that applications are being accepted for the Cooperative Nursery School summer session, from June 17 to July 26.

Parents, who will be expected to assist in the classroom at least twice during the summer, may select a two, three or five day-a-week program, from 9am to 1pm or from 9 to noon.

Fees range from \$36 for two days a week (from 9 to 12) to \$120 for five days from 9 to 1. Fran Olson, Director of the Child Care Office can be phoned at 3-5907 for further information.

CJAC/EOC Meeting

A joint meeting of the Corporation Joint Advisory Committee and the MIT Equal Opportunity Committee will be held Tuesday, May 14, from 4 to 6pm in the Bush Room (10-105). The meeting is open to the MIT community.

Sweden's Mrs. Myrdal Here

Alva Reimer Myrdal, Swedish Minister without portfolio and Sweden's former Minister of Disarmament, will speak on "An Era of Neo-Barbarism: Arms and Disarmament in a World of Power Politics" on Thurs., May 9 at 4pm in Room 9-150.

The lecture is being presented by the Technology and Culture Seminar. Dr. David H. Frisch, professor of physics at MIT, will be the respondent.

Mrs. Myrdal is visiting professor in the Department of Political Science at MIT May 6 to May 17. She will address the joint Har-

vard-MIT arms control seminar on Wed., May 15 in Room 9-150 at 4pm.

Mrs. Myrdal is the wife of Gunnar Myrdal, the Swedish economist, and has been called "Sweden's foremost woman." She was Swedish Ambassador to India and minister to Ceylon from 1955 to 1961. She has been Swedish chief delegate to the Disarmament Conference in Geneva since 1962 and Swedish delegate to the United Nations General Assembly since 1962. She is the author of several books including *Disarmament—Reality or Utopia* and *The Game of Disarmament*.

Moot Court Argues DeFunis

The now-famous Supreme Court case of DeFunis v. Odegaard, involving admission policies at the University of Washington Law school, will be argued again in MIT's second annual moot court competition Thursday, May 9, 7-9:30pm in Room 400, Student Center.

The moot court arguments are the culmination of subject 11.13,

Law and Social Change: Applications of the Fourteenth Amendment to Public Policy Issues.

On Tuesday, May 14, 3-5:30pm, the case will be Village of Belle Terre v. Boraas, a case involving zoning regulations. The final case will be Roe v. Wade, the famed abortion case, on Thursday, May 16, 3-5:30pm. All sessions are open to the MIT community.

CSF Drive Needs Donors

As of last Friday, 275 donors had contributed \$7,900 to the 1974 campaign of the MIT Community Service Fund.

"While the per capita contribution is consistent with previous years, the number of contributors is down from 1973," Dr. Peter P. Gil, co-chairman of the Fund board of trustees, said. "We hope this reflects the care solicitors are taking, and not a lack of commitment to the Fund."

Goal of the Fund this year is \$60,000, which will be used to help support nearly a dozen activities and organizations MIT students

and employees participate in as volunteers.

Total requests of \$75,000 have been made to the Fund from groups—mostly Cambridge based—which serve youngsters who are having learning difficulties, for example, or are carrying out a housing and playground rehabilitation program.

"Since the trustees are now in the process of evaluating proposals," Dr. Gil said, "we hope people planning to contribute will notify their solicitors, so that the trustees can make realistic allocations."

Dietz Wins ASTM Award

Dr. Albert G.H. Dietz, Professor Emeritus of Building Engineering and Senior Lecturer in the Department of Architecture at MIT, will receive the Walter C. Voss Award June 28 from the American Society for Testing and Materials, for "His long and valued service to the construction industry."

Professor Dietz, who was named Engineer of the Year in 1968 by the Engineering Societies of New England, is a past director and honorary life member of ASTM, the world's largest source of voluntary consensus standards for materials, products, systems and services.

The Voss Award will be presented him by Richard W. Bletzacker, Director of the Building Research Laboratory at Ohio State University during the 77th annual ASTM meeting in Washington, D.C., next month. The Society is an organization of 22,000 producer, consumer and scientific interest participants concerned with developing specifications and methods of testing for materials.

Walter C. Voss, for whom the award is named, was Chairman of the Department of Building Engineering and Construction at MIT for many years and worked with Professor Dietz in pioneering the development of materials as a construction science.



Professor Dietz

A recipient of the SB, SM and ScD degrees from MIT, Dr. Dietz joined the staff of the Department of Building Engineering and Construction in 1934 and became a professor in 1950. His research in the properties of plastics and composite materials has earned him the John Derham Memorial International Award from the Plastics Institute of Australia and the Desmond Fitzgerald Award from the Boston Society of Civil Engineers.

Author of several books and articles on materials research, Professor Dietz is an active member of ASTM Committees on joint sealants (C-24), wood (D-7), adhesives (D-14), and plastics (D-20).

Lasers Emit Submillimeter Waves

(Continued from page 1)

submillimeter radiation, representing a precise combination of the laser beams.

The MIT scientists have produced both pulsed and continuous submillimeter waves, the latter in collaboration with Dr. Harold R. Fetterman and Peter E. Tannwald of Lincoln Laboratory.

"The significance of this result is that for the first time we have a broadband tunable source spanning two decades of the far infrared and submillimeter region with a bandwidth of less than 500 kilohertz," said Professor Lax. "This is a resolution capability of one part in a mil-

lion."

"The second important consequence is that the results of these experiments indicate that by improving our pulse laser and making it operate on a single mode it would be possible to generate coherent submillimeter radiation from 100 micrometers to one millimeter that would reach the megawatt level using 100 megawatt pulsed carbon dioxide lasers as the primary source."

Professor Lax pointed out that scientists would be able to use the new radiation source to probe materials in a way never before possible. Scientists use electro-

magnetic waves of precise wavelength to excite molecules to certain vibrations and rotations according to the wavelength of the exciting light. By measuring how these wavelengths are absorbed and emitted, they can learn a great deal about the structure and other physical properties of a molecule. The new wave source means scientists would have a tool for studying how molecules act when excited by these narrow band tunable sources.

Professor Lax also sees use for the submillimeter wave generator in radio-astronomy, research in thermonuclear fusion, radar and communications. However, he says, it is too early to predict the ultimate impact of opening up this new region of the spectrum.

THE INSTITUTE CALENDAR

May 8
through
May 17

If your club or other activity is meeting during the summer, please contact the Calendar Editor by 12 noon, Friday, May 17. Otherwise, your notice will be removed from the calendar listings and will not be reinstated until a new listing is received.

Events of Special Interest

Awards Convocation - An opportunity for members of the community to honor students, faculty and employees who have been selected as recipients of awards. Thurs, May 9, 11am, Kresge Little Theatre.

Music in Public Places* - Organized by Paul Earls, humanities CAVS; sponsored by MIT Council on the Arts, CAVS, Lobby 7 Committee, and Chamber Music Society; in Bldg 7 Lobby. Thurs, May 9 - 12n: Chamber Music Society. Chamber Orchestra. Tues, May 14 - 12n: Ceremonial music; 5pm: Recording of Beethoven's Missa Solemnis with Arturo Toscanini, NBC Symphony Orchestra, Robert Shaw Chorale; 8pm: Electronic music, MIT Schola Cantorum, Concert Band Wind Ensemble, four solo guestures. Free. Details, see article in today's *Tech Talk*.

Seminars and Lectures

Wednesday, May 8

Tiger by the Tail or Unwilling Hunter? Congress and the CIA* - Michael McNamee, Norman Sandler, David Tenenbaum, students. CIS Political Science Seminar. 12:30pm, Rm E53-482.

Electrophoretic Light Scattering - Wilfred B. Veldkamp, G. Nuclear Engineering Doctoral Seminar. 2pm, Rm 24-117.

The Prompt Jump Approximation in Space-Time Reactor Kinetics - J.S. Hendricks, G. Nuclear Engineering Doctoral Seminar. 3pm, NW12-222.

UROP Symposium: Undergraduate Research in Physics* - Series of brief reports by students with research projects in astrophysics, biophysics, atomic and nuclear physics. Physics UROP & Undergraduate Physics Colloquium. 3pm, Rm 26-414. Refreshments. Info, F. Dylla, x3-2540.

US-Soviet Relations with Special Reference to SALT** - Helmut Sonnenfeldt, counselor to the Secretary of State. MIT-Harvard Joint Arms Control Seminar. 4pm, Sem Rm 1, HCFIA.

Technology Change and Telecommunications - Dr. Eugene G. Fubini, president, E.G. Fubini Consultants; Joseph F. Coates, acting director, Exploratory Research and Problem Assessment/RA, National Science Foundation. Telecommunications Policy Planning and Research Seminar. 4pm, Rm 9-450.

Identification of Parameters in Point-Kinetic Nuclear Reactor Models - P. Kalambokas, G. Transient Analysis Code for Reactor Safety - W. Kirchner, G. Nuclear Engineering Doctoral Seminar. 4pm, Rm NW12-222.

Geophysical Investigations of the Nazca Plate - Dr. George H. Sutton, Hawaii Institute of Geophysics, University of Hawaii. Earth & Planetary Sciences Colloquium. 4pm, Rm 54-100. Tea 3:30pm, Rm 54-923.

Mixing Techniques and Equipment for Fermentation Processes* - Dr. James Y. Oldshue, Mixing Equipment Co, Inc; Rochester, NY. Nutrition & Food Science Microbiology & Biomedical Engineering Seminar. 4pm, Rm 2-131.

Broken Symmetries* - Philip Morrison, Institute Professor of Physics. Aesthetic Perspectives in Science and Technology Seminar. 3pm, Rm 3-133.

Thursday, May 9

CHEM CON - Free demonstration of the chemistry and chemical engineering data base offered through NASIC. 11:30am, 5th fl, Barker Engineering Library. Information, or to inquire about arranging a special demonstration, NASIC Coordinating Office, Rm 10-400, x3-7746. Free.

Massachusetts Office for Children - Dr. David Liederman, director. Course 11.547 Human Life Cycle: Children and Adolescents Seminar. 1:30pm, Rm 7-102.

Angle Estimation Performance in a Spatially Dispersive Channel* - Terrence McGarty, Lincoln Lab, RLE & Electrical Engineering Communication Theory Seminar. 3pm, Rm 26-217.

An Era of Neo-Barbarism: Arms and Disarmament in a World of Power Politics* - Alva Myrdal, visiting professor, political science; The Center for the Study of Democratic Institutions. Technology and Culture Seminar. 4pm, Rm 9-150.

Functional Muscle Stimulation - J. Thomas Mortimer, Engineering Design Center, Case Western Reserve University. Harvard-MIT Rehabilitation Engineering Center Seminar. 4pm, Rm 10-105. Refreshments 3:30pm.

Analytical Applications of Differential Thermal Analysis - Kathleen C. Swallow, G. Analytical Chemistry Seminar. 4pm, Rm 8-105.

A Simple Engineering Method for the Preliminary Estimation of Vibrations and Noise in Buildings near Subways* - Dr. Eric Ungar, Bolt, Beranek & Newman. Interdepartmental Acoustics Seminar. 4pm, Rm 5-134. Coffee 3:30pm, Rm 1-114.

Ship Designing Now and Then* - William A. Baker, Naval Architect, curator, Hart Nautical Museum. Ocean Engineering Tankard Seminar. 4pm, Rm 5-314. Refreshments.

Potential for Fuel Saving in Industry: Part II - Elias P. Gyftopoulos, Ford Professor of Engineering. Thermodynamics Seminar. 4:10pm, Rm 3-343. Coffee 4pm.

Quasars of the Highest Redshift - E. Margaret Burbidge, UCSD. Physics Colloquium. 4:15pm, Rm 26-100. Refreshments 3:45pm, Rm 26-110.

Friday, May 10

Innovations in Urban Transportation Technology: The Denver Experience - Lewis M. Schneider, transportation consultant, Cherington, Temple, Barker & Sloan, Inc. Center for Transportation Studies Luncheon Seminar. Buffet 12n, Stu Ctr Mezzanine Lge, \$1. Lecture 12:45pm, free.

Kinetics of Simultaneous Hydrodesulfurization and Hydrodenitrogenation React - J. Wilkins, G. Chemical Engineering Doctoral Seminar. 2pm, Rm 10-105.

Heat Capacity of Liquids - J. San Jose, G. Chemical Engineering Doctoral Seminar. 3pm, Rm 10-105.

The Quasi-Hydrostatic Modes of Gravitational Adjustment and Their Implications for the Operational Numerical Forecasting of Severe Local Storms* - Michael L. Kaplan, USAF Global Weather Central; Douglas A. Paine, Cornell University. Meteorology Seminar. 3pm, Rm 54-100.

Water Resources Regulations for Long-Range River Basin Development in Hungary - Dr. Lazlo David, National Water Authority, Hungary. Civil Engineering Water Resources & Hydrodynamics Seminar. 4pm, Rm 48-316. Coffee 3:45pm, Rm 48-410.

Recent Results from the Alcator Experiment* - R. Parker, RLE. Nuclear Engineering Plasma Dynamics Seminar. 4pm, Rm 36-261.

Electron-Hole Drops in Ge and Si* - Dr. Pierre R. Aigrain, Henry R. Luce Professor of Environment and Public Policy. Material Science Colloquium. 4pm, Rm 9-150. Refreshments 3:30pm.

Approaching the End of Economic Growth* - Jay W. Forrester, Germeshausen Professor of Management. Tau Beta Pi Spring Lecture. 4pm, Rm 4-231. Refreshments.

Monday, May 13

Present Political and Economic Issues in China: Red and Expert, Red or Expert? - Gibert Etienne, World Bank. CIS Seminar. 12:30pm, Rm E53-482.

Cost Benefit Analysis of Implementing the US National LMFBR Program** - Merrill J. Whitman, USAEC. Nuclear Engineering Seminar. 1pm, Rm 9-150. Refreshments.

On the Mechanisms and Mechanics of Plastic Flow and Fracture - James A. Joyce, G. Mechanical Engineering Doctoral Thesis Presentation. 2pm, Rm 3-343.

Modeling the Dynamics of National Social and Economic Change** - Jay W. Forrester, Germeshausen Professor of Management. System Dynamics Group Seminar. 3pm, Rm E52-461.

Management of Commercial Waste* - Dr. Frank Pittman, director, division of waste management, USAEC. Nuclear Engineering ANS Seminar. 3pm, Rm NW12-222. Refreshments.

The Impact of Police Activity on Subway Crime* - Keith Stevenson G. Innovative Resource Planning Project, Operations Research Center Seminar. 3:30pm, Rm 24-121.

Philosophy: The Metamorphosing of the Plain* - Thompson Clarke, University of California, Berkeley. Philosophy Seminar. 4pm, Rm 4-159.

Transport of Chemicals Through Partially Saturated Porous Media - John Wilson, civil engineering. Civil Engineering Water Resources & Hydrodynamics Seminar. 4pm, Rm 48-316. Coffee 3:45pm, Rm 48-410.

Dimensionality and Rate of Growth Methods for Establishing Lower Bounds on the Number of Algebraic Operations - Zvi Kedem, mathematics. Applied Mathematics Colloquium. 4pm, Rm 2-338. Tea, 3:30pm, Rm 2-349.

Scientists and Power: A Political Scientist's Perspective** - Sanford A. Lakoff, political science, University of Toronto; fellow, Woodrow Wilson International Center for Scholars. Technology Studies Workshop. 4:10pm, Rm 14E-304. Coffee 4pm.

Tuesday, May 14

Heat Rejection from Horizontal Tubes to Shallow Fluidized Beds - Bruce Andeen, G. Mechanical Engineering Doctoral Thesis Presentation. 10am, Rm 1-277.

Proposed Synchrotron Radiation Experiment - D. Komm, G. Nuclear Engineering Doctoral Seminar. 12n, Rm 38-166.

India's Agricultural Prospects: Economic versus Social Goals* - Gibert Etienne, World Bank. CIS Seminar. 12:30pm, Rm E53-482.

Excitation of Ion-Acoustic Waves in a Laboratory Plasma - G. Pine, G. Nuclear Engineering Doctoral Seminar. 1pm, Rm 38-166.

Modern Digital Design Techniques: Microprogramming, Register Transfer Modules, and Parallel Image Processing* - John R. McDonald, Yale University. RLE & Electrical Engineering Communication Theory Seminar. 3pm, Rm 26-217.

Frequency of High Cold Clouds over the Tropical Pacific* - Dr. Raymond Wexler, Goddard Space Flight Center, NASA. Meteorology Seminar. 4pm, Rm 54-100. Coffee 3:30pm, Rm 54-923.

Engineering Comparison of Space Power Generating Systems* - Members of Course 16.86 class in Advanced Systems Engineering. Aero/Astro General Seminar. 4pm, Rm 33-206. Refreshments 3:30pm, Rm 33-411.

Macromolecular Deformation in a Pure Straining Motion - Kenneth A. Smith, civil engineering. Interdepartmental Fluid Mechanics Seminar. 4pm, Rm 2-338. Coffee 3:30pm, Rm 2-349.

Myeloma Proteins and Tumor-Specific Antigens - Dr. Herman Eisen, biology. Biology Colloquium. 4:30pm, Rm 6-120. Coffee 4pm. Rm 54-520.

Wednesday, May 15

Neutron Scattering from Fermi-Resonant Vibrational Modes - Dr. Charles Berney, senior research associate, nuclear engineering. Nuclear Engineering Seminar. 2pm, Rm 24-117.

Some Aspects of Nuclear Power Plant Construction as Seen by the Public - Paul D. Smith, EDS Nuclear Inc, San Francisco. 3pm, Rm 1-246.

Controlling Disarmament** - Alva Myrdal, visiting professor political science. MIT-Harvard Joint Arms Control Seminar. 4pm, Rm 9-150.

Analysis of Finite Elasto-Plastic Deformation* - Jon R. Osias, Carnegie-Mellon University. Applied Mechanics Seminar. 4pm, Rm 5-134. Coffee 3:30pm, Rm 1-114.

Thursday, May 16

The Design of a Feathering Windmill Hub* - Presentations by Course 2.70 students. 12n, Rm 3-270.

Family Practice of Medicine - Richard Feinbloom, MD, director Family Health Care Program, Harvard Medical School. Course 11.547 The Human Life Cycle: Children and Adolescents Seminar. 1:30pm, Rm 7-102.

Thermal Methods for Blood Perfusion Measurement: Application for the Differential Diagnosis of Breast Cancer - John D. Cary, G. Mechanical Engineering Doctoral Thesis Presentation. 3:30pm, Rm 3-464.

Behavior of Surfactants in Nonpolar Media - A.S. Kertes, Hebrew University of Jerusalem, McGill University. Analytical Chemistry Seminar. 4pm, Rm 8-105.

Models of Mammalian Muscle - Richard B. Stein, physiology, University of Alberta. Harvard-MIT Rehabilitation Engineering Center Seminar. 4pm, Rm 10-105. Refreshments 3:30pm.

The Thermodynamics of Intracellular Ice Nucleation in the Freezing of Erythrocytes - W. M. Toscano, research associate, mechanical engineering. Thermodynamics Seminar. 4:10pm, Rm 3-343. Coffee 4pm.

What is Going on in the Subnuclear Work? - Victor E. Weisskopf, physics, Institute Professor, Killian Award Lecturer. Physics Colloquium. 4:15pm, Rm 26-100. Refreshments 3:45pm, Rm 26-110.

Friday, May 17

Problems of Fermentations Using Cellulosic Raw Materials* - Dr. Charles Dunlop, chemical engineering, University of Missouri. Nutrition & Food Science Microbiology & Biochemical Engineering Seminar. 12n, Rm 26-314.

Direct Conversion of Plasma Energy to Electricity for Fusion Reactors* - R. Moir, Lawrence Livermore Labs. RLE Plasma Dynamics Seminar. 3pm, Rm 36-261.

Evolution of the Western Australian Archaean Crust - Dr. Andrew Glickson, Commonwealth of Australia Bureau of Mineral Resources, Geology and Geophysics. Earth & Planetary Sciences Colloquium. 4pm, Rm 54-100. Tea 3:30pm, Rm 54-923.

Community Meetings

Important Meeting - For students applying to law school for Sept, 1975. Thursday, May 9, 4pm, Rm 4-145.

Graduate Student Activities Committee - Open hearing on ASA relations, activities recognition and funding, and nominations to IAP policy committee. Thurs, May 9, 7pm, Rm 50-110

Today's Women - Discussion group sponsored by Technology Wives Organization. Panelists: Mary Howell, pediatrician, psychologist; Louise Kerr, fabric designer; Vicki Romelle, psychiatric social worker; Mary Rowe, Special Assistant to the President and Chancellor for women and Work, economist; and Kathy Worthen, psychologist. Thurs, May 9, 8pm, Stu Ctr West Lge.

Graduate Student Committee on Housing and Community Affairs - Open hearing on graduate athletics, nominations to athletic board and committee on student environment, Tech Wives Organization budget, social budget, housing, and orientation. Fri, May 10, 2pm, Rm 5-216. Info, x3-2195.

Steak Fry - Sponsored by civil engineering & ASCE for all interested freshmen and department members. Fri, May 10, 4-8pm, Briggs Field. Tickets \$2.50, available Rm 1-348. Softball game.

MIT Silver Club - Spring meeting, Fri, May 10, social hour 5:30pm, dinner 6:30pm, Faculty Club. For members and guests.

Women's Forum* - Emily Wick, Dean of the Faculty at Mt. Holyoke College, former professor of nutrition at MIT and a founder of the Forum, will talk about her experiences in her new position. Mon, May 13, 12n, Rm 10-105.

MIT Quarter Century Club*** - Members and guests are invited to a dinner/dance Sat, May 18. Social hour 5:30pm, Stu Ctr Mezzanine Lge. Dinner and dance 6:30pm, Sala.

MIT Club Notes and Meetings

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.

Classical Guitar Society - Classes, group or private. Thurs, 5-9pm; Sat, 9am-12n; Rm 1-132, 134, 136. New group class for beginners every month. Vo Ta Chuoc, x9633 Dorm.

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 Tues, 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.

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

MIT-Harvard AAU Water Polo Team* - Competition with local teams and in tournaments in NY, Virginia and Canada. If interested, attend biweekly practices, Mon & Wed, 5pm, Alumni Pool.

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. Boat Dive: Sat, May 11, 8am, Research Vessel RR Schrock. Charge: \$10/diver. Info, Mark Rognstad, x0449 Dorm.

MIT Soaring Association Spring Picnic** - Whole day of festivities, including spot-landing competition, rides for guests & potential new members, cookout towards evening. Sat, May 11 (raindate May 12), Norfolk Airport off Rts 109, 115, 24 mi sw Bos. Admission: to break even.

MIT Soaring Association** - General meeting, election of officers 3 new soaring movies, Blank briefing, etc. Visitors and potential members, including Wellesley, invited. Get high! Thurs, May 16, 7:30pm, Stu Ctr Rm 491. Refreshments.

MIT Tiddlywinks Association* - Meetings Wed, 8-11pm, Stu Ctr Rm 491. New members always welcome.

MITV News - The student operated television news organization tapes its weekly program Thurs, 8pm, CAES B&W studio, Rm 9-355.

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

Rugby Club** - Practices Tues, Thurs, 5pm; games Sat, 1:30pm, Briggs Field.

Science Fiction Society*** - Annual elections meeting Fri, May 10, 5pm, Rm 1-236. Annual Food Rally/Picnic Sun, May 12, Blue Hills. Info, x9144 Dorm.

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 and coffee hours 1st & 3rd Sun of each month, 4pm, Rm 14E-307; next meeting May 19. Info, talk, help in coming out, Hotline, 494-8227. As the Lavender Rhino says, "Come out, come out, wherever you are."

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

Technique* - Yearbook staff meetings Sat, 11:30am till late afternoon, Stu Ctr Rm 451. New staffers & responsible critics welcome.

Tech Squares* - Workshop in advanced level western style square dancing. Wed, 8pm, Stu Ctr Rm 473. Info, Myra Ballison, x3-6321.

Undergraduate Physics Community** - Social hour for physics students and faculty. Wed, 5pm, Rm 6-209 (Physics Lge). Refreshments.

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

Women's Gymnastic Club* - Mon-Fri, 4-6pm, duPont Gym. Info, Ursula, x3-5954.

Wellesley Events

The Claude Lorrain Album* - Sixty drawings from the collection owned by Norton Simon, Inc. Museum of Art. Through Sat, June 8, Wellesley College Museum, Jewett Arts Center. Hours: Mon-Fri, 8:30am-5pm; Sat, 8:30am-12n, 1-5pm; Sun, 2-5pm.

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.

Friday Afternoon Club** - Music, conversation, condiments, all the cold draft beer you can drink. Fri, 6pm, Ashdown bsmnt. Admission: \$1 men, 50 cents women. Must be 18 or over.

Movies

Magnetohydrodynamics; Rarefied Gas Dynamics - Fluid Mechanics Films. Thurs, May 9, 4pm, Rm 33-419.

Appeals to Santiago; To Make a Balance - Humanities Film. Thurs, May 9, 4pm, 7:30pm, Rm 4-370.

Art for Computers; LAPIS; Binary Bit Patterns; I Had an Idea; METADATA - BEL Spring Film Series. Thurs, May 9, 5pm, projection rm off 10-400. Coffee.

Art for Computers; LAPIS; Binary Bit Patterns; I Had an Idea; METADATA - BEL Spring Film Series. Fri, May 10, 12n, projection rm off 10-400. Coffee.

Radical Cinema: Greece Now; Tanks in Athens - Science Action Coordinating Committee. Fri, May 10, 6:45pm, 8:15pm, Rm 1-190. Admission: \$1.

The Stranger - Humanities Film. Fri, May 10, 7pm, Rm 54-100.

State of Siege - LSC. Fri, May 10, 7pm, 10pm, Kresge Auditorium.

Admission 50 cents, ID required.

L'Aventura - Film Society. Fri, May 10, 7:30pm, 9:30pm, Rm 6-120. Admission \$1.

Killing of Sister George - Midnite Movie Series. Fri, May 10, 12m, Sala. Free admission & popcorn; Wellesley or MIT ID required. Bring blanket.

And Now for Something Completely Different . . . - LSC. Sat, May 11, 7:30pm, 10pm, Rm 26-100. Admission 50 cents, ID required.

Kati Patang* - SANGAM. Indian movie with subtitles. Sun, May 12, 3:30pm, Rm 26-100. Admission 50 cents with ID. Indian refreshments available.

The Virgin and the Gypsy - LSC. Sun, May 12, 8pm, Rm 10-250. Admission 50 cents.

Fluid Dynamics of Drag (Parts I & II) - Fluid Mechanics Films. Tues, May 14, 4pm, Rm 33-419.

Fluid Mechanics of Drag (Parts III & IV) - Fluid Mechanics Films. Thurs, May 16, 4pm, Rm 33-419.

Radical Cinema: The MacDonell-Douglas Film; Hunger in America - Science Action Coordinating Committee. Fri, May 17, 6:45pm, Stu Ctr Rm 407. Admission \$1.

A Touch of Class - LSC. Fri, May 17, 7pm, 10pm, Kresge Auditorium. Free.

Nayak/the Hero - Film Society. Fri, May 17, 7:30pm, 9:30pm, Rm 6-120. Admission \$1.

Succubus (and Nosferatu) - Midnite Movie Series. Fri, May 17, 12m, Sala. Free admission & popcorn. MIT or Wellesley ID required. Bring blanket.

Do Phool* - SANGAM. Indian film with subtitles. Sun, May 19, 3:30pm, Rm 26-100. Admission 50 cents with ID. Indian Refreshments.

Music

Music Library Concert* - MIT Chamber Music Society, conducted by William Draper. Pieces by Quantz, Telemann, Vivaldi, Beethoven, Bach. Wed, May 8, 5pm, Music Library. Free.

Viola Recital* - Ted Eleftherakis, with three soloist guests. Works by Walter Piston, Ervin Henning, Telemann, Thurs, May 9, 5pm, Music Library. Free.

Concert* - Commonwealth Wind Quartet, New England Conservatory of Music. Sponsored by Hillel. Thurs, May 9, 8:30pm, McCormick Hall Brown Living Room. Reservations, x3-2982.

Noon Hour Concert* - Baroque music for flute, oboe & harpsichord. Thurs, May 10, 12n, Chapel. Free.

MIT Women's Chorale Spring Concert* - Program includes English madrigals, pieces by Schubert, Poulenc, Faure. Sun, May 12, 3pm, Chapel. Free.

Wellesley College Madrigal Singers* - Performing works by Cara, Willaert, di Lasso. Wed, May 15, 12n, Bldg 7 Lobby. Free.

Noon Hour Concert* - Women's chorus with soloists Sandra Stuart, soprano; Rufus Hallmark, tenor; members of MIT Symphony Orchestra; and Nina Kellman, harpist; will perform "A Ceremony of Carols" by Benjamin Britten and Igor Stravinsky's Cantata 1952. Thurs, May 16, 12n, Chapel. Free.

Theatre and Shows

Little Video Tape Theatre - Lots of experimental video tapes. Mon, May 13, 4-7pm, Rm 9-450. Free.

Androcles and the Lion* - MIT Community Players presents Bernard Shaw's play. Thurs-Sat, May 16-18, 23-25, 8:30pm, Kresge Little Theatre. Tickets: \$2.50, Bldg 10 Lobby and at the door.

Exhibitions

Interventions in Landscape* - Major exhibition of artists' work in the environment, sponsored by the MIT Committee on the Visual Arts. More than 15 artists, including Robert Smithson, Patricia Johanson, Charles Simonds, Alice Aycock, Nancy Holt, Robert Morris and Richard Serra. Exhibit through Sat, May 11, Hayden Gallery. Hours: Mon-Sat, 10am-4pm; Tues 6-9pm; Sun & holidays, 12n-4pm.

Interface* - Photographs of Rome taken by 10 students led by Minor White and Myron Guran, architecture. Bldg 7 Lobby, through Fri, May 17.

Photographs by MIT Students* - Exhibition of black and white prints. Thurs, May 9-Sat, June 1, Creative Photography Gallery. Hours: 12n-7pm weekdays, 12n-6pm Sat, Sun. Free.

Paintings from the Museo de Art, Ponce, Puerto Rico* - Organized by MIT Committee on the Visual Arts. Fri, May 17-Sat, June 8, Hayden Gallery. Hours: Mon-Sat, 10am-4pm; closed Sun, holidays. Free.

Music Library Exhibit - Chinese musical instruments.

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.

Athletics

Wednesday, May 8 - V Baseball. Harvard, 4pm, W Tennis. Newton College, 3:30pm. **Friday, May 10** - F Tennis. Lawrence Academy, 3pm. **Saturday, May 11** - V Baseball. WPI, 2 games, 1pm. JV/F Lacrosse. Trinity, 2pm. F Tennis. Harvard, 2pm. Track. Easterns, 10:30am. **Tuesday, May 14** - V Baseball. Bowdoin, 3pm.

Religious Services and Activities

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

Baha'i Discussion Group of MIT* - Informal discussions for people

Undergraduate Writing Prizes

The 1973-74 undergraduate writing prizes—the Ellen King Prize for Freshman Writing, the Robert A. Boit Writing Prize and the Boit Manuscript Prize—will be awarded tomorrow (Thurs., May 9) at 4pm in Room 14E-304 at The Open Reading, sponsored by the Department of Humanities. Excerpts from winning entries will be read and, also, any member of the MIT community is invited to read from his or her writing. Refreshments will be served.

Engineering Open House

Women students in the engineering school and any interested freshmen women are invited to an engineering open house today, from 3 to 5pm, in the Bush Room (10-105). Featured will be a panel of women students and professionals discussing their experiences as women in engineering. Questions, open discussion and refreshments will follow. Everyone is welcome—men and women.

Sea Grant Sponsors Explorer Post

The MIT Sea Grant Program is establishing an Explorer Post in Cambridge for young men and women interested in ocean-related careers.

Barbara Passero, information manager in the marine resources information center, MIT Sea Grant Program, and Fred Nugent, Exploring executive, Cambridge Council of the Boy Scouts of America, are coordinating efforts to establish the Post.

Most pressing need of the program—still in organizational stages—is an advisor willing to assume leadership of the Post. There will be a meeting for all interested persons on Thursday, May 16 at 3:30pm in Room 1-214. For further information call Ms. Passero at Ext. 3-5944.

who would like to know about the Baha'i faith. Tues, 8pm, Rm 1-1356.

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 8-3154.

Hillel: Services - Mon-Fri, 8am, Rm 7-102; Fri, Traditional 7:30pm, 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, Brett Wolzer, x8608 Dorm.

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.

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

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 Revelation, last book of New Testament, Wed, 8pm, Westgate apt 1202. Info, 494-8778.

Announcements

Wellesley-MIT Exchange - applications for the fall 1974 Exchange are due Fri, May 10. Applications and information are available in the Exchange Office, Rm 7-141.

June Degree Recipients - Post cards must be returned to Rm E19-335 no later than Mon, May 20, to indicate whether diplomas are to be mailed, called for in person or if June attendance is planned.

IHFTP Shirts - Pick them up from the Undergraduate Association secretary, Stu Ctr Rm 403, anytime during the day.

R/O Week Coffeehouse* - People are needed to entertain nightly, Sept 3-8. Possible compensation! All performers should contact Debbie Deutsch, Rm 7-105, or x8659 Dorm.

Women's Counterpart to Logarithms - We need female voices, all ranges, who would like to make suggestions and/or try out sometime before the end of the term for this new vocal group. Interested Carol Steiner, x8853 Dorm, or Pam Whitman, x8857 Dorm.

Summer Session Registration Material - Must be turned over to the Registrar's Office. Rm E19-335, by Wed, May 8. Fine of \$5 for any registration material received after Wed, May 8.

4.051 Creative Photography I Lottery - Sign up at the Photo Lab, Rm W31-310, from Wed, May 1-Wed, May 8. Names of winners will be posted Fri, May 10.

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

Send notices for May 15 through May 26 to the Calendar Editor, Room 5-111, Ext. 3-3279, before noon Friday, May 10.

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, May 10.

For Sale, Etc.

'69 VW bug, exc cond, \$800; qn sz waterbed, platform, heater, thermo, two sets linen, \$100; beanbag chr; K tbl. Call, 566-0364, evgs.

Bike, f 16", rebt, repainted, \$30. Call, 354-8133.

Ampeg Jet guitar amp, (1) 12" spkr, 100W, gd for practice, \$60; Baldwin 2 pickup solid body elec guitar, red sunburst, indiv vol, perf cond, \$80; nego. Rich or Francine, 661-3164.

Sears Coldspot 10 cu ft freezer, w/padlock, lk nw, \$150 firm. Sue Fuhrman, x3-5961, evgs.

Ampex AX50 tape deck, gd cond, \$125; Soligor 35 mm f2.8, \$40; 135 mm f3.5, \$30, Pentax mts, or best. Jim x3-2980, lve msg.

Danish sofa, \$50; glass coffee & end tbl, \$8/ea; tbl lamp, \$5; flr lamp, \$8; dbl bed, \$40; vac, \$15; bamboo drapes, \$5; (2) 6.50x13 recap snows, 10K grnty, free. Dwight, 776-8057.

BR set w/hdrbd, box spr, matt, chest, \$100; wd desk & chr, \$45; K tbl & 3 chrs, \$30; Wedgewood china/8 w/ acces, \$75; bkshlvs, crtns, shades, lamps, K acces, humidifier, \$35. Call, 494-9098.

Elec calculator, TI-SR10 w/carry ca, adapter to chg batt, used 1 mo, \$7. Martha, x3-3601.

Oriental rug, gold bkgrnd, 9x12, \$45; Miracord 20-U trntbl, w/ADC-90E crtrdg, wd base, dustcvr, \$60. Johan, x0546 Dorm.

Bose 901's, yr old, exc cond; Miracord 620U trntbl, 2 yrs; \$400. Brian Van Lierup, 247-8691.

SCM port typwrtr w/case, mod style, nds minor work, exc for stu or fac, \$35 or best. Call, 491-0630, evgs.

Huffy m 3 spd bike, seas old, tarnished, mint cond, \$35. Call, x3-5824.

Living town, must sell: apt furn & appl cheaply, all exc cond, incl carpet, ac, fan, dbl bed, etc. Richard, x3-6028, aft 1pm.

Dbl bed, lk nw, must sell, \$50. Lou, x3-6610.

Skis, 185 cm, gd beg; w/sz 11 N ski boots, \$25 compl, nego. Neal, x3-6301.

Sq 3 spd 20" wndw fan, somewhat battered & noisy, works fine, \$8. Helen, x3-7690.

Misc furn, cheap. Barbara, x8-3316 Draper.

Rust color carpet, 9x13, v gd cond, nego. Call, 547-2719.

Scientific Amer, '72-'73, \$4. Ginny, x3-2380.

Tandberg TCD cassette deck, still on wrnty, lk nw, must sell, \$320. Chip, x3-1558.

Garrard All trntbl, nw Shure M76CS crtrdg, \$30; Garrard Lab 80 trntbl & nw Shure M44E crtrdg, \$35; old Dumont Oscilloscope, nds repair, \$25. Rick, x0238 Dorm.

Hitachi 18" solid st port b&w tv, exc cond, '75; playpen, \$10; bkshlv, \$15; big desk w/chr & bkshlv, \$30. Lin, x3-6710.

Tire, 1, 6.00-15L, 4 ply rayon t-less, orig equip for VW Sqbk, nvr used, \$15. Carl, x3-4858.

Heresy spkr by Klipsch, pr/\$400, pr

AR2AX spkrs, \$120; Standard rcvr, w/18 W/ch RMS, \$100. Mike, x9626 Dorm.

Girl sgl spd Schwinn bike, grn w/ chrome fenders, gd cond, \$10. Ben, x3-7445.

Kenmore washer 600, gd run cond, nw pump & belt, \$35. Call, 272-1413.

Moving, must sell med sz refig, exc cond, \$80; gold shag carpet, 9x12, \$80; imitation Persian rug, 5x7, \$20; loft, \$50; mirror, wardrobe, shlvs, desk, blender, iron, etc. Jeanne, 492-3155.

Peugeot m 10 spd grn bike, 6 mos, w/k9 lock, \$100. x3-4912.

Sofa, \$20; coffee tbl w/leath top, \$25; or best. B. Chand, x3-3560.

SR-10 calculator, highest bid. Bengt, 492-6983.

Michelin X tires w/tubes, 3 exc cond, 1 worn, all tubes exc cond, \$50; also want ride to LA, anytime aft 5/20, share driving & exp. Call, 527-7059.

Scottie travel trlr, 15', self-contained, incl hitch & brake, exc cond, \$950. Fran, x3-4957.

Refrig, \$80 or best; foldaway bike, \$35; cabinet, 3' w, \$25 or best; Bake-King broiler oven, \$15. Debra, x3-3241.

Qn sz bed; 2 sgl matt; duplex bed; color tv; dinette set; bureau; etc. Orea, x3-4476.

Pioneer SZ-424 rcvr, \$150, pr EPI-50 spkrs, \$90 or best, perf cond. x8533 Dorm.

Gas refig, \$50; oak side brd, \$20 or best; dbl bed spring. x3-5826.

Design Research child desk/tbl combo, indestructible hrdwd construction, was \$65, \$20, R. Filene, x8-1476 Draper.

'70 Starcraft Starmaster 8 HT tent trlr, slps 8, sits 8 at 2 tbls, elec refig, canopy, sink, stove, catalytic htr, \$1,195 or best. Harvey, x3-6077.

Cream wool rug w/pad, 12x12, \$135; prpl rya rug w/pad, 8x11, \$120; CRC Chem & Physics, 48th ed, \$6. Jerry, 262-2543.

Dynaco stereo 120 power amp, exc cond, hrdly used, nw power transistors, diodes, 4 mos, yr wrnty, ask \$130. x8469 Dorm.

Gd qual nylon carpet, 25 wq yd, gold, w/latex padding, best. Ben Dores, x8-2332 Draper.

Top of line Yamaha 12 str guitar, gd action, 6 mos wrnty, exc cond, w/case, xtra str, was \$230, \$180 nego. Neil, x8270 Dorm, kp try.

Simmons dbl bed, box spr, matt, fr, exc cond, '75 or best; desk, \$15; dresser, \$10; 9x12 gold rug, \$30. Mario, x3-5317.

Raleigh 3spd bike, gd cond, \$35. x8542 Dorm.

Pr Dynaco AZ5 spkrs, perf cond, yr old, \$100. x8533 Dorm.

Gd qual sgl bed w/box spr; sgl fold up bed. Call, 864-9682.

Plush gold 6x9 carpet, \$20; Broi-master oven/hrlr, \$5; tea kettle, \$1.50; Sears Silvertone clock-radio/stereo/phonos, \$75 or best. Bev, x0579 Dorm.

Hseplants, lemon geranium, strawberry begonia, prpl passion, kalanchoe, etc. Wed, 12n-2pm, Rm 13-3078.

Hip hip hooray! She's potty trained, w/10 1/2 boxes toddler's pampers left, \$9.80. Elaine Cook, x3-3500.

Adj back rest, use for reading, in bed, outdoors; fold clothes dryer, \$3/ea. Charles M, x3-4948.

Spanish blk leath sofa & red leath swivel barrel chr, exc cond, \$300. Mary, x8-3381 Draper.

Must sell, moving: 6 hp Jacobsen 2 stage snowblow; formica dining tbl w/4 chrs; skis w/boots; ice skts; 2 dressers; sew mach; elec stove; best reas. Harold, x7216 Linc.

Sears power lawn sweeper w/power rake, perf cond, \$115. Bob, x3-3990.

Tires, 4, Gdyr polyglass D78-14, 35 K, gd cond, O. Orringer, x3-2430.

Teac mdl RA41 rcrding amp w/equalization & bias, best, x9601 Dorm, aft 6pm.

AC, 230 V, old, works, qt; 2 Edison humid; SCM man typwrtr; old Dumont 302 oscilloscope; sm old GE tv, nds work; old movie screen; 9' workbench w/elec strip; AB Dick photocopier, etc, best. Margaret, x3-7719.

Mother's Day: b nw elec frypan, lg w/hi dome, immers, teflon int, orig \$30, \$20; b nw emerald grn satin evg bag, orig \$16, \$5; want: dehumidifier. x8-2577 Draper.

Fold bed, \$20; elec sew mach, \$25. Call, 787-1093, aft 6pm.

F Raleigh 3 spd 27" frame bike, nice cond, \$30. Roger, x3-6796.

Workable spin whl, stagecoach mdl, \$55; mtl sew mach stand, \$10. Audrey, x3-4837.

Blu nylon run shoes, 2 pr: Tiger Marathon sz 10 1/2 \$10; Nike Cortez sz 11 1/2, \$12; exc cond. Don, x3-6944.

F 3 spd bike, exc cond, \$35; ski boots, m sz 9, plastic, \$30; Garrard SL55 trntbl, \$25. Dave, x3-3724.

Sgl bed w/box spr, matt, bksc hdbd, match bachelor chest, \$50. Harry, x3-6232.

Infant apparel, some nw; Simlac concentrate, 1/2 pr. Thurs, 12n-2pm, Rm 2-246.

Mason upright piano, exc cond, \$299 or best. Call, 245-5139, evgs.

Seas Coop crates: 17x23x36, \$14; 14x18x30, \$9. Allen or Brough, 521-1150.

Hand lawn mower; giant hibachi; 14" Chevy tire rim; g 20" bike. John, x8-2006 Draper.

Frigidaire refig, wht, exc cond, lg freezer, frost-free, orig \$350, \$95. x3-3403

M bike, 5 spd 26", \$40. Steve, 275-1239.

Crtns, \$35; dbl box spr & matt, \$40. x3-2765.

Qn sz matt, firm, almost nw, \$55. Roberta, x3-4737.

Sunbeam Carousel elec rotisserie broiler, lk nw, \$5. x3-7138.

F bike, sgl spd w/coaster br, 26" whl, gd cond, \$10. Bob, x3-7457.

Tbl, \$25; blk lite, \$10; terrarium, \$20; dbl gooseneck lamp, \$10; conductor hat, \$5; hand carved toilet seat, \$15. Michael, x9628 Dorm.

Playpen, \$18; baby walker, \$6; gate, almost nw, \$6; 2 gas safety cans, unused, 5 gal, \$6/ea. Call, 494-8836

Alum reel-type clothesline, nvr used, orig carton, \$8. Al, x149 Linc.

Vehicles

'59 Jeep w/plow, 4 whl drive, rebt trans, r & h, w/roof & side pnls, gd tires. Joe, x3-4876.

'61 Chevy Imp, gd cond, 2 nw tires, 60 K, \$200 or best. Mark, x3-6030.

'65 VW body parts wanted, or gd VW sed body, nd frnt fenders, both hoods. Li, x3-7193, lve msg.

'65 Olds, auto, p st & br, lving cntry, must sell, \$150. Steve, x3-2380.

'65 Dodge, 4 dr, wht sed, p st, exc run cond, gd gas mileage, reliable transp, best. Leslie, x3-6149.

'65 Ford, 4 dr, 6 cyl, auto, 70K, nw batt, shocks, etc, nds eng work so price low. Call, 628-1416, aft 10pm.

'65 Buick wgn, exc mech cond, best. Mike, x7339 Linc.

'66 Wildcat Buick, tip top cond, \$575 or best. Call, 783-0731.

'66 Mustang, gd run cond, amfm auto, \$400 or best. x3-7533.

'66 Chevelle, 48 K, tuned, ac, auto, p st, snows, radio, \$580 or best; sell crib & matt, ask \$50; wd desk, \$30; Underwd typwrtr, \$20; 2 stud snows, G78-14 1 seas, \$28; rug, \$10. Call, 494-9336.

'67 Volvo 144S, std, radials, exc cond, \$900. Mary, x3-2935.

'67 Ply, ac, p st & br, 4 gd tires & 2 snows, 60 K, 14.5 mpg, exc cond, must sell, lving cntry, \$550 or best. Call, 494-8446.

'67 Peugeot 404, exc cond, 50 K radio, snows, dark red, \$850. Call, 494-0271, evgs.

'67 Chevy Malibu, V8, auto, p st, vinyl rf, nw batt, front br, snows w/rims, gd cond, \$650. x3-7509.

'68 BMW, nw trans, clutch, exh, v gd run cond, yel, nice car, 24 mpg, \$1,000. Rika, x3-1606.

'68 Pontiac Bonne, hrtdp, v gd cond, exc run cond, \$550 or best; Panasonic tv, lk nw, \$35; coverlet, \$4. Call, 492-5547.

'69 Mustang 351 fstbk, blk int, exc eng, no dents, best over \$1,100. George, 266-0885.

'69 Jeep CJ-5, V6, rollbar, driving lites, full instrument, 8 tires, nvr plowed, gd mech, 46 K, \$2,000 or best. Jeff, x3-6835.

'70 VW, nw br, paint job, 36 K, \$1,500

or best. Joe, x3-3344.

'71 Triumph Spitfire 4, conv, exc cond, 16 K, \$1,450. Call, 484-7681 by 9:30am or evgs.

'71 Triumph TR6, v gd cond, 38 K, must sell, meticulous owner, ask \$2,250. Bill, x3-6938.

'71 VW 411, 4 dr sed, 20 K, cln, 23 mpg, auto, metallic silver, amfm, nw radial snows, \$2,300 or best. Abraham, x3-7472.

'72 Toyota Corona, deluxe 4 dr sed, 4 spd, radio, xtra snows, lving town 6/3, best. x3-7166.

'72 Chevy Imp, 4 dr sed, lo miles, exc cond, x8-1243 Draper.

'72 Dodge Colt, 4 spd, sts, 4 nw tires, nw exh, carb, clutch, starter, v cln. Linda, x8-4202 Draper.

'72 Olds Cutlass Supr, grn w/wht vinyl roof, 19 K, 2 dr, ac, p st, br, wndw, amfm, rear wndw defrost, snows, \$2,250. x3-6913.

Triumph TR 4, rebt eng, nw int, conv top, mechanics 1st class, tuned to perfec, nds paint. B Clark, x3-4603.

'70 Honda CL450, exc cond, under 5 K, \$900. Call, 332-8920, evgs.

Housing

Allston, 2&3 BR apts, gd pkg & transp, \$200-\$275, spec sum rates avail. J. Lee, x8-4567 Draper.

Back Bay, sum sub w/opt, BR, mod K & B, nr MIT, \$170. Jose Ramos, x3-7113.

Back Bay, sum sub w/opt, 2 lg BR, K, B, LR, ac, ww, d&d, 15 min walk MIT, \$270 incl ht. Call, 536-9530, kp try.

Back Bay, BR, full K, ww, \$185. Somoza, x3-4476.

Bos, 2 BR, 2 blks from Common, Clarendon & Comm Ave, mod K & B, ww, sub June w/opt, \$241. x3-6244.

Bkline, furn 2 rm off Comm Ave, \$140 incl util, pkg, Call, 566-1276.

Bkline, sub 6/1 w/Sept opt, spac 4 BR, semi furn, 1 rm ac, nr T, \$237. Cathy, x3-2450.

Bkline, 3 BR nr Coolidge Crnr, avail 6/1 w/Sept opt, \$242; old, noisy but working elec dryer, best. Jim, x3-5323.

Bkline, 10 rm hse, ideal for fam, nr T, lg yd, avail 6/1-9/1. Call, 731-5137.

Camb, Cent Sq, sum sub w/opt, mod bright w BR, LR, eat-in K, 2-3 persons, ww, carpet, ac, mostly furn, avail 5/15, \$250. Call, 492-5258.

Camb, sub w/opt, effc w/B, K, Cent Sq nr T, 15 min walk MIT part furn, avail now, \$135. Linda, x3-6788.

Camb, Cent Sq area, sub 6/1-9/1, furn 2 BR, ac, ww, off st pkg, mod bldg, walk Harv, MIT, nr T. Call, 492-1693.

Camb, sum sub w/Sept opt, 4 rm 2 BR wnd fl apt, ww, mod K, avail 6/1, \$185 incl h. Steve, x3-7170.

East Camb, BR, lg K, LR, B, fully furn, wd pnl, lg bkshlv, nr MIT, Kendall, Lehmr, gd respon lndrd, avail 5/15 or later w/opt, \$160 incl h. Marni, x3-4396.

Camb, sub w/opt, 3 BR, 10 min MIT, \$270. Ron, x3-3728, lve msg.

Camb, nr MIT & Cent Sq, 4 BR, LR, K, 1 1/2 B, part furn, nr T, avail 6/1, \$310 incl h & gas. Call, 547-6918, aft 6.

Camb, 2 BR apt, 6 Ellsworth Ave, bet H & MIT, \$220 incl h, x3-4895.

Camb, exc loc bet H & MIT, 2 lg BR, LR, K, nw bldg, ac, avail 6/1. Crist, 661-0713.

Hingham, beam ceil, wide pnl flbrds, mod K & B, outstanding 8 rm duplex, nice res area, bus, priv bch, \$375. x7896 Linc.

Newton Crnr, BR, LR, tiled B, Kette, recent renov, ww, nr T, pike, pkg, \$200 incl h, util. Call, 361-6978.

Som, off Porter Sq, lg mod 2 BR, MIT bldg, ac, ww, dw, convenient to MIT, sum sub w/opt, \$250. Call, 628-4454, evgs.

Som, 2 BR, LR, K, lg porch, sunny & qt, nr Port Sq, on bus line, avail 6/1, \$190. Call, 625-7025.

Som, sum sub, 2 BR apt, ww, ac, dw. Chuck Chen, x3-3259.

Som, Port Sq, 2 apt on T to Harv & MIT, avail immed: 7 rm, fam pref, \$250; 4 rm, \$190. x3-2362.

W Roxbury, 5 1/2 rm w/porch, 2nd fl, heated, nr T, avail 6/15. Ebba, x3-4495.

Winchester, 3 BR, 2B, LR, DR, eat-in K, den or 4th BR, lg fam rm, 2 frpl, 2

Animals

Siberian husky, yr old f, blu eyes, copper & wht, w/equip, doghse, \$174. Call, 484-5173.

Handsome cats, 2, 1jet blk, other marmalade, nd nw home asap, neutered m, 3 yrs. Jim x3-1926.

Abandoned mother cat & 3 kittens, gray & wht, nds nw home, must be kept tog 5-6 wks. Eileen Kibrick, x3-1782.

Kittens free to gd home. x3-5230.

Wanted

M rmmate, share Bri apt w/2 m, ava 1 6/1 w/Sept opt, ww, ac, pool, pkg, nr T, grad stu or yng prof pref, \$128. Call, 787-4505, evgs.

M or f rmmates, 3, spac 4 BR apt off Cent Sq, LR, K, B, storem, for Sept, 10 min MIT, conv, propose coop cooking by wk, \$65 \$ util. Moez, 864-3793, 7pm.

Alum canoe, pref 17' Grumman whitewater; typwrtr, std, gd cond. Dick, x282 Linc.

Stu, 2, involved in Health Planning Project, Martha's Vineyard, seek free or subsidized housing for sum, terms nego. Call, 494-9180.

Japanese spking child to play w/son, 6, so he won't forget how to spk Japanese. Ihara, x3-6849.

Subjects for behavioral exp in RLE, takes only 1/2 hr, gd pay, call for apt. x3-3720.

Grdn apt, 1 or 2 BR, unfurn, Bos suburb, July occupancy. Art, x8-3665 Draper.

Rmmate 6/1-8/31, own furn BR, nw 3 BR Wrtwn hse nr Bel T, free pkg, beaut area, \$81 + elec. Call, 924-2727.

Rmmates, 24+, beaut lg Arl hse, plenty yard & space, own BR, blk Mass Ave bus, 20 min MIT, share cooking & chores, \$105-\$125. Call, 646-5854.

Ride to Miami on or aft 5/27, wl share driving, exp, Nina, x0219 Dorm.

Foreign stu badly nds xtra commencement tkcts for relatives from overseas, wl pay. Eddie, 266-8138.

Office elec typwrtr & pckt calculator, wl pay reas price. Bonnie, x3-1598.

Grad & undrgrad stu, 6, want lg apt or hse in suburbs to rent '74-'75 academic yr, pref furn & acces to T. Mike, x3-1541.

Ride to LA or Calif, last wk May, wl share driving & exp. Forrest, x3-3724.

M rmmate, sum sub, own BR, K, pantry, LR, 5 min walk MIT, \$90. Kevin or John, 661-0080.

Applied Optics, Jan-Dec '73, wl pay. John, x3-3791.

F rmmate, share huge, sunny apt, sum sub w/opt, grn line T & bus to Cent Sq, '95. Kathy,

M or f rmmate, share 6 rm apt, Vernon St, Bkline, sum sub, own rm, nr T, shops, \$82.50 +util. Jody, x8748 Dorm.

Furn for sum, borrow or rent, nd bed, dresser, lamp. Maureen, x8828 Dorm, evgs.

Rmmate, coed apt nr Kncl Sq, own rm, 3 min walk MIT, avail 6/1 w/opt, \$97.50 incl h, util, nego. Marc, x3-5743.

M or f rmmate, own BR lg 5 BR coed Bkline hse, sub 1 yr start June, \$100. Kaaren, x3-6742, morn.

BR apt w/K, LR, poss DR, in res Camb-Wrtwn area, nr T, stores, avail 6/1. Helga, x3-6756, lve msg.

MIT stu, 2, seek rmmates & hse on Martha's Vineyard, 6/1-9/1. Russ, 494-9081.

F, 4th for spac furn home, Camb, sum sub. x3-5344.

BR avail Tang Hall, 2 BR, avail now w/opt. Call, 494-0357.

Rmmate, 2 BR mod apt, ac, d&d, nr Hary T, avail 6/1, \$125. Cheryl, x3-5677.

Carpools

Ride or carpool, Andover-MIT daily. Jane, x3-7135, aft 12n.

Miscellaneous

I wl drive your car to Seattle, Wash, around 1st wk June. Dave, x0430 Dorm.

Piano tuning & repairs. Call, 321-7448.

Learn to sail: b nw Pearson 30, Marblehead Harbor, wkday, wkend, evgs. Call, 522-1506.

MIT Family Day Care Program nds people to care for pre-sch chldrn. x3-3953.

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, 10-211, 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
Phillip 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
Claudia Liebesny 3-1595
(secretary - Dixie Chin)

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

DSR Staff at the Laboratory for Nuclear Science will design, develop, and maintain the operating system of the IBM 360/65 in the laboratory's computer facility. Assist users with special projects. Degree in computer science, physics, or mathematics; programming experience, particularly 360 Assembly Language required. 74-361-R (5/1).

DSR Staff in the Energy Lab must have minimum 5 yrs experience in defining, securing support, organizing and supervising research in heat transfer related to energy production and utilization. Familiarity with MIT; experience in supervising student theses research and staff; Ph.D. in Mechanical Engineering required. 74-359-A (5/1).

Biophysicist - DSR Staff at the National Magnet Laboratory will supervise the daily operations of the low-field lab where magnetic fields produced by the human body are measured; perform specific measurements in the lab; design specific lab equipment. Individual must have experience in low frequency electronics, magnetics, lung and heart physiology; occasional irregular hours necessary. 74-364-R (5/1).

Administrative Staff - Special Events Director for the MIT Alumni Association will organize, coordinate, and promote alumni convocations in major cities throughout the US. Individual with imagination, organizational abilities, leadership and interpersonal skills required. MIT degree or knowledge of the Institute is desirable. 74-349-A (4/24).

Administrative Staff - Associate Direc-

tor of the Alumni Fund will be responsible for all internal administration of Alumni Fund activities of three Associate Directors and one Assistant Director; establish and administer systems for all phases of the volunteer Alumni Fund organization. An alumnus/alumna of MIT is preferred, but not essential. 74-348-A (4/24).

Facilities Data Manager - Administrative Staff in the Planning Office will maintain, store, and retrieve all data related to MIT's Physical facilities. Collect and distribute data, maintain communications among the numerous users of the facilities data. Minimum 2 year degree in Math or in a technical field required. Knowledge of computers helpful, ability to work with details and to learn keypunching important. 74-342-R (4/24).

Administrative Staff - Project Manager, Resource/Alumni Data Systems. will report to the Director of Resource Planning to take full responsibility for development, production coordination and operation of computer systems in support of the Resource Development and Alumni Offices. A minimum of five years professional EDP experience required, including at least three years of systems analysis. Familiarity with MIT systems will be helpful. Will evaluate overall assignment, define group staffing needs and, when approved, be expected to recruit, train, and supervise staff. 74-412-A (5/8).

Administrative Staff - Associate Director of the Alumni Fund will be responsible for Staff support to alumni boards and committees engaged in the annual solicitation programs. Duties require extensive interaction with senior alumni and corporation executives throughout the country, at MIT. Individual must be an alumnus/alumna of MIT. Position entails a moderate amount of travel. 74-347-R (4/24).

Accountant - Exempt or Administrative Staff in the Grants and Contracts section of the Comptroller's Accounting Office will perform internal cost audits of research contracts and grants; coordinate accounting and audit functions with other Institute offices and departments. Prepare cost reimbursement billings and other grant fiscal reports. Minimum qualifications are a college degree or current attendance at school; general accounting experience. 74-410-R; 74-411-R (5/8).

Technical Instructor - Academic Staff in Chemistry must have knowledge and demonstrated experience with chemical theory and practice and will instruct and direct students in all aspects of teaching laboratory. Synthesize, purify and analyze reagents, prepare solutions for classes. Minimum BS in Chemistry (related experience may be substituted), minimum 5 years working experience required. 74-344-A (4/24).

DSR Staff Scientist in the Neurosciences Research Program will participate in the planning of work sessions and conferences on the advances of neuroscience. Competency may be in molecular and cellular neurobiology, neuroanatomy, and other aspects of brain anatomy, and other aspects of brain science. Individual must have a record of research experience, accomplishment, and productivity sufficient to qualify as an expert capable of critical evaluation of scientific literature, capability for creative conceptualization and theoretical work. Individual must spend full time in the theoretical work for the duration of the appointment, usually one year. Ph.D. preferred. 74-346-R (4/24).

Marketing Director - Administrative Staff at the MIT Press must have experience and skills in some or all of the following areas: direct mail, scientific/technical, international, research and planning, trade and library relations. Innovation, creativity, adaptability for goals; ability to work as part of a publishing team in a university environment. Please submit resume with educational background; accompanying letter must describe in detail marketing methods and achievements. 74-313-R (4/17).

DSR Staff in Nutrition and Food Sciences will coordinate the specialized analytical services of the department; advise and assist in the development and application of analytical methods and manage the mass spectrometry laboratory. BS or MS in chemistry or related field and experience in operating a mass spectrometer required. 74-302-R (4/10).

Associate Director - Administrative Staff for the Council for the Arts at MIT will be responsible for the Council's major programs; work on public relations; fund-raising, new releases; act as liaison between MIT and area art groups. Background in the arts, writing skills, ability to plan and coordinate complex programs are desirable. 74-301-R (4/10).

DSR Staff in the Laboratory for Nuclear Science will participate in fundamental particle research at major accelerators and in data analysis. Candidate must have Ph.D. in high energy physics or a related field with experience in scintillation counter and spark chamber techniques and familiarity with large

computer data analysis. 74-220-A (3/13); 74-221-A (3/13).

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. Academic qualifications in developmental psychology and mathematics, demonstrated experience in teaching computer programming to children required. Position available 5/74. 74-153-R (2/20).

Assistant Director - Administrative Staff in the Development Office will direct developmental support of MIT's senior officers and Resource Development Staff. Participate in developing funding goals; write background briefs, memoranda, proposals, ad hoc statements; direct funding projects. Minimum 3 years formal experience in development required, preferably in a university environment. Professional individual, tactful, imaginative, skilled in writing is needed. 74-327-A (4/17).

DSR Staff in the Laboratory for Nuclear Science will participate in fundamental particle research at major accelerators and in data analysis. Candidate must have a Ph.D. with a minimum of two years experience in high energy physics. Detailed knowledge of bubble chamber techniques is essential. 74-222-A (3/13); 74-233-A (3/13).

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).

Staff Recruiter (Admin Staff) will report to the Employment Officer; will be responsible for coordination of search for well-qualified persons to fill non-academic staff positions. Particular emphasis will be given to assisting laboratories, centers, and departments in fulfilling Affirmative Action Plans with respect to research staff openings. Person will work closely with Personnel Officers and departments in defining description of positions and qualifications required. Frequent travel will be expected; experience in Personnel and/or recruiting required. Technical background with degree in Engineering or Science preferred. Please submit resume. 74-543-A (7/18).

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).

Senior Secretary V to the Vice President, Administration and Personnel will handle standard secretarial duties in the office responsible for student, employee, and faculty service functions. Deal with a variety of Institute offices in matters relating to Affirmative Action, financial aid, placement, admissions, planning, personnel; research information and follow up on details. Excellent typing and transcribing skills, ability to coordinate areas and to deal effectively with sensitive material and situations required. Institute experience preferred. 37½ hour work week; 9-5:30. 74-296-R (4/10).

Secretary IV in Civil Engineering will handle a variety of general secretarial duties. Type technical manuscripts and statistical tables and charts, set up format and proofread; independently answer some correspondence; maintain records and student files. Technical typing skill, previous experience, familiarity with shorthand required. Ability to work on many projects simultaneously important. 74-369-R (5/8).

Editorial Secretary IV at the MIT Press Editorial Department will type correspondence, handle routine office procedures, assist the editors in their work. Accurate typing; ability to work with details, and a large number of people; sincere interest in book production required. College background desirable. 74-369-R (5/8).

Secretary IV for the editor-in-chief and two acquisitions editors at the MIT Press. Type letters from tapes and rough drafts; independently acknowledge receipt of manuscripts and proposals; prepare expense accounts. Good typing, attentive to details, maturity and tact essential. 74-386-R (5/8).

Assistant Auditor - Administrative Staff in the Audit Division will perform EDP internal auditing, reviews of the systems development effort, evaluate internal controls, and postaudits 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).

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. 74-47-A (1/23).

Assistant Director (Photo Journalist) Administrative Staff for the News Office will make news photographs for press releases and various newspapers and magazines. Maintain darkroom and photography equipment; perform own darkroom work for primarily black and white photography. Previous experience on daily newspaper, extensive work as darkroom technician required. 74-409-R (5/8).

Systems Programmer - Administrative Staff in the Programming Development Office will work on the 370/165. Perform systems programming and maintenance, systems assurance, and user interface functions. Applicant should have project management experience with HASP, assembler language, and PL 1. 74-408-R (5/8).

Applications Analyst - Administrative Staff at the Information Processing Center will work in the Application Services group to advise users on procedures and techniques in setting up a statistical problem for computer solution. The equivalent of a master's degree in statistics or social science with statistical training is required; experience in programming and solving problems is essential. 74-403-R (5/8).

DSR Staff Systems Programmer at Project MAC will perform system analysis and system programming on a research version of 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-R (11/14).

Applications Programmer - Administrative Staff in the Office of Administrative Information Services will translate detail program specifications into computer code; test codes and documents program for operational use; review specifications; develop program flow charts; test and debug programs; perform other duties as assigned. Minimum 2 years experience in Business applications programming required. 74-278-R, 74-279-R, (4/3); 74-353-R (5/1).

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).

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. 74-360-A (5/1).

Programming Analyst for the MIT Information Processing Center must have experience and knowledge of large-scale time-sharing computer systems. PL/a 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 - Instruction documentation and conducting seminars, workshops, and short courses. 74-178 (2/27).

Senior Key Punch Operator III in the Office of Administrative Information Systems will operate the IBM 029 keypunch machine. Punch into computer input cards formatted and unformatted documents. Minimum 2 years experience operating IBM 029 or comparable equipment. 74-384-R (5/8).

Night Manager - Exempt will be responsible for overseeing the operation 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).

Senior Secretary V in Political Science will handle a variety of secretarial duties for the New Department Head. Arrange meetings and schedule appointments; type correspondence, reports; will also handle typing for the Assistant to the Department Chairman. Excellent typing, shorthand or speedwriting required; organizational and editorial skills a must. Ability to establish priorities, and to work in a very busy atmosphere essential. Minimum 4 years experience; MIT experience desired. 74-395-R (5/8).

Senior Secretary V (Part-time) will handle a variety of secretarial and administrative details at the President's home at Watertown. Schedule appointments for Mrs. Wiesner and for the President's House at 111 Memorial Drive; arrange travel, transcribe correspondence, maintain extensive files. Work closely with Dr. Wiesner's secretary; act as liaison for Mrs. Wiesner with other MIT offices, community agencies and businesses. Keep payroll, and other records; attend meetings when required; write and address invitations for Institute events. Excellent typing and shorthand skills required. Knowledge of the Institute desirable. Discretion, honesty and tact essential to deal with confidential matters and to work in a private home. 25 hour work week; mid-day schedule preferred. Available after 8/15/74. 74-315-R (5/8).

Secretary IV or Senior Secretary V to the Director of a new Special Laboratory will assist in all aspects of developing the new lab; organize the Director's schedule and set up the office systems. Some College and 3-5 years secretarial experience; excellent typing and shorthand required. Ability to organize, establish priorities important. 40 hour work week. 74-368-R (5/1).

Secretary IV or Senior Secretary V for Vice President in the office of the President and Chancellor will handle a variety of duties in a very busy office. Arrange and coordinate complicated appointment and meeting schedules; maintain communications among many people and offices of the Institute. Excellent typing, shorthand, organizational skills and command of language are essential; ability to anticipate, recognize and organize priorities and work as part of a team, resourcefulness for handling complex situations, discretion, tact, and good judgment important. 37½ hour work week. 74-343-R (4/24).

Secretary IV to the Executive Officer of Chemical Engineering will handle general secretarial duties; maintain petty cash account; make travel arrangements; receive visitors. Good typing, shorthand, and dictaphone skills required; previous experience (MIT preferred) or secretarial schooling; ability to work independently, maturity, tact essential. 74-398-R (5/8).

Secretary IV to a small group of faculty in Mathematics will handle general duties of making travel arrangements; typing correspondence, lecture notes; maintain records and handle paperwork in connection with a mathematical journal that is edited by one faculty member. Technical typing experience or willingness to learn mathematical typing; ability to work with details, establish priorities required. 74-380-R (5/1).

Secretary IV in Meteorology will assist with administrative duties and perform secretarial functions for the Executive Officer of a large research program in physical oceanography. Handle routine office duties, type correspondence, arrange meetings for program participants from all over the world. Ability to organize office and to communicate with 60 scientists on a regular basis. Good office skills important; interest in physical oceanography desirable. 74-379-R (5/1).

Secretary IV in Ocean Engineering will maintain department student records, perform general secretarial duties for two professors; type correspondence, proposals, class notes; schedule appointments, travel. Work closely with other Institute offices to coordinate correspondence to students on admission, financial aid, curriculum, registration, etc. Good basic secretarial skills required; ability to work independently and establish priorities important. 74-370-R (5/1).

Secretary IV to the purchasing staff of the Laboratory for Nuclear Science. Type purchase orders, correspondence; maintain records. Will also be responsible for processing articles for publication which involves communication with publishing firms. Reconcile invoices of publishing orders; distribute reprints; maintain files and records of theses and article publications. Excellent typing, organizational ability, independent judgment, initiative required. Library and/or cataloging experience highly desirable. 74-362-R (5/1).

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Positions Available

(Continued from page 7)

Secretary IV in Naval Science will perform office reception duties and handle secretarial duties for the Executive Officer and Instructors. Will also administer the procedural aspects of the NROTC program. Good typing, key-punch skills necessary; shorthand preferred. Previous office experience or secretarial schooling required. 74-356-R (5/1).

Secretary IV to the Institute Secretary for Foundations will be responsible for budget accounting, file maintenance; research in reference materials, maintain communications and smooth relations with top level offices of the Institute. Excellent secretarial skills, ability to organize and to use discretion required. Knowledge of MIT desirable. 74-332-R (4/24).

Secretary IV in the Career Planning and Placement Office will type correspondence, make appointments and travel arrangements for the director; assist in explaining procedures to students and alumni who use the office; take down job descriptions given by companies. Excellent typing and dictaphone skills required. Maturity, tact, ability to work on own important. 74-331-R (4/24).

Secretary IV or Senior Secretary V for the Council for the Arts Staff and the Special Assistant to the President for the Arts will coordinate office activities; do considerable typing. Excellent typing and organizational skills required; ability to work against deadlines essential; shorthand and knowledge of MIT are desirable. 37½ hour work week; 9-5:30. 74-300-R (4/10).

Secretary IV in the office of the Institute Secretary for Charitable Trusts will monitor the office budget; arrange appointment schedules and travel; type correspondence and proposals from dictaphone and handwritten copy; set up and maintain files; act as liaison between the office and other sources inside and outside MIT. May occasionally conduct research on charitable trusts and foundations. Excellent skills, organizational ability, professionalism essential. Previous experience required. 74-293-R (4/10)

Secretary IV to the Administrative Officer of Chemical Engineering will handle general secretarial duties; maintain contract, grant, personnel records; assist with a variety of headquarter's functions. Good typing, shorthand, dictaphone and organizational skills required. Maturity, tact, ability to anticipate problems desirable. May occasionally work overtime. 74-306-R (4/10).

Secretary IV in Medical will handle secretarial duties for two psychiatrists, transcribe patient case histories; maintain accurate records and schedules. Excellent typing required; maturity, ability to work under pressure, and to deal with patients important. 37½ hour work week. 74-320-R (4/17).

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 IV in the Center for Advanced Engineering Study will handle all general secretarial duties for the manager of video operations. Monitor office records; coordinate schedule of recording and editing sessions; answer questions regarding video services. Ability to work with figures, bookkeeping background helpful; accurate typing and organizational skills required. 74-270-R (4/3).

Secretary IV in the Dean for Student Affairs Office will type correspondence, maintain busy appointment schedule for a Dean. Will work with other secretaries in performing general office functions. Excellent typing skills required. Ability to establish priorities and to work in a busy office required. Maturity, tact and sensitivity to students and faculty is essential. 74-275-R (4/3).

Secretary III-IV in the Campus Housing Office will handle general secretarial duties: type correspondence, reports, answer some letters independently; maintain files and records; answer questions about student housing and related services. Minimum one year office experience or secretarial schooling and excellent typing required; shorthand or dictaphone skills helpful. Ability to organize and work under pressure important. 74-352-R (5/1).

Secretary III in the Physics Undergraduate Office will handle all general secretarial duties for several courses; responsible for the Greater Boston Physics Calendar. Good typing (some technical); ability to occasionally work under pressure important. 74-401-R (5/8).

Secretary III in Nuclear Engineering will provide reception and secretarial services for department headquarters; maintain department statistical information; type admissions correspondence and research manuscripts. Good typing and dictaphone skills required; ability to establish priorities important. 74-399-A (5/8).

Secretary III - Part-time in Civil Engineering will assist with general office duties; maintain various logs and files; answer phones; assist with special projects. Accurate typing required, shorthand or speedwriting desirable. 20 hour work week. 74-400-A (5/8).

Secretary III at the MIT Press Journal Department will enter orders onto the computer-assisted subscription fulfillment system for four journals; type correspondence and invoices; answer inquiries regarding journal prices. Accurate typing required; previous exposure to use of computers in business helpful; ability to work with detail important. 74-385-R (5/8).

Secretary III in the Energy Laboratory will assist with a variety of general secretarial duties. Type manuscripts, memos, correspondence; maintain files, supplies. Good typing and dictaphone skills required; previous office experience essential. Flexibility and interest in being part of an active group important. 74-367-A (5/1).

Secretary III to three professors in Ocean Engineering will type class notes, papers, proposals, correspondence; assist in maintaining accounts. Good typing required; basic knowledge of office procedures helpful; ability to work independently important. 74-372-R (5/1).

Secretary III in the Center for Policy Alternatives will handle all reception duties for the office; make travel arrangements; assist in monitoring accounts and ordering supplies; perform other general secretarial services. Good typing, previous office experience required. Ability to establish priorities and work under pressure important. 74-378-A (5/1).

Secretary III in Earth and Planetary Sciences will assist with general secretarial duties for a professor and research group and handle all office duties for another staff member. Excellent typing needed for heavy typing load (technical typing helpful), will compose some correspondence, arrange committee meetings. Ability to handle details essential. 74-321-A (4/17).

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

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

Secretary III in Civil Engineering will handle all general office duties for a professor and a research associate. Good, accurate typing needed for proposals, class notes, correspondence, research reports. Ability to proofread own work important. 74-292-A (4/10).

Administrative Assistant V in the Office of Sponsored Programs will work with the Subcontract Administrator in the preparation, review and processing of subcontracts and consulting agreements. Five years office experience, good typing skills required. Ability to work independently, organization skills, mature judgment, administrative ability necessary. Knowledge of MIT accounting and/or purchasing systems desirable. 74-334-A (4/24).

Administrative Assistant V at the Center for International Studies will handle a variety of Administrative duties for a sub-project on the USSR and Eastern Europe. Administer accounts; arrange two project meetings in New York; assist in editing drafts of papers; conduct bibliographic research for a book being written; read daily French and English newspaper for important articles for complex file; coordinate work load of an office assistant. Excellent administrative, typing, dictaphone skills, ability to work under pressure, 2-3 years experience required. Knowledge of German and/or French important. 74-404-R (5/8).

Administrative Assistant V in the Administrative Officer of the Energy Laboratory will assist in budget, grant and proposal preparation; monitor

Exhibition from Ponce Museum Coming

(Continued from page 1)

ber of the MIT Corporation and a member of the MIT Council for the Arts.

Now located in a modern facility designed by Edward Durell Stone and inaugurated in 1965, the Museo de Arte de Ponce has amassed over five hundred works representative of Western culture of the last five centuries, with particular emphasis on Renaissance, Baroque, nineteenth-century and contemporary Puerto Rican art.

The 36 nineteenth-century works to be displayed in Hayden Gallery clarify the complex esthetics of that era. The more enduring artists of the nineteenth-century on view include Eugène Delacroix, Gustave Moreau, Théodore Rousseau and Richard Parkes Bonington. Delacroix, a progenitor of French Romanticism, is represented by a lesser-known but masterful piece entitled *The Two Foscari*. Inspired by Lord Byron's play of the same title, the painting is a study for a larger depiction of

accounts; maintain personnel files; perform some secretarial duties; act as liaison between laboratory and administrative offices. Familiarity with MIT and its accounting procedures necessary; administrative skills, good typing, shorthand and/or dictaphone required. Ability to make independent judgments, tact and discretion important. 35 or 40 hr work week. 74-357-R (5/1)

Technical Assistant in the Development Office will be involved in fund raising activities. Analyze and process various types of information relating to philanthropic foundations; maintain central records; identify and write evaluations of prospects; coordinate the work of an assistant. Accurate typing, excellent organizational skills, ability to establish priorities and work with deadlines essential. 74-328-A (4/17).

Senior Library Assistant IV will perform general library duties for the Sea Grant Program Marine Resource Information Center. Answer reference questions; research topics, compile bibliographies; type and edit reports, catalog cards, correspondence; monitor accounts. Good typing, organizational skills required; library experience necessary; cataloging experience helpful. 74-365-R (5/1).

Library General Assistant III - Part-time in the Physics Department Reading Room will process journals, theses, reports, prepare book orders; maintain catalogue and xerox machine. Good typing skills required. Ability to organize details and to assist users important. 20 hour work week. M-Th 11am-2pm; F 11am-3pm, Sat 3:30am-4:30pm. 74-387-R (5/8).

Technical Typist III-IV in Mechanical Engineering will handle variety of typing: reports, class note, proposals, some correspondence, Excellent typing required; ability to do technical typing preferred. Good command of English important for answering phones. 25 hour work week, flexible. 74-389-A (5/8).

Technical Typist III - Temporary in Chemistry is needed to type class material for two Chemistry courses. Experience with technical typing preferred. Temporary for two months. 74-393-R (5/8).

Senior Clerk III in Medical will handle reception duties at the first floor reception desk. Answer phones, schedule appointments, handle a variety of clerical duties. Mature, responsible individual with previous work experience and success in dealing with the public needed. Light typing required. 37½ hour work week/8:30-5:00. 74-407-R (5/8).

Senior Clerk III in the Comptroller's Accounting Office Travel Section will type reimbursement checks; check batch exists; answer questions on travel problems. Accurate typing, ability to communicate clearly on the phone is important. 74-397-R (5/8).

Account Payable Clerk II or III in the Comptroller's Accounting Office will process invoices and batch processed invoices; audit vendor invoices; perform various other procedures. Ability to work with figures important. Proficiency on the adding machine required. 74-381-R (5/1).

Jr. Diet Aide II in Nutrition and Food Science will prepare special diets for consumption by human experimental subjects under the direction of the Dietician or Senior Diet Aide. High school graduate with some experience in handling foods preferred. 74-358-R (5/1).

the theme now in the Musée Condé in Chantilly.

Most of the artists represented, although extremely popular during their own lifetimes, have only recently begun to regain the favor of a wider public. Over the years Governor Ferré has acquired quality works by a number of these "deposed" masters, reasoning that "good art remains good, even when not in vogue."

In the introductory essay to a fully illustrated catalog accompanying the exhibition, Bruce K. MacDonald, assistant director of exhibitions at MIT, crystallizes nineteenth-century attitudes: "It is just these artists who sought to express the visual poetry of their own era in its own terms, rather than to explore new esthetic territory, who have seemed more irrelevant and unimportant to the twentieth century. For their contemporaries, however, they were the masters who most clearly reflected the commingled dreams and realities of the world that they

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).

Kitchen Man at the Faculty Club will sweep, mop kitchen floor; empty trash; wash pots and pans; clean serving table, range and broiler; strain grease in fryers. Steady work record desirable; experience in kitchen helpful. 4:00pm-12:00pm, Mon-Fri; some weekends. 74-285-R (4/10).

Telephone Operator II in Telecommunications will perform a variety of general switchboard functions for assisting callers. Previous training and experience as a switchboard operator essential. Ability to follow directions, use judgment, deal courteously with callers essential. 4 day week; 8¼ hrs/day; variable schedules, some weekend and holiday work. 74-402-R (5/8).

Clerk-Messenger II for the Office of Sponsored Programs will be responsible for delivering items from the department to offices around the Institute; maintain postage meter; xerox and collate materials; maintain files, update publication collections; may assist with light typing of forms. Dependability, neatness, flexibility required. 74-392-R (5/8).

Messenger I for the Arteriosclerosis Center will xerox and file reprints, transport blood samples to and from MGH and MIT, maintain office supplies, run errands for the center. Responsible individual willing to be helpful is desired. Typing ability could be helpful. 74-388-R (5/8).

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. Work as assigned. Graduation from high school or its equivalent required. 40 hour work week. 74-396-R (5/8).

Waitresses/Waiters - Part-time at the Faculty Club will set up silver and china on dining room tables. Take number orders; serve food and beverages. Clear, clean and reset tables. Experience helpful, but not necessary. Shifts: M-F 11:00am-3:00pm. All positions may require weekend work. 74-373-R, 74-374-R, 74-375-R, 74-376-R, 74-377-R (5/1).

Campus Patrolwoman/Patrolman Minimum 10 years experience required in 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).

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

74-75-A	Gen Mgr-Admin Staff
74-318-R	Kitchenman
74-322-R	Sr Sec V
74-371-R	Sr Clerk III
74-355-R	Lib Gen Asst. III
74-336-R	DSR Admin Staff
74-290-R	Sr Lib Asst IV
74-317-R	Editorial Asst V
74-203-R	Dishwasher
74-214-R	Secretary III
74-179-R	Locksmith

The following positions are on HOLD pending final decision:

74-354-R	Admin Staff
74-337-R	Stock Clerk
74-190-R	Asst Dean-Acad Staff
74-258-R	DSR Staff
74-298-R	Admin Asst V
74-274-A	Sec IV
74-286-R	Sr Clerk III

shared."

While considerable attention has been given to nineteenth-century precursors of modernism, a shift in sensibility during the past decade has generated new interest in these gifted but neglected masters.

The exhibition offers an opportunity for reappraisal of such members of the French mainstream as Anne Louis Girodet-Trioson, Alexandre Gabriel Decamps, William Adolphe Bouguereau and Jean Léon Gérôme. In addition, masterpieces of the Pre-Raphaelite Brotherhood, a significant and original English movement which began in the mid-nineteenth-century, include John Everett Millais' *The Escape of a Heretic, 1559*, William Holman Hunt's *The School of Nature* and Sir Edward Burne-Jones' *Saint Matthew*. Théodore Rousseau's *Landscape with Cattle in a Marsh* and Narcisse Diaz de la Peña's *Stormy Landscape* are superb examples of the Barbizon school, a group of artists who were among the first in their century to dedicate themselves to painting landscapes and rural scenes from nature. Francisco Oller y Cestero, a little-known Puerto Rican artist, reveals Impressionist inspiration in *The Portuguese River at Ponce with the Old Ceiba Tree*. Gustave Doré and Gustave Moreau preferred inner vision to natural observation, as evidenced by their mystical works.

Among others represented who contributed to the stylistic panorama of their century are Jacques Emile Blanche, William Etty, Jean Jacques Henner, Edwin Long, Raimundo Madrazo y Garreta, Joaquin Sorolla y Bastida, James Jacques Tissot and James Ward.

at the New York Cultural Center from June 27-August 8, 1974.

Hayden Gallery is open seven days from 10am to 4pm and Tuesday evening from 6-9pm.

Notebook Lost

A soft-cover blue, looseleaf notebook was taken in error from the Hayden circulation desk Monday, May 6. The notebook belongs to Dr. Julius A. Stratton, President Emeritus of MIT, and contains notes on a historical project. If you have the notebook, please call Ext. 3-6348.

Obituaries

J.L. Ayer

John L. Ayer, 67, formerly of Winthrop, who retired in 1972 as a grounds foreman in Physical Plant, died Wednesday, May 1, in Sarasota, Fla.

Mr. Ayer had worked at the Institute for 38 years. He is survived by his wife, Esther L. and a daughter, Mrs. Jeanne Lightbown of Melrose.

I. S. Winter

Isabella S. Winter, 78, of Cambridge, who retired in 1962 as a payroll clerk in the Comptroller's Office, died Tuesday, April 30.

Miss Winter who came to work at the Institute in 1946, is survived by her sister Mrs. Elsie George of Wrentham.

W.H. Ahearn

Walter H. Ahearn, 62, of Everett, a night custodian in Physical Plant, died Tuesday, April 30.

Mr. Ahearn who came to work at the Institute in 1971, is survived by two brothers—John P. of Everett and William T. of Brooklyn, N.Y. and two sisters—Mrs. Dorothea Forrest of Medford and Mrs. Alice Belson of Quincy.