Massachusetts Institute of Technology



February 28, 1979 Volume 23 Number 25

## First Student Telethon Shows Promise

At its midpoint, the first-ever student telethon to alumni shows signs of being a great success. It has raised nearly \$45,000 of a \$50,000 goal and there are still five nights to go.

Though that figure looks rosy, at the same time, only 1,213-much closer to half-pledges have been made toward a goal of 2,000 pledges.

Specific aim of this first telethon is to raise money for the Independent Residence Development Fund (fraternities) and the Campus Residents Fund (dormitories). However the students will happily accept any designation the pledging alumnus/a makes. So far, about half the pledges have been designated for one of the residence

The idea for a student telethon originated last year as one means of encouraging more communication between students and alumni. Choice of the residence funds for a beginning target seemed a natural since most students and alumni have had experience with the living groups.

Student recruiting for the tele-

trip to the Soviet Union in September.

The senator discussed the Levich

case-and those of several other

Soviet Jews-with President Leonid

Several weeks went by before Pro-

fessor Levich, who formerly held the

thon began last fall with visits to the living groups by Joan Sclar, telethon coordinator and administrative assistant to Stepen P. Denker, director of the Alumni Fund.

"Many students showed immediate interest and several residences made tentative commitments,' she said. "Later we made firm appointments with all groups who agreed to participate.

Inducements to student cooperation are pizza and beer each evening before telephoning begins, a free telephone call within the continental US and miscellaneous prizes donated by local businesses for random accomplishments. Such accomplishments include the next pledge over \$50, the next increased pledge or the next pledge from someone who hasn't given for two years or more.

"You just won me two tickets to the John Hancock Observatory,' one telethoner was overheard telling his contact.

A number of the student callers also have been offered jobs during the course of their calls. And some have been invited to dinner.

The calls also work to the benefit

(Continued on page 8)

# Renowned Russian Scientist Benjamin Levich to Speak

Benjamin Grigorevich Levich, the renowned Russian scientist whose request to emigrate to Israel brought him his government's official scorn and censure for six years, will lecture at MIT March 13 on physicochemical hydrodynamics, a field he largely created.

Professor Levich, the highest ranking Russian scientist to be refused permission to emigrate, will speak at 3pm in Rm 10-250. His subject: "Physicochemical Hydrodynamics: Its Current State and Some Prob-

Dr. Ascher H. Shapiro, Institute Professor, of the Department of Mechanical Engineering, will be Professor Levich's host during his two days at MIT. He is scheduled to arrive Monday, March 12.

Professor Shapiro, who has never met Professor Levich, is one of several people at MIT-including Dr. Jerome B. Wiesner-and elsewhere who have worked since 1972 to convince the Russians to approve an exit visa for Professor and Mrs. Levich. Their two sons had been allowed to leave in 1974.

Sen. Edward M. Kennedy was contacted in behalf of Professor Levich just before Sen. Kennedy's

## Open House For Employees Planned in May

With the grey of late winter permeating our souls, a spring date to look forward to is a good thing to

So mark your calendars for Saturday, May 12, when the third biennial MIT Employees Open House will be held from 10am-4pm. These open nouses offer an for all employees to share their working experiences with their families and friends as well as to explore parts of the Institute not usually encountered while work-

The planning committee for this year's event has just been assembled under the aegis of the MIT Quarter Century Club. Members of the community who would like to volunteer to work on arrangements are asked to call Ann Perkins at the Quarter Centry Club Office, x3-3714.

Employees are also-in fact, especially - invited to call &Ms. Perkins with suggestions of exhibits or activities they would find educational, helpful or entertaining.

One innovation at Employees Open House two years ago was an exhibit of arts and crafts executed by members of the community. This event proved so popular that it is already on the schedule for this year. MIT artisans who would like to enter exhibits should call Tony Zona, x3-5297.

#### Chair of Chemical Mechanics at Moscow State University, was informed that he would be allowed to leave. Mr. (Continued on page 5)

Rasmussen Reasserts

Position on Power Plants Dr. Norman C. Rasmussen, head of the Department of Nuclear Engineering, testified before a House subcommittee in Washington, D.C., Monday, Feb. 26, that a new report criticizing the reactor safety study of which he is the principal author does not mean that

unsafe than originally believed. Professor Rasmussen's assessment was shared by the man who headed the group that criticized the Rasmussen report and by several members of the Nuclear Regulatory Commission, according to the Associated Press report of the testimony.

power plants are any more safe or

Testifying before the subcommittee on energy and the environment of the House Committee on Interior and Insular Affairs, Professor Rasmussen said:

"On the basis of experience data, believe it is possible to confirm that the basic result of the Reactor Safety Study-that reactor accident risks are small compared to other societal risks-remains valid. I believe the risk from today's reactors is acceptably low.

The Associated Press report con-

H. W. Lewis, a professor at the

## Fraud Scheme Surfaces Again

In what appears to be an annual event these days, another fraud scheme has surfaced at MIT, according to Robert E. Durland of the Purchasing Office.

In this version, agencies with governmental-sounding names-General Services Agency for examplecall MIT offices directly offering to sell surplus material at bargain

If the intended victim responds, the caller requests shipping instructions and states the invoice will be enclosed with the goods or requests payment in advance because of the low price. What the victim gets, however, is either no materials at all or inferior materials at inflated prices.

Please refer any such calls to Mr. Durland, x3-7245.

University of California who headed the panel that critized the Rasmussen report, told the subcommittee his report "does not mean that reactors are either more or less safe than was projected in that (Rasmussen) report, only that we are less sure of the conclusions."

The testimony came at a hearing on the controversy that has developed since the Lewis report was issued earlier this year and since the Nuclear Regulatory Commission announced it was lessening its reliance on the Rasmussen report, which was released in 1975.

The Rasmussen report, prepared by a panel of scientists, analyzed the chances of nuclear power plant failure that could release dangerous radiation. It found that the risk of death from a power plant accident was low compared with the risk from other energy sources.

The Lewis report was requested by Rep. Morris Udall (D-Ariz.), chairman of the House panel, which found that the statistical method of determining risk used in the Rasmussen report was valid but said there was inadequate data for the conclusions. It also claimed there were some faulty calculations in the Rasmussen report.

Rasmussen agreed with Lewis' findings that the probabilities of a power plant accident were more uncertain than his report implied.

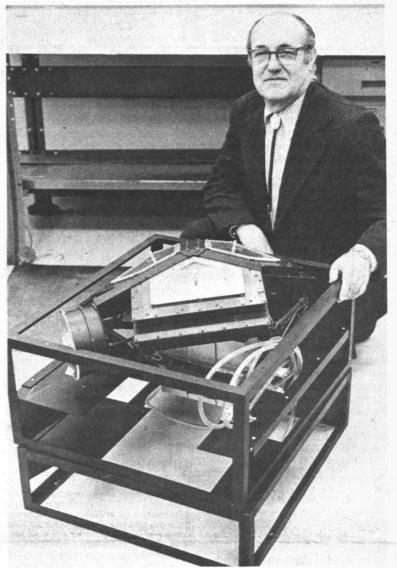
# Library Booksale

Who's Who? Find this reference work and thousands of other volumes at bargain prices at the MIT Libraries Booksale.

This annual event will take place on Wednesday and Thursday, March 7 and 8, in Rm 7-102, 10am-

Books in all subject areas, technical reports, journals, records and tapes will be offered. All sale items are surplus library material. Proceeds from the sale will be used for library purchases.

Plan on stopping in at the sale more than once as prices are reduced as the sale progresses.



Professor Herbert S. Bridge is shown here with a prototype of the instrument aboard Voyager 1 which is measuring the solar wind near Jupiter.

# Scientists to Measure Jupiter's Solar Wind

Half-a-dozen MIT scientists are in California this week to complete work that has been years in prepa-

The spacecraft Voyager I was launched 17 months ago and on March 5 it will fly within 280,000 kilometers of the surface of Jupiter, giving scientists their best look yet at the largest planet in the solar system.

The MIT scientists, working on one of 11 experiments aboard Voyager, are obtaining important data about the solar wind, or interplanetary plasma, vast clouds of tenuous ionized gas that blow continuously from the sun and spread through the solar system at supersonic speeds. They also hope to make the first definitive measurements of the interaction of the wind with Jupiter and, most important, hope to make the first measurements of low energy plasma inside the Jovian magnetosphere.

Herbert S. Bridge, director of MIT's Center for Space Research has spent much of his career studying and measuring the solar wind.

"Thirty years ago scientists thought the earth essentially moved through a void," said Pro-fessor Bridge. "But now it is generally accepted that the earth moves within the outer extension of the sun's corona."

#### Club Closed

Because of a special luncheon for the MIT Corporation, the Faculty Club will be closed for lunch on Friday, March 2. It will reopen for business as usual on Friday evening.

This extension of the sun's corona-the solar wind-is composed of positively and negatively charged pieces of atoms. The wind sometimes affects radio transmissions on earth and causes the aurora borealis, or northern lights, when the particles slip into the earth's atmosphere at the poles.

Scientists can't study the solar wind from earth because the earth's magnetic field keeps the wind from coming closer than about 65,000km to Earth. Since 1960, Professor Bridge and his colleagues have put instruments designed to measure and help the scientists learn about the solar wind on about 15 spacecraft.

The instrument on Voyager I (and also on its sister ship, Voyager 2, which will encounter Jupiter

(Continued on page 8)

#### Credit Union Plans Banquet March 17

The annual banquet of the MIT Employees Federal Credit Union will be held Saturday, March 17 (St. Patrick's Day—want to make something of it??), at 7pm at the Montvale Plaza in Stoneham.

Tickets, at \$10 each, will be limited to two per member. They will be on sale beginning Friday, March 2, at 4:30pm in the Lobby of Building 10. Tickets for Lincoln Laboratory members will be sold at the Lincoln Credit Union Office (Rm A-010) beginning at noon Friday, March 2.

When buying tickets members must have their membership cards or be prepared to give their mem-

bership numbers.



MIT'S CHAPTER of the National Society of Black Engineers has been given a \$250 grant by Procter & Gamble Co. to help pay the expenses of the chapter member or members who will attend the national meeting April 5-8 in Pennsylvania. Accepting the check is the chapter chairman Kenneth P. Leighton, second from left, a graduate student in aeronautics and astronautics from Bridgeport, Conn. William D. Neal, manager of the liquid detergent department, right, and Michael H. McCarthy, industrial-chemical engineer, both from the Ivorydale Soap Plant in Cincinnati, represented the company. At left is Professor James D. Bruce, director of industrial liaison at MIT and a member of the chapter's advisory board.

## ADP XIII Begins, XII Continues

The Office of Personnel Development announces the beginning of the thirteenth session of the Administrative Development Program (ADP XIII) on Wednesday. Feb. 28. Instructors for the organizational psychology section of the program are Drs. Adam and Maureen Yagodka of the Office of Personnel Development.

Participants selected for the ADP XIII are:

Robert Babb, General Purchasing; Barbara Baker, Mathematics; Marsha Baker, Laboratory for Computer Science; Dennis Baron, Physical Plant; Henry Bondar, Nuclear Reac-

tor Laboratory.
Sara Brydges, Earth and Planetary Sciences; Robert Conrod, Information Processing Service; Wendell Derry, Office of Facilities Management Systems; Mary Ann Donofrio, Comptroller's Accounting Office; Steven Gass,

Martha Heigham, Operations Research Center; Bonnie Jones, Alumni Association; Katharine Jones, Resource Planning; Eleanor Kalem, Millstone Radar; Margaret Lech, Office of the Vice President for Administration &

Barbara Mann, Libraries; Edward McCaffrey, Parsons Hydrodynamics Laboratory; Marilyn McMillan, Information Processing Service; Susan Minai-Azary, Information Processing Service; Richard Pober, Energy Labo-

orge Robinson, Electrical Engineering and Computer Science; Oscar Sanchez, Clinical Research Center; Joan Sclar, Alumni Association; Pamela Shepherd, Transportation Studies; Marilyn Silva, Linguistics & Philoso

The ADP XII resumed on Wednesday, February 21, with the first class of the financial management section. The first portion of this section, financial management theory, is taught by Dr. Zvi Bodie, assistant professor of finance and economics in the School of Management at Boston University. The second portion, focusing on finances at MIT, is coordinated by George Prendergast, assistant director of the Office of Sponsored Programs, and is taught by members of MIT's financial administra-

## Clavichordist Gives Chapel Concert

On Thursday, March 1, at noon, clavichordist Bernard Brauchli will present a program of 18th Century German Clavichord Music in the MIT Chapel

Mr. Brauchli will use a clavichord that was built in 1978 by Eckehart Merzdorf in Germany. The instrument is a copy of a fretted clavichord by Manuel Carmo (Porto, 1796), now in the Museo del Conservatorio Nacional in Lisbon.

The program for this free, public concert will include French Suite No. 6 in E Major by Johann Sebastian Bach, Abschied vom Silbermannschen Clavier in einem Rondeaux by Karl Philipp Emanuel Bach and Arioso in D Minor with 12 variations by Johann Gottfried Müthel.

Page 2, Tech Talk, February 28, 1979



#### Announcements

Mileage and Per Diem Rate Changes\*\*-Effective Mar. 1, MIT mileage rate for reimbursement for travel will be increased from 15° to 17° per road mile; MIT domestic per diem rate will be increased from \$25/day to \$35/day. Consult Travel Policy and Procedures for fur ther information.

#### Club Notes

ACM Student Chapter Meeting\*\*—Final plans for upcoming lectures, election of new officers, 4pm, Wednesday, Mar. 7, Rm 8-314.

MIT Chinese Martial Arts Club (Wu Tang)\*-Physical and mental discipline through practice of Kung-fu. Northern Praying Mantis and T'ai Chi offered. Beginners welcome. Tuesdays, 8-10pm, W20-491, Saturdays, 1-5pm W20-407. Info: Chen-dao Lin, dl15-9640.

MIT/DL Bridge Club\*\*—ACBL Duplicate Bridge, Tuesdays, 6pm, Rm W20-473.

MIT Go Club\*-Regular meetings Mondays and Wednesdays, 8pm-12midnight, W20-491. Players of all ranks, instruction for beginners.

Hobby Shop\*\*-Mon-Fri, 10am-6pm, W30-031. Fees: \$10/term for students, \$15/term for community. Info: x3-4343.

MIT Juggling Club\*-Thursdays 7:30-11pm, Sundays 1-4pm, W20-491. Visitors welcome

Graduate Student Council\*\*\*-MCP Board of Governors meeting, 12noon, Wednesday. Mar.

Kundalini Yoga Group\*-Wednesdays,

Kundalini Yoga Group - Wednesdays, 5-6:30pm, Mezzanine Lounge, Student Center.

MIT Outing Club\*\*-meets every Monday and Thursday, 5-6pm in Rm W20-461, to plan up-coming trips and rent equipment. MITOC sponsors hiking, snowshoe, cross-country ski-ing, rock climbing, canoe or bicycle trips every weekend, also occasional slide shows and sales at local stores.

MIT Pistol & Rifle Club\*\*-Basic Pistol Course stressing safety, basic marksmanship skills, care and cleaning. Five Thursday evenings, m, beginning March 1 at DuPont Range \$20. Info, A.T. Platais, 8-1419 Draper Lab.

MIT Table Tennis Club\*-Sundays, 2-4pm, Thursdays 6-8pm, T-Lounge, DuPont Gym-

T'ai Chi Club\*-Chinese exercise form designed to remove stress and tension and help people relax. Thursdays, 5-6pm, I 2nd floor of DuPont Gymnasium. ople relax. Thursdays, 5-6pm, Dance Studio,

MIT Tae Kwan-Do Club\*-Korean martial art. New members welcome. General meetings, Mondays and Wednesdays, 8-10pm, Dancing Room; Saturdays, 3-5pm, T-Club Lounge.

## Religious Activities

The Chapel is open for private meditation 7am-

Ash Wednesday Services and Distribution of Ashes\*—Roman Catholic: 8am, MIT Chapel; 5:05pm, Kresge Little Theatre. Lutheran-Episcopal: 5pm, MIT Chapel.

Tech Catholic Community\*—Sunday masses: 9:15am, 12:15 and 5:15pm. Weekday masses: Tuesdays and Thursdays, 5:05pm, Fridays, noon, in the Chapel.

Christian Service\*-Sundays, 10:30am,

Service of Holy Communion\*—Wednesdays, 5:10pm in the chapel. All welcome. Sponsored by the Lutheran and Episcopal Ministries.

Jewish Religious Services\*-Traditional Services, daily 8am, Rm 7-102. Friday night, Sundown, Kosher Kitchen, 50-005. Saturday, 9am. Bush Room 10-105. Mincha and Seudah Shlishit, info: 3-2982. Conservative Services, Saturdays, 10am, 312 Memorial Drive. Reform Services, call Hillel Office, 3-2982

MIT Vedanta Society\*-Meditation and discourses on the Gita by Swami Sarvagatananda of the Ramakrishna Vendanta Society of Boston. Friday, 5pm, Chapel.

Prayer Time and Bible Class\*-1-2pm. Fridays, Rm 20E-207. Guest speakers, music, re-freshments. Led by Miriam R. Eccles, founder and director, Alpha and Omega Missionary

#### Placement

The following companies will be interviewing during the time period covered by the cur-rent Institute Calendar. Those interested may sign up in the Career Planning and Placement Office, Mon-Fri, 9am-3pm, Rm 12-170, x3-4733.

John Barker of Bank on Brooklyn, a community organizing project of The New York Public Interest Research Group, will discuss summer and full-time job opportunities in community organizing, Wednesday, Mar. 7, 12:30-2pm, Rm 3-133. Info: Jane Wells, x3-4733.

Feb. 28-Aluminum Company of America; Bay Banks Data Services, Inc.; Battelle Northwest; Bell System; General Electric Co.; Rogers, Corp.; System Planning Corp.

March 1-General Atomic Co.; General Electric Co.; Ingersoll-Rand Corp.; Intel Corp.; Lewin & Associates, Inc.; Microwave Associates, Inc.; Schlumberger Well Services; TRW; United Engineers & Constructors, Inc.; United Tech. Research Labs; Union Carbide Corp.; US Dept. of Commerce/Bureau of Census

March 2—Amoco Chemicals & Amoco Oil Co.; Applied Physics Lab; Bolt, Beranek & Newman; ESL, Inc.; GTE Automatic Electric Co.; General Atomic Co.; Harris Corp./Web Press Div.; HRB Singer, Inc.; Industrial Nucleo Corp.; IPL Systems Inc.; Intel Corp.; John Fluke Mfg. Co.; National Semiconductor Corp.; Schlumberger Well; TRW; Union Car-

March 5-Bellofram Corp.; Bolt, Beranek & Newman: Chase Manhattan Bank: Doric Scientific Div. of Emerson Electric; Darthmouth Time-Sharing System; EG&G Idaho; Graco, Inc.; MIT Lincoln Lab; Northern Research & Engineering Corp.; Northeast Utilities; PAR; Rolm Corp.; Teradyne Inc.; Varian Associ-

#### **Graduate Studies**

United Nations Graduate Student Intern Program\*\*—Four-week program at UN Head-quarters in New York for the period June 25-July 20, 1979. Provides opportunity for international group of graduate students to deepen understanding of the principles, purposes and activities of the UN and its related agencies through first-hand observation and study. Travel costs and living accommodations are the responsibility of the students. Info: Graduate School Office, Rm 3-136. Application deadline: March 5.

Pharmaceutical Manufacturers Association Research Grants\*\*—Doctoral dissertation research grants to encourage original research in areas relating to the socioeconomic aspects of the health care products industry. Doctoral candidates pursuing a degree in economics or related social and administrative sciences may apply. Applicants must have completed work leading to the doctoral degree and passed all qualifying examinations. The

maximum stipend is \$2,500. Info: Graduate School Office, Room 3-136. Application deadline: March 15, 1979

#### Foreign Studies

Rotary International Graduate Fellowships\*\* -for study in a country other than applicant's own. The award seeks to increase international understanding. Study must be undertaken in one of the countries or territories in which there are Rotary Clubs. Make application through a Rotary Club in district of applicant's legal or permanent residence of place of study. Info: Graduate School Office, Rm 3-136. Application deadline: March 1, 1979.

#### **New Subjects**

6.915 The Microprocessor Project Laboratory Offered for the first time this Spring Term by the Department of Electrical Engineering nd Computer Science. Most students enrolled in the course have prior hardware and soft ware design experience. Students are expected to complete a significant project during the last half of the Term (approximately 7 weeks) involving design, construction, and testing of a stand-alone system with microprocessor. Lab-oratory facilities within the Electrical Engineering Department include PDP11-03 with VT52 display which provides software support for development (cross-assembly) of micro-processor code; 8080-based single-board computers and digital circuit prototype kits are available for the construction of projects.

#### **New UROP Listings**

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

**Eloranta Summer Fellowship Program** 

A limited number of summer research fellowships for MIT undergraduates will be awarded this spring under the Eloranta Fellowship Program, to support summer research or study projects and associated travel.
Any MIT undergraduate may apply,including ors whose summer projects would occur after graduation. Submit written proposal outlining plans for a summer project, including how the project will contribute to the student's education objectives, how the project will be carried out, support available, and budget. Letters of recommendation should be included. Submit proposals for the summer of 1979 before March 23, 1979, to Ms. Norma McGavern, UROP Office.

Digital Circuitry For Semiconductor Analysis Opportunity for a student interested in the design, implementation and performance evaluation of a high-speed digital phase-locked -loop circuit as a major component of a Deep Level Trap Spectroscopy (DLTS) measure-ment system for electrical characterization of certain semiconductor imperfections. A third year student with a background including 6.012 and a course in digital design is preferred. Subsequent thesis possibilities are open. Credit only. Contact Edward Maby, 13-3082, x5-6272 (eves.), or Prof. Dimitri Antoniadis, 13-3014,

The Arts & MIT

An opportunity for students to work with the MIT Council for the Arts on a study of "outside" activities in the arts at MIT. The project would involve identifying arts organizations at MIT (Concert Band, Dramashop, Folk Dance Club, WTBS, etc.) and documenting their his tory, current set-up, activities, financial situation, and value to the MIT community. The research would culminate at the end of spring term in a written report to the MIT Council for the Arts. Contact Prof. Roy Lamson, 20D-220,

An opportunity is available for a student to design and implement electronic and electro-mechanical apparatus. Possible projects are in areas of storage and transmission of pictures, video cable communications, and rideo frame recording. Contact Prof. Roy

Friday, March 2

ELECTRICAL ENGINEERING— Prof. Michael Athans, Dept. of Electrical Engineering and Com-puter Science, MIT. "What is Engiseminar series, rec 10/17/78

1-2pm

LIVINGSTON TAYLOR IN CON-CERT-by Basement Video. Rec.

1977.
COMPUTER AIDED MANUFAC-TURING—Eugene Merchant, Cin-cinnati Millacron, Inc. Rec. NUCLEAR SCIENCE—Prof. Allan F. Henry Dept of Nuclear 10/13/78

2-4pm F. Henry, Dept. of Nuclear Engineering, MIT. "What is Engineering?" seminar series. Rec. 9/19/78.

Monday, March 5 Channel 8:

12-1pm

1-2pm

2-4pm

DRESS REHEARSAL OF THE BOSTON REPERTORY BAL-LET-BY Basement Video. Rec.

THE CONTEMPORARY INTER-NATIONAL SCENE: A VIEW FROM EUROPE—Prof. Jacques Freymond, Institut des Hautes Etudes Internationale, Geneva. Rec. 10/19/78.

CIVIL ENGINEERING-Prof. Daniel Roos, Dept. of Civil Engineering, MIT. 'What is Engineering?'' seminar series. Rec. 12/7/78.

Tuesday, March 6 Channel 8:

12:15-2pm

HARVARD SHOWCASE POLITICS, TELEVISION. AND THE NEWS-Edwin Diamond, Dept. of Political Science, MIT; Bill Aber, News Director WBZ, Ch. 4. Rec. 11/2/78. 8.02 REVIEW SESSION

4-12am

Channel 10: 11:30pm

TUESDAYS ON TEN-MIT Student news, videotapes, and old

The Action for Boston Community Develop-ment Urban Gardening Program is currently working on projects to aid in the development of state agriculture by augmenting the direct marketing practices of local farmers. A stu-dent of sociology, economics or political sci-ence might be interested in working in the following areas: 1) Research into the possibility of obtaining a facility to be used as a root cellar for the storage of Massachusetts produce. 2) Work in the low-income neighborhoods of Boston with community-based organizations and individuals to organize community vegetabe gardens by organizing gardening groups, securing permission to use the land and developing work plans and distributing

Boston Urban Gardening
The Action for Boston Community Develop

**Boston Biomedical Research Institute** 

Research opportunities are available here in the following areas: 1) Protein synthesis— changes in development; 2) Structure of myosin-location of actin sites; 3) Single fiber mechanism—calcium control of contraction;
4) Application of EPR spin label to crossbridge motion; 5) Effect of nerve and activity pattern on fiber type; 6) Ca-control system of muscle—troponin, tropomyosin; 7) Nanosecond fluorescence—application to muscle proteins; 8) Membrane - ATPase linked Ca-transport, sarcoplasmic reticulum.

**Physchology Department** 

This project involves the development and design of a new perceptual test for use with patients with focal brain lesions. The student is invited to participate in all phases of the opera-tion including experimental design, statistical analysis and actual testing of normal control subjects. In addition, the interested student might attend the weekly research meetings of the neuropsychology lab in which current pro-jects and related issues are discussed. Familiarity with computers required. Contact Suzanne Corkin, E10-003A, x3-5762, or Dennis Klatt, 36-523, x3-3201.

#### Preprofessional

University of Texas Medical Branch at Galveston Medical School Familiarization Program\*\*—June 4-June 29, 1979. Program de signed to provide disadvantaged students with an in-depth understanding of the requirements and rigors of medical education. Stipend \$550 for four weeks. Application deadline, March 5. Info: Preprofessional Office, 10-186, x3-4158.

Registration material for April MCAT now available in Preprofessional Advising and Education Office, 10-186. Registration deadline: April 2, 1979.

# **Echoes**

February 25-March 3

## 50 Years Ago

Managers of all the Institute athletic teams will attend an informal banquet on March 19. Entertainment will be provided by women from one of the burlesque shows. Louis' French Cafe has been chosen as a suitable meeting place.

#### 40 Years Ago

At the annual junior prom 450 couples of the Class of 1940 will swing to the music of Larry Clinton's famous band in the Imperial Ballroom of the Hotel Statler.

Although half of the nation's people believe that the college man has the best chance for success, only 30 per cent of American executives hold similar views. This report of public opinion is one of a series of scientifically conducted surveys inaugurated under the leadership of Eric Hodgins '22, publisher of Fortune magazine.

#### 25 Years Ago

MIT paritcipated in an intercollegiate conference on "Democracy and Communism in the Modern World" at Sarah Lawrence College. Representatives from 35 northeastern colleges and universities attended.

Prepared by Marcia Conroy, MIT Historical Collections, x4444.

> TECH TALK Volume 23, Number 25 February 28, 1979

Tech Talk is published 39 times a year by the News Office, Massachusetts Institute of Technology. Director: Robert M. Byers: Assistant Directors: Charles H. Ball, Robert C. Di Iorio, Paula Ruth Korn, Joanne Miller, Karen Ray, William T. Struble and Calvin D. Campbell, photojournalist; Reporters: Eliza-beth C. Huntington (Institute Notices) and Marsha G. McMahon, (Institute Calendar, Classified Ads).

Address news and editorial comment to MIT News Office, Room 5-113, MIT, Cambridge, MA 02139. Telephone (617)

Mail subscriptions are \$12 per year. Checks should be made payable to MIT and mailed to Business Manager, Room 5-113, MIT, Cambridge, MA 02139.



February 28-March 6, 1979

Wednesday, February 28

CHINESE CULTURAL VARIETY SHOW—The Chinese Students Goodwill Mission from Taiwan. Rec. 10/8/78.
RAINBOWS—Prof. Walter Lewin, Dept. of Physics, MIT. Rec. 10/17/79.

1:30-3pm 10/17/78.

THE END OF WHITE SOUTH AFRICA: HOW SOON?—Donald Woods, author of Biko. Rec. 12/1/78.

Thursday, March 1 12-12:30pm

12:30-1:30pm

1:30-2:30pm

FIRE UNDER THE SEA: THE ORIGIN OF PILLOW LAVA. NOON H.I.T.S.—weekly Harvard student-produced show. Live from

PAUL WINTER CONSORT—BY Basement Video. Rec. 5/78.

Video Cable Networking Enhanced-Input Computer Terminal

Kaplow, 13-5106, x3-3322.

## Brecher, Shapiro To Be Seen On Einstein Show

Two MIT professors-Kenneth Brecher and Irwin I. Shapiro, both of the Department of Physics-will be seen on television in March when stations of the Public Broadcasting Service show a special program commemorating the 100th anniversary of the birth of Alfred Einstein.

"Einstein's Universe" is a co-production of the British Broadcasting Corp. and WGBH-TV of Boston. WGBH-TV will televise the program March 13.

**Professors Brecher and Shapiro** are two of the six internationally known physicists and astronomers involved in the film. The format is to have the six explain Einstein's ideas in conversational style to an interested layman-Peter Ustinov. The other scientists are John Wheeler of the University of Texas, Austin; Roger Penrose, Oxford; Wallace Sargent, California Institute of Technology; and Sidney Drell of the Stanford Linear Accelerator Center.

The six were at McDonald Observatory, operated by the University of Texas in the Davis Mountains of West Texas, last month for a filming session.

The observatory has 107-inch and 82-inch reflecting telescopes and is the site of a lunar ranging program designed to test Einstein's theory of general relativity. The test involves bouncing laser light off reflectors placed on the moon by Apollo astronauts. Scientists measure the round-trip travel time for the light and can determine to within three inches the distance between the earth and the

Other filming will be done at Arecibo Observatory in Puerto Rico and the Stanford Linear Accelerator in California.

## **Crowe Appointed** In Development

G. Rodger Crowe, associate director of the Arts Council of Erie. Pennsylvania, has been appointed assistant director of the Development Office at MIT.

Mr. Crowe has twelve years of experience in development, including eight years in higher education. From 1966 to 1970 he directed the Central Research Unit of North-



Mr. Crowe

Western University during its \$180 million capital campaign. From 1970 to 1973 he was director of Development at Villa Maria College in Erie

Mr. Crowe received the BS degree in marketing management from Northwestern University in 1965. He has attended the Harvard Institute for Educational Management and will receive the MBA degree from Gannon College in Erie. Pa., in May 1979. His master's thesis deals with the philanthropic behavior of individuals, specifically those factors which correlate with the level of giving.

Mr. Crowe will have broad responsibilities in the Development Office in support of the Institute's senior officers and Resource Development staff.

Announcement of the appointment was made by Donald B. Johnson, director of the Development

Forums to Focus on 'Computers and Society' The first of a series of three public forums on Computers and Society will be held Wednesday, March 7, at 4pm in Rm 54-100. The title of the first forum is Compu-

Panelists will be Rob Kling, assistant professor of computer science at UC Irvine; Laurence Reineman, president of First National Bank of Boston; Howard Angione, news technology editor at the New York Times, and Octo Barnett, di-

ters and the Work Place.

rector of Massachusetts General Hospital's Laboratory for Computer Science and associate professor of medicine at Harvard Medical School.

The next forum, to take place April 5 at 4pm in Rm 9-150, is titled Computers and Education: When Will Schools be Obsolete? Participating will be Alan Kay, director of the Learning Research Group at Xerox PARC; John Holt, author of

What Do I Do Monday? and other books, and Seymour Papert, Cecil and Ida Green Professor of Education at MIT. MIT President Jerome Wiesner will be the modera-

The title and participants of the third forum, scheduled for early May, will be announced later. The series is sponsored by the Program in Science, Technology and Soci-

## Computer Graphics Conference To Assess State of Knowledge

graphics in CAD/CAM systems will be held at MIT from April 9

The conference is sponsored by the MIT Department of Mechanical Engineering in cooperation with Applicon, Inc., Burlington, Computervision Corp., Bedford, General Electric Co., General Motors Corp. and Westinghouse Electric Corp.

Dr. David C. Gossard, associate professor of mechanical engineering at MIT, who will chair the conference, said its purpose is to establish the current state of knowledge in computer graphics and to assess problems that will affect future development.

Computer graphics experts from industry, government and academe will present papers in sessions on mechanical systems applications, integrated circuit design, specific mechanical applications, printed circuit board layout, wiring interconnection and documentation, geometric modeling, emerging technologies and educational programs in computer-aided design and manufacture.

The conference keynote address, 'A Perspective on the Role of Computer Graphics in CAD/CAM," will be given by Sylvan Chasen, staff scientist in Lockheed Georgia Co.'s advanced design division.

Working with Professor Gossard on the conference executive committee are Philippe Villers, senior vice president, Computervision Corp., and Robert Tatem, supervisor, design and manufacturing technology, Bell Telephone Laboratories, North Andover.

Those interested in attending the conference should contact Barbara Weinblatt, assistant for special events, Rm 4-237, x3-1703.

## Cambridge Chamber Elects Milne

Walter L. Milne, assistant to the

Corporaand spetion assistant cial to the president of MIT, has been elected president of the Cambridge Chamber of Commerce for 1979.



Mr. Milne

A past vice president and director of the Chamber, Mr. Milne was chairman this year of the Chamber's membership committee. He is a director of the Reliance Cooperative Bank, a trustee of the Moses Kimball Fund, and a member and past president of the Cambridge Rotary Club.

A corporator of the Cambridge Family "Y" and the Mt. Auburn Hospital, he is on the board of the Cambridge Red Cross, on the advisory board of the Salvation Army, the Cambridge Civic Unity Committee, and the East End House, of which he served as president for five years.

#### **Postal Notice**

The US Postal Service has suspended all mail service to Iran, effective February 6, until further notice. Iran bound mail is to be returned to sender. Postage is refundable.

He has also been a board member of the Cambridge Model Cities, the Cambridge Economic Opportunity Committee, the Just-A-Start Corporation, and he helped establish the Neighborhood Family Care Center in Cambridge. In Boston he is a member of the technical and policy boards of the Boston Urban Observatory, and a member of the advisory council of the city-wide magnet school district.

Mr. Milne said that this year the Chamber of Commerce will give the highest attention and priority to economic development.

## Atoms for Peace **Proceedings Out**

Proceedings of the Atoms for Peace Awards (A Memorial to Henry Ford and Edsel Ford), edited by James R. Killian, Jr., has just been issued by the MIT

In the preface, Dr. Killian rites, "... it is interesting to compare the views expressed when the awards were made (1957-69) with current views about nuclear technology and policies.'

"The addresses by eminent men, both statesmen and scientists, at our award convocations are worthy of preservation and constitute a record of putting the atom to work for benign, life-giving use. This has heightened meaning today as we contemplate the grim hazards of the continuing nuclear arms race and the importance of recognizing that idealistic atoms for peace objectives can be corrupted to increase and not diminish proliferation and other nuclear hazards."

Dr. Killian also paid tribute to the late M. Bryce Leggett, associate director of admissions and executive secretary to the trustees of the Atoms for Peace Awards, Inc., who compiled material for the book and was editing it at the time of his death in the summer of

## **Edgerton Elected** To Hall of Fame

The Photo Marketing Association has elected the father of the strobe light to its Hall of Fame.

Dr. Harold E. Edgerton, Institute Professor, Emeritus, and professor of electrical measurements, emeritus, in the Department of Electrical Engineering and Computer Science, will be formally inducted at the international association's 55th annual convention March 26 in Chicago.

Previous recipients of the award include Victor Hasselblad and Dr. Edwin H. Land.

The award is presented to a select number of individuals who have made substantial contributions to the advancement of the industry, the association said.

## Rhodes Scholar Adams Wins Prize

James E. Adams, Jr., a Course

-Photo by Calvin Campbell

portunity the scholarships offer,

Mr. Lewis, Ms. Marcus and Mr.

Galson are all eager to experience

living in a country with a different

political system and social values

The scholarships were founded

in 1953 as an expression of British

appreciation for help given under

the Marshall Plan. The original 12

scholarships have increased over

The awards include payment of

fares to and from Britain, full

tuition, book grant, cost of study

travel, a thesis grant and living al-

the years to the present 30.

from those of the United States.

XXI literature major in the class of 1977 and a Rhodes Scholarship winner that year, has been awarded the Charles Oldham Shakespeare Prize, one of Oxford

lowance.

THREE FOR ENGLAND-MIT students (l. to r.) Beth Marcus, Dan

Galson and Scott Lewis have been awarded Marshall Sholarships for two

years study in England. Ms. Marcus will be going to London University,

Mr. Lewis to Balliol College, Oxford, and Mr. Galson has been accepted

Awarded to Three at MIT

Marshall Scholarships

at King's College, Cambridge.

Three MIT students are among

thirty from the United States who

have received Marshall Scholar-

ships for 1979-81 from the British

Lewis, a graduate student in mech-

anical engineering, Beth Marcus, a

senior in mechanical engineering

and Dan Galson, a member of the

class of 1980 who expects to receive

the SB and SM in earth and plan-

Lewis will be studying at Balliol

College, Oxford, for the D. Phil. He

will be working on an existing pro-

ject in fault imaging, a new kind

of computerized mapping techni-

que, with Dr. I.M. Mason of Ox-

ford. Lewis will work on the design

of a microprocessor based system

to map faults in coal seams without

excavation. The project is sup-

ported by Britain's National Coal

Ms. Marcus, who is president of

the senior class, will attend London

University. She received the SB in

mechanical engineering and biol-

ogy in January and expects to

finish work for the SM in Sep-

tember. She is interested in work-

ing on prosthetics or rehabilita-

tion, and chose London University

because of the opportunity it offers

to do clinical work in London

King's College, Cambridge, where

he may work with Dr. Dan

McKenzie on the dynamics of the

earth's mantle. He is particularly

interested in a study of the North

Sea sedimentary basin, continen-

tal stretching and lithospheric

thinning, two factors which relate

Aside from the educational op-

to the formation of hydrocarbons.

Mr. Galson has been accepted at

hospitals.

etary sciences this June.

Winners from MIT are Scott

Government.



University's Mr. Adams highest literary honors.

Competition for the prize involves nine hours of intensive examination, an ordeal both physical and mental, according to Mr. Adams, and one for which he spent three weeks of "obsessed" preparation. Standard dress for competitive examinations at Oxford includes black suit, white bow tie, and academic cap and gown.

sity Calendar, the Oldham was

and became a prize in 1964. It carries an award of £ 200 (about \$405). Mr. Adams, a member of Oxford's Exeter College, shared first place with Christopher Denys Whatmore of Christchurch College. This summer, with his two-year

founded as a scholarship in 1907

stint as a Rhodes Scholar completed, Mr. Adams will return to the United States to study for a doctorate in English. He envisions a career in university scholarship

A native of Prairie Village, Kan., he lived at Baker House during his years at MIT. Professor Travis Merritt, director of Course XXI, noted that the winning of learned competitions is not a new thing for Mr. Adams, who as a sophomore took the I. Austin Kelly III Prize for humanistic scholarship.

## According to the Oxford Univer- Faculty Members **Elected Trustees**

Two members of the MIT faculty have been elected to the boards of prominent local institutions recently.

Institute Professor Walter A. Rosenblith, MIT Provost, was elected to the board of trustees of Brandeis University on Jan. 22, 1979, for a term of five years.

Dr. Melvin H. Rodman, Medical Director and professor of medicine at MIT, was elected a trustee of Mt. Auburn Hospital at the annual meeting of the hospital's Corporation on January 10, 1979.



## February 28 through March 11

## **Events of Special Interest**

Libraries Booksale\* — Books in all subject areas, technical reports, journals and tapes will be offered, all sale items are surplus library materials, proceeds from the sale will be used for library purchases. Thurs, Mar 7 & 8, 10am-4pm, Rm 7-102.

## Seminars & Lectures

#### Wednesday, February 28

What's New in Parenteral Nutrition and Clinical Update\* — George Blackburn, MD, director, Nutritional Support Service New England Deaconess Hospital. Clinical Research Center Seminar, 9am, Rm E18-408.

Genetic Control of the Number of Central Dopamine Neurons in Relationship in Brain Organization, Drug Responses, and Behavior\* — Dr. D. Reis, Cornell Medical Center, New York. Program in Neural and Endocrine Regulation, Nutrition and Food Science Seminar, 11am, Rm 16-

Development and the World Communication Environment\*—Christopher Nascimento, Minister of State for Guyana, will discuss such questions as what the third world countries are looking for from the first world, how the government and press react to events in the third world, and others. Center for International Studies Seminar, Noon-2pm, Rm E38-762, 292 Main Street, Kendall Square. Everyone welcome, bring your lunch.

Observations of Stratified Flow Over Three-Dimensional Obstacles\* — Dr. Peter G. Baines, CSIRO. Oceanography Sack Lunch Seminar, 12:10pm, Rm 54-915. Coffee provided.

New Techniques of Fluorescence Spectroscopy\* — Dr. Tomas Hirschfeld, Block Engineering. Electrical Engineering and Computer Science Optics Seminar, 3pm, Rm 36-428.

French Biology and its Social Relations, 1800-1939\* — Camille Limoges, director, Institute of History and Sociopolitics of Science, University of Montreal. Program in Science, Technology and Society Seminar, 4pm, Rm 20D-205. Coffee served 3:45pm, Rm 20D-205.

Kondoism — As Neutrons See It\* — Prof Clifford Shull, Undergraduate Physics Colloquium, 4:15pm, Rm 4-339. Social hour follows.

#### Thursday, March 1

Nonproliferation Policy: Is It Worth It?\* — Robert L. Gallucci, Chief Nuclear and Scientific Division, Bureau of Intelligence and Research, US Department of State. Center for International Studies Seminar, Noon-2pm, Rm E38-762, 292 Main Street. Everyone welcome. Bring your lunch.

Applications of Polymers for the Sustained Release of Proteins and Other Large Molecules\* — R.S. Langer, assistant professor, Nutrition and Food Sciences; Research Associate, Children's Hospital. Committee on Biomedical Engineering Seminar, 4-5:30pm, Rm 35-225. Refreshments

Applications of the QCD Theory of Quarks and Gluons\*—Prof Richard Fields, California Institute of Technology, Physics Colloquium, 4pm, Rm 26-100. Tea served at 3:30pm, Rm 26-110.

Laser Assisted Field Desorption Mass Spectrometry\* — S.A. Carr, Analytical Chemistry Seminar, 4pm, Rm 8-105.

Combining Two Media: Photography and the Literary Text\* — Uwe Herms, West German author. Foreign Languages and Literatures, lecture/reading/slide show presentation, 5pm, Rm 14E-304. refreshments served after seminar.

Are Synagogues Still Good for America's Jews?\* — Prof Leon Jick, Brandeis University, Lecture/Discussion. Hillel Foundation Seminar, 7:30pm, West Lounge, Student Center, Rm 209.

#### Friday, March 2

Transverse Confinement, Focusing and Defocusing of Atomic Beams by Resonance Radiation Pressure\*—John E. Bjorkholm, Bell Laboratories, Holmdel. Modern Optics and Spectroscopy Seminar, 11am-Noon, Rm 9-150. Coffee served 10:30am.

Potholes and Policy: or the Education of Renaissance Bureaucrats\* — Manuel Carballo, lecturer, John F. Kennedy School of Government. Center for Transportation Studies Seminar, Noon-12:45pm, optional luncheon; 12:45pm-2pm seminar. Luncheon fee: \$1.25 Students, \$2 others, Mezzanine Lounge, Student Center.

Chemical Engineering Seminar\* — Jose Torradas, The Influence of Bulk and Interfacial Morphology on the Physical Properties of Diblock Co-Polymers, 2pm. Guest Speaker: Prof John H. Seinfeld, Calfornia Institute of Technology, Estimation of Petroleum Reservoir Properties, 3pm, Rm 66-110.

Comparison Between Geometric and Wave Optics and Spatical Absorpting Plasmas\* — Dr. Lazar Friedland, Yale University, Plasma Fusion Seminar, 3pm, Rm NW16-212.

Dynamic Data Systems(D.D.S.); A New Modeling Technique and Its Applications\* — Prof Shien-Ming Wu, mechanical engineering, University of Wisconsin at Madison. Mechanical Engineering Seminar, 3pm, Rm 3.133

Dynamics of Proteins\* — Prof Hans Frauenfelder, physics, University of Illinois, Urbana, Illinois, Colloquium, 4pm, Rm 9-150. Coffee 3:30pm.

Loneliness, Depression, Suicide: A Christian Response\* — Ray Pendleton, Gordon-Conwell Seminary Counseling Center. Sponsored by the United Christian Fellowship, 7:30pm, Rm 10-105.

#### Monday, March 5

Metastable Transfer Emission Spectrometry (A New Method for Determining Concertrations of Inorganics)\* — David G. Sutton, Aerospace Corporation, Los Angeles, California. Center for Health Effects of Fossil Fuel Utilization Seminar, 3pm, Rm 36-428.

A Multi-Objective Power Plant Siting Model\* — Prof Jared Cohon, geography and environmental engineering, Johns Hopkins University. Water Resources and Environmental Seminar, 4-5pm, Rm 48-316. Coffee at 3:45pm, Rm 48-410.

Fully Plastic Crack Growth\* — Dr. D. Mowbray, General Electric Company, Research and Development Center. Materials Science and Engineering and Mecanical Engineering Joint Seminar, 4pm, Rm 3-133. Coffee served 3:30pm, Rm 1-114.

Nutrition and Mortality: Historical and Comtemporary Data\* — Dr. Joe Wray, Harvard School of Public Health. International Food and Nutrition Program Seminar, 4pm, Rm 16-310. Everyone welcome. Refreshments available.

Progress in the Theory of Turbulent Reactive Flows\* — Stephen Pope, assistant professor, mechanical engineering. Fluid Mechanics Seminar, 4-5pm, Rm 5-234. Coffee at 3:55.

Quark Pair Condensation and Confinement\* — Jeffrey Mandula, associate professor, mathematics. Applied Mathematics Colloquium, 4pm, Rm 2-338. Refreshments served 3:30pm, Rm 2-349.

#### Tuesday, March 6

Ultra High-Strength/High-Modulus Figers From Rigid and Semi-rigid Polymers\* — Dr. J. Preston, Monsanto Triangle Park, Development Center, Inc., Research Triangle Park, North Carolina, 2pm, Rm 37-187.

Some Models for Inelastic Response of Porous Solids\* — Dr. Michael M. Carroll, professor, mechanical engineering, University of California, Berkeley. Applied Mechanics Seminar Series, 3pm, Rm 3-270. Coffee served Rm 1-114 after seminar. Info: M.P. Cleary, x3-2308.

Transverse Discharge Phenomena in MHD Generators\* — Neil Novich, Doctoral Seminars-Fusion, Nuclear Engineering 3-5pm, Rm 24-407.

Analytical and Spectroscopic Applications of Opto-Galvanic Spectroscopy\* — Dr. Richard Keller, Los Alamos Scientific Laboratory. Seminar in Physical Chemistry, 4pm, Rm 4-370. Coffee at 3:45pm, Rm 6-321

A Probability Model for Longest Common Subsequences\* — Prof Joseph Deken, statistics, Princeton University. Statistics Seminar, 4pm, Rm 2-338. Refreshments 3:30pm, Rm 2-349.

Description of Earthquake Ground Motion\* — Prof E.H. Van<br/>Marcke, Earthquake Engineering Seminar, 4-5pm, Rm 1-246.

Swing Amplification of Spiral Waves in Galaxies\* — Prof Alar Toomre, Astrophysics Colloquium, 4:15pm, Rm 37-252. Coffee served at 3:45pm.

Is Science Contributing to Feast or Famine?\* — Nevin Scrimshaw, chairman, nutrition and food science. Sponsored by the Faculty Steering Committee, 4:30-6:30pm, Rm 4-270.

#### Wednesday, March 7

Fatness and the Onset and Maintenance of Menstrual Cycle\* — Rose Frisch, Ph.D, lecturer on Population Studies, Harvard School of Public Health. Clinical Research Center Seminar, 9am, Rm E18-408.

Lessons to be Learned from the Rise of Eugenics Idealogy in Nazi Germany, 1900-1945\* — Prof Jan King, biology, Prof Stev Chorover, psychology. Sponsored by the Equal Rights Committee, Noon-1pm, Rm 66-168. Bring your lunch.

Equatorial Current Measurements\* — Dr. Jim Luyten, W.H.O.I. Oceanography Sack Lunch Seminar, 12:10pm, Rm 54-915. Coffee provided.

A Review of Computational Aerodynamics-Past, Present and Future\*
— Dr. Paul E. Rubbert, The Boeing Airplane Company. Aeronautics and Astronautics General Seminar, 3pm, Rm 37-212. Coffee served preceding seminar, Rm 33-222.

Free Electron Laser Based Upon Stimulated Scattering\* — Dr. Robert Smith, Jaycor Company. Electrical Engineering and Computer Science Optics Seminar, 3pm, Rm 36-428.

Computers and the Work Place\* — Prof Rob Kling, computer science, UC Irvine; Laurence Reineman, president, First National Bank of Boston; Howard Angione, news technology editor, New York Times; Dr. Octo Barnett, director, MGH Laboratory for Computer Science and associate professor, Harvard Medical School. Program in Science, Technology and Society Forum on Computers and Society, 4pm, Rm 54-100.

Charged Particle Beam Weapons: Flash Gordon Revisited\* — Dr. Kostas Tsipis, Undergraduate Physics Colloquium, 4:15pm, Rm 4-339. Social hour follows.

The Wednesday Afternoon Lecture Series\* — Harvey Stein, photographer to discuss his works, 4:30pm, Creative Photography Gallery, 120 Mass Ave, Camb, MA. Made possible by a grant from the Minolta Corporation.

#### Thursday, March 8

Approaches to a Theory of Nerve Membrane\* — Prof J.Y. Lettvin, electrical and bioengineering. Committee on Biomedical Engineering Seminar, 4-5:30pm, Rm 35-225. Refreshments served.

Parity Violation in Electron-Deuteron Inelastic Scattering\* — Prof Richard Taylor, SLAC. Physics Colloquim, 4pm, Rm 26-100. Tea served 3:30pm, Rm 26-110.

Energy and Social Choice\* — Prof David Rose, nuclear engineering; Prof Richard Eckaus, economics. Sponsored by the Faculty Steering Committee, 4:30-6:30pm, Rm 4-270.

Parallels of the Temporal Element in Visual and Audial Arts\* — Julian Stanczak, Music and Related Fields Seminar, 4:30pm, Rm 66-110. Free.

#### Friday, March 9

Collisional Narrowing in Infrared Transitions\* — D. Ramachandra Rao, Indian Institute of Technology, Kampur. Modern Optics and Spectroscopy Seminar, 11am-Noon, Rm 9-150. Coffee served 10:30am.

Chemical Engineering Seminars\* — Viorica Lopez-Avila, to be announced, 2pm. Guest Speaker: Prof George A.R. Gavalas, California Institute of Technology, Pore Diffusion in Coal Combustion, 3pm, Rm 66-110.

Is Solar Energy Riskier Than Nuclear Energy? — Herbert Inhaber, Scientific Adviser, Technology Impact Division, Atomic Energy Control Boark, Ottawa, Canada. Mechanical Engineering Seminar, 3pm, Rm 3-133.

Energy, Entropy and Anarchism\* — Prof George Salzman, physics, U Mass Boston, 8pm, Rm 9-150.

## **Community Meetings**

Tax-Deferred Annuity Seminars Scheduled\*\* — Representatives from Prudential and TIAA-CREF will again be conducting tax deferred annuity seminars. Wed, Feb 28, 10-105, Prudential: 10am, Noon, 2pm. TIAA/CREF: 11am, 1pm, 2:45pm. Information call Benefits Office, x3-4271.

Wives' Group\*\* — Prof Pat Hanratty, political science, Holy Cross, will present "The Emergence of the New Right. Where Did It Come From and Where Is It Going." Wed, Feb 28, 3-5pm, West Lounge, Student Center. Babysitting provided.

Tax-Deferred Annuity Seminars Schduled\*\* — Representatives from Prudential and TIAA-CREF will again be conducting tax deferred annuity seminars. Thurs, Mar 1, TIAA/CREF: 10am, Noon, 2pm. Prudential: 11am, 1pm, 3pm, Lincoln Laboratory. Information call Benefits Office, x3-4271.

Community Organizing in an Israeli Development Town\* — Dvorah Yanow, urban studies and planning, bagel and lox brunch. Sun, Mar 4, 11am, Rm 10-105.

National and Local Update of the Status of Women\* — Mary Rowe will bring us up to date on women in the national scene; Carmen Besterman, a member of the Governor's Commission on the Status of Women, will discuss the status of women in the Commonwealth including oppositon to the move to recind the state ERA, child care, tenancy by the entirety, and much more. Mon, Mar 5, Noon-1pm, Rm 10-105.

Wives' Group\*\* — Richard D. Tabors, energy laboratory, will discuss 'Is There an Energy Future of Just a Past-Planning for Energy Needs in the Developed and Developing Nations.' Wed, Mar 7, 3-5pm, Mezzanine Lounge, Student Center. Babysitting provided.

Technology Wives Organization Planning Meeting\*\*\* — Wed, Mar 7, 7:30pm, Rm 10-340. All members are invited to this planning meeting, come to express your ideas or to listen. Refreshments served. Info: Rachel Kent, 494-0137.

Technology Wives Organization Weekly Exercise Class\*\* — An hour of serious exercise led by professional Wambui Demps. Every Monday through May 14, 8pm, Exercise Room, 2nd fl, DuPont Gymnasium. Information: Call Wambui Demps 427-5008.

## Wellesley

Skyscraperism\* — Exhibit sponsored by The Grace Slack McNeil Program in American Art at Wellesley College and organized by students in Art 320.Exhibit on view daily through March 15, Fri, 8:30am-5pm, Sat, 8:30am-Noon & 1-5pm; Sun 2-5pm. Gallery talks Sun, 3pm. Wellesley College Art Museum, Wellesley College. Free. For information and group schedule call 235-0320, x314.

## Social Events

Latin Night: Dance and Enjoy!\* — Sponsored by the Club Latino, great party with the Latin Band Orquesta Tiempo and complimentary Spanish sangria punch. Fri, Mar 2, 8:30pm-2am, Burton House Dining Hall. Admission: \$3 non-members, \$2 members. Ticket information: Juan Carlos, 494-0330 or Jesus 494-9039 or x5-8327 Dorm.

Fourth Annual Ebony Affair\* — Presented by the Black Graduate Students Association. Semi-formal dance, indeed the gala event of the year for this community, live band, dancing. Sat, Mar 3, 7pm, Sala de Puerto Rico, Student Center.

Faculty Club\*\*\* — Open Monday through Friday: Luncheon served Noon-2pm; Dinner served 5:30-8pm.\*Happy Hour: Monday through Friday, 4:30-6:30pm, wide variety of drinks \$1.05.

### Movies

Last Graves at Dimbaza\* — Sponsored by the Minority Interst Group. Black History Month Activity. Wed, Feb 28, Noon, Rm 9-150.

Pepe Le Moko\*\* — French with English subtitles. Sponsored by the Department of Humanities. Wed, Feb 28, 7pm, Rm 66-110. Confirmation call Dora x3-4441. Free.

Star Trek Festival\*\* — LSC movie. Fri, Mar 2, 6:30 & 10pm, Kresge Auditorium. Admission: 75¢ w/MIT or Wellesley ID.

 ${\bf Rashomon^{**}}-{\bf LSC}$  Classic movie. Fri, Mar 2, 7:30pm, Rm 10-250. Admission: 75¢ w/MIT or Wellesley ID.

Eyes of Laura Mars\*\* — LSC movie. Sat, Mar. 3, 7 & 9:30pm, Rm 26-100. Admission: 75¢ w/MIT or Wellesley ID.

Cheng Tu-Kun Ming Railway\* — Sponsored by the FLCC. In English, Sun, Mar 4, 2pm, Rm 9-150. Donation \$1.50, students \$1.

The Treasure of the Sierra Madre\*\* — LSC movie. Sun, Mar 3, 6:30 &

9pm, Rm 10-250. Admission: 75¢ w/MIT or Wellesley ID.

The Turning Point\*\* — LSC movie. Fri, Mar 9, 7 & 10pm, Rm 26-100. Ad-

mission: 75¢ w/MIT or Wellesley ID.

The Philadelphia Story\*\* — LSC Classic Series. Fri, Mar 9, 7:30pm, Rm

Patton\*\* — LSC movie. Sat, Mar 10, 6:30 & 10pm, Rm 26-100. Admission: 75¢ w/MIT or Wellesley ID.

10-250. Admission: 75¢ w/MIT or Wellesley ID.

The Underground Radio Station\* — Sponsored by the FLCC. Sun, Mar

11, 2pm, Rm 9-150. Donation \$1.

Zardoz\*\* — LSC movie. Sun, Mar 11, 6:30 & 9pm, Rm 26-100. Admission: 75¢ w/MIT or Wellesley ID.

#### Music

Noon Hour Chapel Concert \* — Bernard Brauchli, clavichord. Thurs, Mar.

Logiam\* — Yearly invitational concert featuring college vocal groups. Sponsored by the Logarhythms. Sat, Mar 3, 8pm, Kresge Auditorium. Free.

Guest Artist Concert\* — The Erdely Duo, Stephen Erdely violin and Beatrice Erdely piano, program: Beethoven Sonata in Eb Major, Brahms Sonata in G Major and the Second Sonata by Bartok. Sun, Mar 4, 8pm, Kresge Auditorium. Free.

Noon Hour Chapel Concert\* — Robert Strizich, Catherine Strizich, Frank Lei-lutes. Thurs, Mar 8. Free.

Jazz Band Concert\* — Herb Pomeroy and Everett Longstreth, conductors, program to be announced. Fri, Mar 9, 8:30pm, Krege Auditorium. Tickets \$1 at the door.

Exhibit\* — A two-man show of photographs by John McWilliams and ence McFarland. On view through Feb 28, Mon-Fri, 9am-10pm; Sat, 6pm; Sun, Noon-8pm, Creative Photography Gallery, 120 Mass Ave, Ma. For information call 253-4424.

- A two-man show representing the work of photographers who been concentrating on one subject, theme, place or approach for a d of time. On view March 6 through April 3, Mon-Fri, 9am-10pm; Sat, -6pm; Sun, Noon-8pm, Creative Photography Gallery, 120 Mass Ave,

and Vision\* - Representing the work of Harvey Stein (Parallels: A at Twins), Duane Michals (Homage to Cavafy), James Van Der Zee Harlem Book of the Dead), and Jim Goldberg (The San Francisco Series). On view March 6 through April 4, Mon-Fri 9am-10pm, Sat, 6pm, Sun, Noon-8pm. Public Reception, Tues, March 6, 5-7pm, ive Photography Gallery, 120 Mass Ave, Camb, MA.

e Alley\* — High speed photographs by Harold E. Edgerton, Institute or and Professor of Electrical Measurement, Emeritus. Bldg 4, 4th

ony Dubovsky\* — Sponsored by the Committee on the Visual Arts. ographic essay, and lecture given by artist. On view daily through 1, 10am-4pm; Wed evening 6-9pm, Hayden Corridor Gallery, 160 orial Drive, Camb, MA.

Historical Collections\* - Katharine Dexter McCormick, '04; Vanr Bush, '16; Bldg 4 corridor. The New Technology Exhibit, 2nd floor ny of Lobby 7. Energy Exhibit, Bldg E40, 1st floor. Solar Energy, 8, main corridor. Harvard-MIT Rehabilitation Engineering Center, corridor. Bldg 4. Rogers Building Exhibit, Bldg 4. Meteorology, corridor, Bldg 8. Norbert Wiener, and Karl Taylor Compton, Bldg 4. ratory for Physical Chemistry, Bldg 6. Books 2000: Publishing AT MIT Press\* - An exhibition on the MIT Press, one of the largest and youngest of America's university presses, and one of the few exisiting at a major technological institution. Sponsored by the Compton Gallery Committee. On view Mon-Fri, 9:30-5pm, through March, Margaret Hutchinson Compton Gallery, Rm 10-150, Cambridge,

MIT Science Fiction Society\* — Come and visit the world's largest lending science fiction library. Hours posted on door, Rm W20-421.

New Records\* - Music Library, Rm 14E-109. Exhibit of record jackets of recent Library purchases.

MIT Historical Collections\* - In house exhibits include antique globes; the Ellsworth A. Wente Collection of motors and meters; rare instruments including compasses, sundials and other measuring devices from the 17th and 18th centuries; Early Alumni and several exhibits of memorabilia and photographs honoring prominent graduate of the Institute. Charles Stark Draper: Many Facet of the Man; The Compton years, a photographic essay of the lives of Dr. & Mrs. Karl Taylor Compton. On view daily, 9am-5pm, 265 Mass Ave, 2nd floor, Camb, Mass.

The Outdoor Collection\* — There are many fine pieces of contemporary sculpture displayed on the MIT campus, including works by Alexander Calder, Louise Nevelson, Pablo Picasso, Henry Moore, Tony Smith and Jacques Lipschitz. For more information and guides to the campus, call the Information Office, x3-4795.

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

Ger Dekkers: New Dutch Landscape\* — Sponsored by the Committee on the Visual Arts. On view daily through March 7, 10am-4pm; Wed evenings 6-9pm, Hayden Gallery, 160 Memorial Drive, Camb, Ma.

## Theater

King Lear and Mr. Pinter\* - Scenes by the Shakespeare Ensemble. Mar 2, 3, 8pm, Rm 9-150. Free.

## Athletics

Home Schedule\* - Fri, Mar 2: Pistol, WPI & Boston State, 7pm. Sat, Mar 10: Rifle, New England College Rifle League Finals, 9am. Sun, Mar 11: Rifle, Collegiate Sectionals, 9am

Women's Intercollegiate Softball Teams Organizational Meeting\*\* -Varsity and Junior Varsity. Mon, Mar 5, 7pm, Rm W31-118. All interested undergraduate women are welcome.

#### Dance

Dance Workshop\* - Modern dance classes, Mon & Wed technique classes, Thurs Composition-Improvisation Class, 3-5pm, T-Club Lounge, duPont

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

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

\*\*\*Open to members only

Send notices for March 7 through March 18 to Calendar Editor, Rm 5-113, x3-3270, before Noon, Fri, March 2.

## **Blood Drive Starts Next Wednesday**

Faculty, staff, employees and students at MIT will have the opportunity to donate blood here on campus during the TCA-Red Cross Spring Blood Drive, beginning March 7 in the Sala de Puerto Rico.

Herald of the drive is a large blood drop with suspiciously human looking legs, which has been turning up in classrooms and in the hallways.

The MIT community has always been generous with blood donation. Though it has only .2% of the regional population the Institute provides over 1% of the blood used in

An East Campus mini blood drive on March 5 and 6 has been organized for the convenience of East Campus and **Draper Laboratory employees** and residents of Eastgate. Application forms for this drive have been distributed with Tech Talk this morning.

the northeast region. Best support of the drive has come from undergraduate students. In the Fall Blood Drive five times as many undergraduates made appointments as graduate students. Faculty, staff and employees made a similarly small showing.

Institute policy allows time off whenever possible, for employees to donate blood. The entire process takes about an hour, and if appointments are made in advance is pleasant and troublefree.

The blood collected at the drive is provided to patients in hospitals in the northeast region (Massachusetts and Maine) free of charge except for hospital costs. Further, residents of the region are eligible to receive free blood at any hospital in the country that accepts blood from the Red Cross, as are members of their families even though they are not regional resi-

The Spring Blood Drive will be open for eight days, March 7-9 and 12-16. Jerry Marks, chairman of the drive, hopes to collect 2,000 pints-of blood during this period. Application forms for blood donors are available at the TCA office, Rm W20-450.

Lincoln Laboratory's Spring Blood Drive, conducted by the American Red Cross Minuteman Chapter, will be held on Monday and Tuesday, March

LECTURE SERIES BEGINS-Dr. Herman G. Branson, president of Lincoln University, Pennsylvania, left, is escorted by Dr. Jerome B. Wiesner to Rm 10-105 where Dr. Branson spoke Monday, Feb. 26. He was the first lecturer in MIT's Minority Graduate Students Spring Lecture Series. Three other black college presidents will speak at dates to be announced. Dr. Branson discussed "Availability, Barriers and Solutions in Generating Scholarship in Black Students." Dr. Paul E. Gray, MIT chancellor, was the respondent.

# 25 to Participate in SDP II

The second session of the Supervisory Development Program (SDP II) began on Tuesday, Jan. 23, with 25 participants from various Institute departments, centers, and laboratories. The program, which focuses on matters of MIT policy and related human relations skills, will continue to meet every Tuesday afternoon for ten weeks.

Participants selected for the SDP II were:

Nancy Ahlquist, Center for Cancer Re-search; Patricia Anderegg, Nutrition and Food Science; Clementine Coblyn, Libraries; Deborah Cohen, Resource Planning; Edward Dahlstedt Housing

James Dalton, Mathematics; John Doherty, Information Processing Services; Barbara Durland, Alumni Office; Charles Ellis, Center for International Studies; Winston Flynn,

The MIT Shakespeare Ensemble

will present "King Lear and Mister

Pinter," a performance of scenes

from Shakespeare and Pinter, on

Friday and Saturday, March 2 and

The scenes selected from King

Lear depict Edmund's initial de-

ception of his father and brother;

Kent's quarrel with Oswald and his

punishment by Cornwall; Lear's

denunciation of his two elder

daughters and his flight into the

storm; and the blinded Glouces-

ter's arrival at the cliffs of Dover.

Works by contemporary British

3, at 8pm, in Rm 9-150.

Registrar's Office.

Phyllis Gallant, Resource Development; Paul Honiker, Comptroller's Accounting Office; Barbara Johnson, Energy Laboratory; Eva Kampits, Laboratory for Computer Science; Peter Kelley, Information Processing

Muriel Lanpher, Admissions; Anne Lees, Chemistry; Justina Leler, Medical; James McCarthy, Division for Study & Research in Education; Kenneth Phillips, Comptroller's Accounting Office.

Shirley Picardi, Industrial Liaison Program; William Risinger, Information Processing Services; Brooke Stevens, MIT Press; Rosemary Viano, Athletics; Zipora Urbach, Benefits Office.

Principal instructors for the program are Claudia Liebesny, director of Personnel Services, and Drs. Adam and Maureen Yagodka, codirectors of the Office of Personnel Development.

playwright Harold Pinter will in-

clude sketches from A Night Out,

The Homecoming, Night, Appli-

cant and Trouble in the Works.

Each sketch will be a dialogue be-

tween two characters, illustrating

Pinter's favorite subject-the

problem human beings have in

Fifteen of the Ensemble's 22 ac-

tors will participate in the perfor-

mance, as will five freshmen who

are members of the Ensemble's

first apprenticeship program for

actors. This presentation will be

free and open to the public.

communicating with each other.

# Renowned Russian Scientist Benjamin Levich to Speak

(Continued from page 1)

and Mrs. Levich finally reached Israel in December.

Professor Levich, who will be 62 on March 30, was born in Kharkov and graduated from Kharkov University in 1937. He earned his doctoral degree at the V.I. Lenin State Pedagogical Institute in Moscow for work on the theory of processes occuring in an electrolytic cell. This study led him to consideration of the phenomenon of concentration polarization and to the development of the rotating-disc electrode, which brought him international recognition.

Professor Levich's book, "Physicochemical Hydrodynamics," appeared in 1952. It was revised and enlarged in 1959 and appeared in English translation in 1962. The work has been widely recognized as a masterly bringing together of streams of science which, until then, had flowed largely in isola-

He was elected a corresponding member of the Academy of Sciences in 1958 and won many other honors, including the Palladium Medal of the American Electrochemical Society.

Before 1972 he traveled extensively abroad and became a vice president of the International Society of Electrochemists. But in April 1972, when he asked for permission to emigrate, his lfe changed drastically. His chair at Moscow State University was abolished, he lost his leading position in the Institute of Electrochemistry and ceased to be a member of any editorial board or scientific council. Professor Levich began to encounter great difficulty in publishing his works, conducting seminars and attending scientific meetings.

A biographical sketch published in the proceedings of a meeting organized in England to mark Professor Levich's 60th birthday, concluded

with these words:

"The events since April 1972 have, however, imposed upon Benjamin Levich another role, that of a spokesman for the rights of scientists to decide their individual destinies, just like other men, and not to be treated as the property of the state. He has upheld this view consistently and eloquently; and, although not temperamentally a man of organizations or public movements, he has conducted himself courageously and with dignity in the position into which events have thrust him.'

## Tapscott Wins Foerster Prize

Dr. Stephen J. Tapscott, assistant professor of literature in the Department of Humanities, has been awarded the Norman Foerster Prize. through the Modern Language Association, for the best article published in 1978 in American Literature maga-

Professor Tapscott won the \$250 prize for his article, "Leaves of Myself: Whitman's Egypt in 'Song of Myself," published in the March issue of the magazine. The topic of the essay was the relation of poetic form to politics in Whitman's poetry.

Professor Tapscott came to MIT in 1977 from the University of Kent in England, where he had been a Visiting Fellow in 1976-77. He was an assistant professor of English at Earlham College in Richmond, Ind., in 1975-76. He received his AB from the University of Notre Dame in 1970, and PhD from Cornell University in 1974.

His writing has included Mesopotamia, a book of poems published by the Wesleyan University Press in 1975. He received a grant from the National Endowment for the Arts for

## Mining & Minerals Librarian Named

Nancy Reid Whitman, formerly Department of Transportation lib-

rarian in the MIT Science Library, has been appointed Mining and Mineral Resources librarian with offices in the Barker Engineering Library The position



is new to the Mrs. Whitman

MIT Libraries. It is funded by the Mining and Mineral Resources Research Institute, recently established at the Institute by the Office of Surface Mining of the Department of the Interior. Mrs. Whitman will provide lib-

rary services to members of the MIT community interested in mining and mineral resources, and will collate and make available information about library collections in the field at MIT.

A further service will be the publication of a Mining and Mineral Resources Newsletter, which will contain meeting and seminar announcements and reports of recent additions to library collections. Mrs. Whitman will also prepare bibliographies and guides to the literature of mining and mineral resources

Mrs. Whitman has served as Department of Transportation librarian since 1977. She has the BS in Library Science from Simmons College and has more than ten years experience as technical librarian. Those who wish to use the mining and mineral resources library service can get in touch with her at the Barker Engineering Library, 10-500, x3-6051.

## **Erdely Duo Plans** Kresge Concert

The Erdely Duo will give a free public concert on Sunday, March 4, at 8pm in Kresge Auditorium.

The program will include Beethoven's Sonata In E flat Major. Opus 12, No. 3, Brahms' Sonata in G Major, Opus 78 and Bartok's Second Sonata (1922).

Well known to Boston audiences, the Erdely Duo has also performed in concert halls in New York, Cleveland, Washington, D.C., and at colleges throughout the United

Pianist Beatrice Erdely presently teaches piano at Brandeis University and has performed as soloist with the Chicago Symphony, the Grant Park Symphony and the Cleveland Orchestra.

Her husband, violinist Stephen Erdely, is associate professor of music and head of the Music Section at MIT.

## Pye Elected at East-West Center

Shakespeare Ensemble to Perform

Dr. Lucian W. Pye, Ford Inter-national Professor of Political Science, has been elected vice chairman of the East-West Center Board of Governors. He also was appointed chairman of the board's executive committee.

The East-West Center is the educational institution established by

Congress in 1960 to promote better relations and understanding among the nations of Asia, the Pacific and the United States through cooperative study, training and research.

Professor Pye was appointed to the East-West Center board by the US secretary of state.

Tech Talk, February 28, 1979, Page 5

# **CLASSIFIED** X3-3270

may not be repeated in successive issues. All ads must be accompanied by full name and Institute extension. Persons who have no extensions or who wish to list only home telephones may submit ads by coming in person to the *Tech Talk* office, Rm 5-113, and presenting Institute identification. Adsmay be telephoned to x3-3270 or mailed to Rm 5-113. Dead line is noon Friday before publication.

#### For Sale, Etc.

Port AM/FM stereo csst recorder w/phone jack, \$25 best; scientific calculator w/mem, trig, exc cond, recharger, \$35; Karate ghi \$20. Call Scott x5-7515 or 494-0118.

Nikko Alpha II stereo amp, \$395, nw nvr usd. Call -9298 Dorm.

LSC Superticket, 18 shows left, \$12. Call Salld x3-

GE 12 cf, 14 yr old refrig, \$250. Call x3-8305.

Snows, Firestone Town & Country 5.60x15 tubeless practically brand nw, \$20. Call Virginia x3-7198. Child craft toddlers gym for 1-4 yr old, childs skates sz 10 & 13. Call Dan x7777 Lincl.

Konica TC 35mm SLR, 50mm f/l.4, auto, exp exc cond, w/case, \$120. Call 734-0648 ask for Michel. High chr, gd cond, \$10. Call 861-0279.

Ski bindings usd Solomon 555E, \$30. Call x3-2627 or 266-0280 eves.

Lock-In amp; PAR JB-4; Resolver/Synchro Bridge NA 540; 14 chan chart recrdr, MI; EG&C Rapatronic Shutter; Fastax 16 mm high spe camera; offers please. Call 547-1834. mm high spd

TV tble \$15. Call Frando x3-3695 or 494-0345.

Sngle bed w/bolsters & cover, vy gd cond, \$50. Call

Top ranked Panasonic SE2600 compact home entertainment sys, incl 15 wall recvr, BSR trntble w/pickering cart, & Thrusters 250 spkrs, Woofer, Tweeter & passive radiator, all for only \$200. Call Brian x5-9451 or 494-8593.

W red warm-up pants, side zips, foam-lined, sz 12, \$10; blue Jerry pack \$5; br dress boots, usd sz 7, \$8; Puma running shoes, sz 7, \$81 Accordion, make of-

Dble bed, sprng & matt, \$60; K cab w/wood top, 36Lx24Wx35H, \$50; gr sofa, \$30; 2 oak classrm chrs, \$25 ea; 2 LR chrs, \$5 ea; 2E' bike, 3 spd, \$30; wood downhill skis wbindings, poles & W boots w/rack, sz 8½ M, exc cond, \$30. Call Gene x3-1869.

Tw sz bed, wood headbd, endboard, matt. \$40: salon type hairdryer, \$8; pr Joan & David shoes sz 8½ worn once, org \$40, sell for \$10, credit for \$39 at Haxat shoes, Bos, will sell for \$30. Call 266-3430 or x5-9375. Dorm.

Custom spkrs, I wll design & build for you, your ultimate spkr sys at a fantastically low prc. Call Alan x5-9540 Dorm.

Winter boots, Vibram soled insulated Maine hunting shoe, exc cond, sz 5N, \$45. Call Judi x3-2627 days, 232-7582 eves.

Sound & color light display 3 colors, \$20; strobe light w/color display ability, \$15; ski bag \$10. Call x3-1996.

5 pc wrought-iron dinette set w/dark br formica top exc cond, owner moving, \$100. Call 899-9290

Lafayette radio AM/FM \$10; pole lamp, \$5; 2 armchrs, \$10 ea. Call Celia 876-7551 eves 7-10pm. Nw 40 chan Radio Shack CB radio, stll in carton

\$50; Sony 250 stereo tape deck 7" reels, VU meters \$60. Call 247-2861 7-9pm. 16 mm movie camera non-reflex Bolex w/50mm lens, exc cond, gd prc. Call Julie x8-1812 Draper

May's wake up service, never be late again, \$7.50/mo. Call J. May for info 492-1403.

Silent 750/751 printer ASCII & BAUDOT, ps., repr man, \$100; Panasonic AM/FM 8-track stereo port \$50; 4K core, drvr board, \$10; PS 24V, 26V, 15V, 12V, 16V, \$25; PS +12V, -6V, -18V, \$20. Call Barry x5-7659 Dorm aft 5pm.

Roller skates, white, sz 10, lk nw. Call 396-7918. Guitar, gd cond, plastic & metal strings, usd few times, \$25 or best. Call Sue 658-9734 aft 6pm.

Free: moving cartons, 75 all szs. Call Chris x3-

EPI 120 B spkrs, nvr usd, \$200/pr. Call Jim x5-9457

\$149, ask \$80; SX70 film, \$4/pk, Call Don x8-3391

Park space, nr Coolidge Corner. Call Dave x3-5980.

2 Danskin leotards, 1 long sive scoop neck kelly gr med, 1 short sive scoop neck red sm, both lk nw, \$5 ea. Call Lisa x3-4113.

Phase Linear 4000 preamp w/autocorrelater, exc cond, \$400 or best. Call Tom 864-7087.

Cresta Electronics Cinesound Universal synchronizer; made sound movies in lip-sync w/any 2 e recrdr & movie camera w/once-per frme witch & extras, exc cond, \$175. Call Bob chan tape recrdr & movie camera w

Galvanized port dog pen by Anchor, fence 16x6x6', rf & kennel-type dr w/latch, lk nw, \$350. Call Dave

Custom lined drapes, curtains, scatter rugs, paintings, waxer & polisher, rug shampooer, serving pcs, cake dishes. Call 232-8931.

Roffignol strato-flex 205 cm skis, nvr usd, no holes or bindings, \$80. Call x3-1795 Susan 9am

Dolomite ski boots M sz  $10^{12}$ , \$45; skis K2 Cheesburgers 195 cm w/Solomon 444 bindings, \$120. Call x8-4287 Draper.

Sansui 232 semi-auto trntble w/Shure M 95ED

cart, yr old, perfect cond, still under warrenty, \$92 or best. Call x5-7347 Dorm.

Smith Corona "Vantage" typewrter, uses typeball, 4 mos old, brnd nw cond, org pr \$350, now \$290. Call Leor 876-8648.

Pentax Universal Thread Mount Auto-Bellows w/slide copiers, dble cable release & flash jig. Samigan 2X teleconverter, T-adapter, 49mm filters; #80A & #12; package deal \$125. Call Martin 354-4210 or x3-2139

Rad snows, HR15-78, Peerless, perfect cond, Is than 3K mi, Ford rims, \$60, nego, Call Mark x5-7141 Dorm.

Heathkit tuners AM/FM B&W TV, \$5 ea, all old tube devices, TV nds work. Call Bob x3-1734.

Bauer hockey skates, exc cond, sz 9, \$20, Call John

Kenwood 4070 recvr, 8 mos old, 43 watts/chan, \$200. Call x5-7134 aft 5pm.

3 spd bikes M, \$25; 19" B&W TV, \$20; mink cape, \$25, Call x3-5117.

Computer w/8080 CPU, 22K static RAM, I/O & ROM w/motherboard, \$450; hvy duty 12.6 AMP 5 volt regulated power supply w/remot sensing, overvoltage protection, \$60, consider trade for stereo equipment. Call John x5-6632.

Japanese swords for sale, trade or buy. Call x346 Lincl or 259-9130 eves.

Component stereo, Scott mod 342-C recvr, 15 watt per chan, Rondine 3 spd direct drv man trntble Shure M44E cart E stylus, \$100. Call 391-4610 aft 6pm, or x3-7220 days ask for Bruce.

Pioneer CTF-9191 csstt deck, exc cond, ask \$325. Call Kevin x3-7764 or x5-9123 Dorm

Pr skis Northland, 190cm w/bindings, vy gd cond. Call Eve Amparo 494-0073.

AIWA AD/6300 csst deck, stll in box, yr left on wr-rnty, \$180. Call Robert x5-7204 Dorm.

Antique pine cupboard, \$300; Victorian knic nac combination cupboard-bkcase, \$250. Call 731-

2 Solo I spkrs, also walnut cabs, \$25. Call Carl x5-

Miracord 620C trntble w/cart, vy gd cond, base & dustcover incl, \$80. Call x3-2876 days, 734-3206

Pilot 1073 console from AM/FM Simlcast era, incl stereo phono w/Garrard RC88/4 changer, schematic & all documents, intermittent, noise problem provide tech challenge for EE tool, kilobuck replacement value for \$400 or best. Call Hue x8-1475 Draper.

Stereo equip: 2 prs Tangent RS-14 spkrs, nvr usd, bought in lg quantity to save 30% retail, \$740 per pr; wl sell for \$525 per pr. Call Ray 868-7086 eves. Misc furn & hsehold items, also plants, must sell

immed. Call Sonia x3-4791.

Oriental rug,  $4^{1}$ 2x7, Kashan design, \$3000. Call Jawaid x3-4628 or 426-7473 eves.

Pr BR Gdrich rads T/A's GR 60/14 mntd on Cragar S/S mag whls, tires & whis exc cond, almst unusd, tires-\$70 ea; whls, \$50 ea, everything \$220, wl nego. Call Pete x5-8212 Dorm.

Concert Tickets: Vladimir Ashkenazy, Apr 27, Call Patrick x3-7770 or 484-3689

Working antique radio, 15Dx32Wx40"H, makes great stereo stand, has shif to hold over 250 albums, ask \$30 or best. Contact Brenda x3-3109 ly msg or 864-4222

Head 170 cm Jr Giant Slalom ski w/Dover step-in bindings, \$50 or best; Yamaha 180 cm Novice fiberglass skis w/Cubco step-in bindings, \$30 or best, 2 pr W boots w/racks, sz 5½ Nordica buckle boots, \$15; sz 6½ Koflach lace boots, best, all items gd cond. Call Jill x3-7946 or come the W Athletic Office, du Pont Ctr.

#### Vehicles

'66 Sunbeam Muix, gd run cond, eng exc, 68K org mi, \$150 or best. Call Jacqueline x3-3282.

'68 Dodge Dart, nw bttry, starter, 4 nw tires, dependable, economical, \$300. Call Don 738-5848. '69 Chevy Impala 4 dr, PS & PB reliable trans, bdy exc cond. gd snows, best. Call x8-1248 Draper

'69 Ford Custom w/radio & gd tires, exc city car, best. Call 492-0983 kp trying,

'69 Old Cutlass, V8 350, 67K, A/C, nw brks, water & gas pump, 6 nw tires, nw wiring & distributer, gd shocks, \$600. Call John x8-2722 Draper.

'69 Ply Valiant, 4 dr. 70K, \$300, Call 266-0439 eves.

'70 Buick Skylark coupe, V8, auto, PS, fact air, blue w/blck vnyl top, nw brks, mffler, compl tuneup, exc cond in & out, \$1100 or best. Call Dave

'70 Pontiac, PS & PB, gd cond, \$200. Call x3-3498 864-1543 aft 7pm.

'70 Toyota Crown wg, 6 cyl, 5 spare whls, 1 spare, snows, 75K, \$300 or best. Call Kim 641-0819 10pm.

'71 Mustang, 70K, mny nw parts. Call for info 438-

'72 Dodge Coronet 4 dr, auto, PS & PB, A/C, AM/FM stereo, exc cond, \$1195. Call Tom x3-3966. '72 VW Stat Wg, orange w/sunrf, 60K/9000 on reblt eng, rns gd, \$1100. Call Robbin 628-3447 or x3-4162

'73 Capri, 2600cc, V6 eng, 4 spd trans, Decor group, 56K, nice bdy, basic mech sound, \$1100 or best. Call Andy 662-9757 eves.

'73 Capri, 2600 V6, 47K, 4 spd, A/C rads, zebart, r/defoger, AM, exc run cond, dent in r/left quarter, \$1300 or best. Call Elinor x3-5723.

'73 Datsun 610 wg, nw exh sys, brks, snows, \$2000. Call Bruce x3-5867

'73 Dodge window van, Sportsman, 8 pass, 1 ton, 6 ent windows, B300, V8, 318CID, PS & P disc brks, funished int, trailer hitch rust proofed, 2 mtd snows + extras, gd cond, 67K, \$3100 or best. Call 359-2527 Medfield aft 5:30pm.

73 Ford Pinto wg, exc cond, in & out, 65K, auto,

'75 AMC Pacer, exc cond, + pr nw snows, \$1950. Call Ron x8-2818 Draper or 944-5890 eves.

'75 Buick Skyhawk 6 cyl, 4 spd trans, exc cond, nw trans, brks & bttry, \$2850 or best. Call 325-0359. '75 Chevy Vega 33K, exc cond, \$1300. Call Gabriel

'75 Toyota Celica GT, 5 spd, 4 cyl w/Webber carb, tuned headers, super sprint exh sys, Repco brks, 4 nw tires, perfect chocolate br paint/white inter, AM/FM stereo, 37K, too sm for family, ask \$3200. Call 944-4656 aft 5pm.

'76 Pinto sedan, 39K, slt bltd rads, safety modification made, ask \$1700, Call Mark x3-6752.

'77 Olds Cutlass, factory loaded incl A/C, AM/FM, PS & PB, power lock, 39K, exc cond, \$4745 or best, Call Eleen x3-7894.

'78 Ford Fairmont, 2 dr, 11K, auto, stl rads, gr, perfect cond, \$3500. Call 494-8878.

Dirt bike, exc cond, nw extra parts, 66% off, mst sell. Call Chuck x8-3706 Draper.

#### Housing

Belmnt hill, basement rm, 10'x18' in beaut hs ternis crts & swim pool, K prvldgs, non-smokr, \$30 per wk. Call 484-6833. Brkline, 4 apt brick bldg r/porches, r/park. Call George 277-5840 aft 6pm.

Brkline, unbelievable spac 4-5Br sublet, nwly renov, storage, 2 rms w/ww, & nwly sanded, nw K appl incl refrig, stove, D&D, safe prestigious cotage farm sec, Lawrence Sch, adj Amory Park & tennis, T, pk, \$750/mo incl ht, nego, avail Mar 1. Call Judith 469-9655 eves.

Camb sublet Mar 1-Apr 1, lux 1 BR apt, betw Harv & Central Sq, \$360/mo. Call x3-6978.

Dorchester, 7 rm hse for sale, 2 car gar, fenced yard, exc cond. Call Jane aft 6pm 436-4271.

Newton, 9 rm ranch, move in cond, 26' LR, DR, eat-in K, panelled fam rm, 5BR, 2B, darkrm, burgular alarm, 4 zone gas ht, \$69,900. Call 965-5009

Nova Scotia, ten acres, 600' private 68 degr ocean beach, furn cottage, indr plumbing, 1 fam, n lets, entire summer \$1500. Call 861-8734 ev

Ski Utah, on slope condo at Snowbird, slp 4, \$350/wk, avail Mar 11-17/18-24, 10' base htd pool, sauna, tennis, fantastic skiing. Call x5-6642.

Watertwn 3 BR apt for rent, 1st fl, lg LR, mod K & B. unht & gar, avail Mar 1, \$375/mo, Call 924-1289 aft 4pm.

Sublet, 2 rm apt, shr K & B, Apr 1-Aug 1 w/opt, \$150/mo incl all util. Call Tony x8-3708.

Summer sublet, lg, mod lux, 2BR apt nr Harv Sq, avail June 1, renewbl in Sept, \$400/mo, deposit required. Call Marshall Burns 876-8648.

#### Lost and Found

Lost: 2/1/79 ladies initial tie claspes w/BFM w/stone, betw gar on Vassar or Stu Ctr. Call x3-

Lost: silver ring, betw pool & 12th fl, Green Bldg, around 3pm, 2/14. Call x3-7539.

Found: sm white cat w/spots & gray tail. Call x3 7983 Angela or Karen x3-5360.

#### Wanted

Old, usd or beat up fishing rods, reels, pole guards & associated fishing/boating gear. Call James x8-3958 Draper.

2-draw file cabs, cheap. Call Buck x3-3185.

Milling machine, med sz, for a research project at MIT. Call W.A. Derry, Property Officer x3-2777. Visit prof sk rm or studio, Apr-June 15. Call x3-

Mobile camper wanted to rent by MIT Prof & wife, July 23-Aug 6. Call x3-2308

CO2 regulator &/or tank. Call Karlis x5-8154

Sublet now to Aug 31, sm apt for MIT married couple, nr MIT & T, no children. Call 494-0174. Wanted: ride from Medford daily, 9-5pm or flex

Key Monuments of the History of Architure Million & Frazer. Call x3-3362,

Arteriosclerosis Ctr looking for normal volunteers who are taking NO medication/drugs to donate approx 2 oz of blood, wl be paid \$5 per donation on the day after the test. Call x3-3017 for details.

Broken or otherwise cheap color TV, mst in intact. Call Bob x5-6660 or 494-8705.

#### Roommates

Camb, rmmate wntd, own rm in 2BR as \$155/mo. or shr \$85/mo, mod bldg, city view, D&D, A/C, balcony, furn, util incl. Call 492-8773.

Camb M grad student wntd for sunny 2 BR apt. cls to MIT & T, \$270 Harv St, Apt 3, avail Mar 1, Call Denash 725-6772 days or 492-9193 eves.

Sngl F to shr 3BR fun hse in Lex. 3/31 mid Aug. Call 241-8088 or 861-1604.

Waltham M/F rnmate, non-smoke for lg 3BR apt, own B, park, Apr 1. Call Kathy x8-3555 Draper or

Looking for mature F rmmate & also apt. Please call Karen x3-5048, 9-5pm.

F grad student wntd to shr 7 rm apt, nr  $T_r$  \$120 inclutil. Call x3-3501 Draper or (1) 584-2388.

#### Carpools

Ride or drive to Salem, MA area to MIT, 8-5pm

#### Miscellaneous

Heating, Air Conditioning, Ventalation, Insulation Work to be done, Arthur Dubois, 893-5174, Anytime.

Retired watchmaker E.B. Horne Co, repairs watches at home, reas rates. Call Rosalie x3-6 Darius, your watch is ready. Please call x3-6867. Pro typist, 10 yrs experience, IBM Select. Call x3-

Experienced typist, wl type any form of papers. Call Linda x3-8138. Typing, tech, general, IBM Correct Select. Call x3-1879 Aisha.

Typing thesis MS, reports, IBM Correct Select. Call Debbi x3-2511.

Exc typist, looking for work, doing any type of work, no tech, gd prc. Call Karen x3-3801 Rm 24-102. WI type, anythng, tech, etc, IBM Correct Select,

reas rates. Virginia 926-8894 Tech typing, reasonable rates, wl do thesis. Call Judith x3-2686 3-4:30pm.

WI type general, reports, correspondence, no tech, rect Select. Call x3-3805 Debbie WI do general thesis & tech typing, 10 yrs exp, IBM Correct Select. Call x3-6695

#### Surplus Property

The following MIT Surplus Property is available for sale through the Office of Facilities Management Systems. Please contact Pamela Lageson, EXT. 3-2776 citing property case number.

Master Dictaphone with Dictation Unit, mfg. Dictaphone Corp., model 220, year 1978. Must sell for \$700 or best offer. Case #116.

e following MIT Surplus Property is available transfer through the Office of Facilities magement Systems. Please contact Pamela geson EXT. 3-2776 citing property case number:

Control Data Microfilm Recorder; includes: Microfilm Output Console, Polaroid Output Console, 19" Display Console, Controller, 400 Cycle Generator, Assorted Cables, Case # 130A.

Simplex Time Recorder, Model 8400-5 Case #130B.

Ektacom, Master Station, Intercom. Case #130C.

Remington Adding Machine. Case #130D IBM Card Punch, Model 26-1. Case #130E.

Power Supply, Dynamics Control, Model 24MV1. Case #130F. Power Supply, Dynamics Control, Model MV3. Case #130G. Sanborn Amplifier, Model 350-500AS. Case

Lambda Power Supply, Model LE-101. Case #130J Lambda Power Suppl, Model LA15-08BM. Case

Electro Magnet with Precision Power Supply; has 12" pole pieces. Model HS-1050. Case #131.

4 Sanborn DC Amplifiers, Case #132A.

Sanborn Chart Recorder, Model 154-100B, case Sanborn Chart Recorder, Model 154-1300, case

5 Sanborn Carrier Preamplifiers, case #132D.

Sanborn Input Coupler, Model 5000, case #132E. Hewlett Packard Oscilloscope, Model 130A, case

# **POSITIONS AVAILABLE**

This list includes all non-academic jobs currently available on the MIT campus. Duplicate lists are posted on the Women's Kiosk in Building 7, out-side the offices of the Special Assistant for Women and Work (10-215) and Minority Affairs (10-211), and in the Personnel Office, (E19-239).

Information on openings at Lincoln Laboratory (Lexington, MA.) is available in the Personnel

Employees at the Institute should continue to contact their Personnel Officers to apply for positions for which they feel they qualify. Dick Higham 3-4278

Pat Williams

Sally Hansen

Kathleen Rick

rence Milan

Carolyn Scheer (Secretary — Tertia Perkins) Virginia Bishop 3-1591 Richard Cerrato 3-4266 Ken Hewitt (Secretary — Paulette Chiles) 3-4267

3-1594

3-4275

(Secretary — Jenni Leibman) Academic Staff, Administrative Officer, in Earth and Planetary Sciences to manage, on behalf of Department Head, all financial business and other administrative matters of the Department; coor-dinate student and personnel related matters. Will develop and administer research budgets; assist in resolving operational problems of the department allocate space, parking; overseee physical maintenance of space and equipment; act as liaison with Institute departments and outside organizations. A Bachelor's degree, or equivalent, facility with figures, demonstrated management skills reqired. Institite experience is preferred. C79-2 (2/28)

Academic Staff, Adnin. Officer, in the Nuclear Engineering Dept. to manage financial, personnel, business, student related and other administrative matters of the Department; evaluate financial reports for accuracy and coordinate necessary changes; prepare and monitor research budgets; identify and replacement and reports and re identify and resolve operational problems; oversee accounting processess; act as liaison between Department and all levels of Institute staff and outside agencies; interview, hire and evaluate biweekly and exempt staff; perfom all Department members in administrative matters; schedule, assign and monitor support staff; perform and/or manage special projects; supervise maintenance of supplies and equipment. Bachelor's degree, or equivalent, and administrative experience re-quired, MIT experience helpful. C79-1 (2/28)

Admin. Staff. Personnel Officer. Office of Person nel Services will have responsibility for providing policy interpretation, advice and assistance to all categories of non-academic employees in the School of Humanities, the Libraries and in two reseach centers. Will assist with recruitment. terviewing and placement of applicants for all MIT positions. A Bachelor's degree, or equivalent comof education and experience, human relations skill, tact and ability to handle sensitive information required. Experience sonnel or counseling helpful. A79-10 (2/14)

Sponsored Research Staff, Engineer/Applied physicist, in the National Magnet Laboratory to assist in the design, assembly and testing of electromagnetic mass driver systems. Bachelor's degree in engineering or applied physics required. Background in electromagnetic mass driver technology also required. R79-47 (2/28)

Sponsored Research Staff, Research Specialist, part-time, in the Division For Study and Research in Education will be involved in the design of an experiment in voluntary control of motion pattern in cases of motion parallax; build apparatus and conduct the experiments. A BS in psychology and experience in research and experimental chology required. 17.5 hrs./wk. R79-41 (2/14) Sponsored Research Staff, Sr. Policy Analyst, in

Sponsored Research Staff, Sr. Policy Analyst, in the Energy Laboratory to formulate energy policy investigations; manage large and complex research-oriented investigations on broad energy policy matters as well as personally conduct research; serve as technical resource for conference organizers; participate in cooperative project ac-tivities. Excellent interpersonal skills and demonstrated managerial ability required. Broad experience in analysis of energy policy issues with a technical background in an ar a rele policy analysis also required. R79-38 (2/14) Sponsored Research Staff, temporary, in the

Combustion development program. Duties will involve experimental and theoretical studies; calculate rate of seed evaporation; design combustion exit nozzle; model the combuster using finite

difference techniques to solve conservation equations. Bachelor's or Master's degree in chemical or mechanical engineering, or equivalent, required. Experience in mathematical modeling and computer programming (FORTRAN) also required. R79-44 (2/14)

Sponsored Research Staff, in the Laboratory for Nuclear Science to do postdoctoral research in-volving ongoing experiments on interaction of protons with nuclei; assist in development of Bates protons with nuclei; assist in development of Dates Linear Accelerator facilities in magnetic spectrometers, particle detection systems and electronic instrumentation; plan, develop and perform other experiments in medium energy nuclear physics. Ph.D. in experimental nuclear or high energy physics required. R79-43 (2/14)

Admin. Staff, Applications Programmer, in Information Processing Services to assist in developing and maintaining applications programs for the Medical system (areas include Patient Data Base, Records, Billing, Query and Online scheduling.) At least 1 year of experience with PL 1 and IBM OS JCL retuired. Familiarity with interactive applications desired. A79-12 (2/28)

Admin. Staff, Systems Programmer, in the Information Processing Services Office to perform various duties such as crash analysis, problem invescigation, installation of software changes and user consulting. Bachelor's degree, or equivalent, and 3-5 years experience with above functions on large-scale time-sharing system required. Proficiency in systems programming with PL/1 programming lanuguage also required. A79-11 (2/14)

Admin. Staff, Applications Programmer, in Administrative Computing Services to translate exministrative Computing Services to translate ex-ternal specifications into internal program ternal specifications into internal program specifications for new or modified programs; prepare logic diagrams and data flow; program, test and debug computer programs; document new programs or changes in existing programs within prescribed standards; assist users and answer questions; attend classes and seminars to develop and maintain know-how in programming. Associate's degree required. At least 1 year of business applications programming in COBOL also required. A79-4 (1/24)

Sponsored Research Staff, Programmer, temporary, in the Center for Space Research to handle and interpret data of the HEAO A-3 experiment. Bachelor's degree in Physics required. Programming ability also required. Temporary for 7 months. R79-51 (2/28)

Sponsored Research Staff, Programmer, part-time, in the Division for Study and Reseach in Education to do hand translation of PASCAL LOGO into T1990 assembly language: help design and implement a dynamic graphics system to interface with LOGO. 17.5 hrs./wk. R79-42 (2/14) Data Collector V, in the Office of Facilities

Management to initiate property cards and record preliminary information; tag all newly acquired property; collect all relevant data and complete preparation of property cards; remove government tags from supplies and equipment and replace with TTMIT TAGS; determine item classification (equipment or supplies); input data; act as alter-native data base manager; supervise part-time emoloyee and students. Associate's degree or equivalent combination of education and experience necessary. Ability to handle large amounts of detailed information also necessary. Property Management experience desired. B79 105(2/28) Exempt. Area Food Service Supervisor, in the

Food Service Dept. to assure preparation of food and supplies; check food items and report or cor-rect any deficiencies; maintain portion control; assist with special functions and in daily inventories orders, etc., assist customers with directions, questions and/or complaints; recheck menu board for accuracy; lock and secure kitchen and serving area. Excellent interpersonal skills and some technical knowledge in menu planning and quality control required. A degree, or equivalent, in food field also required. Betating absolute in include Sex and required. Rotating schedule to include Sat. and Sun. E79-5 (2/28)

Exempt, Registered Nurse in the Clinical Re center to be responsible for general and specialized nursing procedures and medications; take charge duties when necessary. Graduation from an accredited nursing prorram, Mass. registration and 2 years nursing experience required. Accurate observation and charties ability to see the process of the control vation and charting, ability to assume respon sibility and good interpersonal skills also required E79-6 (2/28)

Exempt, Training Supervisor, in the Physical Plant's Mechanical Operation Office to develop and execute a maintenance training program for shop personnel in the areas of heating, ventilating and air conditioning: assist in developing training needs; recommend most cost efficient methods of achieving goals; monitor instruction given; may perform some of the instructing. Extensive ex-perience in mechanical maintenance and building operations required, as well as good writing skills E79-7 (2/28)

Exempt, Admin Asst., in the Aeronautics and exempt, Admin Asst., in the Aeronautics and Astronautics Dept. to handle graduate admissions, data on fellowships, teaching/research as-sistantships, registration, student records, operational class schedules and department catalog copy. Will also compile statistics; set up student function and orientation activities: as in informing students on and enforcing policy regarding thesis. Good interpersonal and typing skills, initiative and ability to work independently required. MIT experience desired. E79-3 (2/14)

Library Asst. V in the Humanities Library to receive and verify requests for materials and i tification of library source through use of the OCLC catalogues; coordinate work of part-time as OCLC catalogues; coordinate work of part-time as-sistant; maintain files and statistics; staff informa-tion desk; answer "ready reference" and other ques-tions. Good typing and organizational skills, ability to establish and maintain good interper-sonal relations and accuracy in details required. At least 5 years direct and/or related library exalso required. Some college preferred. B79-104 (2/28)

Sr. Library Asst. IV. part-time, in the Barker Engineering Library to assist Mining and Mineral Resource Librarian: type newsletter, order forms, bibliographies, other user educational tools and correspondence; check publishers' brochures and correspondence, check publishers for orderies and ads against card catalogue; participate in filling gaps in collection by searching various references. Accurate typing skills, initiative, ability to interact well with others and overall attention to detail required. MIT experience preferred. Continuation of position after 9/30/79 is contingent on renewal of funding. 20 hrs./wk. B79-108 (2/28)

Library Asst. IV, temporary, in the Libraries' historical Collections Section to maintain catalogues; repair damaged drawings; correlate drawings with specific design problems and make ach req necessary notations; handle research requests typing and organizational skills, capacity for and knowledge of 19th and 20th century architec ture required, as well as knowledge and preferably experience in preservation technique to read and interpret architectural drawing. At least 2½ years direct work experience also required. College study in Architectural History preferred. Temporary for 1 year. B79-76 (2/14)

Library Asst. III in the Reserve Book Section, Dewey Library, to process reserve book lists; main-tain section records and statistics; prepare overdue notices; maintain order of reserve collection; supervise student assistants and assist in other Library sections which may require some pre-scheduled evening or weekend shifts. Previois library experience is highly desirable. Typing skill is also necessary. B79-99 (2/28)

ILibrary Assistant, part time, in the Student Center library to process reserve book lists; request reprints; file shelf list; assist at Bookchecking Desk; prepare information to be copied for Micro

mornings.

Page 6, Tech Talk, February 28, 1979

reproduction Laboratory; perform miscellaneous clerical tasks as required. Good interpersonal and organizational skills and ability to work with a minimum of supervision required. 20 hrs ..wk., Mon-Fri. 1-5. B79-107 (2/28)

Library Asst. III, part-time, in the Libraries Collections Development Dept. to acquistion government documents; record and process materials on visible files; claim missing materials; type order forms and technical reports decision slips. Will also process mail; search materials on OCLC. B79-85

Secretary IV/V in the Urban Studies and Planning Department to type proposals, manuscripts class notes and correspondence; file; xerox; answer phones; order supplies assist in budget preparation phones; order supplies assist in budget preparation for proposals, maintain expenditure records. Positon may include assistance with administrative work on a government contract. Excellent secretarial and grammar skills, ability to perform a wide range of duties and to follow through on details required. Experience in typing equations and tables also required. Shorthand strongly preferred. Non-smoking office. B79-87 (2/28)

Secretary IV to the Asst. Director and one research staff member of CISR in the Sloan School of Management to type technical proposals and general correspondence; maintain calendar; screen telephone calls; provide general information; schedule meetings; arrange travel; greet visitors; file; monitor accounts. Good secretarial and interpersonal skills required, as well as ability to work under pressure. Knowledge of MIT desired. B79-97 (2/28)

Secretary IV, in the Alumni Association to perform Secretary IV. in the Alumni Association to perform general secretarial duties: type correspondence; arrange travel; prepare mailings; schedule meetings; maintain files and class bills; provide support to administrative asst. Will be trained on word processor and in research gathering techniques. Good interpersonal skills, excellent typing skill and command of English required. Some overtime also required. Secretarial school training preferred. Pro. 91 (2028)

Secretary IV to 3 Personnel Officers, Office of Personnel Services to type letters, reports, meeting minutes; occasionally compose letters and memos; prepare various personnel forms; schedule interviews; coordinate meetings and appointments; answerand screen telephone calls; answer general policy questions for employees and applicants; xerox; file; maintain current records of available positons; coordinate new employee review procedures; occasionally assist with Office reception functions; check references. Good, accurate tion functions: check references. Good, accurate typing and excellent interpersonal skills required, as well as ability to work under pressure. MIT experience desired and knowledge of personnel and payroll systems helpful. B79-96 (2/28)

Secretary IV, part-time, in the Undergraduate Of-fice of the Chemistry Dept. to prepare course materials, exams, class lists, etc., record grades, schedule exams. Accurate typing and record keep-ing skills and ability to work well with others re-quired. 1-2 years secretarial experience preferred. 20 hrs./wk., schedule flexible. B79-93 (2/28)

Secretary IV to the Director of the Information Center to arrange meetings; type correspondence; file; assist in providing information about MIT activities, facilities and programs. Good typing skil required. Secretarial experience and/or secretarial school also required. Knowledge of MIT helpful. Non-smoking office. B79-94 (2/28)

Secretary IV in the Energy Laboratory to research staff members: perform secretarial duties in a setting with a varied pace and project content. Good typing and interpersonal skills required. Technical typing skills, ability to use dictation equipment and word processing equipment desired. Nonand word processing equipment desired. Non-smoking office. B79-95 (2/28)

Secretary IV, part-time, in the Nutrition and Food Science Dept. to type manuscripts and cor-respondence; xerox; maintain print files; perform other clerical duties as necessary. Good typing skills required. Secretarial experience also re-quired. 17.5hrs./wk. B79-98 (2/28)

Secretary IV in the Psychology Dept. to coordinate patient appointments; fill out travel vochers; transcribe tapes of patient interviews; type letters, manuscripts, tables, and index cards, order books, reprints and supplies; pick up orders; perform mis-cellaneous errands, including escorting patients to appointments outside MIT. Excellent typing skill and ability to work well with others required. B79-

Secretary IV to 3 Political Science faculty members to type correspondence, class material, manuscripts, file; duplicate; arrange meetings and travel; schedule appointments. Excellent secretarial skills required. At least 2 years of secretarial experience also required. Junior college background and secretarial school training prefer-red. B79-80 (2/14)

Secretary/Receptionist III/IV in the Admissions Dept. to answer phones; schedule appointments; perform secretarial duties for Asst. Director and other staff members; maintain calendar; handle mail: arrange travel. Excellent typing, organizational, interpersonal and dictaphone skills required. Secretarial experience preferred. B79-109

Secretary III/IV in the Office of Facilities Manage ment Systems to members of the Property Office to type correspondence, reports and forms; perform clerical duties re: collection of moveable equip-ment; distribute various lists; prepare Tech Talk listings for surplus property; greet visitors; answer phones; organize and maintain filing systems; hanphones; organize and maintain ting systems; nan-dle mail; xerox; schedule appointments. Excellent typing, interpersonal and organizational skills re-quired. High school graduation and at least 1 year of secretarial experience also required. Machine transcription skill desired. B79-106 (2/28)

Secretary III, part-time, in the Earth and Planetary Sciences Dept. to type correspondence and manuscripts; assist with reprint mailings; answer phones; order supplies; run errands; xerox; perform miscellaneous duties as necessary. Excelnt typing skills required. 17.5 hrs. /wk. B79-86

Account Representative V in the Information Processing Services Office/Administrative Computing Service to act as liaison between client of fices and computer office facility in order to ensure the quality and timeliness of production commit-ments; prepare input and jobs for processing; review outputs to ensure they meet requirement. At least 4 years of expereince in data processing required. Training in the operation of hardware components, data processing concepts, operating systems and OS job control language also required. 40 hrs./wk. B79-79 (2/14)

Medical Asst. IV, part-time, in the Medical Dept's Ob/Gyn Clinic. Will assist nurses and physicians with routine examinations and with special procedures; weigh patients; take blood pressure; obtain lab samples; maintain orderliness of consultation rooms; wash and autoclave equipment. Will also schedule appointments; prepare charts, records and forms. High school graduation, or equivalent, required. Experience as hospital aide/assistant or formal medical assistant's training also necessary. 30 hrs./wk. Mon.-Thurs. 8:30-5:00. B79-101 (2/28)

Editorail Asst. IV in the Energy Laboratory to col-Editorail Asst. IV in the Energy Laboratory to collect, edit, produce and distribute various technical reports; contact Task Leaders for contributions, editing and typing; arrange for production; arrange timely distribution of papers and reports. Will also process invoices; handle accounting problems; assist in preparation of budgets and proposals. Writing editing and typing skills and capacity for figures required. Will be trained to use word processing equipment. B79-77 (2/14)

('lerk IV' in the Energy Laboratory, Sloan Automotive Laboratory to manage and monitor

research accounts; prepare proposal budgets; allocate salaries and other charges to appropriate accounts; handle other activities related to financial planning; handle consolidated budget for several faculty members. Accounting degree, or equivalent, required. Familiarity with MIT accounting and administrative procedures helpful. 879-50 (2071) B79-50 (2/7)

Sr. Clerk/Receptionist III in Medical Dept. Ob/Gyn Clinic will answer phones; schedule appointments; order medical records; maintain records, and type. Excellent communications skill, ability to exercise judgment and sensitivity required. Previous experience in a medical setting preferred. 37.5 hrs./wk. B79-102 (2/28)

Accounting Clerk III, part-time, in the Harvard-MIT, Division of Health Sciences and Technolgy MIT, Division of Health Sciences and Technolgy to process purchase orders, packing slips and maintain related records; review monthly statements for accuracy; interact with other MIT departments on purchasing and accounting matters. High school graduation, or equivalent, with some accounting experience required. Accounts payable experience helpful. Mon and Fri. 9AM-5:30PM. B79-100 (2/28)

Communications Console Operator III in Physical Plant Admin. Services to maintain Plant Admin. Services to maintain communica-tions with Work Control Center and others using telephones, radio pages, radio transceivers and other means including some personal contact. Res-pond to alarms and emergencies by notifying proper people. Perform incidental clerical work as necessary; process all calls to and from MIT; assist callers in transferring calls and in processing of conference calls. High school graduate with com-mand of English language required. Operating experience in an environment similar to Physical Plant and/or Telecommunications desirable. Ability to react properly in an emergency required. Applicant must be at least 18 years of age. Sat. and Sun. 8:30-3:30 and 3 days or evenings. B79-92

Cashier III in the Food Service Dept. to total customer trays; take cash and meal tickets, make change; handle cash and cash reports in the established manner. Good math skills and ability to speak English required. 4:30 - 1:30AM B79-90

Hourly, Bus Person, part-time, in the Faculty Club to bus trays of dishes to kitchen; unload trays into dishwasher; assist in arranging tables and chairs for special functions. Experience helpful. Must be at least 18 years of age. 20 hrs./wk, M-F, 12-4pm, possible weekends. H79-24 (2/28)

Hourly, Waiter/Waitress, part-time, in the Faculty Club to take members orders; pick up food and serve to members using banquet trays; clean and reset tables; perform miscellaneous duties relating to dining room service. Ability to speak and to read English required; applicants must be at least 18 years of age. Experience helpful. 5pm-9pm including possible weekend work. H79-26 (2/28).

The following positions were still available at *Tech Talk* deadline. The date following each position is the date of the most recent *Tech Talk* in which the position was described.

ADMINISTRATIVE STAFF:

A77-3, Admin. Staff, Systems Programmer, Information Processing Services (2/16)
A78-67, Admin. Staff, Director of Systems Planning and Development, Information Processing

Services (10/4) Asst. Director, Consortium on Financing

Higher Education (10/18)
A78-84, Admin. Staff, Operations Manager,
Food Service (1/10)
A78-85, Admin. Staff, Data Base Administrator,

Information Processing Service (1/10)
A78-87, Admin. Staff, Safety Specialist, Safety

A79-2, Admin. Staff, Business Manager,

Technology Review (2/7)
A79-4, Admin. Staff, Applications Programmer,

Admin. Computing Services (2/7) A79-9, Admin. Staff, Mechanical Engineering

SPONSORED RESEARCH STAFF:

R77-53 Spons. Res. Staff, Res. Lab of Electronics

(8/12) R77-91, Spons. Res. Staff, Sr. Accelerator Physicist, Lab for Nuclear Science (5/18) R77-137, Spons. Res. Staff, Experimental Physicist, Bates Linear Accel. (8/31)

Physicist, Bates Linear Accel. (8/31).

R78-161, Spons. Res. Staff, Elec. Engineer, Mechanical Engineering (9/7).

R77-201, Spons. Res. Staff, Frog./Data Analyst, Earth & Planetary Science (10/26).

R77-211, Spons. Res. Staff, Computer Systems Design, Lab for Computer Science (12/7).

R77-212. Spons. Res. Staff, Prog. Language Design, Lab for Computer Science (12/7).

R77-213, Spons. Res. Staff, Computer Software Designer, Lab for Computer Science (12/7).

R77-228, Spons. Res. Staff, Plasma Physicist, Res. Lab of Electronics (1/4).

R78-55, Spons. Res. Staff, Staff Scientist, Arteriosclerosis Center (4/5).

R78-58, Spons. Res. Staff, National Magnet Lab (4/12).

(4/12)
R78-60, Spons. Res. Staff, Combustion
Engineer, Energy Lab (4/12)
R78-70, Spons. Res. Staff, Energy Analyst,
Energy Lab (4/12)
R78-83, Spons. Res. Staff, Lab for Nuclear

R78-83, Spons. Res. Staff, Lab for Nuclear Science (4/19) R78-93, Spons. Res. Staff, Res. Engineer, Civil

Engineering (5/10) R78-102, Spons. Res. Staff, Lab for Nuclear Science (5/31) R78-103, Spons. Res. Staff, Lab for Nuclear R78-103, Spons. Res. Staff, Lab for Nuclear Science (5/31)

Science (5/31)
R78-104, Spons. Res. Staff, Physicist, Temp.,
Lab for Nuclear Science (6/7)
R78-105, Spons. Res. Staff, Temp., Lab for
Nuclear Science (5/31)
R78-113, Spons. Res. Staff, Sloan School of

Management (7/12) Res Staff Temp From

(7/12) R78-119 Spons. Res. Staff, Theoretial Plasma Physicist, National Magnet Lab (7/12) R78-135, Spons. Res. Staff, Research Lab of Electronics (7/26)

Electronics (7/26)
R78-136, Spons. Res. Staff, Lab for Computer Science (8/16)
R78-145, Spons. Res. Staff, Electronics Engineer, Lab for Computer Science (8/16)
R78-146, Spons. Res. Staff, Electrical Engineer, Bates Linear Accelerator (8/16)
R78-147, Spons. Res. Staff, Systems Programmer, Lab for Nuclear Science (8/16)
R78-154, Spons. Res. Staff, Program Director, Neurosciences Research Program (8/30)
R78-160, Spons. Res. Staff, Programmer, Center for Space Research (8/30)
R78-162, Spons. Res. Staff, Systems/Scientific Programmer, National Magnet Lab (8/30)
R78-166, Spons. Res. Staff, Research Analyst,

rrogrammer, National Magnet Lab (8/30) R78-166, Spons. Res. Staff, Research Analyst, Center for Policy Alternatives (8/30) R78-168, Spons. Res. Staff, Programmer, Center for Space Research (8/30) R78-170, Spons. Res. Staff, Prorrammer, Center for Space Research (8/30)

for Space Research (8/30) for Space Research (8/30)
R78-184, Spons. Res. Staff, Research Engineer,
Artifical Intelligence Lab (9/13)
R78-206, Spons. Res. Staff, Tech. Asst.,
Arteriosclerosis Center (9/27)
D78-907 Spons. Res. Staff, Applied Magneti

R78-207 Spons. Res. Staff, Applied Magnetism Research, National Magnet Lab (9/27) R78-208, Spons. Res. Staff, Postdoctoral Research, Nuclear Materials, Nuclear Reactor (9/27) (9/27) (9/27) R78-209, Spons. Res. Staff, Postdoctoral Research, Nuclear Materials, Nuclear Reactor

1872-12, Spons. Res. Staff, Physics, Center for Space Research (10/4)
 1878-217, Spons. Res. Staff, Research Associate,

Civil Engineering (10/18) R78-228, Spons. Res. Staff, Research Engineer, temporary, Energy Lab (10/18)

Lab (10/25)

R78-238, Spons. Res. Staff, National Magnet

Lab (10/25)

R78-246, Spons. Res. Staff, Systems Programmer, Lab for Computer Science (11/1)

R78-250, Spons. Res. Staff, Research Associate
Materials Science & Engineering (11/1)

R78-252, Spons. Res. Staff, Tech. Computer
Programmer, temporary, Energy Lab (11/1)

R78-253, Spons. Res. Staff, Digital Engineer,
Research Lab of Electronics (11/15)

R78-268, Spons. Res. Staff, Tech. Asst., Biology
(12/6)

(12/6)
R78-269, Spons. Res. Staff, Technical Asst., Nutrition & Food Science (12.6)
R78-276, Spons. Res. Staff, Electron Microscopist, Center for Materials Science & Engineering (12/13)
R78-277, Spons. Res. Staff, Research Engineer, Center for Materials Science & Engineering (12/13)
R78-278, Spons. Res. Staff, Research Engineer Center for Materials Science & Engineering (12/13)
R78-279 Spons. Res. Staff, Research Engineer, Center for Materials Science & Engineering (12/13)
R78-281, Spons. Res. Staff, Tech. Asst., Nutrition & Food Science (12/13)
R78-282, Spons. Res. Staff, Chief Linac

tion & Food Science (12/13)
R78-282, Spons. Res. Staff, Chief Linac
Operator, Lab for Nuclear Science (12/13)
R78-283, Spons. Res. Staff, Mechanical
Engineer, Lab for Nuclear Science (12/13)
R78-284, R78-285, Spons. Res. Staff, Accelerator Physicist, Lab for Nuclear Science

(12/13)

R78-286, Spons. Res. Staff, Systems Programmer, Lab for Computer Science (12/13) R78-287, 288, 289, Spons. Res. Staff, Lab for Computer Science (12/13)

Computer Science (12/13)
R78-296, Spons. Res. Staff, Systems Programmer, Sloan School on Management (1/3)
R78-299, Spons. Res. Staff, Systems Analyst/Programmer, Artificial Intelligence Laboratory (1/3)
R78-305, Spons. Res. Staff, Theoretical Plasma Physicist, Plasma Fusion Center (1/10)
R78-306, 307, 308, Spons. Res. Staff, Laboratory for Information and Decision Systems (1/10)
R78-310, Spons. Res. Staff, Statistician/Econometirician, Center for Computational Research in Economics and Management Science (1/10) ent Science (1/10)

R78-311, 312, Spons. Res. Staff, Lab for Computer Science (1/10)
R78-313, Spons. Res. Staff, Lab for Computer Science (1/10)
R78-315, Spons. Res. Staff, Lab for Computer Science (1/10)

R78-315, Spons. Res. Staff, Experimental Plasma Physicist, National Magnet Laboratory

R79-3, 4, 5, 6, 7, 8, 9, 10, 11, Spons. Res. Staff, Postdoctoral Research, Center for Theoretical

Physics (1/17)
R79-12, Spons. Res. Staff, Research Associate,
Materials Science and Engineering (1/10)
R79-17, Spons. Res. Staff, Experimental
Physics, National Magnet Lab (1/24)
R79-19, Spons. Res. Staff, temporary, Center for
Transportation Studies (1/24)
R79-20, Spons. Res. Staff, Experimental
Psychologist, Psychology (1/24)
R79-21, Spons. Res. Staff, Research Scientist,
Energy Lab (1/24) Physics (1/17)

R79-21, Spons. Res. Staff, Research Scientist, Energy Lab (1/24) R79-22, Spons. Res. Staff, Lab for Nuclear Science (2/7)

Science (2/7)
R79-23, Spons. Res. Staff, part time, Laboratory for Computer Science (2/7)
R79-26, Spons. Res. Staff, Research Scientist/Engineer, Energy Laboratory (2/14)
R79-27, 28, 29, Spons. Res. Staff, Transportation Systems, Center for Transportation Studies (2/14)
R79-33, Spons. Res. Staff, Laboratory for Computer Science (2/14)
R79-36, Spons. Res. Staff, Technical Asst., temporary, Biology (2/14)
R79-37, Spons. Res. Staff, Editor, Sea Grant

R79-37, Spons. Res. Staff, Editor, Sea Grant Program (2/14)

ACADEMIC:

ACADEMIC: C78-6, Acad. Staff, Asst. Eng. Librarian, Engineering Library (4/5) C78-17, Acad. Staff, Research Associate (7/12) C78-23, Acad. Staff, Marketing Representative, Medical Dept. (8/30) C78-26, Acad. Staff, Librarian, Head. OCLC/LC

Cataloguing Section, Libraries (9/20) C78-32, Acad. Staff, Associate Dewey Librarian, Dewey Library (11/8) C78-34, Acad. Staff, Librarian, Libraries

(11/29) C78-38, Acad. Staff, Asst. Rotch Librarian,

Rotch Library (1/10)

EXEMPT:

E78-35, Exempt, Tech. Supervisor, Physical Plant/Telecommunications (8/16) E78-58, Exempt, Technical Asst., Alumni Asociation (11/1)

E78-61, Exempt, Asst. Accountant, Lab for

Nuclear Science (11/8) E78-68, Exempt, Nurse, Medical Dept. (12/13) E79-2, Exempt, Supervisor, Metal Shop, Physical Plant (2/14)

BIWEEKIY-

B78-154, Sec. V, Lab for Nuclear Science (11/15) B78-178, Sec. IV, Provost's Office, Upward Bound Program (10/11)

Bound Program (10/11) B78-511, Sec. IV, Sloan School (9/13) B78-518, Tech. Typist IV/MagCard Operator, Economics (9/13) B78-523, Tech. Asst. V, Alumni Association

B78-573, Editorial Sec. IV, Materials Science &

B78-573, Editorial Sec. IV, Materials Science & Engineering (9/27)
B78-658, Sec. IV, Lab for Nuclear Science (11/8)
B78-654, Sec. IV, Development Office (11/15)
B78-681, Sec. III/IV, Energy Lab (12/6)
B78-683, Sec. IV, part-time, Economics (11/29)
B78-693, Sec. IV, Center for Policy Alternatives
B78-744, Sec. III/IV, Civil Engineering Head-quarters (12/13)
B78-788, Sr. Clark III. Compatibles Accounts

B78-768, Sr. Clerk III, Comptrollers Accounting

B78-786, Sec. IV, Laboratory for Computer Science (1/10) B78-789, Sec.V, Earth & Planetary Science

B78-791, Sec. IV, part-time, Center for Materials Science and Engineering (1/17) B79-8, Sr. Clerk III, part-time, Clinical Research

B79-9, Edit, Sec. IV, Nutrition and Food Science

B79-11, Sec. IV, Physics Dept. (1/24) B79-12, Sec. IV, Industrial Liaison Office (1/24) B79-18, Sec. IV, Mechnical Engineering (1/24) B79-23, Sec. III/IV, Office of Sponsored

Programs (1/24) B79-26, Sec. IV, part time, Architecture (2/7) B79-33, Sec. IV, Civil Engineering (Transportation Systems) (2/7)

B79-36, Sr. Library Asst. IV, Libraries (2/14) B79-38, Sec. IV, Patent Marketing (VP, Research) (2/14) B79-40, Sec. 1

B79-40, Sec. III/IV, Laboratory for Computer Siience (2/14) B79-41, Sec. IV, Laboratory for Computer B79-41, Sec. IV, Laboratory for Computer Science (2/14) B79-43, Sec. IV, Sea Grant College Program

(2/14) B79-44, Sec. IV, Center for Transportation Studies (2/14) B79-45, Sec. IV, part-time, Center for Transportation Studies (2/4) B79-46, Sec. IV, Material Science and Engineer-

ing (2/14) B79-47, Sec./Recept. III, Nutrition and Food Science (2/14) B79-48, Sec. IV, Ntrition and Food Science (2/14)

B79-50, Clerk IV, Energy Laboratory (2/14) B79-53, Sec. IV, Humanities Dept. (2/14) B79-57, Sec. IV, Laboratory for Information and Decision Systems (2/14)
B79-58, Sec. III/IV, Electrical Engineering and

omputer Science (2/14) B79-61, Sec. IV, Chemistry (2/14) B79-67, Admin. Asst. V, National Magnet Laboratory (2/14) B79-68, Clerk III, Development Office (2/14)



SNOW, SLEET AND FREEZING RAIN combined into a surprise storm that defied the best guesses and efforts of the MIT grounds crew Monday. Sensing a threat in the thermometer reading when he went to bed Sunday night, grounds manager Larry Pickard mobilized his forces in the wee hours of Monday morning. But the wind and weight of the precipitation nevertheless left the campus messier than usual in the aftermath of the —Photo by Calvin Campbell

# Students Win Awards In New Minerals Program

Grants of \$650 each have been awarded to seven undergraduates at MIT by the Mining and Minerals Resources Institute for research during the spring term at MIT.

The students are John-Thones Amenyo, a senior in electrical engineering and computer sciences. Kelly Gamble, a senior in earth and planetary sciences, Alice Godbey, a junior in civil engineering, Joseph Maher, a sophmore in mechanical engineering, Deborah McKechnie a senior in civil engineering, Mohan Srivastara, a senior in earth and planetary sciences, and Heinz Stubblefield, a senior in ocean engineering.

Mr. Amenyo will work with Professor Carl R. Peterson of the Department of Mechanical Engineering on a project entitled "Computer System Organizations for **Automated Control of Coal Mining** Machinery: Choice and Invesitgations to Meet Federally Mandated Constraints on Mining Electrical Equipment Characteristics."

Kelly Gamble will do a study of the iron minerals in manganese

B79-69, Sec. III/IV, Resource Development

B79-71, Sec. IV, Medical Dept. (2/14)

H78-106, Sr. Technician (Electronic), National Magnet Lab (8/16) H78-184, Technician A, Lab for Nuclear Science

H78-185, Technician A (Electronic), Lab for uclear Science (12/6) H78-207, Tech. A, Energy Laboratory (1/24) H79-10, Hourly, Campus Patrol Officer, Campus

Patrol (2/7)

The following positions have been FILLED since

the last issue of Tech Talk: B79-54 Sec. IV B79-54 Admin. Staff Sec. IV Clerk III A78-38 Admin. Staff Spons. Res. Staff Spons. Res. Staff Sec. IV Sr. Lib. Asst. IV R79-15 Exempt Section Head \ H79-20 Hourly Hourly Hourly Admin. Asst. V Lib. Asst. III Sec. IV Sec. V B78-790 Spons. Res. Staff (Cancelled) Hourly R78-211 H79-11

Comm. Console Operator III E77-56 Exempt (Cancelled) Sec. IV B79-64 Spons. Res. Staff Sec. IV Admin. Staff Sr. Lib. Asst. IV B79-52 Spons. Res. Staff Sec. IV R78-85 Acctg. Asst. V Spons. Res. Staff Hourly H78-197 Hourly Spons. Res. Staff Clerk/Cashier III Sec. IV (Cancelled) Admin. Staff (Cancelled) R78-189 R79-33 Spons. Res. Staff Spons. Res. Staff R78-313

The following positions are on HOLD pending final Hourly

H79-19 H79-20 Hourly Hourly Sr. Clerk/Receptionist III Sec. IV H79-14 Hourly A79-6 Admin. Staff

nodules with Professor Roger G. Burns of the Department of Earth and Planetary Sciences. Ms. Godbey's project, "Under-

standing the Nitrogen Cycle to Provide an Alternative Energy Source," will be carried out with Professor Harry Hemond of the Department of Civil Engineering. Mr. Maher will work with Pro-

fessor Michael P. Cleary of the Department of Mechanical Engineering on thermomechanical tests on oil shale.

Ms. McKechnie will work with Professor Michael O'Hare of the Department of Urban Studies and Planning on a project entitled "Energy Development: Management of Liquified Energy Gases (LEG) and Nuclear Power.'

Mohan Srivastara's project, "Dynamics of Heavy Mineral Deposition," will be done with Professor John B. Southard of the Department of Earth and Planetary Sciences.

Mr. Stubblefield will work with Professor Judith Kildow of the Department of Ocean Engineering on "The Deep Ocean Mining Technology Transfer Issue."

The Mining and Minerals Resources Research Institute was established recently at MIT by the Department of the Interior. Its aim is to support, strengthen and create new minerals-related programs across all of MIT's depart-

The students who have been awarded spring funding of \$650 are also eligible to apply for summer grants of up to \$2,000 each.

## 'Voice and Vision' Exhibit to Open

The Creative Photography Galerv will open "Voice and Vision," on Tuesday, March 6, 5-7pm.

The show will include works by Harvey Stein from Parallels: A Look at Twins, Duane Michals from Homage to Cavafy, James Van Der Zee from The Harlem Book of the Dead and Jim Goldberg from "The San Francisco Hotel Series."

Photographer Harvey Stein will speak on "Parallels and Other Projects," Wednesday, March 7, 4:30pm at the Creative Photography Laboratory. His lecture is one of a series of public presentations by professionals in the field, made possible at MIT by a grant from the Minolta Corporation.

"Voice and Vision" will be open to the public through April 4, 1979. Gallery hours are Monday-Friday, 9am-10pm; Saturday, 10am-6pm; and Sunday, noon-8pm.

Tech Talk, February 28, 1979, Page 7

# Scientists to Measure Jupiter's Solar Wind

(Continued from page 1)

in July) took three years to design and is 100 times more sensitive than any similar instrument that has been put into space. "It had to be," said Professor Bridge, "because as the plasma gets farther away from the sun it becomes much less dense."

Professor Bridge pointed out that one of the things which makes Jupiter a planet different from those previously studied is that it rotates extremely rapidly. Although the planet is huge—142 earths would fit inside it—a Jovian day is only about 10 hours long.

Because the instrument has a dual purpose, to measure the solar wind in interplanetary space and to measure particles in the Jovian magnetosphere, the scientists were put in the difficult position of having to design the instrument before they knew exactly what it would be measuring.

"However, since the design of the instrument," said Professor Bridge, "our knowledge of Jupiter has increased greatly as a result of the Pioneer 10 and 11 missions in 1973 and 1974." Professor Bridge pointed out that the Pioneer instruments were unable to take measurements close to the planet's surface. Voyager instruments were designed to take those measurements and indications are strong that definitive results will allow the scientists to check the validity of several recent theoretical predictions.

At the heart of the detection instrument are electronic sensors called Faraday cups. Three cups, mounted next to each other at slight angles, measure positively charged particles in the solar wind. A fourth cup—mounted on the side of the instrument—measures negatively charged particles in the solar wind. Each cup has wire mesh grids mounted in it and a collector plate.

The cups work by screening for particles of certain energies, and determining the number of particles in that energy range. Particles enter a cup and arrive at a wire grid to which two voltages are alternately applied. Only those particles with energies greater than the grid voltage can pass through the mesh.

As the voltage alternates, particles of different energies, or velocities, can get through to strike the collector plate. By "subtracting" the number of particles in one group from the number in the other, the number of particles with energies between the two voltages is recorded.

The voltages can be increased and the process repeated to obtain a velocity distribution—the number of particles per cubic centimeter in each velocity range. From the velocity distribution researchers can determine the average velocity of the particles making up the solar wind as well as the number of particles per cubic centimeter and their thermal speed.

The instrument weighs 21 pounds. It draws about 8 watts of power and measures both positive and negative ions from 10 to 5,950 electron volts.

One big possible problem Professor Bridge explained is that as the spacecraft comes in contact with billions of charged particles the entire spacecraft and the instruments may become charged to a high electrical voltage. If that happens, the experiments which measure charge particles will no longer be able to make accurate measurements because some particles will either be attracted or repelled from the spacecraft.

"To combat this problem we purposefully made the instrument and the entire spacecraft conducting," said Professor Bridge. "That way it wil be able to respond quickly to changes in the plasma. However, we really have no sure way of pre-

dicting how that will work. So far everything's fine and we hope it stays that way."

Another problem the scientists have is that protons and electrons do not move at the same speed. Electrons move at roughly 40 times the speed of protons. As a result of this and other factors, the scientists have a much more difficult time measuring the flow of electrons. The three cups which will measure the current from protons must be pointed directly at the sun. However, electrons cannot be measured on a direct line from the sun, so the fourth cup is on the side of the instrument.

Because the solar wind travels at such high speeds, averaging 250 miles per second, no impulses can travel upstream. So the wind does not just flow smoothly around celestial bodies.

Until the wind reaches a distance of 100 Jovian radii it travels at a uniform speed. At that point the plasma builds up forming a "bow shock" behind which the plasma heats up before flowing around the planet.

Voyager I will pass through the bow shock on about February 26, a week before closest encounter. During the following two weeks the instrument will make measurements of plasma in the magnetosheath, magnetopause, and magnetotail, the various layers of influence of the Jovian magnetic field. The magnetic field is known to be roughly similar to the earth's, but is stretched out in the equatorial plane because of centrifugal effects caused by the rapid rotation of Juniter.

"We know that there are many sources of plasma for the Jovian magnetosphere which differ from sources for the earth's magnetosphere," said Professor Bridge. "And we hope to be able to measure the strengths of those sources. For example, we know there is a large amount of sulphur in the magnetosphere and we also know that Io, Jupiter's innermost moon, leaves a trail of sodium atoms. The instrument should be able to measure at least crudely the ions formed from these atoms."

Voyager 2, Voyager 1's sister ship, will pass by Jupiter in July. Both ships will then go on to Saturn. Voyagers 1 and 2 will pass by Saturn in November of 1980 and August of 1981 respectively. Assuming that the experiments as Saturn go well, Voyager 2 will then head on toward Uranus and will fly close enough to do experiments in January of 1986. Both ships should keep travelling forever.

"Despite the fact that scientists have been studying the earth's magnetosphere and its interaction with the solar wind for many years," said Professor Bridge, "there is still no unified detailed theory explaining exactly how this complex system works. We hope by gathering data from missions such as Voyager to be able to apply this new knowledge to the earth and learn more about our own planet."

#### Engineering Groups Honor Janos Beér

Dr. Janos M. Beer, professor of chemical and fuel engineering in the Department of Chemical Engineering, has been elected to the Fellowship of Engineering of the Council of Engineering Institutions of Great Britain.

The Fellowship was founded in 1976 to honor "not more than 1,000 eminent chartered engineers regarded by virtue of their achievements in the field of engineering as being of exceptional merit."

Professor Beer, who is also program director for stationary combustion at the MIT Energy Laboratory, was recently honored by the American Society of Mechanical Engineers by election as a Fellow for his "research of outstanding quality on fossil fuel utilization.



CHRYSALIS TESTED—Robert Parks, a senior in aeronautics and astronautics, flies by radio control a model of the man-powered plane he and three other students hope will take to the air this spring. Parks, Harold Youngren, Hyong Bang and John Langford, all members of the Tech Model Aircrafters and the MIT rocket society, invite interested persons who want to contribute to contact their faculty adviser, Professor E. Eugene Larrabee at Rm. 33-315, Ext. 3-2271. Youngren, a pilot and an experienced bike rider, will be at the controls when Chrysalis attempts flight some time in May. The aircraft—much

different in design and concept from BURD (for Biplane Ultralight Research Device), MIT's previous man-powered flight project—will have a 72-foot wing span and an aft tail structure. Langford said radio-control flying of models is expected to shorten construction time. Small units of the plane will be assembled in the basement of Building 33 and the wings will be put together in a Kendall Square building used by the MIT Soaring Association. Shipment of the parts to Hanscom Field is planned for April 18 and a May 4 roll-out target has been set. Stay tuned.

—Photo by Calvin Campbell

## First Student Telethon Shows Promise

(Continued from page 1)

of some of the alumni reached, in terms of answering questions they may have about the Institute, checking on their subscriptions to Technology Review and, in one case, chasing down an old loan that had been repaid but miscredited.

The telethon is carried on in the Bush Room (10-105) from 6-10:00pm. Twenty telephone stations are equipped with placemats giving instructions and alumni referral cards. Additional stations are available in the adjoining Alumni Center.

Remaining dates for this year's telethon are: February 28, March 4, 5, 7 and 12. Additional student callers are still welcome and may sign up by calling Ms. Sclar at 3x-8214.

Donors of telethon prizes include:

Ferdinand's Restaurant, Hyatt Regency, Lechmere Sales, Hotel Sonesta, John Hancock Observatory, Boston/Boston Disco—Boston, Museum of Science.

Hunan Restaurant, New England Aquarium, Boston Tea Party Ship Museum, USS Constitution Museum, Prudential Skywalk, Boston Pet Supply.

Pet Supply.
Sharp Calculator, Purity Confectioners,
Legal Seafood, Averof's Restaurant, Ken's
Pub, The Tech Coop.
Belgian Fudge, Fanny Farmer Candy,

## CEP Summary And Agenda

Summary of CEP Meeting on February 22, 1979

The Committee reviewed and discussed the results of the survey of undergraduates conducted last fall by the Student Committee on Educational Policy. There was also continued, informal discussion of the recommendations of the Ad Hoc Committee on Advising.

Agenda for the CEP Meeting on March 1, 1979

 Discussion of policy issues raised by the Committee on Discipline.

2. Discussion of Student-Conducted Course Evaluations.

#### Development Series To Begin March 5

A series of workshops and lectures to discuss development alternatives for the United States and other countries will begin Monday, March 5, with an open forum on MIT Education and the International Community. The forum will begin at 8pm. and will be held in the International Student's Lounge in Walker Memorial.

MIT groups or individuals who wish to contribute to the program should contact Nicholas B. Herman, x3-4089, or Lissa Martinez, x3-5220

Gnomon Copy, Brigham's, Sack Theaters, Jonathan Swift's Pub, Middle East Restaurant.

For the most part, according to Ms. Sclar, the students are enjoying the project.

"One student was corraied by his house president into coming. He was very reluctant at first, but at the end of the evening he said he loved it and would like to come again."

# March 1 Memorial Service Planned for Professor Ray

A memorial service will be held at the MIT Chapel on Thursday, Mar. 1, for Dr. Daniel B. Ray, 51, professor of mathematics at MIT. who died following a heart attack at his home in Hingham, Mass., Monday morning, Feb. 19.

Professor Ray was an internationally known authority on many aspects of mathematical analysis, especially the theory of probability, in which his work on Markov processes was regarded as fundamental. In recent years, he had combined with Professor I.M. Singer of MIT to give new analytic descriptions of torsion (twisting) in Riemannian manifolds. These manifolds are abstract geometrical objects which are important in several branches of mathematics.

Professor Ray joined the Department of Mathematics at MIT in 1957 as assistant professor, was appointed associate professor in 1960 and full professor in 1964. He was an important figure in the administration of the department over a span of eight years, first as executive officer during the Spring Terms of 1964 and 1965 and for the academic year 1968-69. From 1969 through 1972 he was chairman of the Pure Mathematics Committee, a major administrative position with responsibility for appointments and promotions in the department.

Professor Ray received the BA summa cum laude from Harvard College in February 1949, and was awarded a Shaw Travelling Fellowship by Harvard University in 1949-50. As an undergraduate at Harvard he was captain of the wrestling team in 1948-49 and was a member of the Harvard Band and Harvard Glee Club. He was elected to Phi Beta Kappa at Harvard.

He received the PhD degree from Cornell University in 1953. In 1953-54, he was Frank B. Jewett Fellow at Princeton University and became instructor in mathematics at Princeton in 1954. In 1955 he returned to Cornell, first as instructor and then assistant professor of mathematics, serving there until 1957 when he joined the mathematics department at MIT.

His work and his family were the most important factors in his life and much of his spare time was given to coaching his children in



Professor Ray

their different areas of interest in music.

Professor Ray was born in Cleveland, Ohio, the son of Louise (Hompe) and George B. Ray. The family moved to Brooklyn, N.Y., when he was a child and he attended Polytechnic Preparatory School there.

He is survived by his wife, Mary Ann (Huston) Ray, three sons, Daniel, Michael and David, a daughter, Carolyn, all of Hingham; two brothers, James H. Ray of White Plains, N.Y. and John B. Ray of Brooklyn, N.Y., and his aunt, Katharine Ray of Hingham.

#### Donald S. Tucker

Donald S. Tucker of Concord, a professor of economics at MIT from 1919 until his retirement in 1955, died February 14 at the age of

Prof Tucker was born in Peoria, Illinois, and was graduated from Colorado College in 1906. He received his master's degree in economics from Williams College in 1912 and his doctorate from Columbia in 1922. He was a professor of economics at Wellesley College.

He is survived by a son, Dr. Donald A. Tucker of Cambridge; two sisters, Vesta Lloyd of Illinois and Mary Kirkwood of California, and by two grandchildren.