Massachusetts Institute of Technology



October 31, 1979 Volume 24 Number 14

Pounds To Resign As Dean

William F. Pounds has announced that he will step down as dean of the MIT's Alfred P. Sloan School of Management at the end of the 1980 academic year after almost 14 years in the post.

In a letter to the faculty of the Sloan School, Dean Pounds said he had decided that the time had come for a change "both for me and the School."

"I believe this is a good time for a change in leadership in the School," he wrote. "Our faculty, administration, and programs are strong—the result of much hard work by all of us, and an accomplishment in which we can all take

"A new MIT administration is taking office," his letter said," and I believe the process of selecting and attracting a new Dean will be constructive both for MIT and the School. By initiating that process now the person selected can join the new administration at its beginning."

Dr. Pounds said he was looking forward "to expioring some new areas and activities where I have much interest. I can't be certain now what form these efforts may take, but the prospect of working toward a new set of commitments is very attractive."

Provost Walter A. Rosenblith said no mechanism had yet been settled upon for the selection of a successor. There is no general procedure, he said, because it varies with each School.

Dean Pounds will be the second MIT school dean to relinquish his post at the end of the academic year. Dean William L. Porter of the School of Architecture and Planning also will step down. He announced his decision last summer

Dean Pounds was graduated from the Carnegie Institute of Technology (now Carnegie-Mellon University) with the BS degree in chemical engineering in 1950, when



Dean Pounds

This is the skull that Jack built...and Tom, and Dick, and all the brothers at Phi Kappa Sigma for their biennial Halloween party last Saturday night. More than 900 guests, mostly students from MIT, Wellesley, Simmons and Emmanuel Colleges, passed through the gaping mouth of the 20-foot high skull to an uncertain fate in the "Tunnel of Horrors" beyond.

—Photo by Calvin Campbell

MIT, Banking Firm to Study Applied Genetics Industry

The US Office of Technology Assessment has awarded a \$50,000 contract to a team of researchers from MIT and the New York financial and investment banking firm

Holiday Notices

John M. Wynne, Vice President for Administration and Personnel, today announced the MIT schedule of closings for the upcoming season.

The Institute will be closed on Thursday, November 22, to observe Thanksgiving day. There will also be a special holiday closing on Monday, December 24, in addition to the regular Christmas holiday on Tuesday, December 25. Monday, December 31, will be a normal work day. Mr. Wynne indicated that these decisions are being announced early to provide ample notice to individuals in planning their holiday arrangements.

of F. Eberstadt & Co., Inc., to carry out a study of a now-emerging industry—the applied genetics industry.

The six-month study will provide data on which the OTA can develop policy options for regulation, taxation, patent protection, and research funding in the food, chemical, and pharmaceutical industries that develop and market new products and processes from living cells.

Spurred by new techniques in genetics developed by microbial geneticists in the last few years, including recombinant DNA, the so-called applied genetics industry holds promise of producing hundreds of such products and processes.

Although still in its infancy, the industry already has attracted an estimated \$150 million in venture capital and active research programs are being pursued by about a dozen pharmaceutical com-

(Continued on page 2)

Scheduling Procedure Returns to Normal

Scheduling use of Institute space has now returned to normal following the centralized effort in Dean Robert J. Holden's office to relocate activities that had been scheduled for space in Kresge Auditorium.

This means that the schedules section of the Registrar's Office will govern use of academic space and Dean Holden's office, in coordination with the Student Center Committee, will be responsible for

allocating West Campus space. Reservations for Rm 9-150 and the Bush Room (10-105) will be allocated by the Center for Advanced Engineering Study and the Alumni Association, respectively.

"The community has been extremely cooperative in the rescheduling effort," said Louis Menand, III, chairman of the facilities use committee. "The massive amount of rescheduling was carried out by Dean Holden,

Marilyn Messenger, Betty Bradley and Conor Moran, ably assisted by Hank Leonard. We are in their debt for having done all this with skill and aplomb."

The rescheduling became necessary in September when work in preparation for the planned replacement of the Kresge roofing system revealed more serious deterioration than expected at the edge beams of the western abutment. Kresge had been scheduled to close March 1, 1980.

Off-Peak Cooling System Developed

MIT researchers have successfully tested a chemical solution that is cooled at night by air conditioning and remains cold during the day—absorbing room heat and maintaining comfortable temperatures.

The solution can be packed in thin bags which are supported by a tray-like ceiling tile, providing a cooling system that should be particularly appropriate for commercial office structures. The system is designed to take advantage of so-called off-peak utility rates that are expected to be widely adopted in the next several years.

The thermal storage system is based on concepts introduced at MIT's experimental passive solar-heated building. A chemical mixture that retains heat during the day, and then gives it off at night, is a major component of the system in that building.

"What we've done," said Timothy E. Johnson, a principal research associate and lecturer in MIT's Department of Architecture, "is to change the formulation of the solution to make it a cooling, rather than a heating, agent."

Johnson headed the research team that developed and built the passive solar-heated building, which has been used as a research structure and classroom since February, 1977. He has been conducting experiments elsewhere on the campus with the reformulated chemical solution.

The modified solution is basically a salt mixture—sodium sulfate decahydrate—quite similar to the mixture used in the solar-heated building. This is know as "phase-change" material, and a relatively small volume can liberate great quantities of heat or cool.

The mixture has the capability of changing from a solid to a liquid phase and back again. Thus, the original solution has the capability of taking on heat during the day-

(Continued on page 8)

IAP Guide Out

The First Guide to IAP will be out today in the Rogers Lobby, with mail distribution to offices and laboratories expected on Thursday, Nov. 1.

Included in the 32-page Guide are listings for some 320 activities during January plus 20 or more want ads from people hoping to find collaborators for IAP projects.

Mayo to Present Whale Seminar

A seminar, "Whales Close-up," with Charles ("Stormy") Mayo, associate scientist at the Province-town Center for Coastal Studies, will be held Thursday, Nov. 8, at 3pm in the Sea Grant Conference Room (Building 38, third floor).

Well known for his cetacean research, Dr. Mayo will describe what is being done in his field at the Provincetown Center. Part of its program is run by volunteers who help maintain a whale sighting station at Race Point on Cape Cod National Seashore. The program will include a slide presentation of marine mammals, including many sighted off coastal

Massachusetts.

Dr. Mayo is an active environmentalist and a field guide for the spring whale expeditions aboard the fishing boat *Dolphin III*. Before coming director of the Cetacean Research Program at the Provincetown Center, he was a fisheries specialist at the Southeast Fisheries Center. A graduate of Dartmouth College, he received the MS and PhD degrees in marine biology from the School of Marine and Atmospheric Sciences in Miami.

The seminar is sponsored by the MIT Sea Grant College Program.



OFFICE OF THE CHANCELLOR

To the MIT Comunity:

Today marks the beginning of the annual MIT-Red Cross Fall Blood Drive. I encourage all eligible members of the MIT community—faculty, staff and students alike—to consider giving of themselves by participating in this important and beneficial

Donating blood is a vital service to the community and to our neighbors and associates, for only if sufficient donations are made will there be an adequate and timely supply for those in need. As in the past, it is Institute policy to allow time off, wherever possible, for employees who wish to donate blood.

The turnout at past blood drives has been so good that MIT has become a significant source of blood for the surrounding Massachusetts-Maine region. I sincerely hope that the response to the drive which begins today will continue this tradition.

MIT, Banking Firm to Study **Applied Genetics Industry**

(Continued from page 1)

panies and several oil and chemical companies. According to the MIT researchers and Eberstadt analysts, observers of the applied genetics industry believe it has the potential for "explosive growth."

Principal investigator is Dr. Anthony J. Sinskey, professor of applied microbiology in the MIT Department of Nutrition and Food Science. Scott R. King, security analyst at Eberstadt, will head the research by the company, in collaboration with Richard B. Emmitt and Dr. George Garrison.

Participants in the study will include Professor J.D. Nyhart of MIT's Alfred P. Sloan School of Management and coordinator of law-related studies at MIT; Dr. Arnold L. Demain, Dr. Reinaldo F. Gomez, Dr. ChoKyun Rha and Dr. Charles L. Cooney, all faculty members in the MIT Department of Nutrition and Food Science; and Dr. James C. Weaver, lecturer, Harvard-MIT Division of Health Sciences and Technology and research associate in the Department of Nutrition and Food Science. Graduate assistants in the project are David Tse, Bradley Snedecor, and Robert J. Fleischaker.

The study will cover five major aspects of the industry: historical development; current and predictable state of the art of various genetic technologies; research efforts in the development and application of these technologies; identification of actual and likely applications of the technologies; and assessment of technical, institutional, economic, and social factors that could affect the rate of adoption of these technologies.

After completion of the study, a seminar for academic and industrial scientists and engineers and for investors on the development of the industry under study is

Echoes

October 24-30, 1979

50 Years Ago

Pouncing on a mascot for Field Day, handcuffing him, and dragging their victim to an awaiting car, the Class of 1933 captured and abducted Arthur N. Rinehimer '32 as their hostage. About 12 men managed to get on board the roadster in which the captive was taken away and they were last seen going up the river. Last year the abduction of Horace S. Ford '31 took him to Cape Cod where he had a week's vacation from classes.

40 Years Ago

In the 39th annual Field Day plucky freshman spirits were not sufficient to avert defeat. Only a win in the Tug-of-War saved the freshman class from being whitewashed Friday afternoon. The final standings gave the sophomores an undisputed 12-3 edge in points for their glorious revenge over the freshman rivals. However, freshman and sophomores buried their differences at the annual Field Day banquet held in Walker Memorial.

25 Years Ago

It was a cold and dreary day for over half the people who saw the 54th annual Field Day fracas. For the class of '57, who fought back from an 11-1 deficit to win the traditional battle, it was the brightest of sunny days. The sophs had earned their possession of the Purple Shaft but the day looked colder and drearier as the frosh swept the crew race and eked out an 11-10 victory in the swim meet. The deciding factor of the day was the Glove Fight as the rain poured down on beaming soph faces.

Prepared by Edward J. Halligan, Jr., assistant curator, Historical Collections, x4444.

planned.

With recombinant DNA-or genetic engineering-techniques, microbiologists can take genes from different cell species and combine them in a single organism to achieve a desirable function—such as bacterial production of human hormones.

The products on which these techniques may have an impact in-

-chemicals, such as ethanol, organic acids, and specialty chemicals:

-biochemicals, such as amino acids, enzymes, vitamins, and nucleotides:

-pharmaceuticals, such as antibiotics, steroids, hormones, interferon, vaccines, antibodies, and blood products;

—food protein;

-polymeric materials;

-and growth factors, fertilizers, insecticides, pheromones, (substances influencing behavior among animals), and detergents.

The new recombinant DNA techniques thus have the potential of revolutionizing biotechnology.

CPR Courses

The MIT Women's League will sponsor two more classes in cardiopulmonary resuscitation (CPR) next week.

One class will meet Monday, Nov. 5, and Wednesday, Nov. 7; the other Tuesday, Nov. 6, and Thursday, Nov. 8. The three-hour sessions will be held at 6pm in duPont, Rm W31-117.

To register for the CPR course, please call Mary Pinson, x3-3656.

Erratum

An interview with MIT Professor Philip Morrison will appear in the November issue of Technology Review, not the October issue, as mistakenly reported in the October 24 Tech Talk.

INSTITUTE **NOTICES**

Announcements

The Activities Development Board is receiving applications for capital equipment funding for student and community activities until November 9. Applications at Dean Holden's Office, W20-345

Former Marines and friends of the Corps are invited to attend the 204th birthday celebration of the U.S. Marine Corps, Friday, Nov. 9, at 4pm in the Bush Room (10-105).

Text editors**-available for student use in Rm 20B-229, 9am-noon, 3pm-10pm, Mondays-Fridays. Info. and reservations, x3-3470 and

MIT Furniture Exchange**-Open Tuesdays and Thursdays, 10am-2pm at 25 Windsor St. to buy or sell used furniture. Letters given for tax eductible donations. Info: x3-4293 during hours above.

Club Notes

MIT/DL Bridge Club**-ACBL Duplicate Bridge, Tuesdays 6pm, Rm W20-491

MIT Duplicate Bridge Club*—Thursdays, 7pm, Rm 473 Student Center. All bridge players invited. Info: Adam Wildavsky, dl5-7687.

Chess Club*-Tournaments, speed chess for people of all strengths, every Saturday afternoon, fourth floor, Student Center. Info: Brad. 536-9596.

MIT Chinese Martial Arts Club-Wu-Tang*—Learn physical and mental discipline through the practice of Chinese Martial Arts, Kung-fu. Beginners welcome. New classes. Mondays and Wednesdays, 7-10pm; Saturdays, 11am-2pm, W20-491.

Folk Dance Club*-Sundays, International, all levels, 7:30-11pm, Sala de Puerto Rico; Tuesdays, Balkan, advanced, 7:30-11pm, Rm 407, Student Center; Wednesdays, Israeli, all levels: teaching 7-7:30, dancing 7:30-11pm, Sala de Puerto Rico. Admission: 25c donation, optional. Info: d15-9185.

Hobby Shop **- Complete facilities for woodworking, metalworking, and darkroom. Mon-Fri, 10am-6pm, Wed 10am-9pm, W31-031. Fees: \$10/term students, \$15/term communMIT Go Club*-Meets Mondays 8pm, Rm 4-145. Instruction for novices and beginners. Players of all ranks. MIT Outing Club*-Office open to plan hiking,

canoeing, skiing, etc., trips and to rent equip ment Mondays and Thursdays 5-6pm, W20-461. Rughy Football Club**-Practice every

Beginning Sailing Instruction**—Every Monday and Thursday at 5:15pm in the Shore School of the Sailing Pavilion.

Tuesday and Thursday, 5:30pm, on the Pitch, Briggs Field. Matches and social every Satur-

MIT Rocket Society*-Regular meeting, club business and launch information, first Tuesday of each month, 7pm, International Student Lounge (W50-210), one floor below MITRS Club

MIT Shotokan Karate Club**-Rigorous training for self-defense and physical and men-tal development. Black belt instruction. Prac-Tuesdays and Fridays, 6-8pm, Varsity Club Lounge; Thursdays, 6-8pm, Dance Room. Beginners welcome. Info: Jim x3-3283.

MIT Table Tennis Club**-Meets every Monday, 8-10pm, T-Club Lounge, duPont Gymna-

MIT Tae Kwon-Do Club**-Korean martial arts, Wednesday, 7-9pm, Saturdays, noon-2pm, T-Club Lounge. Beginners welcome. Info: Chung Sun Kang, d15-9272.

MIT Tiddlywinks Association*—Club meetings Wednesdays, 8pm, usually West Lounge, Student Center, otherwise Rm W20-473 or 437; Sat-urdays, 1pm Student Center fourth floor. Be-

Religious Activities

The Chapel is open for private meditation 7am-

MIT Baha'i Association*—Informal fireside discussions about the Baha'i faith Thursdays, 8pm, New House Rm 4-414. Everyone welcome. Info: Ramin, 494-7758, weekdays.

MIT Catholic Community*—Sunday Masses 9am, 12 noon, 5pm, MIT Chapel. Weekday Masses: Tuesdays and Thursdays, 5:05pm, Fridays, 12:05pm, MIT Chapel. Charismatic prayer meeting following potluck supper, Mondays, 6:30pm, Ashdown Dining Rm. Info: Marjorie, x3-7222, Karen, 266-9525. Gospel Study and Prayer, Wednesdays, 8pm, 312 Memorial Dr.

MIT Catholic Community*-All Saints Day Masses, Nov. 1, 8am, 12noon, 5pm, MIT Chapel. All Souls Day Mass, Friday, Nov. 2, 12:05pm, MIT Chapel. The Sacrament of Penance, Thursday, Nov. 8, 8pm, MIT Chapel.

Jewish Religious Services *- Orthodox: Fridays Sundown, Kosher Kitchen, (50-005); Saturdays, 9am, Bush Rm (10-105); daily, 8am, Rm 7-102. Conservative/Egalitarian: Saturdays, 9:15am, 312 Memorial Dr., basement. Reform: Fridays, 5pm, 312 Memorial

Lutheran-Episcopal Ministry*—Interdenominational service of Holy Communion, Wednesdays, 5:10pm, MIT chapel. Supper follows in pasement of 312 Memorial Dr.

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

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

Placement

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

October 31—Aerospace Corporation; Alpha Industries; Bendix Research Labs; Cleveland Electric Illuminating Co.; GCA/Technology Division; ICI Americas Inc.; Jet Propulsion Laboratory; McDonnell Douglas Corp./ Douglas Aircraft, NASA/Goddard Space Flight Center; Northeast Utilities; Owens-Corning Fiberglas; Shell Development Company; Exxon Corporation.

November 1-Armco Research Center; Continental Oil Company (CONOCO); Griffiss Air Force Base; IBM Corporation; Microwave Research Corporation; Shell Companies; TRW; United Computing Systems Inc.;

November 2-ARINC Research Corporation; Commonwealth Edison Company; Hughes Aircraft Company; Procter & Gamble Company; Stanford Univ. Grad. School of Business; Strategic Planning Associates, Inc.; U.S. Army Material Development & Readiness Command.

November 3-ADR Ultrasound; Allied Chemical Corporation; Babcock & Wilcox; Bell Northern Research LTD; Combustion Engineering Inc.; General Motors Corporation; Goulds Pumps Inc.; Lockheed Missiles & Space Company, Inc.; Pacific Gas and Electric Company; Rolm Corporation; Soil Testing Services; Tandem Computers Inc.; University of Chicago/Public Policy Pro; Varian Associates/Beverly Division.

November 6-Analog Devices Semiconductor; Bell System; CSC System Division; Charles Stark Draper Laboratory, Inc.; Jones & Laughlin Steel Corporation; Norfolk Naval Shipyard; Pattern Analysis & Recognition TASC (The Analytic Sciences Corp.); Xerox Corporation.

November 7-Advanced Micro Devices, Inc.; November 7—Advanced Micro Devices, Inc.; Allis-Chalmers Corporation; Bell Telephone Laboratories, Inc.; Caltex Petroleum Corporation; Colt Industries Inc.; GTE Automatic Electric Labs, Inc.; Mobil Oil Corporation; National Security Agency; SofTech Inc.

New UROP Listings

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

LAST CALL FOR PROPOSALS

Procrastinate no more! If you've been thinking of getting a proposal in to UROP for fall funding, do so. UROP wage funds are running low and will soon be depleted. For details on how to submit a proposal refer to p. 7 of the 79/80 Directory.

CHILDREN'S HOSPITAL (BOSTON)

The Experimental Neurophysiology Lab is studying the behavioral, neurophysiologic and neuropharmacologic correlates of chronic epileptic activity induced at selected brain sites in laboratory rats. Two students are invited to assist in stereotaxic surgical implantation of chronic electrodes, electrical brain stimulation to induce seizure activity, and microiontophoresis of centrally acting drugs to assess chemical alterations.

Cable TV

October 31-November 6

Wednesday, October 31

Channel 8: 1-2:30pm

NEW WEAPONS AND THE DIS NEW WEAPONS AND THE DIS-PERSAL OF MILITARY POWER —James Digby, Executive Direc-tor, California Seminar on Arms Control and Foreign Policy. SUPERNOVA REMNANTS—Dr. P. Frank Winkler, Middlebury College.

Channel 12 12-2pm

CLASSIC LUNCH: "A NOUS LA LIBERTE"—A tramp becomes the millionaire head of an industrithe millionaire head of an industri-al empire, only to find that he was happiest bumming along the open road with his friends. Directed by Rene Clair. CABLE VIEWER'S DEMAND— Call x7383 to request repeat of a

program or movie.

Thursday, November 1

BIOMEDICAL ENGINEERING AT MIT—Prof. Robert Mann, Dept of Mechanical Engineering. WOMEN'S WORK: ENGINEER ING. WOMEN'S WORK: MAN-AGEMENT—Two films dealing with women entering traditionally with women entering traditionally male-dominated sectors of the work force.

work force.
6,041 and 6,431 PROBLEM REVIEW TAPE D5-Prof. Al Drake.
6,041 and 6,431 PROBLEM REVIEW TAPE D4-Prof. Al Drake.
6,041 and 6,431 PROBLEM REVIEW TAPE D5-Prof. Al Drake.
6,041 and 6,431 PROBLEM REVIEW TAPE D4-Prof. Al Drake.
6,041 and 6,431 PROBLEM REVIEW TAPE D4-Prof. Al Drake.
6,041 and 6,431 PROBLEM REVIEW TAPE D4-Prof. Al Drake.
6,041 and 6,431 PROBLEM RE6,041 and 6,431 PROBLEM RE6,041 and 6,431 PROBLEM RE-5-6pm 6-7pm 7-8pm 6.041 and 6.431 PROBLEM RE VIEW TAPE D5-Prof. Al Drake. 6.041 and 6.431 PROBLEM RE VIEW TAPE D4-Prof. Al Drake

CLASSIC LUNCH: "BERLIN: SYMPHONY OF A GREAT CITY".—A day in the life of a great city. This famous documentary emphasizes visual rhythms striving for a symphonic organization.

CABLE VIEWER'S DEMAND

CABLE VIEWER'S DEMAND

PHYSICS 8.01 LECTURE—Recorded 10/31/79.

Friday, November 2

POLITICS. TELEVISION. ABOUT ED KING-Ed Diamond, Department of Political Science; Prof. Alan Altshuler, Department of Political Science; Jane Caper, WCVB-TV COMPUTER AIDED MANUFAC-TURING—Eugene Merchant, Cin-cinnati Millacron, Inc.

Channel 12: 12-2pm

3-4pm

2-4pm

CLASSIC LUNCH: "BERLIN: SYMPHONY OF A GREAT CITY" —See Thursday, 12-2pm. CABLE VIEWER'S DEMAND

PHYSICS 8.01 LECTURE-Recorded 11/1/79. 8-9pm

Monday, November 4

AIRCRAFT AND SPACECRAFT 1-2:30pm NAVIGATION-Prof. Emeritus

NAVIGATICN-Prof. Emeritus
Charles Stark Draper, Department
of Aeronautics and Astronautics.
MATERIALS REQUIREMENTS
FOR ADVANCED DEFENSE
SYSTEMS-Dr. Arden Bement,
Advanced Research Projects
Agency.

Agency.
THE PROBLEM—A play by A.R.
Gurney, Produced by Ann
McIntosh. 3:30-4pm

Channel 12: 12-2pm

CLASSIC LUNCH: "THE GOLD RUSH"—Charlie Chaplin's most popular film. Using the backdrop of the Klondike, Chaplin creates some of the most inventive and funny scenes ever filmed, includ-ing his celebrated pantomime of the eating of an old shoe.

CABLE VIEWER'S DEMAND

Tuesday, November 6

Channel 8 1-2pm

2-4pm

EINSTEIN AT 100: SIDELIGHTS ON HIS LIFE AND WORK-Prof. French, Department of

COMPUTERS AND EDUCA COMPUTERS AND EDUCA-TION: WHEN WILL SCHOOLS BE OBSOLETE?—Prof. Seymour Papert, Director of LOGO, John Holt, writer and educator; Alan Kay, XEROX PARC Learning Re-search Group. Moderator Prof. Michael L. Dertouzos, Director, Laborator; for Computer Science. Laboratory for Computer Science.

with your questions.

9-10:30pm

CLASSIC LUNCH: ORPHEUS— Famous cinematic poetry. Directed by Jean Cocteau. CABLE VIEWER'S DEMAND PHYSICS 8.01 LECTURE—Re-corded 11/5/79 corded 11/5/79. PHYSICS 8.01 HELPLINE—Call x7212 and a tutor will assist you THE CHILDREN'S MUSEUM (BOSTON)

A student, preferably a junior or advanced sophomore in Electrical Engineering or Geophysics, is invited to assist in the development of systems of data reduction for shipboard use. S/he should have a working knowledge of digitizers and computer languages. Pay available. Contact Prof. John Sclater or Steve Semken at x3-1980.

ACOUSTICAL DATA PROCESSING FOR OCEANOGRAPHIC RESEARCH

Several research opportunities are available in the Museum's Center for Advanced Public Computing: 1) The Student would participate in the specification, design, and development of software and/or interface hardware to support a system that will provide 24-hour control of environmental systems, intrusion and fire alarms, and a card-reader access control system. 2) The Museum is currently developing an operating system for the PDP-11 family of computers that will support multiple computers to provide a highly-reliable com-puting environment. 3) The new Computers exhibit will support 12 VT100 interactive terminals connected to an 11/40-11/70 system, providing a variety of ways for the visiting public to learn about computers. Educational/Recreational activities must be designed for use by the novice and must be self-tutoring in their use.

WATER QUALITY MODELING

A research opportunity is available in a study, sponsored by the Mass. Office of Coastal Zone Management and the MIT Sea Grant Program, which will investigate cumulative impacts of five proposed wastewater outfalls in Massachusetts Bay. Students interested in water quality, mathematical modeling, or coastal circulation should contact Andrew L. Gutman at the Sea Grant Office, x3-7079.

HARVARD SCHOOL OF PUBLIC HEALTH (BOSTON)

The Health Systems Project has been en gaged in the development of a medically oriented data base management system. Students are invited to help explore ways in which the system can be made easier for nonprogrammers, especially doctors, nurses and statisticians, to use, and to explore the underlying question of how doctors use information, particularly medical record information, in their work. Students would do library research, problem analysis, and presentation of alternative solutions presentation of alternative solutions

DELAWARE VALLEY CORPORATION (LAWRENCE, MASS.)

A textile factory invites engineering students with experience in thermodynamics and heat transfer to evaluate and make recommendations for the modification of its large fabric drying ovens. The goal is to reduce the ovens' energy consumption by 50%

Graduate Studies

Graduate Student Council***-Executive Committee meeting, Thursday, Nov. 8, 5pm, International Student Lounge, Rm 50-220.

Hertz Foundation Fellowships**-Graduate fellowships for students of outstanding potential in the applied physical sciences. The fellowships may be used at one of 15 institutions, including MIT. Applicants must have U.S. citizenship or have documented proof of intent to acquire it. Proposed field of graduate study must be concerned with applications of the physical sciences to human problems. High previous scholastic performance expected of all applicants. Info: Graudate School Office, Rm 3-126. Application deadline: Nov. 15, 1979.

Foreign Studies

Antarctic Fellowship**-National Endowment for the Humanities seeks applicants for an Antarctic Fellowship intended for a humanities scholar whose work seems likely to lead to significant contributions to humanistic thought and knowledge. The individual will spend 1-6 months in Antarctic, Oct. 1980-March 1981 Info: Antarctic Fellowship, Division of Fellowships, National Endowment for the Humanities, 806 15th St., NW, Mail Stop 101, Washington, DC, 20506.

Preprofessional

Operations Crossroads Africa Inc.*-Summer work/travel/study programs offer 8-week in-tensive immersion in traditional and modern African life. Projects involve art, architecture and archaeology, ethnomusicology, agricul-tural development, community development, tutoring, clinical medical work, health education, media development, and con-struction of clinics, schools and community facilities. Info: Preprofessional Office, Rm

Andover Academy Summer Session Teaching Assistants Program**-30 TA positions for college seniors interested in becoming teachers. TAs assist in teaching courses in their major field, in running a dormitory, in an afternoon activity (mostly athletic). Remuneration, \$750 for six weeks plus room and board. Info: Preprofessional Office, 10-186, x3-4158. Application deadline: Feb. 1, 1980.

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Page 2, Tech Talk, October 31, 1979

J.W. Forrester Receives Two Honors for Invention

Two new honors have come to MIT Professor Jay W. Forrester. On Oct. 18, he was one of three Massachusetts residents honored when Gov. Edward J. King signed a proclamation recognizing the role that science and technology play in improving the quality of people's lives

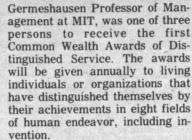
The proclamation was issued in conjunction with the Centennial of

Light, the 100th anniversary on Oct. 21 of Thomas Alva Edison's invention of the incandescent light bulb.

Honored with Professor Forrester was Dr. Edwin H.

Land of Polar- Dr. Forrester oid Corp., who like Professor Forrester is a member of the Inventors Hall of Fame, and sculptor Mico Kaufman, who designed the Centennial of Light medal.

Two days later, on Oct. 20, in Arlington, Va., Dr. Forrester, the



The cash awards are funded through the Common Wealth Trust established under the will of the late Ralph Hayes, an executive of the Coca Cola Company for 35

Professor Forrester was awarded \$18,250 in recognition of his pioneering work in early digital computer developments. He holds the basic patent for the storage system that became the standard memory device for digital computers.

Receiving awards in the same amount were Dr. Charles J. Plank and Edward J. Pesinski, for their work in the field of applied catalysis.



ON THE LEVEL, ON THE BEAM-Karl T. Ulrich leaps for joy as he and Richard P. White, kneeling at left, tie for first place in the ninth annual student design contest at MIT Thursday, Oct. 25. Ulrich, from Durham, NH, and White, from Greenfield, Mass., are sophomores. The contest-this year called "A Couple Moments of Truth" and involving nearly 200 students in Course 2.70, Introduction to Design-was conducted on a teeter-totter consisting of a long aluminum beam. Opposing devices were placed back to back at the center point of the beam. The object: to have your side of the beam tilted down at the end of a 10-second interval. Electrical power was supplied through contact strips on the teeter-totter. Students were given identical kits of parts earlier in the academic year from which to build the beam walkers. The tie was the first in the nine-year history of

-Photo by Calvin Campbell

MIT Press Publishes Book On Future Of Computers

"...A rare look into the next 20 years of computer development..." says Publishers Weekly of The Computer Age, a new book from the MIT Press, edited by Michael L. Dertouzos, professor of electrical engineering and computer science and director of the Laboratory for Computer Science, and Joel Moses, professor of computer science and engineering and associate head of the Department of Electrical Engineering and Computer Science at MIT.

When the computer revolution began about a quarter of a century ago, its participants were active in such unknown territory that charting its limits were difficult, forecasting its future development all but impossible. But now that revolution is history, and its veterans have the experience and confidence to look 20 years ahead-if tentatively, and with some internal dissension.

The Computer Age presents the predictive insights of 20 of the most honored of these veterans of computer science and information processing. The contributions were written expressly for the book, and none have been previously published. All are written in a manner that the general reader will find fully accessible.

In addition to essays by Professors Dertouzos and Moses, the book contains sections by five other faculty members: Professors J.C.R. Licklider of electrical engineering and computer science; Marvin L. Minsky, Donner Professor of Science; Nicholas P. Negroponte of architecture; Seymour A. Papert of the Division for Study and Research in Education; and Joseph Weizenbaum of electrical engineering and computer

Publishers Weekly concludes by saying, "The essays range broadly across an exceptional variety of issues, yet they are insightful and specific rather than merely descriptive; they are well balanced in dealing with often complex subjects in which partisanship can

Brown Authors Rumford Book

Sanborn C. Brown, professor emeritus of physics, is the author of a new book, Benjamin Thompson, Count Rumford, to be issued in mid-November by the MIT Press

"In writing the biography of such a remarkably versatile scientist as Count Rumford, I am eager to paint a picture of the scientist as he really lives-not as an automaton whose scientific work can be separated from his existence as a man," Professor Brown wrote in the introduction.

"Count Rumford was a man with more faults and failures as well as more successes than most, but his contributions to our daily lives today were very great and his devotion to technical innovation was matched by an exciting immersion in the dramatic events of

Eight Named as Community Fellows director of the Community Fel-

Eight men and women active in community work and government are enrolled in the 1979-80 Community Fellows Program in the MIT Department of Urban Studies and Planning.

The program, in its ninth year, gives gifted and productive minority individuals a chance at midcareer to develop special projects that will be implemented after their fellowship years.

The overall goal of the projects is to develop ways of heightening the political, economic, cultural and spiritual growth of people of color.

The program has been funded primarily by the Rockefeller and Mellon Foundations and by MIT

It is directed by Adjunct Professor Melvin H. King, who is a member of the Massachusetts legislature and organizer of many citywide and inner-city programs. Attorney Theodore Landsmark, who recently joined the faculty as an assistant professor of law and

environmental design, is associate

Networks

Seminar

"New Networks: Satel-

lite/CATV Syndication," will

be the subject of a discussion

sponsored by the MIT Re-

search Program on Communi-

cations Policy on Thursday

Marlar Lounge (Rm 37-252).

Nov. 1) from 4-6pm in the

Speakers will be Sandy

Kavanaugh, director of

children's programming for

Warner Cable; Noah Mandell

of the Ohio Premium Net-

work; Reese Schonfeld, presi-

dent of Cable News Network,

Inc.; and Edwin Diamond,

senior lecturer in the Depart-

lows. Mrs. Frances Cooper-Barry is assistant to the directors.

The 1979-80 Fellows are:

Raymond A. Almeida of Boston, who will formulate a long-range plan for establishing a regional newsgathering and newspaper publishing organization to address issues of concern to Massachusetts communities of color.

Edward L. Cooper of Boston, who will chronicle (from his five decades of service and experience in metropolitan Boston) the lifework experiences of black people in Boston.

Agnes J. English of Boston, who will design and develop a comprehensive work-experience program for youths 14-18 years of age with emphasis on addressing the needs of pregnant minority teenage

Dianna Johnson of Atlanta, Ga., who will conduct research on the scholastic environment of young people as it relates to their anticipated behavior.

Gerald J. Roybal of Los Altos,

Calif., who will investigate the possibility of patterning alternative economic models after the "rancheria" (small allotments of land provided to remnant bands of California Indians) format.

Domingo Garcia-Acosta of Rochester, N.Y., who will evaluate the Community Analysis Model (C.A.M.) as a way of analyzing program strategies for reinvestment and redistribution of income and capital in Puerto Rican neighborhoods

Kenneth C. Garcia from Lincoln Heights, Ohio, who will assess the cost effectiveness of city agency operations and available alternatives that will generate additional revenue to a small municipality and seek alternative mechanisms that could be used in efficiently

managing a small city.
Ginlin Woo from New York, N.Y., who will study various information sharing methods, such as cable television, in an effort to better disseminate historical and cultural information about and for communities of color.

Purchasing Opens Field Office

A new Purchasing Field Office, has been established for the Ritter National Magnet Laboratory and the Plasma Fusion Center, according to Barry Rowe, Director of Purchasing and Stores

The Field Office, an extension of MIT's General Purchasing Office, will be located in Rm NW14-1213. It will begin operations on Thursday, Nov. 1, under the management of Kenneth Wisentaner, former subcontract administrator for the Magnet Laboratory. Robert Stevens and Richard Newcomb, formerly buyers for the Magnet Laboratory, will act as purchasing agents in the new Field Office.

As manager, Mr. Wisentaner will be responsible for the develop-

ment maintenance of systems and procedures for purchasing by the Field Office. In line with General Purchasing Office policy, he will develop programs to



ensure the use Mr. Wisentaner of minority-and women-owned businesses as suppliers whenever possible.

ment of Political Science.

Traub to Talk At Photo Gallery

Charles H. Traub, photographer and director of the Light Gallery in New York City, will speak at the Creative Photography Gallery in du Pont Gymnasium on Wednesday, Nov. 7, at 7:30pm.

Speaking on "Contemporary Photography and the Institute of Design-Chicago," Mr. Traub will give an historical survey of the photography program at the Institute, relating the seminal con-tribution of its distinguished teachers and students to contemporary photographic ideas.

A widely exhibited photographer, Mr. Traub recently had one-person shows at the Chicago Center for Contemporary Photography, the Catskill Center for Photography, Woodstock, NY, and Alan Frumkin Gallery Chicago, Ill. His work was included in the group exhibit, "Photography in the 70's," in the Santa Barbara (Calif.) Museum, and published in Modern Photography, Picture Magazine and Creative Camera. His book, Beach, is currently featured in an exhibition of "Contemporary Photography Books" at the Addison Gallery of American Art, Phillips Academy, Andover, Mass.

A corresponding exhibition, "Nathan Lerner: A Photographic Retrospective," will also be open to the public at the Institute of Contemporary Art, Boston, November 8-December 31. Mr. Traub's lecture will focus, in part, on the work of Mr. Lerner.

Chomsky to Speak at Forum

Noam A. Chomsky, Institute Professor and professor of linguistics at MIT, will give a lecture at the Cambridge Forum series on Problems and Prospects.

Professor Chomsky will discuss "The American Media and For-eign Policy," Wednesday, Oct. 31, 8pm at The First Parish in Cambridge, 3 Church Street.

Cambridge Forum is cosponsored by The First Parish in Cambridge, the Lowell Institute, the MIT Chaplains and the United Ministry at Harvard and Radcliffe. All meetings are open to the public free of charge.

Four Contribute to Book on Research Limits

Four MIT faculty members have contributed to a book that considers the limitations being placed on scientific research.

The book, "Limits of Scientific Inquiry" (W.W. Norton & Co., Inc., New York), brings together papers originally prepared for a year-long faculty seminar conducted by MIT's new Program in Science, Technology and Society. Most of the papers were first published by the American Academy

of Arts and Sciences; the book has been edited by two of the contributors, who also organized the seminar, Gerald Holton and Robert S. Morison, visiting professors at

Other MIT contributors are David Baltimore, American Cancer Society Professor of Microbiology, and Leo Marx, William R. Kenan Professor of American Cultural History.

The book has 15 contributors in

all-scientists, sociologists, philosophers and historians-who examine the question of limiting science from different perspectives.

earned their

Many other persons, including MIT President Jerome B. Wiesner and Provost Walter A. Rosenblith, participated in the seminar that led to the book.

Tech Talk, October 31, 1979, Page 3



October 31 through November 11

Special Interest Events of

Fall Blood Drive * — Sponsored by the Technology Community Association. Oct 31 through Nov 9, Sala de Puerto Rico. For information, call x3-7911.

ACM Programming Contest** — Sponsored by the Association of Computing Machinery. Teams of two people each will compete against each other in a Fortran programming contest, with the winners (top two teams) going on to the regionals in January. Sat, Nov 3, noon-5pm, additional information, as well as applications from Rm 38-476. Refreshments served.

Seminars & Lectures

Wednesday, Oct 31

Case Western Reserve Law School* — Janice Mazurkiewcz, Assistant to the Dean, Preprofessional Advising and Education Office Seminar, 9amnoon, Rm 10-186.

: M Sailing, Scholl

Interaction of Maternal and Infant Obesity* — John N. Udall, MD, post doctoral fellows, nutrition: Clinical Research Center Seminar, 9am, Rm E17, 415

Gulf Stream Models for the East African Low Level Jet* — John Hart, University of California. Oceanography Sack Lunch Seminar, 12:10pm, Rm 54-915. Coffee and tea provided.

Large Scale Projects in Civil Engineering * — Frank Perkins, Head of Civil Engineering. Macro-Engineering Research Group Seminar, 3-5pm, Rm 13-4101.

Seminar in Nuclear Engineering * — Jean Koclas, title to be announced, 3-4pm, Rm NW12-222.

Life in a Salt Pond* — Sea Grant Seminar, critique pilot film for WGBH-TV NOVA series with film maker. Bill Sargent, 3:30-4:30pm, Rm E38-302.

Regulation of Protein Synthesis in Autonomic Nervous System and Its Target Organs * — Dr. I Gozes, Program in Neural and Endocrine Regulation Seminar, 4pm, Rm 66-168.

Seminar in Nuclear Engineering: Reactor Engineering Section* — Sang Won Kim, Void and Velocity Distribution Effects on Two-Phase Flow Conditions, 4pm. D.Y. Hsia, Steam Generator Modeling During the Reflood Stage of a Loca, 4:45pm. Rm NW12-222.

Structure-Property Relationships of Linear and Crosslinked Segmented Polyurethanes* — Prof G.L. Wilkes, chemical engineering, Virginia Polytechnic Institute and State University. Polymer Seminar Series, 4pm. Rm 66-110.

By Jove! Through Ice and Brimstone to the Sixth Heaven: Voyager Encounters Jupiter* — Dr. James Sullivan, Undergraduate Physics Colloquium, 4:15pm, Rm 4-339. Social hour follows.

Thursday, Nov 1

Discussion of the CO₂ Problem* — Group discussion, Nuclear Engineering Assessment Group Seminar, 1-2:30pm, Rm 24-112.

A Discussion of Some MIP Applications in Exxon* — Dr. Thomas E. Baker, Communications and Computer Sciences Department, Exxon Corporation. Operations Research Center Seminar, 4pm, Rm 24-121. Coffee and cookies served after the seminar.

Methods of Measuring Fluid Shear Stress on a Wall* — Prof C. Forbes Dewey, Jr. Fluid Mechanics Seminar Series, 4pm, Rm 5-234. Refreshments at 3:50pm.

Phase Ratio Gas Chromatography* — Prof Eugen Barry, Chemistry, University of Lowell. Analytical Chemistry Seminar, 4pm, Rm 8-205.

Probing Hadrons with Hadrons: Catching a Glimpse of Quarks* — Prof George W. Brandenburg, physics. Physics Colloquium 4pm, Rm 26-100. Tea served at 3:30pm, Rm 26-110.

Stability of Algorithms for Toeplitz Matrices* — Dr. George Cybenko, mathematics. Tufts University. Laboratory for Information and Decision Systems Colloquium, 4pm, Rm 39-500.

The Status of International Civil Aviation Today* — Secor Browne, consultant; former chairman, Civil Aeronautic Board, Flight Transportation Laboratory Seminar Series, 4-5pm, Rm 35-225.

Stress-Morphology Relationships in Trabecular Bone - A New Hypothesis on Wolff's Law* — Dr. Wilson C. Hayes, Director of Biomechanical Laboratory. Ortho Surgery, Beth Israel Hospital. Committee on Biomedical Engineering Seminar, 4-5:30pm, Rm 37-212. Refreshments served.

Studies of Cytochrome-C-Oxidase: ESR at 2-4 GHz* — Prof John R. Pilbrow, Monash University, Australia; visiting professor, National Biomedical ESR Center, The Medical College of Wisconsin. Special Seminar in Inorganic Chemistry. 4pm, Rm 4-231. Coffee & doughnuts served at 3:30pm, Rm 6-321.

Resistance to Computerized Systems* — Prof Lynne Markus, Sloan School. Office Automation Seminar, 4-6pm, Rm E52-461.

Lecture on the Israeli Art Exhibition and Slide Show on Israeli Art* — Bernard Pucker, director. Pucker-Safrai Gallery. Sponsored by Hillel, 7:30pm, Rm 10-105. Free.

Friday, Nov 2

Structure-Property Relations of Elastomeric A.B.A. Triblock Copolymers* — Dr. M.F. Tse, Institute of Polymer Science, University of Akron. Polymeric Materials Seminar, 2pm. Rm 8-314.

Chemical Engineering Seminars* — Martin Suenson, Dynamics and Control of a Combined Absorber Stripper System, 2pm; Prof Christos Georgakis, chemical engineering, An Order of Magnitude Approach to Process Control, 3pm. Rm 66-110.

Flow Field Visualization and Measurements with Fluorescing Atoms*
— Richard Miles, Princeton. Mechanical Engineering Seminar, 3pm, Rm 3-133.

Mathematical Model for Glucose Metabolism* — K. Kearfott, Nuclear Engineering Department Seminar in Applied Radiation Physics, 3-4pm, Rm 24-115.

Electronic Structure Characterization of Metal-Liquid Electrolyte Interfaces* — Dr. Jeffrey C. Buchholz, General Motors Research Laboratories, Warren, Ml. Materials Science and Engineering Colloquium 4pm, Rm 9-150. Coffee at 3:30pm.

When Do Military Force Confrontations Escalate to War? Statistical Results on Historical Patterns 1816-1977 (Summary of work of Correlative War Project)* — Prof J. David Singer, political science, University of Michigan. Center for International Studies Seminar, 4:15pm, Rm E38-762, 292 Main Street, Kendall Square.

On the Psychological Reality of Componential Definitions* — Prof Kenneth Hale, linguistics. Psychology Colloquium, 4:30pm, Rm E10-013. Coffee at 4:15pm.

Sunday, Nov 4

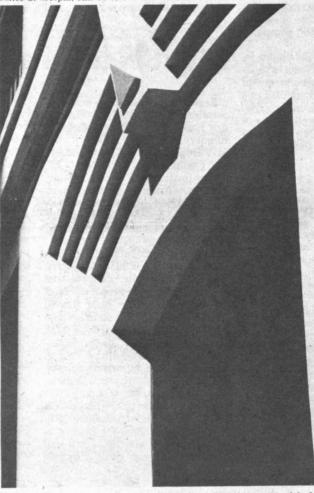
The New American Attitude Towards Israel* — Leonard Zakim of the Anti-Defamation League to speak on "American Press, & Israel"; and Philip Baram of Jewish Community Council will speak on "Whither American Policy?" Sponsored by Hillel. 1-5pm. Mezzanine Lounge, Student Center.

Monday, Nov 5

Carbon Dioxide and Climate* — Dr. William Elliott, Atmospheric Research Laboratory, National Oceanographic and Atmospheric Administration. Nuclear Engineering Department Seminar, refreshments at 3-3:30pm; presentation 3:30-4:30pm; discussion 4:30-5pm, Rm NW 12-222.

The Number of Faces of a Simplicial Complex* — Prof Richard Stanley, mathematics. Applied Mathematics Colloquium, 4pm, Rm 2-338. Refreshments served at 3:30pm. Rm 2-349.

Planning for Agricultural Drainage System Under Uncertainty - An Egyptian Case Study * — Kenneth Strzepek civil engineering. Water Resources and Environmental Engineering Seminar, 4-5pm, Rm 48-316. Coffee at 3:45pm, Rm 48-410.



This black and white photograph by Ralph Gibson (Untitled, 1979) will be on display in the MIT Creative Photography Gallery's exhibit, "Black and White and Color," through November 29. The show also features the work of Luther Smith, Leland Rice and Deborah Hunter. The gallery, on the third floor of duPont Gymnasium, is open Monday-Friday, 9am-10pm, Saturdays, 10am-6pm and Sundays, noon to 8pm.

—Courtesy Castelli Graphics, New York

Tuesday, Nov 6

Collisional and Radiative Processes in Photodissociatively Produced Atoms* — Richard M. Osgood, Jr., Lincoln Laboratory. Spectroscopy Laboratory and Research Laboratory of Electronics Joint Seminar with Physical Chemistry, 11-noon. Rm 37-252. Coffee served at 10:30am.

Student-Faculty Tour of the Honeywell Electro-Optics Division* — Hosted by the Public Relations Department of Honeywell. Sponsored by the Course 6 Student-Faculty Committee. 12:30pm, must sign up outside of Rm 38-476, meet in Lobby of Bldg 39. Free. Information: call x5-7609 Dorm.

Reflections on Rotations: An Overview of Four-Frequency Ring Laser Gyros* — Irl Smith, Raytheon. Electrical Engineering and Computer Science Optics Seminar. 3pm. Rm 36-428.

An ab initio Calculation on the Superconducting Transition Temperature* — Dr. D. Rainer, KFA Julich, Germany. National Magnet Laboratory Seminar, 4pm, Rm NW14-2209. Coffee available at 3:45pm.

The CMU Design Automation System - Preliminary Results of Logic Synthesis from Behavioral Descriptions * — Gary Leive, electrical engineering. Carnegie-Mellon University. I.C. Seminar, 4pm, Rm 16-310.

Energy Aspects of Materials Recycling * — Michael B. Bever, Professor of Materials Science and Engineering Emeritus and Senior Lecturer. Colloquium Series: Materials and Energy. Department of Materials Science and Engineering. 4pm. Rm 9-150. Coffee at 3:30pm.

Excited State Dynamics in Molecular Condensed Phase* — Prof Michael Fayer, chemistry. Stanford University. Seminar in Physical Chemistry. 4pm. Rm 4-270. Coffee 3:45pm. Rm 6-321.

Influence of Voids on Shear Band Instabilities Under Plane Strain Conditions* — Viggo, Tyergaard, polid mechanics, Technical University of Denmark. Applied Mechanics, Seminar. 4pm, Rm 3-370.

Technological Assistance for Mobility of the Blind* — Derek Rowell, associate professor, mechanical engineering and Susumu Tachi, visiting scientist, mechanical engineering and senior researcher, Ministry of International Trade and Industry, Tokyo, Japan. Seminar on Rehabilitation Engineering Research and Practice, 4-5:30pm, Rm 1-114.

Laser Anemometer Measurements in a Transonic Rotor* — Dr. A.J. Strazisar, NASA Lewis Research Center. Aeronautics and Astronautics Weekly Seminar, 4:15pm, Rm 31-161. Refreshments at 4pm.

Stochastic Star Formation in Galaxies* — Dr. Humberto Gerola, IBM Thomas Watson Research Center. Astrophysics Colloquium, 4:15pm, Rm 37-252. Coffee at 3:45pm.

Ontogeny of the T Lymphocyte Receptor Repertoire* — Dr. Michael Bevan, biology. Biology Colloquium, 4:30pm, Rm 6-120. Coffee at 4pm, Vestibule, 5th Fl. Bldg 56.

Wednesday, Nov 7

Internal Tides in the Coastal Boundary Layer* — Paul May, W.H.O.I. Oceanography Sack Lunch Seminar, 12:10pm, Rm 54-915. Coffee and teaprovided.

Alpha-Particle Confinement in Torsatrons* — Robert E. Potok, Fusion Doctoral Seminars, 2pm, Rm 38-166.

Coarse Mesh Cross Section Homogenization of BWRs* — Kord Smith, Seminar in Nuclear Engineering; Reactor Physics, 3-4pm, Rm NW12-222.

Distribution of Charge in Electrets* — R.E. Collins, physics, NSW Institute of Technology, Sydney, Australia. Polymer Seminar Series, 3pm, Rm 66-110.

Solar Power Satellites* — Dr. Peter Glaser, vice president of Engineering Sciences, Arthur D. Little, Inc. Macro-Engineering Research Group Seminar, 3-5pm, Rm 13-4101.

Seminar in Nuclear Engineering: Reactor Engineering Section* — Farid Bamdad, Thermal-Hydraulic Analysis of a PWR During a Total Loss of Electrical Power Accident, 4pm. Roohallah Karimi, Qualitative & Quantitative Analysis in Reliability and Safety Studies, 4:45pm, Rm NW12-222.

Statistical Mechanical Models of Polymers and Their Solutions * — Dr. I.C. Sanchez, National Bureau of Standards, Washington, D.C. Polymer Science Seminar Series, 4pm. Rm 66-110.

Students, Politics and Israel* — Scott Shore, American-Israel Public Affairs Committee. Sponsored by Hillel. 4pm, Rm 26-414. Free.

Contemporary Photography and the Institute of Design — Chicago*—Charles H. Traub, director. LIGHT Gallery, New York City will lecture. Creative Photography Gallery Seminar, 7:30pm, 120 Mass Ave, 3rd Floor, Cambridge, Mass. Free.

Thursday, Nov 8

Future Network* — Lawrence G. Roberts, Laboratory for Computer Science Distinguished Lecture Series, 3pm, Rm 10-250.

Whales Close-Up* — Charles "Stormy" Mayo to discuss whale and dolphin research at the Provincetown Center for Coastal Studies. Sea Grant Seminar, 3pm, Rm E38-302.

Analytical Methodology for Study of Zinc Metabolism* — Dr. Louis Kopito, nutrition and food science. Analytical Chemistry Seminar, 4pm. Rm 8-205.

H.P.'s Approach to the "Office of the Future" - Luis Hurtado-Sanchez, Hewlett Packard. Office Automation Seminar: Sloan School of Management, 4-5pm, Rm E51-168.

The Jupiter System Through the Eyes of Voyager* — Prof Bradford Smith, University of Arizona Lunar & Planetary Laboratory. Physics Colloquium, 4pm, Rm 26-100. Tea served at 3:30pm, Rm 26-110.

Proposed Legislative Changes Affecting International Civil Aviation*
— Raymond J. Waldmann; Schiff, Hardin and Waite, former Deputy Assistant Secretary of State. Flight Transportation Laboratory Seminar Series, 4-5pm, Rm 35-225.

Supercritical Flow in a Collapsible Tube* — Michael McClurken, Fluid Mechanics Seminar Series, 4pm, Rm 5-233. Refreshments at 3:50pm.

A Theory of Nerve Membrane* — Prof. J.Y. Lettvin, biology and Electrical Engineering and Computer Science. Committee on Biomedical Engineering Seminar, 4-5:30pm. Rm 37-212. Refreshments served.

Turbulence Models* — Prof Stephen Pope, Fluid Mechanics Seminar Series, 4pm, Rm 5-234. Refreshments available at 3:50pm.

The Realities of Work in America*— Barbara Garson, author, All The Livelong Day, she is in the midst of a study of office automation. Technology and Culture Seminar and the Program in Science, Technology and Society Public Forum on Technology and Work: The Perspective of Labor, 4:30pm, Mezzanine Lounge, Student Center.

Friday, Nov 9

Bifurcation Phenomena in Finite Strain Plasticity* — John Hutchinson, Harvard. Mechanical Engineering Seminar, 3pm, Rm 3-133.

Chemical Engineering Seminars* — George Huff, Fischer-Tropsch Synthesis in a Slurry-Bed Reactor, 2pm; Prof Selim Senkan, chemical engineering, Cryobiology: A New Frontier in Chemical Engineering 3pm. Rm 66-110.

Optical Particle Size Measurements* — W. Glanschnig, Applied Radiation Physics Seminar, 3-4pm, Rm 24-115.

On the Possibility of Achieving Ignition in High Field Tokamaks* — Dr. Carl E. Wagner, S.A.I. LaJolla. Plasma Fusion Center Seminar, 3pm, Rm NW16-212. Refreshments served.

Human Space Perception* — Dr. Christopher W. Tyler, Smith-Kettlewell Institute of Visual Sciences, San Francisco. Psychology Colloquium, 4:30pm, Rm E10-013. Coffee at 4:15pm.

Community Meetings

Biweeklies Revamped** — Terry Viohl and Philippa Bovet will discuss the "Report and Recommendations on Classification" prepared by the Working Group on Office Clerical Issues. Individuals affected by the change are specially invited to voice their questions and concerns. Sponsored by the Women's Forum. Mon. Nov 5, noon-1pm, Rm 10-105.

Art and Science: Some Clues to Klee* — Sponsored by the Women's League. Discussion lead by Marianne Teuber. Wed, Oct 31, 10:30am, Rm 10:340. Reservations for lunch by Oct 10, send check for \$2.50 per person with your name and address to Rm 10:340.

Wives'Group* — Wed. Oct 31, Diane F. Thilly, assistant counsel, Patent Office will present a program on "Beginning Quilting Technique", 3-5pm. Mezzanine Lounge, Student Center. Babysitting provided, Student Center. Rm 473. All women in the community cordially invited.

communityPlayers-General Meeting* — Those interested in finding out more about the players are invited. There will be a slide presentation of our eccent shows and announcement of upcoming Players-sponsored workshops. Thurs. Nov 1, 8pm, Rm 1-114. Refreshments served: Information: Bruce Brandt x3-5588.

Wives' Group* — Wed, Nov 7, "A New Look at Women's Activities Around the World" presented by Prof Alice Cook Mellon Fellow, Wellesley College Center for Research on Women, 3-5pm, West Lounge, Student Center. Babysitting provided, Rm 473, Student Center. All women in the community cordially invited.

Weekly Exercise Class** — Taught by professional Patricia Murphy. Sponsored by the Technology Wives Organization, an hour of serious exercise. Every Monday through Dec 17 7:30pm, 2nd floor, Exercise Room, Dupont Gymnasium. \$1.50 per class, discount available for TWO members. Information: Rachel Kent 494-0137 evenings.

Lobby 7 Events

Concert of Israeli and Jewish Music* — Bnei Akiva Choir will sing Israeli and Jewish music. Fri. Nov 2, noon. Free.

Laduvani* - Fri, Nov 9, noon-1pm.

Mandalay* - Fri, Nov 16, noon-1pm, improvisational jazz.

Color photos of Jupiter Fly-by* — On view daily through Nov 26.

Social Events

Undergraduate Economic Association Luncheon* — Prof Larry Summers, economics will speak. Wed, Oct 31; noon, Rm E52-391. Freshmen are encouraged to attend.

Prime Rib Night*** — Wed, Oct 31, Faculty Club. Baked potato, salad bar, glass of wine, \$8.25 incl tax. For reservations call x3-4896.

Lincoln Lab Authentic Food Club*** — had a successful second annual banquet meeting on Oct 13, '79 at Athens Olympia Restaurant; members of the club enjoyed an abundance of Greek food, Members wish to thank Mr. Corcois & his crew for their hospitality & reasonable prices. Although still savoring Greek food, our Italian expert will be organizing our next banquet meeting where Italian cuisine will be featured.

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

When I was 19** — Department of Humanities Film Series. German v/English subtitles. Wed, Oct 31, 7pm, Rm 66-110. Free.

Alexander Nevsky** — LSC Classic Film Series. Fri, Nov 2, 7:30pm, Rm 10-250. Admission: 75c w/MIT or Wellesley ID.

La Merveilleuse Visite* — By Marcel Carne, in French. Presented by Foreign Languages and Literatures, MIT and the French Library of Boston. Fri. Nov 2, Sat. Nov3, and Sun. Nov 4, 8pm, Rm 54-100. Free to Wellesley and MIT community.

Potemkin** — Department of Humanities Film Series. Mon. Nov 5, 7pm, Rm 66-110 Free.

Hiroshima** — Department of Humanities Film Series. Tues, Nov 6, 7pm,

Alice in the Cities** — Department of Humanities Film Series. German

w/English subtitles. Wed. Nov 7, 7pm. Rm 66-110.

The Lady Vanishes** — LSC Classic Film Series, Fri, Nov 9, 7:30pm, Rm 10-250, Admission: 75c w/MIT or Wellesley ID.

Music

The Black Graduate Student Association Wednesday Evening Jazz Series*—Oct 31: The Scott Oakley Quartet, Nov 7: Joe Zeytoonian, BSU Lounge, Walker Memorial Bldg, 9pm, Free.

Israeli Coffee House* — Music by Yechiam & Sarah, Israeli, American and Chassidic music, food to much while listening. Sponsored by Hillel. Sat, Nov 3, 9pm, Mezzanine Lounge. Student Center. Members, \$1.75; non-members \$2

Noon Hour Chapel Concert* — Tamara Robertson, harpsichord, will perform English Suite in A Major by Back and "Pieces de Clavecin" by Forqueray. Thurs, Nov 8. Free.

Exhibits

Israeli Art Exhibit *— Sponsored by Hillel. An unusual exhibit of color lithographs, silk screenings, and tuilegraphs by leading Israeli artists. On view Oct 31, 10am-5pm; Nov 1, 10am-9pm, Rm 10-105. Free.

Recent Photography by Boddy Alter, Judy Black & Hideji Nagura Creative Photography Laboratory Graduate Students* — On view 8:30am-6pm weekdays, Rotch Visual Collections, through Nov 16.

Max-Born* — Institute Archives and Special Collections, 14N-118. Max Born, 1954 Nobel laureate in physics, visited MIT in 1925-26 to lecture on crystal dynamics and quantum theory. On display is a 1927 letter from Born to MIT President Samuel Wesley Stratton, which discusses some of Born's colleagues, including J.R. Oppenheimer, Karl and Arthur Compton, James Franck, and Norbert Wiener. The letter is part of the records of the Office of the President, 1897-1932 (AC 13) On view daily.

Black & White & Color* — From the Creative Photography Laboratory. On view through Nov 29, Mon-Fri, 9am-10pm; Sat 10am-6pm; Sun noon-8pm, Creative Photography Gallery, 120 Mass Ave., 3rd Floor, Camb, Mass. For information call 253-4424.

Corners* — From the Committee on the Visual Arts. On view daily 10am-4pm; Wed evenings, 6-9pm, through Nov 4, Hayden Gallery, 160 Memorial Drive, Camb, Mass.

Jim Pomeroy* — From the Committee on the Visual Arts. On view daily 10am-4pm; Wed evening. 6-9pm, through Nov 4, Hayden Corridor Gallery, 160 Memorial Drive, Camb, Mass.

MIT Historical Collections * — Vannevar Bush, '16, Bldg 4 corridor. The New Technology Exhibit, 2nd floor balcony of Lobby 7. Energy Energy Exhibit, Bldg E40, 1st floor. Solar Energy, Bldg 8, main corridor. Samuel Cate Prescott, main corridor. Bldg 4. Rogers Building Exhibit, Bldg 4. Meteorology, main corridor. Bldg 8. Norbert Wiener, and Karl Taylor Compton, Bldg 4. Laboratory for Physical Chemistry, Bldg 6.

Gjon Mili* — Sponsored by the Compton Gallery Committee, A '27 graduate of MIT, he is a noted photographer whose work for Time-LIFE Magazine; his pioneer use of strobe lighting; and his documentation of MIT will be exhibited. On view daily, Mon-Fri, 10am-5pm; weekends, 1-5pm, through Jan 31, 1980, Margaret Hutchinson Compton Gallery, Alumni Center, Rm 10-105. For information call 253-5014.

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

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

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

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

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

Athletics

Noon Hour Volleyball** — Beginning Oct 31, pickup games daily, start at noon, DuPont Gymnasium. All welcome, For information call James Jones x3-2180.

Home Schedule* — Oct 31: Soccer, Boston University, 3pm; JV Soccer, Phillips Exeter, 3:30pm. Sat, Nov'3: Club Football, Stony Brook State, 1:30pm. Nov 3-4: M Sailing, Schell Trophy, 9:30am. Nov 6: W Volleyball, Springfield, 7:45pm.

Dance

Advanced Swing Workshop* — Sponsored by Ballroom Dance. A workshop in Swing taught by a professional. Sun, Nov 4, 2-4pm, Burton Dining Hall. Admission: \$1, must have attended 3 workshops including swing and bring membership card to gain admission. For information: Haroon 536-1300 or Nancy x5-8291 Dorm.

Hatha Yoga-Oki Zen Yoga* — Cynthia Friedman, on-going Yoga classes for both beginners and intermediates with individual attention. Beginning Wed, Nov 7, 6pm; Thurs. Nov 8, 6:30pm; and Sat, Nov 10, 10:30am. Information: contact Cynthia Friedman x3-4981 Mon-Thurs 1-5pm.

Dance Workshop ** — Regular meetings Technique classes, Mon & Wed, 3-5pm; Improvisation, Thurs, 1-3pm, T-Club Lounge, DuPont Center. For information call 253-4456.

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

*Open to the public

**Open to the MIT community only

***Open to members only

Send notices for Nov 7 through Nov 18 to Calendar Editor, Rm 5-113, x3-3270, before noon, Friday, Nov 2.

Exhibit to Focus On Israeli Art

An unusual exhibition of color lithographs, silk screens and tuilegraphs by leading Israeli artists will be on display in the Bush Room (10-105) today Wednesday, Oct. 31 and Thursday, Nov. 1.

The exhibit, provided by the Pucker-Safrai Gallery at Boston, Inc., will feature works by several Israeli artists, including Rubis, Sharir, Bati, Castel and Weil.

The exhibit was organized by MIT members of the Hamag-shimim and Bnei Akiva organizations and is sponsored by the Hillel Foundation and Israeli Students Organization.

In conjunction with the display, Bernard Pucker will present a lecture and slide show on Israeli art, Thursday, Nov. 1, at 7:30 pm, in the Bush Room.

Mr. Pucker is a graudate of Columbia University and Brandeis University and is director of the Pucker-Safrai Gallery.

The exhibit will be open from 10am to 5pm on Wednesday and from 10am to 9pm on Thursday. All artwork on display will be available for sale, to be claimed following the exhibit.

Wallace Named To Pay Panel

Dr. Phyllis A. Wallace, professor of management in the Sloan School of Management, is one of 18 persons named to the Carter administration's Pay Advisory Committee, designed to help fight inflation

The committee members represent business, labor and the "public." They will help mold the President's second year voluntary wage-restraint program and monitor developments on the wage front. Harvard University economics professor John Dunlop is the committee chairman.



ACQUAINTANCESHIP RENEWED—Dr. Soufy Abou Taleb, left, speaker of the Egyptian Parliament, paid a visit to MIT Provost Walter A. Rosenblith during a recent trip to this country. Dr. Abou Taleb was president of Cairo University in 1976 when that institution and MIT entered into an agreement under which the two universities cooperate in academic areas related to Egypt's development goals. The agreement was signed by Professor Rosenblith and Dr. Abou Taleb. Visible in the background is Professor Nazli Choucri of the Department of Political Science, a member of the executive committee within MIT's Technology Adaptation Program which administers the MIT-Cairo University Project.

Elevator Hack Dangers Noted

William R. Dickson, director of Physical Plant, said that his department is alarmed by recent hacking of elevators at several campus locations.

"Tampering with safety and control devices of elevators can cause serious damage and is a dangerous public safety hazard," Mr. Dickson said.

A letter, received by Physical Plant from one of the companies which service MIT elevators, reported that on several occasions recently, unauthorized persons have gained access to the top of passenger elevators and have tampered with safety and control devices. This practice places those

participating in such actions in extreme danger. In addition, circumvention of safety devices can leave an elevator in such a condition as to be potentially dangerous to all users.

Because of the serious nature of the dangers involved, Mr. Dickson and Chief James Olivieri of the Campus Patrol have issued an appeal to all members of the community to cooperate by reporting immediately any elevator malfunctions, and by assisting in the identification of any individuals who may be involved in this dangerous hacking activity. Criminal and/or disciplinary actions will be taken against any such persons.

Garson, Daly to Discuss Work, Economics in T&C Series

Playwright Barbara Garson and economist Herman Daly will speak at MIT November 8 and November 15, respectively, in the continuation of two of the three concurrent series sonsored this academic year by the Technology and Culture Seminar.

Ms. Garson, who will speak at 4:30pm Thursday, November 8, in the Mezzanine Lounge, will discuss "The Realities of Work in America." Her lecture is part of the series on Technology and Work: The Perspective of Labor.

Professor Daly, of Louisiana State University-Baton Rouge, will discuss "Growth Economics and the Fallacy of Misplaced Concreteness" at 4:30pm Thursday, Nov. 15, in Rm 9-150. His lecture is part of the series focusing on strategies for a sustainable society. The series is aimed at the critical examination and exploration of current and alternative social paths, particularly with regard to

their sustainability and social justice.

The third TCS series deals with

the arms race.

Ms. Garson is the author of

MacRied The Dinescur Door and

MacBird, The Dinosaur Door and Leah. She has been a Guggenheim Fellow and a National Endowment for the Arts Fellow.

She is also the author of the nonfiction work All The Livelong Day, which is about work and the people who do it. She is currently expanding the last chapter of that book, which deals with office work and automation, drawing on her experience as a temporary back-office clerical worker.

Professor Daly, who holds the BA from Rice University and the PhD from Vanderbilt University, is widely known as a critic of economic development theory based on an absence of limits. He is the author of Steady State Economics.

HCHP to be Available Here

Beginning January 1, 1980, MIT employees will have a third health care option available to them, the Harvard Community Health Plan (not affiliated with Harvard University).

The Harvard Community Health Plan (HCHP) will become an alternative to the MIT Health Plan and Blue Cross-Blue Shield Master Medical for MIT people.

Brochures describing the HCHP have been distributed to everyone employed at MIT. In addition, a series of informational seminars is planned so that MIT personnel and their families can explore details of the HCHP.

Campus seminars will be held in the Vannevar Bush Room (10-105) Monday, Nov. 5, 1-5pm; Tuesday, Nov. 6, 9am-noon, and Wednesday, Nov. 7, 1-5pm. seminars at Lincoln Laboratory will he held in the Personnel Conference Room (A-120) on Thursday, Nov. 8, 9am-5pm, and Friday, Nov. 12, 9am-noon.

In addition, Open Houses at two HCHP facilities have been scheduled. They will be held at the Kenmore Center on Fenway Plaza (Next to Sears Roebuck) and at the Cambridge Center, 1611 Cambridge Street on November 7, 14 and 28 and December 5 and 12, from 7-8:30pm.

Enrollment in the HCHP will be open at MIT during the months of November and December. The MIT Health Plan will continue to be available.

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CLASSIFIED X3-3270

Ads are limited to one per person per issue and may not be repeated in successive issues. All ads must be accompanied by full name and Institute extension. 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. Ads may be telephoned to x3-3270 or mailed to Rm 5-113. Deadline is noon Friday before publication.

For Sale, Etc.

Scott tube type tuner mod LT10, wide band, tuner reter, ex cond, \$15; Precisous mod 10-12 tube tester has older rd chart, exc cond, \$30; AKIA mod 77" reel-reel tape recorder; horiz or vert operation bit in amp, exc cond, Ig VU meters, no mikes w/extra boxed tapes, \$90; Panasonic mod RF2800. tra boxed tapes, \$90; Panasonic mod AM/FM & more. Call Wayne x304 Lincl.

Qu-sz Sealy box sprng, extra firm, nvr usd, \$100. Call Nancy x3-3697 or 825-6324 aft 5pm.

Olympia, man typewriter, lk nw, \$50; Sigma macro tele lens, P41200, nvr usd, \$50. Call Helmut x3

Matt & box sprng, dbl, vy gd cond, \$55. Call 891-

Pr BMW whls, fits 2002, vy gd cond, \$25. Call Pier-

Sofa w/2 chrs, hardly usd, \$275; also elect stove, set of dishes for 7; M 10 spd bike. Call Marcia x3-2713.

Emerson microcsstt recorder, brnd nw. bought on Oct 17, w/3 blank csstts, batteries, bought for \$64; wl sell for \$55; guarantee slips, sales receipt avail. Contact Babi x3-6422 or 661-3789.

Pr G78-15 Gdyear poly glass snows, studded & mntd on Ford rims, \$30. Call Jim x3-6272.

Ladies choc br suede sheepskin 3/4 length coat, fine cond, fits sz 10-14, \$50 nego. Call Joan x3-

1 way ticket to San Francisco for sale, \$120 or best; mst be usd before 11/12. Call 864-7659 kp try.

Nw unused steel bltd rads, mnt 155SRx13, wsw, fits Datsun B210 & others, \$70 or best. Call Walt

Waterbed kg sz complete \$170. Call 277-5055. Crib, matt, both completely nw for baby. Call Leancy x3-4207.

Magee gas range, \$40 or best; pedestal sink, \$15 or best; antique Domestic sew mach w/attach, \$25. Call Mary Ellen x3-7709.

Pot belly stove, \$100. Call x3-6509.

Granite blocks, 15x10x4, for bldg or facing, \$3.50 per linear ft, approx 80' avail, wl deliver. Call 648-8640 eves.

Cast iron Franklin stove 24", \$100. Call Jim x3-

2 TV for sale; pr mag rims; Wanted: nw stock put on a shot gun, 12 ga. Call x8-2442 Draper or 395-7265. Wd burning stove, fire-box styl, 2 yrs old, exc cond,

includes duct, damper, stove-board, extra asbe sheets, \$125. Call x3-5720 or 354-3269.

Refrig GE 12 ct, lk nw, 2 yrs old, white, \$150. Call

354-7258 aft 6pm. Hoover upright vatuum cleaner, nds minor repair, best. Call 396-5311.

Ladies, all leather br boots, stack heel, gd cond, sz

Matt, gd cond, box sprng Harvard frme, \$75. Call x3-7052.

Maytag dishwasher, under counter, gd cond, \$100.

Kneissl skis w/Look Nevada bindings; bird cage, lg metal, both exc cond, best. Call Gerry x3-2309 or 262-3894 eves.

Tw box sprng, bkcase & lamp, all for \$10. Call Irene x3-6784.

Fl upright Faber piano, exc cond, big sound, gd action, beaut cab, \$400. Call Gordon x3-5671 aft

4 alum triple track storm windows, sz 58 x2812. \$7 ea. Call Mike x8-4567 Draper.

TEAC A-170 S csstt tape deck, Dolby, has org box.

packing, manuals, etc. ask \$100, nego. Call Jacky 494-8229. 3 pc sect sofa, gd cond, \$50. Call Mark x8-3108

Fender Rhoades 73 key stage piano no amp, vy gd cond, rarely moved or usd. Call Frank 567-1122.

Vv gd fl seats avail for STVX concert, Sat Nov 10. can't go, wl sell prs or group of 4, concert sold out. Call 267-0908 ask for Paul.

Pr tennis sneakers M 71/2 Converse all-Stars; W Converse tennis sneakers, sz 7, \$6. Call Pat x8-1425

Lg stereo stand w/spare parts, \$25; 14" RCA color TV, \$50; TV roll around cart, \$10; '72 Dodge, Dart, 60K, 318 V8, 12-14 mpg, 18-20 mpg, gd rund cond, nw exh, nw rads & pr mntd rad snows, nw air shocks, park lot dents & minor rust, ask \$1000. Call

Castro conv Ottoman /sngle bed, deep lilac/tur-quoise cover, virtually nw, ask \$60. Call Philippa x3-6509.

Dynaço PAT-5 preamp, \$135 or best; lg mod synthesizer w/computer interface, \$425 or best. Call x5-9295 Dorm.

Matt fl sz yr old, \$50. Call Pat x8201 Lincl.

W coat br plaid wool w/plush collar & cuffs, perfect cond, sz 14, \$30 or best. Call Gail x3-1827.

Ski boots Technica, sz 9 W, \$35. Call x8-1419

Sm refrig Sanvo, \$70. Call x3-1869.

TI 58 programmble calculator, gd cond. Call 628-

Chess board & wood pieces, \$5 or best. Call x3-

2 prs of skiis & poles, gd for children, \$15 for both

Headstrom 3 in 1 mod carriage, stroller, car bed, gd cond, dk blue, \$45; solid maple BR set, bkcase, dble bed w/chest of drawers, night stand & chr. lk nw, \$250; upright piano w/adj stool, lk nw cond, \$800. Call 322-1934.

G 10 spd bike, Columbia, exc cond, \$150 nw, best. Call Andrea x3-4916.

Nw Barron's G.R.E. preparation book, unmarked, \$4. Call Peter x3-2210.

Hotpoint elect dble over range, \$50; BSR Mc-Donald 310/X turntble, \$25. Call Steve x5-9521 or Jim x5-9520 Dorm.

Genuine semi-precious stone strings antique modern silver jewelry Batik painting from India Call 864-2771.

Pr snows, studded w/rims F78-14, \$50; 600 heavy duty br manila folders w/cloth binding 10¢ ea. Call Geo Blair 492-1403 aft 5pm.

Lg oak desk 60x33" w/hvy duty typewriter pull-out table, gd cond \$75. Call J. May x8-2843 Draper or 492-1403 aft 5pm. Telephone answering mach, Sanyo M-139N, exc cond, \$125 or best. Call Marjorie x3-6763 or x3-

Pr TI 58 calculators, \$80 ea or best. Call Chien x5-9620 Dorm or 494-8210.

Pr EPI 120 spkrs, yr old, nw Tweeters, cab in exc cond, \$150 or offer. Call 494-0004. Atari video computer w/7 dif game cart, \$135; Sony

TZ-200F preamp, a classic, \$150; Sony PST-1 trnt-ble w/micro acoustics 282 cart, \$120. Call Mike x3-6904 or 237-0824 aft 7pm. M digital watch, brnd nw. ask \$50, 6 functions

Call Judy x3-3529

3 antique pictures, The Peacemaker by Marcus Stone, 16x20"; The Departure of the Pilgrim Fathers to America 1620 ingraved printed by Peters, 26x32½", some water stain; Liverpool & London & Global Insurance Co by H.F. Whitney & Son of Harvard, Mass, Dec 12, 1911, 19½2x24½", \$50 ea or best. Call Lenny x3-4215.

Hyde white leather figure skates G sz 1, exc cond. \$17./nw \$34. Call Larry x3-7810.

Roof nails 112"L, 25 lbs, \$10. Call Joe x8-4072

Empire gas spc htr, 17K BTU, vented nrly nw \$75; wd settee w B/W hounds tooth cushions, \$15; wd settee w B/W hounds tooth cushions, \$15; animal case 18x18x12", free. Call Harry x3-1637. Pr snows C78-14 on rims 4 AMC custom hub cabs:

bowl sink, all pors; rowing exerciser, best. Call x3-6107 kp try. Walnut BR set hdboard, Harvard frme, matt &

box sprng, night tble, dbl dresser w/mirror, Call Jeanie x3-2515. Technics 630T csstt deck, exc cond, \$130 or best.

Call Arthur x5-8285 Dorm or 494-0410 36' wd ext ladder, \$70. Call x3-2117.

Hyde figure skates, G sz 13, \$15; W sz 5, \$20. Call Spinet piano, exc cond, \$75 or best. Call Oscar x3-

Vehicles

'65 Chrysler station wg, fair cond, \$200 w/nw radiator installed, \$125 without. Contact Rimas

'68 Buick Skylark, not too much to look at, dependable trans, fall sticker, \$200. Call Mike x3-5250.

'68 Dodge Coronet, nw batt, recent tune-up dependable trans, has Fall sticker. Call x8-3157 Draper. '68 Pontiac 68 Catalina, V8, 4 drs, 82K, PS, AM radio, runs, prc nego. Call 494-8156.

'68Toyota Corona 4 dr, 81K, auto, runs, cheap trans for mechanically oriented person, \$373 or best. Call Brian Armstrong 494-0413 or x5-8156

'69 Javelin Sport 6 cyl, perf cond, \$595; '69 VW Bug vy gd cond, \$550 or best. Call 484-1874.

'69 Mustang Mach One, great shape, no rust, mst sell, a classic, AM/FM, 8-track stereo, snows w/rims avail. Call Joe x5-8205 Dorm or 494-0228

'69 Opel Kadette, auto, hi mi, runs but nds work, \$300. Call Martin 492-8130.

'70 Pontiac Lemans Sports, 70K, PS, man brks, nw radiator & brks, \$490, nego. Call Chen-dao Lin at x5-9640 Dorm or 494-8447.

'70 VW 35 mgp hwy w/completely reblt 1.8 lit eng mech adv distributor, Howey carb, Truhaupt exh, vy tight suspension & steering all weather rads, cs stt AM/FM, absolutely no rust. Call Mark x3-5540

'71 Chevy Impala, gd run cond, \$500 or best. Call Jeff Goldberger 782-5395.

'71 Ford Torino Wg, 95K, 351 V8 auto trans, PS & PB, radio, rads, nw brks & radiator, runs gd, 17 mpg, \$550. Call x5763 Lincl.

'71 Mustang hunch back mint cond, V8 auto shift, PS, AM/FM, grabber blue, 38K, 1 owner, \$3300. PS, AM/FM, Call 648-2557.

'71 VW Poptop camper, red, eng nds work, bdy & interior are in gd shape. Pls call Lorenzo x7139 Lincl or 259-0141 aft 7pm, \$500 or best.

'72 Datsun 240Z gd shape, runs fine, mny improvements, \$2350. Call John x7854 Lincl.

'72 Olds Cutlass, 1 owner exc cond cond, A/C, PS & PB, reg gas, vnyl rf, \$800 or best. Call x5-7325 Dorm.

'72 VW bus, gd eng, fair, mst sell, make offer. Ed

x3-4963 '73 Mercury Brougham; auto, PS & PB, A/C, reg gas, by gd cond, \$600 or best. Call x3-3529.

'73 Ply Fury Station Wg, PS/PB, auto, 90K, nw in spect sticker, \$350. Call 989,8789 or 734,6000

'74 Fiat 128 2 dr sedan, 53K, gd cond, nw brks snows, exc mlg, 25 mpg city, jst married mst sell, \$700. Call Brian x3-8087 or 876-6539.

'74 Olds Cutlass Supreme, 2 dr. 73K, V8 eng, auto, PS/PB, A/C, AM/FM stere ger, nw burgancy paint, \$1900 or best. Call Andy 662-9757 aft 5pm.

'75 Buick Special V8, auto, 34K, gd tires, cream color, \$2400. Call Tom x8-3391 Draper

75 Chevy Nova, 6 cyl, PS, P disc brks, 56K. stereo csstt, 24mpg hwy, 10 city, ask \$2400. Call Ken x3-6596.

'75 Datsun B210, 35 mpg, exc cond, Sony AM/FM stereo csstt player, 7 gd tires, \$2400. Call Dick x7124 Lincl.

'75 Ford Maverick, 6 cyl, gd gas, A/C, 1 owner, 47K, runs exc, \$2700 or best. Call x636 Lincl.

'75 Olds Cutlass wg, A/C, PS & PB, tilt whl, auto trans, cruise control, 77K pampered miles, excond, no rust, always gar, gas saving 305 CID eng, rf rack, snows \$2400. Call x3-5316.

76 Buick Regal, V6 PS & PB, 2 dr coop cream w/tan vnyl rf, power windows A/C, stereo sport whls, gd on gas, \$2600. Call 237-1000 x206 John days or 296-0958 aft 6pm.

'77 Dodge Aspen, exc cond, 6 cyl, 2 dr coupe, PS & PB, A/C, AM/FM, 8 track, undercoat rads, silver w/maroon rf & int, exc mpg, ask \$3000. Call Richard x3-2075 days. '79 Coleman, brandy wine, tent trailer, slp 6, extras, incl awning, spare tire, bumper, bike rack, privacy curtains, usd 6 wkends, \$2850. Call x3-7213 or 331-8458.

79 Kawasaki KZ400, 10 mlg under 1600, 3 mos old, incld sissy bar, lugg rack LTD seat, \$1700. Call Mike 776-7230 eves.

Housing

Chalet Eidelweis Conway, slps 10, all elect $1^{1}{}_{2}$ B, avail ski season, \$1800 or \$700/mo incl util & deposit. Call Frankel x3-6824.

Gunstock ski area, 2 BR, 2B condo, slps 6, cable TV, walk from dr to day & night skiing at Brickyard Mt, 10 min away from Gunstock, \$130-0/5 mo ski season. Call x3-6169.

Lex, Meriam Hill, 3BR, furn hse all applic, 213B, frplc, 1 car gar, vy nr Center, avail Jan 1 '80, \$850/mo + util, Call Michael x3-5824.

Somerville, Union Sq area. 4 lg rms, no util nr busline, hdw firs, 1st fl, couple pref, 1 child ok, no pets, security deposit, wll be ready 12/1, at \$275/mo. Call 623-0946.

Winchester, nw 3 BR split level home, hot water hf by gas, hardwd firs, 2 frpl, deck, well insulated, ad-ditional unfinished spare in lower level, \$74500. Call 491-8650.

Animals

3 kittens 6 wks old, fluffy M, 2 orange, 1 B&W. Call

Lost and Found

Found: gold ball point pen, nr Walker mem. Call

Lost: blck leather cap in either 10-250 or Walker Thurs, Oct 11. Call Topher x3-6048 or 484-9566 small reward.

Reward! Lost M blue wristwatch w/blck band, missing since Oct 19, Briggs Field. Call Eli x3-

Wanted

Letterpress printing type, accessories & equip. Call Len x3-3788.

Exchange our Princeton hse in NJ for your hse or apt in Camb, Bos, Brkline, begin Sept 80-81. Call Prof Boolos x3-4458.

Pr snows for VW. Call 868-2099.

Riders wanted to & from Brkline to MIT, 9 & 5. Call Burt x8-1255 Draper.

B clarinet, Buffett or Selmer. Call 762-0477 eves. Kitchen Aid dishwasher, port. Call Steve x7327 or

Pro M sks quiet rm up to \$200/mo for use as living apt and counseling office nr T, in Bos or Camb. Call or write: Bill Kalt, NW 16-200, x3-8100. I buy popular sheet music & old Briar pipes. Call

x8-3424 Draper. Temporary rd nd from Malden to MIT wl pay & hope to carpool w/ 1 other person in a month. Call Judy x3-2734.

Visit prof, sngl is interested in hse sitting, avail immed. Call x3-4400 & v msg.

Steel file cab wntd, 2 drawer or 4 drawer. Call Phil If you want to sell this book, Potter, Foss, Fluid

Mechanics, Ronald Press, pl call Martine x3-7080 or 547-8219 aft 8pm. Rd wntd from Winthrop to MIT hrs 9-5:30. Call

Lisa x3-2701.

10 to 14 cf refrig, gd cond, nego. Call x7332 Lincl. Non-students subjects needed to participate in a study of memory & motor functions, payment is \$30 for 6 2hr sessions. Call Psychology Dept 253-6793 aft 5pm lv name & number on tape.

Rider, adv or interm wntd for 1 or 2 gd horse(s) quiet country setting, trails, dressage ring, jumps & sm x-country course. 45 min W of Bos. Call 366-

Rd to Long Island or NYC Fri, Nov 2, return Nov 4

Rd wkdays, ams, West End MIT to any station on

Ashmont Red line, incl Kendall Sq. Call Anita 494-

Reel to reel tape recorder. Call Ed-2280. Van/truck to rent to drv to Phil & return or person w/empty van/truck who is drv to Phil or van/truck to drv to Phil & Iv, pref around Nov 1. Call Meg

x35756 or 876-9550. Sk volunteers to take part in recreational activities w/adol from Metobilic research unit during wkends. Pls contact Joan Heller, Activities Director Clinical Research Center v3-6331

Roommates

Rmmate to shr lg mod furn 2 BR apt, Nashua, NG, \$160/mo incl all util & phone. Call Jerry x7924 Lincl or NH (603) 889-0365.

Young French W, 19 looking for a place to stay until Apr or May '80, wl pay up to \$180 incl util, furn rm pref. Pls call Martine x3-7080 or 547-8219 aft 8pm.

rmmate wntd to loc & shr 2 BR apt in Back Bay/South End start Jan '80. Call Ronni x3-6038 or x5-9886 Dorm Rmmate M, F or couple to shr lg 2 BR duplex in

Watertown, start Jan 1, -80 to Sept '80, washer dishwash, frplc, furn, \$400 + util split betw rmmates, pets ok. Call 923-9170. M rmmate wtd shr 3 BR hse in quiet safe neighborhd nr Lincl Lab 4 acre wded lot, non-smoker, over 21, pets ok, \$250/mo shr utils. Call x8200 Lincl or 663-6147 eves.

Carpools

Ride in style '80 in deluxe Dodge 15 pass van to & from Hampstead NH. Plaiston, Haverhill, Andover, No. Andover, No. Reading & Wilmington to MIT 8:30-5pm. Call Carl x3-2250.

Parking Stickers

Note to parking sticker swappers: please remember to inform your supervisor and the Campus Patrol of the exchange you have made so that their records accurately reflect your new parking area.

Wl trade l transferable West Gar sticker for main lot or East Gar sticker, financial reward will definitely be considered. Contact Bob 262-8519.

Surplus Property

The following MIT Surplus Property is available for transfer through the Office of Facilities Management Systems. Please contact Dorothy Cavignano x3-2776.

458-108 Tape Recorder, Ampex Model 303-S, SN 987 Rack Mounted, 7175-1 Tape Recorder, Ampex Model 307-2, Rack Mounted, 1 Large Motor, 1 Lot of Scrap Metal, 1 Box Damaged Gages, All in Poor Condition, Case 4169.

Table Saw, 16" blade, double arbor, 42"x48" table MFG American, flat belt drives, w. gd. Case #161.

Miscellaneous

Learn to sing or play the piano, Conservatory grad w/experience in teaching students of all levels now has openings, prv or group instruction, free initial consultation. For info call 643-5791.

Wl do typing, any kind. Call x3-7303.

Violin lessons, instruction from Austrian violin teacher B.M. in Vienna, student at NE Conservatory, all levels welcome. Call Hanna 787-4838.

IBM Self-Correct, typing, theses, manuscripts, resumes, short papers, etc, pro done experience typist, quick & accurate. Call Lisa 327-3295. Pr typing IBM Select, 10 yrs exp, papers thesis etc.

Thesis typing, reports etc, fair prcs, efficient service, self-correct IBM Selectric II. Call Judi x3-2686 betw 9-1pm.

WI do gen, tech or thesis typing, IBM Correct Select, 11 yrs exp. Call x3-6695 8-1.



This list includes all non-academic jobs currently available on the MIT campus. Duplicate lists are posted on the Women's Kiosk in Building 7, outside the offices of 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 Office.

Persons who are NOT MIT employees should call the Personnel Office on extension 3-4251. Employees at the Institute should continue to con-

tact their Personnel Officers to apply for positions

for which they feel they qualify Dick Higham Pat Williams Susan Lester Appointments: Tertia Perkins 3-4270 3-1591 Virginia Bishop Richard Cerrato Ken Hewitt Appointments: Marsha Gens

3-4275

Sally Hansen

Lawrence Milan Kathleen Rick Appointments: Jenni Leibman Admin. Staff, Applications Programmer, in the Information Processing Services Office, to translate external specifications to internal program specifications for new or modified programs; prepare logic diagrams; program; test and debug programs; document programs; assist users. An Associate's degree, or equivalent, some programming experience required. A79-81 (10/31)

Admin. Staff, Subcontract Administrator, Purchasing and Stores will perform high dollar subcontract procurement and administration un-der Institute Federal contracts and grants on cost reimbursement, fixed price, time and materials, and labor hour basis involving research and development of extraordinary technical complexity. Bachelor's degree in accounting or business and several years of applicable subcontract ad-ministration experience, including responsibility for procurement from commercial contractors in areas such as cost reimbursement, negotiated fixed price, etc. required. A79-82 (10/31)

Academic Staff, Postdoctoral Associate, in the Dept. of Nutrition and Food Science will study in-activation mechanisms and stabilization of enzymes involved in solar energy bioconversion processes. Ph.D. required, preferably in Biochemistry of Physical Organic Chemistry. C79-

Admin. Staff, Supervisor, Undergraduate Physics Office to oversee all activities of Office responsible for administration of Department's academic and related programs: creation and maintenance of student records; scheduling of courses, teaching staff assignments; overseeing student advising program; participate in planning special programs and projects for students (i.e., IAP, UROP), publish a student/faculty newsletter; supervise ofpublish a student/faculty newsletter; supervise office support staff. Bachelor's degree or equivalent required as well as ability to do long range planning and demonstrated supervisory skill. MIT experience is desirable. Ability to type self generated material is also necessary. A79-78 (10/24)

Admin. Staff. Alumni Regional Director for Fund, Club activities, Alumni Relations Programs.) Position includes interaction with MIT alumni, faculty and administration as well as considerable travel. MIT degree or extensive

Sponsored Research Staff, Research Specialist, temporary, to provide support in data acquisition, analysis and computer modelling for environmental, health and safety problems in government and private contracts. Interest in health, safety and environmental problems, strong analytical skills, working familiarity with the regulatory activities of OSHA. EPA or similar agency required Master's working familiarity with the regulatory activities of OSHA, EPA or similar agency required. Master's degree in public policy, management, economics, or interdisciplinary science or related degree also required. Knowledge of engineering or technology a plus. Temporary for less than 12 months. R79-316 (10/31)

knowledge of the Institute is required. A79-83 (10/31)

Sponsored Research Staff, Digital Design Engineer, temporary, in the Research Laboratory of Electronics will design PDP 11 and PDP 12 peripheral controllers and DMA I-0 processors, audio signal processing units, devices incor-porating microcomputers and microprocessors. Bachelor's degree required. Psychoacoustics ex-perience helpful. R79-320 (10/31)

Sponsored Research Staff, Research Engineer, temporary, in the Energy Laboratory will test and further develop a computing system for simulation and design of synthetic fuel processes; design and implement FORTRAN computer programs; test and develop computer models; consult on application and use of computer models; consult on application and use of computer models; maintain, updatand document programs and subsystems; train users; prepare reports; direct students on technical projects. Advanced degree in chemical engineering and 1 year's experience in process simulation, or projects. Advanced degree in chemical engineering and 1 year's experience in process simulation, or Bachelor's degree and 1-3 years' experience required. Proficiency in FORTRAN programming good analytical and math skills (including knowledge of numerical methods) and background in process modelling and design and applied thermodynamics also required. Temporary for 6 months. R79-317 (10/31)

Sponsored Research Staff, Project Coordinator will manage and coordinate activities, records and reports for project dealing with housing choice and human aging in the Laboratory of Architecture and Planning. Ability to organize and maintain record systems, schedules, communications and report writing and excellent interpersonal skills neces-sary. At least 3 years experience in project research or management also necessary. R79-319 (10/31)

Sponsored Research Staff, Technical Asst., in Nutrition and Food Science Dept. will help to develop a novel sustained-release polymer system that can be used for the long-term administration of important drugs. Bachelor's or Master's degree in chemistry, chemical engineering or biochemistry required. Laboratory experience also required R79-318 (10/31)

Sponsored Research Staff, Technical Asst., in Tox icology Laboratory, Nutrition and Food Science to investigate alteration in nucleic acid structural function resulting from binding of chemical carcignogens. Work involves isolation and manipulation of bacteriaphage DNA. Bachelor's degree in chemistry or biology required, as well as familiarity with modern analytical techniques required. R79-

Sponsored Research Staff, Medical Laboratory Technologist, will perform clinical tests on patients in a 12-bed research unit and on research studies done on an outpatient basis. Will be working with various types of automated equipment, and a PDP computer system performing hematology, clinical microscopy and chemistry tests. Bachelor's degree and graduation from accredited medical technology school with ASCP registration necessary. At least 2 years' hospital laboratory experience and ability to work accurately and efficiently also necessary. B79-314 (10/31) Sponsored Research Staff, Research Associate, in the Dept. of Civil Engineering's Water Resources Division will perform research in hydro-power systems and stochastic hydrology. Advanced degree (Ph.D. or Engineer's) in Water Resources and Hydrology required. Experience in hydro-power systems and stochastic hydrology also required. Knowledge of Spanish desirable. R79-304 (10/24)

Sponsored Research Staff, Research Chemist, in the Nuclear Reactor Laboratory will perform research in neutron activation, radiochemistry, inorganic chemistry and trace analysis. Master's degree in Chemistry or related areas and ap-plicable experience essential. Strong interest in Multi desciplinary research, especially in areas dealing with ocean chemistry also necessary. R79-

Sponsored Research Staff, Postdoctoral Associate, in the Nuclear Reactor Laboratory will develop analytical procedures for isotope ratio and abun-dance measurements of trace elements in biological tissues and fluids. Work will be pe biological tissues and fluids. Work will be per-formed in Mass Spectrometry Laboratories of the National Bureau of Standards in Washington, D.C. Position requires residence in Washington, D.C. and frequent travel to MIT. Ph.D. with ex-perience in Mass Spectrography and special in-terest in its applications to Biology also required. R79-306 (10/24)

Sponsored Research Staff, Laboratory Supervisor, Sponsored Research Staff, Laboratory Supervisor, in the Center for Materials Science and Engineering will instruct and supervise students in the use of Physical Electronics Model 548 AES/ESCA/LEED system; participate in discussions with potential equipment users; run specimens; perform routine maintenance and general organization and administration. Bachelor's and/or Master's degree necessary. Demonstrated applicable experience also neces-sary. R79-307 (10/24)

Sponsored Research Staff, NMR Spectroscopist (Postdoctoral), in the National Magnet Laboratory will be involved in research and instrumentation activities of the NMR facility. Ph.D. in physics, activities of the NMR facility. Ph.D. in physics, chemistry or biology with thesis project in nuclear magnetic resonance required. Experience in NMR instrumentation, theory and applications to chemistry and biophysics also required. R79-297 (10/24)

Sponsored Research Staff, Biophysicist, Electrophysiologist, in the National Magnet Laboratory to measure magnetic field of human brain using a cryogenic detector; study brain magnetic and electrical response to physical stimuli. A Master's or Ph.D. in the neurosciences required, as well as 2 years' experience in measuring electrical signals from the brain required. R79-301 (10/24)

Sponsored Research Staff, Solid State Spectroscopist, in the National Magnet Laboratory will make and interpret interferometric millimeter, submillimeter and for infrared spectroscopic measurements on semiconductors. Ability to design and operate a very high resolution, lownoise, dispersive, polarizing interferometer to measure complex optical constraints in the fremeasure complex optical constraints in the fre-quency range 60 GHz to 5000 GHz and to prepare computer program for Fourier Transform of terferogram. Ph.D. in solid state physics also quired. R79-309 (10/24)

Sponsored Research Staff, Experimental Physicist or Electromechanical Engineer, in the National Magnet Laboratory to design and construct pulsed power systems for electromagnetic launching and in the Nationa power systems to electromagnetic transfer authoring applied field metal forming. Position requires a Bachelor's degree in physics, electrical or mechanical engineering some related experience, as well as experience with lab and shop procedures. R79-300 (10/24)

Sponsored Research Staff, Research Metallurgist, Materials Scientist, in the National Magnet Laboratory to formulate, produce and improve superconducting alloys and process them into high rrent, high critical field wires. Will measure and optimize and the superconducting and mechanical properties of superconducting wires using high magnetic field and low temperature techniques. A

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Ph.D. or equivalent in metallurgy or materials science with experience in preparation of supercon-ducting materials (simple and composite), and in measurement of stress and strain, critical fields and critical currents at liquid helium temperatures red. R79-302 (10/24)

Coordinator for Women Student Interests, Office of the Dean for Student Affairs, Responsible for service to all women student groups and individuals including information and eferral to faculty and staff resources, offices and other sources of support both within the Campus and in the Greater Boston area; assistance to activities of various women student; publicity of events and meetings. Qualifications include demonstrated communications and organization skills, ability to take initiative in finding out and disseminating information and understanding of and ability to encourage diverse views and in-terests. Prior MIT experience desirable. E79-45

Exempt, Programmer, in the Center for Space Research will be responsible for HEAO-1 A-4 production data and will participate in its analysis. Familiarity with mini-computers, solid knowledge of programming and ability to direct undergraduate students and operators necessary. Bachelor's degree or equivalent also necessary. E70.42 (10/24) E79-42 (10/24)

Exempt, Journals, Advertising and Promotion Assistant, in the MIT Press will be responsible for 13 journals: list research, write copy and supervise direct mail; write and distribute news releases, review lists and other publicity; develop space advertising campaigns; select exhibits and maintain exhibits schedule. College degree and 2-3 years experience promoting books, journals, or magazines requires. Sample of promotional writing, knowledge of postal regulation and attention to detail and scheduling also required. E79-43 (10/24)

Admin. Secretary to the Dean, School of Humanities and Social Science to handle varied responsibilities: read and route correspondence for action; schedule meetings and appointments; arrange travel; type and edit correspondence, and range traver; type and each correspondence, and compose routine replies; maintain personnel records; monitor office accounts; coordinate fellowship application processes, and provide support services to Assistant to the Dean. Excellent general secretarial skills, ability to work independently required. Institute experience and shorthand skills desirable. Non-smoking office. B79-254 (10/31)

Admin. Secretary to the Director of the Nuclear Reactor Laboratory to the Director of the Nuclear Reactor Laboratory to type letters, technical reports; arrange meetings and travel; coordinate and supervise work of other support staff; prepare reports for publication. At least 4.5 years' ap-plicable experience, ability to deal effectively with to organize priorities required. hrs/wk. B79-696 (10/31)

Admin. Secretary to the Director and Associate Director of the Division for Study and Research in Education will maintain calendar; arrange travel and meetings; open, sort and log mail; answer phones and ensure messages are relayed; take and transcribe meeting notes, correspondence and research material; edit materials; initiate correspondence; maintain and review files. Excellent typing and interpersonal skills required. At least 4.5 years applicable experience also required. Good organizational skills, flexibility, initiative and interest in education and research preferred. B79-707

Sr.Secretary, part-time, in the Office of Personal Services to perform secretarial and word processing functions to support the policy manual project and the resume acknowledgement system. Will type and edit manual copy on word processing equip-ment, maintain mailing list and make publication arrangements through Graphic Arts and outside vendors; arrange for and attend Editorial Board meetings. Reseme acknowledgements tasks involve meetings. Reseme acknowledgements casss involved preparing letters on word processing equipment and distributing them for signature. Good to excellent typing skill, ability to meet deadlines and to work accurately with detail required. Knowledge of English grammar also necessary. Ability to operate word processing equipment is preferred, but selected applicant can be trained. B79-709 (10/31)

Sr. Staff Asst. to three Personnel Officers in the Office of Personnel Services will type letters, reports, forms, etc., compose some correspondence; process mail; prepare office forms; maintain calendars; answer phones and inquiries; update job books; assist new employees with forms completion and arrange medical and Benefits/Orientation ap pointments; process resumes; check references; as-sist with reception area coverage and monthly evening interview coverage. Ability to interact with a variety of people, establish priorities and good typing skill and pleasant telephone manner neces sary. At least 2.5 years applicable experience also necessary. B79-704 (10/31)

Sr. Secretary in the Center for Policy Alternatives will type reports, correspondence and proposals from draft or machine dictation; arrange travel, meetings and appointments; answer routine correspondence and inquiries; operate Wang word processor. Good secretarial skills and ability to operate Wang word processor required. At least 2.5 years direct/related experience also required. B79-705 (10/31)

Sr. Secretary in the Center for Policy Alternatives will transcribe machine dictation; type proposals, reports and correspondence (some on word proces-sor); arrange travel, appointments, meetings and conferences; review accounting statements; organize and maintain files; answer phone calls. ogodisecretarial and organizational skills, in-itiative and willingness to learn word processing necessary. At least 2.5 years' applicable experience also necessary. Secretarial school training a plus. B79-706 (10/31)

Sr. Secretary in the Radioactivity Center will type letters, memos, forms from handwritten or dic-tated material; handle petty cash, payroll reports, voucher payments and requisitions; order and maintain office supplies; assist in questionnaire preparation; arrange travel and process travel vouchers; escort patients to other areas on campus for appointments. Excellent secretarial and in terpersonal skills, ability to compose routine cor terpersonal skills, ability to compose routine cor-respondence and command of English language and grammar required. At least 2.5 years ap-plicable experience also required. Professional secretarial background and knowledge of MIT procedures helpful. 37.5 hrs./wk. B79-698 (10/31

Sr. Secretary in the Provost's Office to handle varied duties in a busy office involving much contact with faculty members, senior officers and outside visitors from corporations, other universities, etc. Will have responsibility for a major filing system, complicated travel arrangements, telephoning, preparing correspondence and a to take direction and work closely with other staff members, able to anticipate and recognize office priorities. The ability to work with frequent inter-ruptions, a command of the English language and very good typing also necessary. At least 2.5 years applicable experience also necessary. 37.5 hrs./wk. B79-702 (10/31)

Sr. Staff Asst. in the Libraries Archives section to type various materials from written draft or machine dictation; maintain files; statistics; answer phones; distribute mail; compose cor-respondence; handle a variety of other tasks as written draft or necessary. Good typing skills, ability to work with a group and to perform tasks independently re-quired. At least 2.5 years' applicable experience also required. B79-697 (10/31)

Sr. Secretary in Earth and Planetary Sciences to Sr. Secretary in Earth and Planetary Sciences to work with geology faculty and research staff. Will type scientific manuscripts and class material; schedule appointments; assist with general office projects as necessary. Position includes responsibility for maintaining Department's copy equipment. Excellent typing, ability to transcribe machine dictation required. At least 2.5 years' ap-plicable experience also necessary. Non-smoking plicable experience als office. B79-687 (10/24)

Sr. Staff Asst. in the Libraries Collections Development Dept. will type correspondence; maintain files and time sheets; order supplies; prepare payrolls; assume responsibility for technical reports, including chech-in, claiming and preparing order forms. Will also handle pre-order searching; search orders in catalogues, OCLC terminal and the D255 and serial files to verify entries and to identify duplicates; train and schedule support staff on OCLC terminal. Good typing and organizational skills, ability to handle work ef-Sr. Staff Asst. in the Libraries Collections organizational skills, ability to handle work efficiently and accurately required. College, etarial and/or library expen

Sr. Secretary, in the Sloan School of Management to three faculty members will edit and type research reports; compose correspondence to answer information inquiries; schedule meetings; coordinate travel plans for up to 15 research assistants; operate word processor. Good typing and in-terpersonal skills, command of English language and good telephone manner necessary. At least 2.5 years' applicable experience also necessary. B79-577 (10/24)

Sr. Staff Asst., technical, in the Research Laboratory of Electronics Headquarters will type and proofread technical proposals, reports, cor-respondence, and figure schedules from rough draft; verify calculations and format; maintain files; provide information regarding NIH Training Grants. Technical typing skill required. At least 2.5 years' related experience also required. MIT ex-perience a plus. B79-683 (10/24)

Sr. Secretary, technical, in the Plasma Fusion or. secretary, technical, in the Plasma Fusion Center will type and proofread technical reports, manuscripts and correspondence; answer phones; receive and screen visitors; arrange travel; handle mail duties; reproduce reports; file; schedule ap-pointments. Will also assist in maintenance of a small library and order office supplies. Excellent typing and interpersonal skills, and ability to organize work and set priorities necessary. At least 2.5 years' direct/related experience also necessary. Technical typing experience desired. B79-682 (10/24)

Admin. Staff Asst. to Financial Aid Officer, Admin. Staff Asst. to Financial Aid Officer, Nuclear Engineering Dept. will prepare and process graduate awards, financial aid notices, and maintain financial aid records; provide information to faculty staff and students; type draft and final technical research reports (equations), class notes, correspondence; answer phones; maintain files; arrange luncheon and dinner meetings; compose letters; edit and proof—read; supervise temporary help as required. Ability to work with frequent interruptions, and to set priorities reinterruptions, and to set priorities required. At least 2.5 years' applicable experience also necessary. B79-616 (9/26)

Secretary, to the Director and Assistant Director Office of Minority Education will type cor Office of Minority Education with type crespondence reports, manuscripts, proposals; maintain various files; post and distribute literature for mailing; answer phones. Position requires good typing and general secretarial skills, ability to interact with faculty and students. B79-496 (9/5)

Secretary/Receptionist, in Graphic Arts Service will handle complete telephone system; perform routine secretarial and clerical duties; type and handle purchase orders. Good typing skill and ability to operate a calculator necessary. High school graduation and at least 1 year's related ex-perience also necessary. B79-699 (10/31)

Secretary in the Student Financial Aid Office will secretary in the Student Financial Aid Office witype correspondence and similar materials; provide information and assistance to students applying for financial aid; perform miscellaneous secretarial duties. Excellent typing skill and ability to perform a wide range of duties required. At least 1 year of related experience also requ Secretarial school preferred. B79-693 (10/24)

Secretary, to the Benefits Officers in the Personnel Office, Benefits Section, will type; schedule meetings; file; answer phones and inquires regarding routine benefits inquiries; process application forms; work on a variety of office projects. Excellent interpersonal and good typing skills, ability to set priorities required. High school graduation and at least 1 year's experience also required B79.542 (10/24) quired. B79-542 (10/24)

Sr. Office Asst. in the Industrial Liaison Office will order, replace and organize publication stock and ensure prompt and accurate filling of orders; maintain equipment and supplies; perform library searches; type lists, labels, etc.; train new students. Excellent typing and telephone skills, ability to organize work and set priorities necessary. At least 2.5 years applicable experience also necessary. B79-703 (10/31)

Sr. Office Asst. in the Libraries Historical Collect Sr. Office Asst. in the Libraries Historical Collec-tions will answer written and telephone inquiries; assist visiting researchers in the use of the files; catalogue and file new material; research and write texts for historical exhibits and artifacts. Accurate typing skill and demonstrated writing and organizational ability required. At least 2.5 years applicable experience, or equivalent, also required. applicable experience, or equivalent, also required. Museum experience a plus. 40 hrs./wk. B79-708 (10/31)

Sr. Office Asst. in the Comptroller's Accounting Office will type forms and correspondence; perform reception duties; answer phones; prepare pension payrolls for distribution; review reports for arrears; prepare billings and computer input data and process payments; verify computations and payments. Good typing skill, ability to work with figures accurately and good telephone manner necessary. At least 2.5 years' applicable experience also necessary. B79-685 (10/24)

Sr. Office Asst. in the Alumni Association will process all officer file and regional assignments; process and prepare for mailing, matching gifts received; assist in adding new graduates to rolls received; assist in adding new graduates to rolls and in special projects and other records procedures as necessary. Good typing and interpersonal skills and accuracy required. At least ears direct/related experience also required. B79-692 (10/24)

Sr. Word Processing Operator in the Sloan School of Management will interpret proofreader and editor markings and enter into text editor; type and edit technical manuscripts, lists and cor-respondence; schedule and manage work processing facility; communicate work load priorities to users. Excellent typing and interpersonal skills, ability to set priorities and to work under oc-casional pressure required. At least 2.5 years' ap-plicable experience also required. B79-690 (10/24)

Office Asst. part-time in Earth and Planetary Sciences: answer phones; provide information to callers and visitors; handle reprint requests; xerox manuscripts and other material; type forms and other material; assist with special projects. Posi tion involves contact with students, faculty and staff. High school graduation or equivalent, ability to work with interruptions and typing skill also necessary. 20 hrs./wk., 4 days, preferably morn-ings. B79-701 (10/31)

Office Asst. in Purchasing and Stores will open invoice mail; process and forward invoices for approval; obtain information to solve problem in voices; maintain files. Typing skill desired. At least 1.5 years' applicable experience necessary. B79-686 (10/24)

Office Asst. in the Comptroller's Accounting Office will type vouchers; charge and credit various projects; file; perform miscellaneous duties. Good typing skill, ability to reconcile accounts and knowledge of bookkeeping necessary. At least 1 year of applicable experience also necessary. B79-689 (10/24)

Office Asst. in the Libraries' Microreproduction Office Asst. in the Libraries' Microreproduction Lab will prepare and type invoices and work orders; answer phones and inquiries; process billing; write search cards and retrieve books; file; handle written inquiries and miscellaneous duties; type microfiche captions; return completed reproductions. Good typing, organizational and interpersonal skills, and command of the English language required. At least 1 year's applicable experience also required. B79-680 (10/24)

Service Staff, Technician B, Radiation Protection, in the Environmental Medical Service Linear Accelerator, Middleton, MA to advise personnel on radiation hazards; operate radiation monitoring systems; establish safe radiation zone entry conditions; supervise radiation protection aspects of research. Position requires 2 years post high school, technical school training, emphasizing radiation protection or health physics and some applicable experience. H79-156, H79-157 (10/31) mental Medical Service Linear Ac-

Service Staff, Architectural Designer/Draftsperson, will prepare plans for Institute remodeling and alteration work in Physical Plant. Ability to develop a project from preliminary estimating through design and working drawings required. Five to ten years experience in the architectural field also required. Knowledge of electrical and mechanical systems and related experience or education and field supervision experience preferred. H79-166. (10/24)

Service Staff, Technician A (E-M), in the National Magnet Laboratory will construct, test, and operate highly technical experimental apparatus, including magnetometers, superconducting magnets, high pressure apparatus and electronic measuring and computing equipment.

Demonstrated skills in soldering, welding and electronic construction required. Graduation from a 2 year day technical school, or equivalent, and at least 2 years' applicable experience also required. Familiarity with vacuum and cryogenic systems desired. H70.182 (1094) desired. H79-162 (10/24)

Service Staff, Electrician, in Physical Plant will install and maintain all types of electrical equipment and systems. Ability to work from blueprints, verbal instructions or sketches as necessary. At least 5 years' applicable experience also necessary. May be required to work an irregular schedule and must be available to work all shifts. Electronics ex-perience desirable. H79-159 (10/24)

Service Staff, General Helper, in Graphic Arts to perform routine jobs such as oiling, cleaning of equipment; delivering supplies to Dept. sections. Will operate a copy center xerox machine. Graduation from high school, or equivalent, ability to work overtime as necessary required. H79-170 (10/24)

The following positions were still abailable 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) A79-9, Admin. Staff, Mechanical Engineering

(2/14) A79-47, Admin. Staff, Mechanical Engineer-Operations, Physical Plant (8/15) A79-53, Admin. Staff, Asst. Editor, Technology

Review (8/29) A79-54. Admin. Staff, Director of Alumni Fund,

Alumni Association (8/29)
A79-55, Admin. Staff, Asst. to Manager of Central Utilities Plant, Physical Plant (8/29)
A79-58, Admin. Staff, Industrial Liaison Officer,

A79-59, Admin. Staff, Aystems Analyst, Information Processing Services (9/5)
A79-59, Admin. Staff, Systems Analyst, Information Processing Services (9/5)
A79-60, Admin. Staff, Technical Supervisor, Information Processing Services (9/5)
A79-62, A79-63, Admin. Staff, Applications

Programmer, Information Processing Services Office (9/12)

A79-64, A79-65, Admin. Staff, Systems Analyst, Information Processing services Office (9/12) A79-66, Admin. Staff, Asst. Director of Purchas-ing and Subcontract Administration, Purchasing Office (9/12)

Office (9/12)
A79-67, Admin. Staff, Building Maintenance
Manager (Structural), Physical Plant (9/12)
A79-71, Admin. Staff, Associate Director, Housing and Food Service (10/10)
A79-73, Admin. Staff, Programmer Analyst, In-

formation Processing Office (10/17) A79-74, Admin. Staff, Industrial Liaison Officer,

Industrial Liaison Program (10/17)
A79-75, Admin. Staff, Asst. Director, Associates
Program (10/17) Admin. Staff, Administrative Officer, A79-77, ost's Office/Technology Adaptation Program

SPONSORED RESEARCH STAFF: R77-91, Spons. Res. Staff, Sr. Accelerator Physicist, Lab for Nuclear Science (5/18) R77-137, Spons. Res. Staff, Experimental

Hysicist, Bates Linear Accel. (8/31) R77-228, Spons. Res. Staff, Plasma Physicist, Res. Lab of Electronics (1/4) R78-93, Spons. Res. Staff, Res. Engineer, Civil

K/8-95, Spons. Res. Staff, Res. Engineer, Civil Engineering (5/10)
R79-102, Spons. Res. Staff, Research Associate, Mechanical Engineering (5/30)
R78-105, Spons. Res. Staff, Temp., Lab for Nuclear Science (5/31)
P79-105

R78-135, Spons Res. Staff, Research Lab of Electronics (7/26)

R78-136, Spons. Res. Staff, Laboratory for Computer Science (9/12)
R78-145, Spons. Res. Staff, Electronics Engineer, Lab for Computer Science (8/16)
R78-168, Spons. Res. Staff, Programmer, Center

R78-105, Spons. Res. Staff, Frogrammer, Center for Space Research (8/30)
R78-105, Spons. Res. Staff, Physicist, temporary, Laboratory for Nuclear Science (9/5)
R78-208, Spons. Res. Staff, Postdoctoral Research, Nuclear Materials, Nuclear Reactor (9/27)

R78-209, Spons. Res. Staff, Postdoctoral

(9/27) R78-217, Spons. Res. Staff, Research Associate,

K78-217, Spons. Res. Staff, Research Considered (1978)
R78-228, Spons. Res. Staff, Research Engineer, temporary, Energy Lab (10/18)
R78-246, Spons. Res. Staff, Systems Programmer, Lab for Computer Science (11/1) R78-279, Spons. Res. Staff, Electron Microscopy Engineer, Material Science and Engineering

R78-285, Spons. Res. Staff, Accelerator Physicist, Lab for Nuclear Science (12/13) R78-286, Spons. Staff, Systems Programmer,

R78-306, 307, 308, Spons. Res. Staff, Laboratory for Information and Decision Systems (1/10) R78-311, 312, Spons. Res. Staff, Lab for Computer Science (1/10)

Lab for Computer Science (12/13)

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

R79-24, Spons. Res. Staff, Research Associate, Heterocyclic Chemist, Chemistry (3/7) R79-27, 28, 29, Spons. Res. Staff, Transportation

Rystems, Center for Transportation Studies (2/14) R79-38, Spons. Res. Staff, Policy Analyst, Energy Laboratory (2/28) R79-105, Spons. Res. Staff, Research Associate,

R79-105, Spons. Res. Staff, Research Associate, Meteorology Dept. (5/2) R79-106, R79-107, Spons. Res. Staff, Experimental Plasma Physicist, Plasma Fusion Center (5/9) R79-117, Spons. Res. Staff, Research Associate, Earth and Planetary Sciences (5/16) R79-125, Spons. Res. Staff, Counselor, Upward Bound Program (6/6) R79-129, Spons. Res. Staff, Experimental Plasma Physicist, Plasma Fusion Center (6/6) R79-131, Spons. Res. Staff, Electrical Engineer, temporary, Center for Materials Science and Engineering (6/6) Engineering (6/6)

R79-135, Spons. Res. Staff, Microwave ingineer, Research Laboratory of Electronics

Engineer, Research Backstaff, Research Associate, R79-147, Spons. Res. Staff, Research Associate, Architecture Dept. (6/27)

Spons. Res. Staff, Laboratory for Res. Staff, Laboratory for R79-150, Spons. Nuclear Science (7/11)
Nuclear Science (7/11)
Spons. Res. Staff, Laboratory for

Nuclear Science (7/11)
R79-155, Spons. Res. Staff, Laboratory for Nuclear Science (7/11)
R79-156, Spons. Res. Staff, Project Specialist, Center for Space Research (7/11)
R79-157, Spons. Res. Staff, Technical Asst., Chemistry (7/11)
R79-170, Spons. Res. Staff, Research

R79-170, Spons. Res. Staff, Research Specialist/Technical Asst., Biomechanics and Human Rehabilitation Laboratory, Mechanical Engineering (8/15)

R79-171, Spons. Res. Staff, Research Specialist/Technical Asst., temporary, Mechanical

Specialist/Technical Asst., temporary, Mechanical Engineering (8/15) R79-172, Spons. Res. Staff, Research Specialist/Technical Assistant, temporary, Mechanical Engineering (8/15) R79-176, Spons. Res. Staff, Research Engineer, Electronic, Haystack Observatory (8/15) R79-179, Spons. Res. Staff, Electric Utility Systems, Programmer/Analyst, Energy Laboratory (8/15)

R79-180, Spons. Res. Staff, Design Engineer,

National Magnet Laboratory (8/15)
R79-186, Spons. Res. Staff, Research Associate,
Earth and Planetary Sciences (8/29)
R79-192, Spons. Res. Staff, Electronics
Engineer, Lab for Nuclear Science (8/29)

R79-196, Spons. Res. Staff, Lab for Computer Science (8/29)
R79-206, Spons. Res. Staff, Computer Systems Engineer, Meteorology Dept. (8/29)
R79-209, Spons. Res. Staff, Center for Space Research (8/29)

R/9-209, Spons. Res. Staff, Lenter for Space Research (8/29)
R/9-210, Spons. Res. Staff, Postdoctoral Associate, Lab for Nuclear Science (8/29)
R/9-211, Spons. Res. Staff, Research Scientist, Nuclear Engineering (8/29)
R/9-212, Spons. Res. Staff, Staff Scientist, National Magnet Laboratory (9/5)
R/9-213, Spons. Res. Staff, Plasma Physics Experimentalist, Plasma Fusion Center (9/5)
R/9-215, Spons. Res. Staff, Research Associate, Energy Laboratory (9/5)
R/9-216, Spons. Res. Staff, Technical Associate, Energy Laboratory (9/5)
R/9-219, Spons. Res. Staff, Electrical Engineer, Plasma Fusion Center (9/5)
R/9-222, Spons. Res. Staff, Technical Writer, Energy Laboratory (9/5)
R/9-223, Spons. Res. Staff, Center for Transportation Studies, (9/5)

Attain Studies, (9/5)
R79-225, Spons. Res. Staff, Research Associate,
Materials Science and Engineering (9/5)
R79-227, Spons. Res. Staff, Programmer,
Meteorology Dept. (9/12) R79-228, Spons. Res. Staff, Research Associate, Division for Study and Research in Education

(9/12)

R79-229, Spons. Res. Staff, Technical Systems Programmer/Analyst, Energy Laboratory (9/12) R79-232, Spons. Res. Staff, Oil Market Analyst, part-time, Energy Lab (9/19) R79-235, Spons. Res. Staff, Research Specialist, Materials Science and Engineering (9/19) R79-247, Spons. Res. Staff, Technical Asst., Nutrition and Food Science (10/3) R79-250, Spons. Res. Staff, Sr. Shift Supervisor, Nuclear Reseator Laboratory (10/3)

Nuclear Reactor Laboratory (10/3) R79-263, Spons. Res. Staff, Programmer, tem-

porary, Center for Space Research (10/10) R79-264, Spons. Res. Staff, Financial Manager, Energy Laboratory (10/10) R79-266, Spons. Res. Staff, Systems Designer/-Computer Programmer, Architecture Machine

Group (10/10)
R79-267, Spons. Res. Staff, Computer Systems
Programmer, Architecture Machine Group (10/10)
R79-271, Spons. Res. Staff, Scientific Program-

R79-211, Spons. Res. Staff, Scientific Programmer, Meteorology Dept. (10/24)
R79-280, Spons. Res. Staff, Group Leader,
Plasma Fusion Center (10/17)
R79-281, Spons. Res. Staff, Programmer,
Materials Science and Engineering (10/17)
R79-282, Spons. Res. Staff, Materials Science
and Engineering (10/17)
R79-287 Spons. Res. Staff, Research Scientist

R79-287, Spons. Res. Staff, Research Scientist, Energy Laboratory (10/17) R79-288, Spons. Res. Staff, Technical Asst., Harvard-MIT Division of Health Sciences and

Technology (10/24) R79-293, Spons. Res. Staff, Research Specialist, Cell Culture Center (10/24)

ACADEMIC:

C79-7, Academic Staff, Associate Director of Libraries (5/9) C79-17, Academic Staff, Asst. Librarian, Rotch

Library (7/25) C79-21, Academic Staff, Librarian Documenta-tion Specialist, Rotch Library (9/5) C79-23, Academic Staff, Radiation Protection Office, Medical Dept. (9/5)

C79-24, Academic Staff, Asst. Librarian, Rotch

Ci9-24, Academic Staff, Asst. Librarian, Rotch Library (9/12) C79-25, Academic Staff, Administrative Officer, Division of Laboratory for Animal Medicine (9/26) C79-28, Academic Staff, Manager of Masters Program, Sloan School of Management (10/17)

C79-29, Academic Staff, Inpatient Nurse, Medical Dept. (10/17) C79-30, Academic Staff, Nurse Prac-titioner/Physician Asst., Lincoln Laboratory's Medical Clinic (10/24)

EXEMPT: E79-20, Exempt, Shift Supervisor, Physical Plant (7/11)

E79-24, Exempt, Engineering Asst., National Magnet Laboratory (8/15) E79-25, Exempt, Engineering Asst., National Magnet Lab (8/29)

E79-26, Exempt, Supervisor, Food Service (9/5) E79-28, Exempt, Asst. Auditor, Audit Division

(9/5) E79-30 Exempt, Supervisor - Illustration Ser-

E79-34, Exempt, Facility Manager, Food Service (10/10)E79-36, Exempt, Registered Nurse, part-time,

Clinical Research Center (10/17) E79-37, Exempt, Veterinary Research Technician, Laboratory of Animal Medicine (10/17)

E79-40, Exempt, Facilities Inventory Auditor, emporary, Office of Facilities Management

SUPPORT STAFF:

B79-167, Secretary, Medical, Dept. (4/11) B79-214, Secretary, National Magnet Laboratory (5/9) B79-320, Sr. Staff Asst., Electrical Engineering

and Computer Science (10/17)

B79-321, Sr. Secretary, Mechanical Engineering B79-331, Secretary, Laboratory for Information

and Decision Systems (7/11) B79-351, Secretary, part-time, Center for Cancer esearch (10/3)

B79-357, Sr. Secretary, Physical Plant (7/25) B79-364, Sr. Secretary, Mechanical Engineering B79-373, Sr. Office Asst., Artificial Intelligence

aboratory (7/25) B79-387, Project Documentor, Information Processing Systems Office (9/5)
B79-421, Office Asst., Registrar's Office (8/29)
B79-436, Reactor Operator, Nuclear Reactor Lab

B79-440, Sr. Secretary, Alumni Association B79-443, Library Asst., Lab for Computer

Science (8/29) B79-481, Office Asst., Admissions Office (9/5) B79-488, B79-489, Secretary, Chemical Engineering Dept. (9/5) B79-494, Sr. Office Asst., Treasurer's Office (9/5)

B79-496, Secretary, Office of Minority Educaon (9/12) B79-505, Sr. Secretary, Mechanical Engineering

B79-552, Secretary, National Magnet

Laboratory (9/12) B79-571, Sr. Secretary-Technical, Chemistry

Dept. (9/26)
B79-572, Account Representative, Information
Processing Services Office (9/26)
B79-579, Office Asst., Comptroller's Accounting Office (9/26)

B79-583, Sr. Secretary-Technical, Chemistry Dept. (9/26) B79-584, Sr. Secretary, Center for Materials Processing (10/3) B79-587, Office Asst., Admissions Office (9/26)

B79-589, Secretary, temporary, Biology Dept (9/26) B79-592, Office Asst., Graphic Arts Dept. Secretary, Biology Dept. (19

B79-596, Sr. Secretary, Biology Dept. (10/3) B79-597, B79-598, Console Communications Operator, Physical Plant/Telecommunications Of-B79-601, Sr. Secretary, Nuclear Reactor Laboratory (10/3) B79-605, Office Asst., Plasma Fusion Center

(10/3)

B79-612, Office Asst., Resource Planning and B79-615, Secretary, Campus Information (10/3) B79-616, Sr. Secretary, Nuclear Engineering D

Dept. (10/3) B79-619, Secretary, part-time, Biology Dept.

B79-620, Sr. Secretary, MIT Leadership Campaign District Office (10/10)
B79-624, Jr. Programmer, Laboratory for Com-

Br9-624, 3r. Frogrammer, Laboratory for Computer Science (10/10)
Br9-625, Secretary, part-time, Dept. of Mechanical Engineering (10/10)
Br9-627, Sr. Secretary, Dept. of Political Science (10/10)

B79-628, Word Processing Operator, Word Processing Center (10/10) B79-639, Sr. Secretary, Vice President for Finan-

cial Affairs (10/10) B79-641, Admin. Secretary, Planning Office (10/17)
B79-642, Sr. Secretary, Civil Engineering (10/17)
Contag for Policy Alter-B79-643, Sr. Secretary, Center for Policy Alter

natives (10/17) B79-644, Sr. Secretary, Center for Policy Alter-

B79-651, Library Asst., Libraries (10/17) B79-652, Sr. Secretary, Center for Space

Research (10/17) B79-653, Office Asst., Registrar Office (10/17) B79-656, Sr. Secretary, Earth and Planetary Science (10/17) B79-657, Technical Asst., temporary, Energy

Laboratory (10/17) B79-658, Sr. Staff Asst., Nuclear Engineering B79-624, Jr. Programmer, Laboratory for Com-B79-624, 3r. Programmer, Laboratory for Computer Science (10/10)
B79-625, Secretary, part-time, Dept. of Mechanical Engineering (10/10)

B79-627, Sr. Secretary, Dept. of Political Science (10/10)

Science (10/10)
B79-628, Word Processing Operator, Word
Processing Center (10/10)
B79-634, Sr. Secretary, Materials Science and
Engineering (10/10)
B79-639, Sr. Secretary, Vice President for Financial Affairs (10/10)

B79-641, Admin. Secretary, Planning Office -642, Sr. Secretary, Civil Engineering (10/17) B79-643, Sr. Secretary, Center for Policy Alternatives (10/17)

B79-644, Sr. Secretary, Center for Policy Alter-B79-644, Sr. Secretary, natives (10/24)
B79-651, Library Asst., Libraries (10/17)
B79-652, Sr. Secretary, Center for Space

B79-653, Office Asst., Registrar Office (10/17) B19-655, Sr. Secretary, Earth and Planetary Science (10/17)
B79-657, Technical Asst., temporary, Energy Laboratory (10/17)
B79-658, Sr. Staff Asst., Nuclear Engineering

(10/24)

*B79-665, Admin. Asst., Harvard-MIT Health Sciences and Technology Dept. (10/24) B79-666, Sr. Office Asst., Information Processing Services (10/24) B79-668, Technical Asst., Psychology Dept.

B79-674, Secretary, Dept. of Ocean Engineering

vice (10/24)

SERVICE STAFF:
H78-106, Service Staff, Sr. Technician (Electronic), Plasma Fusion Center (8/16)
H79-33, Service Staff, Technician A (Electronic), Chemistry (4/11)
H79-118, Service Staff, Technician B (Electronic), Architecture Dept. (9/5)
H79-121, Service Staff, Machinist A, Nuclear Reactor Laboratory (9/26)
H79-126, Service Staff, Technician A, National

H79-126, Service Staff, Technician A, National

Magnet Lab (9/19)
H79-129, Service Staff, Machinist A, Nuclear
Reactor Laboratory (L8/29)
H79-134, Service Staff, Technician A (EM), H. 19-134, Service Staff, Technician A (EM), Chemistry Dept. (9/5) H79-137, Service Staff, Swimming Pool Atten-dent, Physical Plant Dept. (9/12) H79-138, Service Staff, Swimming Pool Atten-dent, Physical Plant (9/19)

H79-152, Service Staff, Technician A (Electrical), Bates Linear Accelerator (Middleton,

161, Service Staff, Second Cook, Food Ser-

The following positions have been FILLED since the last issue of *Tech Talk*: H79-123 Service Staff B79-548 Clerical Asst.

B79-525 Sr. Office Asst Spons Res Staff (canceled) R78-117 Sr. Secretary Sr. Secretary Secretary Technical Asst. B79-633 E79-41 Exempt (canceled) B79-329 Clerical Ass Service Staff H79-163 B79-524 Admin. Secretary Sr. Secretary Sr. Secretary Secretary Library Asst. B79-306 B79-675 B79-649 Secretary Acad Staff C79-16 B79-604 B79-632 Office Asst. Spons. Res. Staff R79-201 Exempt Technical Asst. E79-44 B79-562

The following positions are on HOLD pending further decision: B79-578 Secretary

Sr. Secretary Sr. Secretary

Service Staff

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Pounds To Resign

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he joined the Eastman Kodak Company in Rochester, NY, as an industrial engineer. Following service from 1951-55 as a US Navy pilot, he returned to Eastman Kodak where he carried out assignments in methods engineering, cost and statistical quality control and production and operational planning

In 1957 he returned to Carnegie Tech for graduate studies in industrial management, receiving the MS degree in mathematical economics in 1959. During this period he also completed all requirements except for a dissertation for the PhD degree in industrial administration. After receiving the master's degree, he became assistant to the general manager of the Forbes Finishes Division of the Pittsburgh Plate Glass Company of Cleveland, Ohio.

He joined the MIT faculty in 1961 as assistant professor of industrial management at the Sloan School and was promoted to associate professor in 1964 upon completion of his doctoral dissertation and receipt of the PhD degree from Carnegie Tech. In 1966 he was promoted to professor and became dean of the Sloan School, succeeding Howard W. Johnson, who was appointed president of MIT and now serves as chairman of the MIT Corporation.

Under Dean Pounds' administration, a number of new programs have been devloped at the Sloan School including mid-career graduate management education for urban executives and for health care professionals. An accelerated master's degree curriculum has been adopted, through which students may receive the SM degree in management following a twelvemonth intensive program and completion of a thesis.

In addition Dean Pounds has played a prominent role in development of the Sloan School's international programs, and more recently in the international commitments of MIT. In 1964 and 1967 he was a member of the faculty of the Sloan School's Advanced Management Program in India, and in 1965 he organized and directed an operations management program

Dean Pounds is presently working with MIT alumni in Spain on the development of a new technological institute in Madrid. he has also participated in development of MIT programs in Iran, Japan and several Latin American countries

In his teaching and research Dr. Pounds has concentrated on the quantitative methods of modern managerial analysis, on problems of operations management and on the theory of decision making. He was instrumental in developing the operations managerial curriculum at the Sloan School and has earned distinction as an effective teacher.

In 1969-70 Dean Pounds was chairman of an Institute-wide panel to review MIT's policies with respect to its two large special laboratories, Lincoln Laboratory in Lexington, Mass., and the Instrumentation Laboratory, adjacent to the Cambridge campus. After intensive study and a number of hearings, the Pounds Panel recommended retention of both laboratories with a redirection of priorities for the Instrumentation Laboratory. The MIT Corporation, MIT's governing body, accepted the Pounds Panel recommendations, but redirection of the Instrumentation Laboratory priorities proved not to be feasible and the Laboratory was later divested, becoming the Charles Stark Draper Laboratory, Inc.

Dean Pounds consults extensively with corporations and public agencies. He is presently on the boards of directors of the Sun Company, Putnam Funds, EG&G, Inc., The Stop & Shop Companies. Inc., M/A-Com, Inc., and General Mills, Inc.



SOCCER MIT STYLE—Even though the MIT soccer team is struggling with a 1-9-1 record, the team has impressed rivals with its hustling style of play. Left to right John Busa, Al Strong and Bill Uhle (41) battle for loose ball in a game with Tufts. -Photo by Ken Cerino

Respect High, Victory Rare For Tech Soccer Team

Respect. Players yearn for it and teams like the MIT soccer squad develop it during the course of a season. Even though the Engineers are 1-9-1 entering today's final home game of the year against Boston U. (3pm, Steinbrenner Stadium), they have impressed rivals with their hustling style of play this fall.

It's been a frustrating year for Tech because with a break here and there, they could easily be near the .500 mark. Tech's 3-2 overtime loss to defending ECAC champion Colby last Saturday was its fifth one-goal defeat of the season, and eighth by two goals or

MIT led 2-1 on goals by junior Jay Walsh and sophomore Dave Montague (his first collegiate score) before the visitors sent the game into OT with a late goal in regulation. The Engineers outshot Colby, 27-22, but missed several scoring opportunities.

"We deserved to win, but we wound up losing—that's the way it's been all year," said MIT coach Walt Alessi. "Whether we lost by one goal or 10, it's still a loss. I feel bad for the players because they've never let down. They have a positive attitude despite the record.

Opponents agree. "They gave us a tougher time than we expected," said Boston College coach Ben Brewster. "MIT's kids have a lot of character.

"They're a lot better than 1-9," added Brandeis coach Mike Coven. 'The team is young and next season they'll be a lot better. (Guy) Davidson played one of the best collegiate games I've ever seen in goal against us, and (freshman John) Busa is an outstanding fullback."

In Other Sports...

.. The MIT women's field hockey team split a pair of games in its own invitational, beating Clark (2-1) and losing to W.P.I. (4-1) in the championship contest. Tech finishes its season at 6-4-2, the best record in three years of varsity competition.

.The MIT men's sailing team finished fifth in the New England Team Racing championships Sunday on the Charles River. MIT hosts the Schell Trophy Saturday and Sunday at 9:30am both days. The women's sailing team ended its season by placing seventh in the Brown Invitational.

.In club football, MIT fell to 3-3 on the year after losing to Siena, 41-3, in Albany, NY. The Engineers lost five fumbles in the game leading to four Siena scores. Willy Schwartz kicked his second field goal in as many weeks, this time from 29 years out, to account for MIT's only points. Tech hosts Stony Brook State in the season finale this Sunday at 1:30pm in Steinbrenner Stadium. The game was moved from Saturday because several Stony Brook players are taking exams that day.

..MIT's improving women's volleyball team beat Southeastern Massachusetts (2-0) and lost to Keene State (2-0) to go to 6-8 on the season. The cross-country and water polo teams, meanwhile, had

Running Clinic to be Presented On Thursday in Rockwell Cage

Fitness-running in particularwill be examined from all angles tomorrow, Thursday, Nov. 1, from 12:30-2pm in Rockwell Cage in connection with this year's United Way/Boston Black United Fund Drive. The clinic was scheduled to bridge the lunch hours so that as sible can attend all or many as pos part of it.

The idea of a fitness clinic originated with the Cambridge YMCA, a United Way agency. Mike Daly of the Y's Cardiac Rehabilitation Center's fitness clinic will be on hand to demonstrate a cardiac stress test with equipment from the YMCA and to discuss the fitness programs and facilities the agency offers. Anyone interested may inspect the equipment and talk with Mr. Daly at the end of the

A highlight of the clinic will be a presentation by David MacGillivray, who ran the 3,400 miles from Medford, Oregon, to Medford, Mass., in the summer of 1978 in support of the Jimmy Fund. How he trained, and now he managed the daily average of 40 miles running through different terrains will interest all runners.

MIT will be represented at the clinic by Jane Betts, assistant director of athletics, who will give information on the facilities available on campus to the MIT community.

A question and answer period will follow the formal presentations.



Off-Peak Cooling System Developed

(Continued from page 1)

light hours as it turns to liquid (thaws) and giving off heat during the night as it becomes solid (freezes). The process is directly comparable to water changing to ice as it loses internal heat.

The breakthrough in the solarheated building was to package the material in thin enough layers to arrest the deterioration of the chemical under the wringing action of successive heating and cooling cycles. Additives were used to modify the melting point of the mixture for room heating applications. Different additives have been used to adapt the solution to the cooling process.

In the solar-heated building, the melting point of the mixture is about 73 degrees, which acts as a thermostat and automatically maintains the room air temperature between a low of 63 and a high of 740F. In its modified state for cooling purposes, the melting point has been lowered to 66 degrees by the addition of chemicals. This insures that the room has a temperature between 70° and 78°F even though heat from lights and equipment wants to lift the temperature into the 90's.

Mr. Johnson and Charles Crisp Benton, a graduate student, recently completed tests at a fullscale system installation on the MIT campus.

The test installation had about 475 square feet of floor area and 300 square feet of ceiling tile containing the chemical solution.

Benton added, "The salts were fully frozen during the period at night when the air conditioners cooled the area, and room air temperature behaved roughly as predicted during the daytime mode. The radiant 'cool' of the ceiling contributed to a comfortable, draftless environment. In conjunction with other conservation measures, the proposed offpeak cooling system is one step toward a more rational use of our valuable energy supplies."

The heat absorbing medium is a chemical formulation contained in a pouch measuring one foot by two feet by 3/4 inch. The formulation and mode of packaging was developed and donated by Cabot Corporation of Boston, Massachusetts, and manufactured by Colloidal Materials, Inc, of Andover, Massachusetts, the Cabot licensee. The pouches are distributed throughout the ceiling plane of the test area on special cementitious trays that

Whitelaw Named MIT Diving Coach

Andrea Whitelaw of Lexington has been named diving coach for both the men's and women's swimming teams at MIT. She is the daughter of Eastern College Athletic Conference (ECAC) commissioner Scotty Whitelaw.

An all-American at Michigan and Arizona State (1974), Ms. Whitelaw placed second in the one-meter and fourth in the threemeter diving events at the 1973 National Association for Intercollegiate Athletics for Women (AIAW) championships. She attended the Olympic Trials in Chicago in 1972.

A native of Milton, Ms. Whitelaw has served as diving coach at nearby Weston High School the

past two years.

Crist to be Installed

The Reverend Jessica Crist will formally become MIT's Lutheran chaplain at a Service of Installation in the MIT Chapel tonight (Wednesday, Oct. 31) at 5pm. Rev. Ms. Crist has been at MIT for nearly three years, first as vicar to the Rev. Constance Parvey and for the past year as chaplain intern. She received the MDiv degree from Harvard Divinity School in June 1978 and was ordained last June following her internship.

resemble office ceiling acoustic tiles. The 2 by 2 foot tiles, which are 1/8 inch thick, were developed by the Exploratory Research Department of Owens Corning Fiberglas Corporation of Toledo, Ohio, as part of a joint development effort by MIT and OCF.

At night, the chemical solution is charged-frozen-by circulating chilled air with conventional air conditioning equipment through the plenum space above the bag-

ged chemical.

It is anticipated that in a conventional office building the special tiles would be distributed over approximately 65 percent of the finished ceiling area. The balance of the ceiling could be finished in acoustical tile.

The MIT researchers, using a statistical model of a 757,000 square foot Boston office building, determined that the system could yield yearly savings-at existing rates-of \$78,000 vs. an estimated installation cost of \$953,000.

The resulting "straight-line" payback would be 12.2 years, again when based on existing rates.

However, Johnson and Benton point out, "Major economic benefits can be expected with the future adoption of time of day pricing structures in the United States. The National Energy Act requires all state regulatory commissions to consider off-peak electrical pricing within the next three years. And European precedent indicates that time of day pricing is a promising load management technique that is particularly suitable to air conditioning. Off-peak air conditioning, if widely adopted, can provide major benefits to utilities, consumers, environmentalists and government agen-

Blackwork Class

Priscilla Gray will offer a day-long workshop in blackwork (counted thread) embroidery on Saturday, Nov. 17, 9:30am-3pm, in the Emma Rogers Room (10-340). Preregistration is necessary so that adequate supplies will be available. Those interested are asked to call Mrs. Gray at

Ralph W. MacKnight

Memorial mass will be held Saturday, Nov. 10 at 11:30am at St. Theresa's Church, Harvard, Mass., for Ralph W. MacKnight, 44, of Cambridge, who died Octo-

Mr. MacKnight had been an engineering assistant at the Lincoln Laboratory since 1955. He is survived by his parents, John R. and Helen (Yauga) MacKnight; and a brother, Martin.

Memorial contributions may be made to the Cotting School for Handicapped Children, St. Botolph Street, Boston.

Thomas Fraher

Thomas Fraher, 63, of Winthrop, an administrative assistant at the Lincoln Laboratory since 1952, died October 25.

Mr. Fraher is survived by his wife, Alice F. (Sears) Fraher; three sons, Lawrence E., Stephen J. and Thomas M., all of Winthrop; a brother, Edward Fraher of Norwood; and a sister, Sister M. Dionysia, C.S.J., of St. Clement's, Somerville.

Memorial contributions may be made to the Massachusetts General Hospital, Cancer Research, Blossom Street, Boston.

Edwin J. Bryan

Edwin J. Bryan, a plumber at the Lincoln Laboratory from 1955 until his retirement in 1971, died October 22. He was 73 years old.

Mr. Bryan, who lived in Medford, is survived by his wife, Mary C. (Mulcahy) Bryan, five nieces and one nephew.

Memorial contributions may be made to the Steeple Fund of St. Francis of Assisi Church.