

MIT Faces \$7.1 Million Operating Gap in Current Budget

MIT has a \$7.1 million operating gap—about \$4.4 million more than last year's—in its \$217 million budget for the current 1973-74 fiscal year, Chancellor Paul E. Gray has told the faculty.

In order to balance the budget, Dr. Gray said, the Institute will have to use all \$4.9 million in currently available unrestricted funds—\$3.8 million in anticipated unrestricted income and \$1.1 million carried over from last year—as well as \$2.2 million from reserve funds.

The unrestricted funds constitute the most flexible financial resource available to the Institute,

Editor's Note: Chancellor Gray made a detailed presentation of the Institute's budget and fiscal prospects at the October 17 faculty meeting. Because of the low attendance at the meeting and the

the chancellor said, and in the past have been used primarily to build new endowment and for physical facilities.

Dr. Gray said the large increase in this year's operating gap had two principal causes:

First, the effect of inflation on purchases, particularly an additional \$750,000 for energy over and

interest in the subject throughout the MIT community, Tech Talk is presenting this report on the chancellor's remarks and on additional comments by President Wiesner.

above what was estimated last spring.

Second, the divestment of the Draper Laboratory, which added about \$3.4 million to the amount needed to balance the budget.

Of this \$3.4 million, he said, about \$1 million will be a recurring cost increase resulting from the fact that indirect costs will be

spread over a smaller direct cost, or research, base.

The other \$2.4 million of the \$3.4 million will be a non-recurring cost this year, he said, because the frozen overhead rates under which the Institute agreed to operate for the first year after divestment are less than the true rates by a three-to-four-point margin. This cost will be eliminated, he said, once the recoverable overhead rates, which are arrived at through negotiations with the government, rise to their true levels next year.

Outlook for Next Year

The chancellor said that the use of reserve funds to cover this non-

recurring cost of the divestment "seems quite appropriate, if regrettable."

The outlook for next year, 1974-75, Dr. Gray said, "depends crucially on the impact of budget reduction efforts that we will undertake in the next few months, as well as on the future impact of inflation in both purchases and in salaries and wages."

He said budget trimming would be "increasingly difficult" in that "most of the obvious savings have been taken" and further cuts may mean discontinuance of important programs and services.

The largest cuts in the past two years have been in the support areas, he said, but "the emphasis in the next year or two must shift somewhat toward the academic budgets."

"If the last two years are lumped together," he said, "the budget reductions we achieved amounted to about 11 percent and 9 percent in the General and Administrative and Plant areas respectively and to about 1 percent in the Academic area, after allowing for the allocation of general funds for new or expanded academic programs."

"I recognize that to many of you it did not feel like 1 percent," he added, "and that in fact some undertook budget reductions of up to 8 percent."

The Institute, the chancellor said, must look closely at the possibility of increasing what might be called its "educational productivity" as one way of coping with fiscal problems caused by long-term and chronic inflation.

This may mean moving in the direction of more teaching and more students, he said, by increasing the size of the student body and by expanding the summer session, or considering year-round operation.

Cost of Standing Still

The chancellor indicated that these directions can and will be pursued creatively so as to enhance and expand the educational value of the Institute's programs for present and prospective student groups.

While short-term problems may be met by reducing costs as necessary, Dr. Gray said, there is "imbedded in the progression from one year's budget to the next a problem which has serious long-range consequences."

"This problem," he said, "which casts such a long shadow on our planning, is manifested by a chronic and persistent imbalance in the rates of growth of the Institute's expenses and income."

"Even without additions to programs," he said, "expenses rise faster than income, and the reasons seem quite fundamental. They relate to the fact that salaries and wages, which account for nearly half the current total budget of \$217 million, grow at a rate which exceeds by a significant margin the rates of growth we can foresee for tuition and investment income."

"This fact, coupled with the observation that, in the aggregate, the annual flow of gifts and grants

MIT School of Engineering Called Best of Its Kind

MIT's School of Engineering is the best of its kind in the nation and the MIT Department of Architecture ranks second among schools of its discipline, according to a national survey of graduate professional school deans.

The survey, conducted by Rebecca Zames Margulies, a doctoral candidate in sociology at Columbia University, and Peter M. Blau, professor of sociology at Columbia, is reported in the November issue of *Change*, a leading magazine in the field of higher education.

The graduate school deans were asked to list, in no particular order, the best five schools in each of several fields. The schools that appeared on the most lists were the ones the survey ranked as first in each discipline.

Forty-eight of 52 deans of engineering who responded listed the MIT School of Engineering. In second place was Stanford University, listed by 31 of the 52 deans.

Fourteen of the 21 architecture deans responding listed MIT's Department of Architecture. That was one fewer than those who listed the University of California, Berkeley, the first-place school.

MIT's Department of Architecture was the first such department to be established at an institution of higher learning.

In addition to engineering and architecture, the other disciplines ranked were business, education, law, library science, nursing, pharmacy and social work.

Professor Blau, a nationally prominent sociologist, is president of the American Sociological Association and is considered an authority on organizational structures.

Ms. Margulies, the co-author, is a graduate student in Columbia's Comparative Organization Research Program.

The rankings by the deans are part of a larger study of the administrative and organizational structure of 1,180 accredited professional schools affiliated with universities made under a grant from the National Science Foundation.

30 Percent Slash

Sudden MIT Oil Cut 'A Major Emergency'

A critical reduction in MIT's fuel oil supply for the coming winter was imposed on the Institute suddenly by its two major suppliers this week precipitating what one official described as a major emergency.

Both White Fuel Co. and the Metropolitan Petroleum Co., which together supply MIT with its fuel oil, informed Thomas E. Shepherd Jr., superintendent of utilities in the Physical Plant Department, late Monday that they will be able to supply only 70 percent of the Institute's needs during November.

Shepherd said indications are that similar reductions will be imposed during subsequent months due to national oil shortages.

Philip A. Stoddard, vice president for operations, said numerous steps are being taken, effective immediately, to conserve oil, including reduced heating and ventilation for some buildings, particularly at night.

"Nevertheless, the situation has become critical and we are going to need patience, cooperation and assistance from everyone if we are to continue operating through the winter," he said.

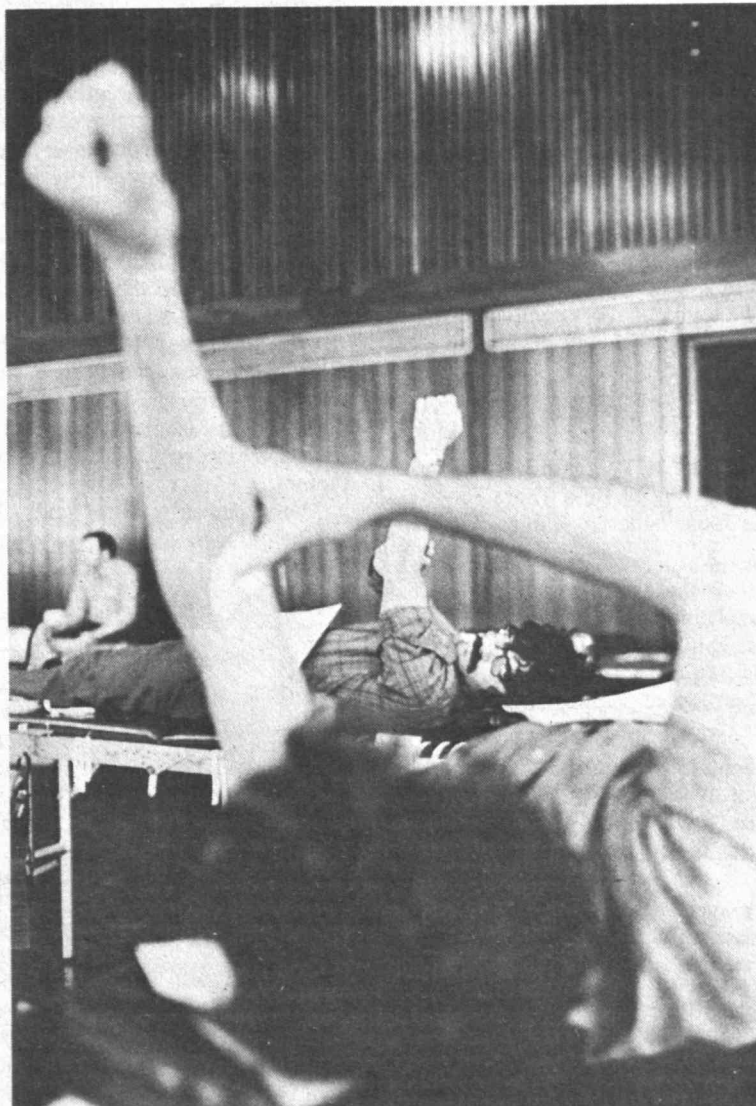
Stoddard said White and Metropolitan, under the voluntary oil allocation program imposed by the federal government earlier this year, agreed by contract last July to supply MIT with as much oil this

year as last.

"Supplies have dwindled, however, and they are simply unable to meet these commitments," he said. "We cannot turn to other suppliers since, under the voluntary allocation plan, they, too, are committed to the same customers they had a year ago."

MIT keeps a reserve supply of oil in Vassar St. storage tanks on the North Campus, Stoddard said. If these supplies were used, however, to make up for the 30 percent November cut imposed Monday, "our entire reserves would be exhausted this month and we would face the rest of the year starting in December with no reserve and the probable prospect of being able to find only 70 percent or so of our anticipated needs, based on last year's consumption rate."

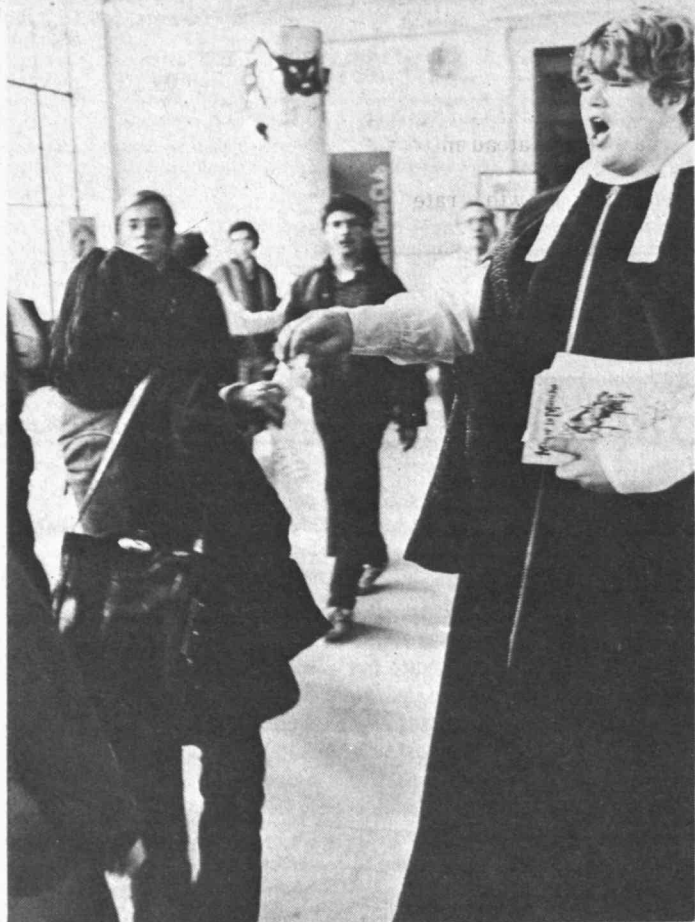
"We are simply going to have to husband our reserves and stretch them out as much as we can starting immediately and reduce energy use wherever and whenever we can," he said. "It is not exaggeration to call this a major emergency for the Institute."



MIT BLOOD DRIVE—Putting the pressure on for more MIT blood are William S. Sayers (facing away from camera) a senior from Ho-Ho-Kus, N.J. and Michael A. Tersoff, a junior from Washington, D.C. Donations are being scheduled for the final days of the drive—Wednesday, Thursday, and Friday, Nov. 7-9, from 9:45am to 3:30pm—at the desk outside of the Sala de Puerto Rico or by calling Ext. 3-7911. Unscheduled donations will be taken around the noon hour. This year's goal is 1600 pints of blood.

—Photo by Margo Foote

(Continued on page 3)



In his role as crier for 'Man of La Mancha,' Erland van Lidth de Jeude towers over passersby. —Photo by Margo Foote

He Fills the Bill Amply For 'Man of La Mancha'

By ROBERT DI IORIO
Staff Writer

Erland van Lidth de Jeude may be the most effective hand bill passer-outer in the history of the advertising game, or—at the very least—in the history of MIT, where he is a sophomore in computer science.

Good hand bill distributing requires high visibility, exceptional positioning, a commanding presence, and selfless dedication on the part of the distributor.

Mr. van Lidth de Jeude puts all those together in a way that would be extremely effective—even if he weren't a 330-pound, six-foot-six varsity wrestler.

For the last several days, dressed in an ankle-length black robe, Mr. van Lidth de Jeude has been promoting the MIT Musical Theatre Guild's production of "Man of La Mancha," in which he plays Dr. Carrasco.

(The musical will be performed Friday and Saturday, Nov. 9 and 10, in Kresge Auditorium. Curtain time will be 8pm.)

As he passed out handbills, from time to time he sang songs from the production in a rich and strong baritone.

"Would you believe I started out as a boy soprano," Mr. van Lidth de Jeude told *Tech Talk*. "I had a range of three octaves and I could hit E above soprano high C."

The 19-year old Mr. van Lidth de Jeude's interest in singing began long ago in elementary school. Wrestling is something new for him, but it's not his first try at sports.

"I've been jocking a long time," he said. At Ridgefield High School, in Ridgefield, Conn., he put the shot. When the family moved to New Hampshire in his junior year, Mr. van Lidth de Jeude played football—offensive center, defensive tackle—for Milford High School.

He got his first taste of wrestling in the MIT intramural tournament, which he won as a freshman. Living at Beta Theta Pi—"a wrestling house," Mr. van Lidth de Jeude called it—intensified his interest in the sport.

"I love wrestling. It's a good, clean sport, a fair sport. I didn't like football. It has some nasty aspects to it," he said.

Despite his size and strength, Mr. van Lidth de Jeude is at a disadvantage because he lacks wrestling experience. Many of his collegiate opponents have been wrestling since junior high school days.

He also has problems finding people big enough to give him a meaningful workout.

"Last year I was lucky enough to be able to work out with Jim Nance, but he's in New York with the Jets now," Mr. van Lidth de Jeude said.

Nance, a professional football player formerly with the New England Patriots, was national heavyweight wrestling champion for two years when he was at Syracuse University.

Despite his lack of experience, Mr. van Lidth de Jeude won the Greater Boston heavyweight wrestling title last year. His first match this year will be Dec. 4 against the University of New Hampshire and Massachusetts Maritime Academy.

"The coaches want me to weigh 300 pounds this year," he said. That means he's got to lose 30 pounds in about a month. Will that be much of a problem?

"No, not really," he said. "Besides there isn't a scale around MIT that will weigh more than 300 pounds."

New Uniform Salary Program To Be Developed for MIT Staff

MIT will soon undertake to develop a uniform salary program for the Institute's approximately 400 administrative staff and academic administrative staff positions, John M. Wynne, vice president for administration and personnel, has announced.

The Institute will be advised and assisted in devising and implementing the program by the consulting firm of Robert H. Hayes and Associates. The entire study, including initial implementation, will take about six months, Mr. Wynne said, and will be carried out with extensive involvement of staff members and Institute officials.

A primary goal of the program, he said, is to establish salary grades—with a range of salaries within each grade—for all staff positions.

He said that no person's salary would be reduced because of the new program, and that some salaries could be increased.

Explaining the need for the program, he said:

"As the administrative functions of the Institute have expanded in range and complexity, and the staff has grown accordingly, we have become increasingly concerned about the effectiveness of our methods of salary administration.

"The present unstructured approach rests upon the doubtful assumption that individuals of varying orientation and work focus can

be expected to make independent judgments about salary matters which will be consistent and equitable when viewed as a whole. It provides no systematic framework or guidelines for assuring consistency across organizational lines, or for maintaining an appropriately competitive relationship to the outside salary market.

"Officials of the Department of Health, Education and Welfare, in connection with their reviews of our affirmative action program, have also raised questions as to our capacity to assure equitable treatment of minorities and women without a more systematic program of salary administration."

It was the result of these concerns, he said, that MIT invited and accepted a proposal from Robert H. Hayes and Associates, Inc. The consulting firm, with offices in Chicago and New York City, has developed similar programs for several universities and a number of industrial firms, Mr. Wynne said.

Among the universities are Cornell, George Washington, Michigan State, Northwestern, Iowa and Michigan.

Several meetings were held this fall, before the firm was retained, at which Mr. Hayes explained the proposed salary program to senior members of the administrative staff.

He listed the major objectives of the program as these:

It will provide internal equity by

paying similar rates to classifications with similar levels of responsibility, regardless of where the classifications are located within the central administration organization.

It will provide a fair system for rewarding individual performance through regular salary increases within grade and through more equitable opportunities for promotion to a new position. As a by-product, it will clarify career paths within the central administration organization.

It will provide a mechanism for regular analysis of prevailing compensation levels in similar institutions and will thus be of help in insuring that MIT is competitive in all classifications.

It will be of great assistance in the Institute's Affirmative Action Program by insuring that employees receive equal pay for equal responsibility.

Mr. Hayes emphasized that the program will be developed in a "spirit of openness" and with participation by a broad cross section of the staff members affected. There will be a continuing exchange of views with the administrative staff and its leadership. In addition, peer committees will be established to participate in the evaluation process, and Mr. Hayes and his associates will be aided by a steering committee made up of members of the administrative and academic administrative staffs.

Women Student Applications Soar

Nearly four times as many women as ever before have expressed an interest in attending MIT, according to preliminary application figures.

Altogether, more than 1,400 female high school students have filed preliminary inquiries with the MIT Admissions Office, as of Nov. 1. The previous high figure at the same time a year ago, was 435.

However, MIT director of admissions Peter H. Richardson said it is too early to anticipate any true impact of this show of interest.

"A more accurate picture will emerge when final applications are received in December and January," Mr. Richardson said. "But it appears that we have finally succeeded in getting the message across that there are women at MIT."

Mr. Richardson attributed the increased interest to a number of factors.

"A major reason," he said, "is the heightened awareness young

women have of the wider career choices available to them. More of them are showing interest in those science and engineering fields that have traditionally been thought of as male.

"Also, MIT has been actively seeking and recruiting qualified young women for several years with the help of the women students themselves," Mr. Richardson said.

As one part of this effort, MIT this summer issued a booklet, "MIT: A Place for Women," which was compiled by women students. The booklet was mailed to 10,000 female high school juniors who had scored well on Preliminary Scholastic Aptitude Tests.

"Nearly half the inquiries we have received so far can be attributed to the mailing," Mr. Richardson said. "Members of our staff who have been visiting high schools also report an increase in the number of young women in-

terested in MIT."

He also cited publicity surrounding the centennial commemoration of the first woman graduate of MIT in 1873.

There were 115 women in the 900-member freshman class which entered MIT in September. The number of undergraduate women at MIT has doubled within the past five years to today's total of about 500.

Reporting Advisory

Certain former or retired military and civilian employees of the Department of Defense (DOD) and the National Aeronautics and Space Administration (NASA) now employed by defense or NASA contractors are required to file an annual employment report of DOD or NASA related work. The reports must be filed by Nov. 15.

Institute employees who have questions about their DOD or NASA employment status should call the Office of Personnel Services, Ext. 3-1593. Forms are available from Susan Lester, Room E19-239.



TAY PAYMENT of \$830,080.60 from the Massachusetts Institute of Technology to the City of Cambridge is made by Kimball Valentine, left, assistant to the treasurer at MIT, to Philip A. Lazarus of Cambridge, head cashier in the city treasurer's office. The sum is for real property taxes this year on non-exempt property owned by the Institute. MIT also makes an annual voluntary payment to the city in lieu of taxes. In the past five years, MIT has paid more than \$8 million in taxes and in payments in lieu of taxes to Cambridge. These payments include real estate taxes paid directly to the city by tenants of MIT on investment properties owned by the Institute.

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(Continued from page 1)

appears to have settled at a plateau in the past two years, means that balanced budgets inexorably grow out of balance, and operating gaps grow exponentially unless budgets are trimmed anew each year."

As for tuition, he said that the Institute must try to hold the rate of increase "to the 5 or 6 percent-per-year range" in order to keep the rate of growth below the rate of increase of median family income in the United States.

The \$250 tuition increase for next year, announced last month, corresponds to 8 percent, Dr. Gray said, and "is larger than either our

policy objective or what can be sustained over several years."

Inflationary Pressures

Extraordinary inflation pressures now being felt, and likely to continue in the next eight months, seemed to require a larger than normal increase, Dr. Gray said.

"We hope and expect that this larger-than-normal increase will not be repeated," he said.

Other major income sources mentioned by Dr. Gray were contract allowances for indirect costs, investment income, and gifts.

The first is an after-the-fact allocation against known real costs and thus grows no faster than costs grow unless there is real

growth in the research base as against the instructional base, he said.

On investment income over the next few years, a growth rate of 6 percent per year would be "extraordinarily" good, he said, although a projection of 2 to 3 percent per year "may well turn out to be closer to the mark because of federal limits on dividend growth, the fact that a large portion of the Institute's investments are in real estate (really intended for the future physical development of the Institute) and the uncertain nature of the securities market generally."

Dr. Gray said he could not predict with any confidence the near-

term growth of gifts and grants, noting again that they appear to have reached a plateau in recent years.

When the growth rate of expenses and income "are collected in a dynamic model of the Institute's operating budget," Chancellor Gray said, "the result is an imbalance in which the annual growth of expenses exceeds the annual growth of income by an amount which lies at present in the range of \$1 to \$1.5 million."

He said it was important to recognize that this was the "first difference of either the need for unrestricted funds in operations or the operating deficit. Thus a budget which is in balance in one year,

will be out of balance by \$1 to \$1.5 million in the next year, by \$2 to \$3 million in the second following year, etc., even without additions to programs."

It was the recognition of this long-term chronic problem, Dr. Gray said, that led to the decision that extra measures are required beyond budget cutting, which he said would have a "corrosive" effect on the quality of the Institute if continued each year on a large scale.

Future Measures

The first of these measures—the attempt to increase "educational productivity"—would, he said, "necessitate careful examination of most aspects of our institutional life style and may bring some changes in some traditions, habits and modes of operation that are long-standing."

The second requirement, he said, would be to "redouble our efforts to develop higher levels of outside support" for endowment and program funding. Toward that end, he said, Institute officials would soon be discussing a possible "new major fund drive."

Dr. Gray said he was hesitant to apply the term "productivity" to the educational process, "in which one properly focuses so centrally on the individual."

"In suggesting that the Institute move to increase the productivity of its educational programs," he said, "I mean that we must use the human, intellectual and physical resources of the Institute more fully in teaching larger numbers of students, who may represent entirely new constituencies." He continued:

"There are, of course, problems without number that must be faced if we are to accomplish this.

"They relate to housing, which now limits the size of the undergraduate student body, to financial aid and graduate student support, where financial resources of a different kind are already stretched very thin, and to the degree, which differs greatly among departments, to which additional students can be sustained by this faculty and by the present or foreseeable research enterprise."

Dr. Gray said there probably would be no problem in finding additional qualified students. "We are not tapping all of the pool of potential students," he said.

Dr. Gray said "we are talking about using our capabilities to the fullest extent." He mentioned "classes which are too small—we have a very large number of small classes—and a plant which lies idle in the summer."

President Jerome B. Wiesner said that "all public service institutions" are facing fiscal problems "because of chronic inflation—and it's not a problem that we can face in the short term."

He said that MIT was better off than most private colleges and universities, but added that this was "poor comfort because we are all in the same boat."

He said that public institutions also are having difficulties, as states fail to fund them adequately, "and that they are now turning to philanthropic bequests—which competes with us."

"This is the year," he said, "in which our creative energy and time must go into finding ways of coping with the problem.

"We could make life much easier over the next few years if we used our capital," he said, "but we would be short-changing our future. Unless some major fiscal crisis occurs, this is not the way to behave."

CAP Will Ask Faculty Shift Spring Term

The Faculty will be asked at its November meeting to approve a shift of three days in dates for the starting and ending of the Spring Term.

The proposal is being made by the Committee on Academic Performance in an effort to provide more time at the end of the term for consideration of degree candidates' qualifications and to improve communication between the Institute and degree candidates before Commencement.

The proposed change would not result in fewer class days during the Spring Term.

If adopted, the motion would move Registration Day for the Spring Term from Feb. 4 to Jan. 30. The Independent Activities Period would end Jan. 29, one day earlier, and the two-day vacation period, Jan. 31 to Feb. 1, would be eliminated.

Final exams would be given from May 15 to May 18 rather than from May 20 to 23. Other activities at the end of the term would be re-scheduled in accord with the proposed changes.

Commencement would remain on May 31.

Travel During IAP?

Would you like to spend IAP in France, Italy, Israel, Russia or the United Kingdom? See the Foreign Study Office, Room 10-303, ext. 3-5243 for details.

Obituary

Mary Goodwin, 102, Widow of Dean

A memorial service for Mrs. Mary Blanchard Goodwin, widow of Dr. Harry Manley Goodwin, first dean of the MIT Graduate School, will be held at 11am today, Wednesday, Nov. 7, at First Parish Church, 382 Walnut St., Brookline.

Mrs. Goodwin, of Brookline, died Saturday, Nov. 3, at the age of 102. She and her son, Professor Richard H. Goodwin, of New London, Ct., established the Goodwin Medal in 1950 as a memorial to Dr. Goodwin. The Medal honors conspicuously effective teaching by graduate students. Until recently Mrs. Goodwin had often attended the award presentation at the annual commencement luncheon.

Besides her son, Mrs. Goodwin is survived by two grandchildren, Mrs. Bruce K. Wetzel and Richard H. Goodwin, Jr., both of Bethesda, Md., and two great-grandchildren.

Jack Aranson in 'Moby Dick'

'...the harsh, flinty, arrogant valor of the 19th century New England mind.'

The Compton Lecture Series will present Jack Aranson in *Moby Dick*—a one-man theater piece adapted by Mr. Aranson from Herman Melville's novel—Wednesday, Nov. 14, at 8:30pm in the Kresge Auditorium.

Admission will be free with tickets distributed to the MIT community Nov. 12, 13 and 14 in the lobby of Building 10 on presentation of ID. Remaining seats will be made available to the public ten minutes before curtain time.

Jack Aranson has been called San Francisco's renaissance man of the theatre. T.E. Kalem, of Time magazine, wrote of Mr. Aranson's performance, "Through the 12 characters and 16 scenes, he never relinquishes the mood of intense spiritual crisis. He conjures up the harsh, flinty, arrogant valor of the 19th century New England mind..."

The Karl Taylor Compton Lecture Series was established in 1957 to honor the late Karl T. Compton, President of the Institute from 1930 to 1948 and Chairman of the Corporation from 1948 until his death in 1954. The series is broadening its scope to include areas of the arts as well as contemporary social problems and issues.



Jack Aranson

Concerts of Bach Partitas Mark Harpsichord's Debut

The Noon Hour Concert series in the MIT Chapel—now in its eighth season—will continue Nov. 15 with the second of three recitals honoring the debut of a new harpsichord.

To mark the occasion, John Cook, director of the Noon Hour Concert series, has selected the entire set of Bach Partitas for the recital programs, which began Oct. 25.

Harpsichordist for the debut series is John Gibbons, instructor at the Boston Museum of Fine Arts' Camerata School and harpsichordist to the Museum's music collection.

The final two concerts in the series on Nov. 15 and Dec. 13 will

include Partitas Nos. 3-6.

The new harpsichord, built this spring for the Institute by William Dowd, of Cambridge, is a two-manual harpsichord in the 18th century French style. It is an "expressive double," having two keyboards and three sets of strings—two at eight-foot pitch and one at four-foot pitch.

Scheduled for tomorrow, Thursday, Nov. 8, is a noon hour concert by organist and harpsichordist James Busby, with Dolores Leffingwell, soprano. They will perform Buxtehude's *Chaconne in E minor*, the Mozart *Agnus Dei*, Bach songs from *The Notebook for Anna Magdalena* and songs by Handel and Hugo Wolf.

\$100,000 United Way Relief Aids Chelsea Fire Victims

The United Way of Massachusetts Bay has made \$100,000 in emergency relief available to agencies and services aiding victims of the Chelsea fire.

The sum was allocated among the following local Chelsea agencies: Alianza Hispanica, the Red Cross, the Salvation Army, the Catholic Charities, the St. Vincent de Paul Societies, the Jewish Family and Children's Service and the YMCA and YM-YWHA.

Emergency community relief is one of many ways the United Way serves community needs.

At MIT, "Turning Point," a 10-minute movie starring Cliff Robertson, further explains the United Way-United Black Appeal campaign and its related services.

The film can be seen this week at the following times and locations:

Wednesday, Nov. 7—8am—Carpenter Shop—E18-172; 10am—Physical Plant—E18-210; 12:30pm—Pipe Shop—E19-121; 2:30pm—Walker Dining Hall; 3:45pm—Pipe Shop—E19-121.
Thursday, Nov. 8—8am—Heat and Vent Shop—E18 basement; noon—Sloan School—Schell Room, E52-461; 12:30pm—Briggs Field House—Armory basement, W31; 2:30pm—Building Service—3-133; 4pm—Bush Room, 10-105; 10pm and 11pm—Building Service—10-250.
Friday, Nov. 9—10:25am—Mechanical Engineering—Miller Room, 1-114; 2:30pm—Student Center—third floor dining room no. 3.

Academy Elects 6

Six MIT professors are among 99 new Fellows elected recently to the American Academy of Arts and Sciences. They are:

Dr. Keiiti Aki of Newton, professor of geophysics in the Department of Earth and Planetary Sciences.

Dr. Kenneth A. Johnson of Lincoln, professor of physics in the Department of Physics.

Dr. James C. Keck of Andover, Ford Professor of Engineering in the Department of Mechanical Engineering.

Dr. Daniel J. Kleitman of Newton Centre, professor of applied mathematics in the Department of Mathematics.

Dr. Benson R. Snyder of Cambridge, professor of psychiatry in the Division for the Study and Research in Education and school professor of architecture and planning.

Dr. Gordon H. Pettengill of Concord, professor of planetary physics in the Department of Earth and Planetary Sciences.

Annuity Discussion

Institute Professors Franco Modigliani and Paul A. Samuelson and other members of the finance group in the Sloan School and the economics department will lead a discussion of MIT's tax-deferred annuity program Tuesday, Nov. 13, from 5-7pm in the Sala de Puerto Rico.

Seminar leaders plan to discuss considerations which help in selecting between the two options offered by the program. They will also discuss the role of the tax-sheltered program in the context of the management of portfolio and estate planning.

THE INSTITUTE CALENDAR

November 7
through
November 16

Events of Special Interest

Student Art Association – Exhibition and sale of original graphic art by Roualt, Daumier, Picasso and others. Wed, Nov 7, 10am-7pm, Stu Ctr West Lge.

Red Cross Blood Drive – Sponsored by TCA. Thru Fri, Nov 9, 9:45am-3:30pm. Sala. For appointment info . TCA x3-7911, Stu Ctr Rm 450. Walk-in donations welcome.

Tech Wives Bake Sale* – Thurs, Nov 15, 8am until sell-out, Bldg 10 Lobby.

Ugliest Runs Rampant on MIT Campus – Vote for your favorite Ugly. One penny is one vote, proceeds to Care African Fund. Mon, Nov 12-Fri, Nov 16, 9am-5pm, Bldg 10 Lobby.

Seminars and Lectures

Wednesday, November 7

Cybernetic Theories of Social Mobility/ Social Mobilization* – Wayne Cornelius, chairman. CIS, MIT; Center for International Affairs, Committee for Latin American Studies, Harvard. 9:30am-12:30pm, Millikan Rm E53-482.

Marxism and Pluralism in the Analysis of South African Society* – Adrian Leftwich University of York, U.K. Center for International Studies Luncheon/Seminar. 12:15-2pm, Rm E53-482. Brown bag.

Results on the Molecular Dynamics of Carbon Dioxide From Infrared Raman & Neutron Spectroscopy* – C.V. Berney, senior research associate. Nuclear Engineering Doctoral Seminar. 2pm, Rm 24-307.

A Method for the Analysis of Non-Linear Systems Excited By Random Noise* – David Hyland, graduate student. Aero/Astro Doctoral Thesis Seminar. 3pm, Rm 37-212.

Finite Element Method in Hexagonal Geometry* – T.C. Wei, graduate student. Nuclear Engineering Doctoral Seminar. 3pm, Rm NW12-222.

Distances, Measures and Combinatorics* – Prof. Stanislaw Ulam, University of Colorado. Seminar in Combinatorial Theory. 4pm, Rm 2-338.

Lunar Magnetism* – Prof. Michael Fuller, earth & planetary sciences, University of Pittsburgh. Earth & Planetary Sciences Colloquium. 4pm, Rm 54-100. Tea, 3:30pm, Rm 54-923.

Core Power and Temperature Distribution Measurements in MITR-II* – G. Allen, graduate student. Nuclear Engineering Doctoral Seminar. 4pm, Rm NW12-222.

Reflections on Arms Control After SALT I* – Gerard C. Smith, former director US Arms Control & Disarmament Agency. Harvard-MIT Joint Arms Control Seminar, 4-5:30pm, seminar rm 1, 6 Divinity Avenue, Harvard University.

The Disjunction of Culture and Social Structure* – Daniel Bell, sociology, Harvard University. Respondents: Lester Thoreau, economics, MIT, and Mason Haire, Sloan School. Technology and Culture Seminar. 5:15pm, Rm 9-150.

Thursday, November 8

The Brain: An Explanation* – Pat Gunkel, Project MAC. Project MAC Lecture. 10am-2pm, Rm 9-150.

Structure Determination and Parameter Identification for Multivariable Stochastic Linear Systems* – Dr. Edison Tse, Systems Control, Inc; electrical engineering. Decision and Control Sciences Group Seminar. 1pm, Rm 39-500.

Cauchy's Problem for the Bogolubov Equation* – Dr. Jury D. Nagornykh, research fellow, aero/astro. Aero/Astro Seminar. 3pm, Rm 33-206.

Seminar and Film on the Construction of Phenix – French LMFBR Demo* – Pierre Zalevski, Electricite de France. Nuclear Engineering, ANS Seminar. 3:30pm, Rm NW12-222. Coffee & donuts.

Design Construction of String Instruments* – Dr. A.J. Houtsma, electrical engineering. Interdepartmental Acoustics Seminar. 4pm, Rm 3-270. Coffee, Miller Rm 1-114.

Antibacterials in the Aqueous Environment, or, What Happens to the Substituted Chlorophenols in Your Bath Water?* – Prof. Arno H.A. Heyn, Boston University. Analytical Chemistry Seminar. 4pm, Rm 8-105.

Non-Ohmic Grain-Boundary Films in Metal Oxide Varistors* – Dr. W.G. Morris, GE Research & Development Center. Metallurgy & Material Science Seminar. 4pm, Rm 13-2101.

Dissipation of Tides and Evolution of the Moon* – Prof. Karl Wunsch, earth & planetary sciences. Physics Colloquium. 4:15pm, Rm 26-100. Refreshments, 3:45pm, Rm 26-110.

Questions About the Long-Term Future* – Robert L. Heilbroner, New School for Social Research. Respondents: Harold J. Hanham, Dean of Humanities, and Paul A. Samuelson, Institute Professor of Economics. Technology and Culture Seminar. 5:15pm, Rm 9-150.

The "Limits to Growth" Versus the Third World* – Jurgen Randers, system dynamics. Seminar for Foreign Students and participation in Development. 7pm, International Students Lge, Walker.

Friday, November 9

Social Reproduction Processes: Systematic, Structural Aggregates* – Albert Hirschman, chairman. CIS, MIT; Center for International Affairs, Committee for Latin American Studies, Harvard. 9:30am-12:30pm, Millikan Rm E53-482.

Transportation to Small, Isolated Communities* – Joseph Vittek, associate director Flight Transportation Lab. Center for Transportation Studies Luncheon/Seminar Series. 12n, Stu Ctr Mezzanine Lge. Buffet \$2, speaker at 12:45pm (lecture free).

Hydraulic Effects in Cyclically-Operated Tray Columns* – J. Dearth, graduate student. Chemical Engineering Doctoral Seminar. 2pm, Rm 10-105.

Regulation of Nuclear Power Production** – Daniel Ford, graduate student. Science and Public Policy Field Seminar, Political Science. 2-4pm, Millikan Rm E53-482.

The Sub-Sahara* – Prof. Pierre Aigran, Henry R. Luce Professor of Environment and Public Policy. Civil Engineering Seminar. 3pm, Rm 1-236.

Some Two-Phase Flow Characteristics in Monolithic Catalytic Structures* – F. Ozel, graduate student. Chemical Engineering Doctoral Seminar. 3pm, Rm 10-105.

Structure and Dynamic Properties of Calcified Tissues* – J. Lawrence Katz, biophysics & biomedical engineering, RPI. Mechanical Engineering Seminar 3pm, Rm 3-133. Coffee, 4pm, Rm 1-114.

The Problem of the Critical Velocity of Superfluid Helium* – Dr. A. Libchaber, physics, Ecole Normale Supérieure, Paris. Material Science Colloquium. 4pm, Rm 9-150.

Neoclassical Transport Effects in Tokamak Plasmas – Model 1973** – Dr. D.J. Sigmar, MIT. RLE, Plasma Dynamics Seminar. 4pm, Rm 36-261.

Monday, November 12

Turbulent Pseudo-Sound Production in Atherosclerotic Arteries* – Jeffrey J. Fredberg, graduate student. Mechanical Engineering Doctoral Thesis Presentation. 2:30-3:30pm, Rm 3-343.

War, Crime and Watergate 1963-1973** – Peter Dale Scott, english, University of California, Berkeley. Center for International Studies Lecture Series. 3-5pm, Rm 9-150.

On the Dynamical Mechanism for Maintenance of Spiral Density Waves in Galaxies* – Prof. C.C. Lin and Dr. Y.Y. Lau, mathematics. Applied Mathematics Colloquium. 4pm, Rm 2-338. Tea, 3:30pm, Rm 2-349.

Patient and Bystander Response to Medical Emergencies* – R. Peter Mogielnicki, M.D., medical director, Cambridge Hospital Emergency Room; Keith Stevenson, research associate, urban studies & planning; Thomas Willemain, urban studies. Innovative Resource Planning Project, Operations Research Center Seminar. 4pm, Rm 10-280.

Stability of the Junction of an Ice Sheet and an Ice Shelf* – J. Weertman, Northwestern University. Metallurgy and Material Science Colloquium. 4pm, Rm 6-120. Coffee, 3:45pm.

Tuesday, November 13

Non-Circular Cross Section Tokamaks* – R. Galvao, graduate student. Nuclear Engineering Doctoral Seminar. 12n, Rm 38-166.

Flow Resistance in Human Airways* – Petar A. Kesic, graduate student. Mechanical Engineering Doctoral Thesis Presentation. 2pm, Rm 1-203.

Control of Pituitary Hormone Production by Established Cell Strains* – Dr. Armen H. Tashjian, Jr., Harvard School of Dental Medicine & Harvard Medical School. Nutrition & Food Science Seminar. 3pm, Rm 16-134.

War, Crime and Watergate 1963-1973** – Peter Dale Scott, english, University of California, Berkeley. Center for International Studies Seminar Series. 3-5pm, Rm E53-482.

The Viewpoint of a Small Venture Capital Firm* – Mr. John H. Carter, Charles River Partnership, Cambridge. Innovation Center Seminar. 3-5pm, Rm 33-419.

Non-Linear Spin-Up and Spin-Down of a Contained Fluid* – Dr. Patrick Wiedman, aerospace engineering, University of Southern California. Interdepartmental Fluid Mechanics Seminar. 4pm, Rm 2-338. Coffee, 3:30pm, Rm 2-349.

Practice in the Firm: The Specializing Generalist* – Robert P. Bigelow, Hennesey, McClusky, Earle and Kilburn. Sponsored by Coordinator of Law-Related Studies & Prelaw Advisory Council. 3:30pm, Stu Ctr Mezzanine Lge.

Engineering Continuing Education at MIT** – Prof. Wilbur B. Davenport, Jr., director, Center for Advanced Engineering Study. Lincoln Lecture Series. 3:30pm, Lincoln Lab Cafeteria.

Joyce at 34*** – Joyce Chopra, filmmaker. Association for Women Students. 4-6pm, Stu Ctr Rm 407. Film followed by discussion, refreshments. Men and women welcome. Members may bring friends.

Research Vessel ALCOA Sea Probe – Design Criteria and Operating Experiences* – F. Worth Hobbs, vice president & general manager, Ocean Research, Inc Alcoa Co. Ocean Engineering Seminar. 4pm, Rm 3-446. Coffee, 3:30pm.

The Phenotype of the Su-40-Transformed Cell* – Dr. Robert Pollack, Cold Spring Harbor Lab. 4:30pm, Rm 6-120. Coffee, 4pm, Rm 56-520.

Discussion of Tax-Deferred Annuity Program** – Institute Professors Franco Modigliani, Paul A. Samuelson, and other members of the Sloan School finance group and Economics Department will lead the discussion. 5-7pm, Sala de Puerto Rico.

The Muslims Organizational Structure** – Minister George (Kamal Majud), The Muhammad University, Boston. Community Fellows Program Seminar. 5-6:30pm, Rm E40-160.

Wednesday, November 14

Conceptualizing Power, Autonomy and Dependency* – Jorge Domingues, and Concluding Discussion on Formalizing Systematic, Structural Theories of Political Processes* – Hayward Alker. CIS, MIT; Center for International Affairs, Committee for Latin American Studies, Harvard. 9:30am-12:30pm, Millikan Rm E53-482.

Light Scattering* – W.B. Veldkamp, graduate student. Nuclear Engineering Doctoral Seminar. 2pm, Rm 24-307.

Second Symposium on Undergraduate Research in the Department of Food Science** – Seven undergraduates present their research findings. Nutrition & Food Science Undergraduate Research Symposium. 2:15pm, Rm 9-150. Coffee, 3pm.

War, Crime and Watergate 1963-1973** – Peter Dale Scott, english, University of California, Berkeley. Center for International Studies Seminar Series. 3-5pm Rm E53-482.

Short Range System Analysis of Nuclear Electric Power System* – R. Eng, graduate student. Nuclear Engineering Doctoral Seminar. 4pm, Rm NW12-222.

On Characterization of Pseudo-Inverses in Normed Spaces and Certain Optimization Problems* – Richard Vinter, electrical engineering, Electronic Systems Lab. Operations Research Center Seminar. 4pm, Rm 24-121. Refreshments after.

Paleocirculation and Paleontology: The North Atlantic Ocean 18,000 Years Ago* – Prof. John Imbrie, geological sciences, Brown University. Earth & Planetary Sciences & Meteorology Joint Colloquium. 4pm, Rm 54-100. Tea, 3:30pm, Rm 54-923.

Thursday, November 15

Cauchy's Problem in the General Kinetic Theory (discussion)* – Dr. Jury D. Nagornykh, research fellow, aero/astro. Aero/Astro Seminar. 3pm, Rm 33-206.

The Civil Engineering Mind – Nature and Nurture* – Dr. Ralph B. Peck, foundation engineering, civil engineering, University of Illinois at Urbana-Champaign. Mathias Memorial Lecture, Civil Engineering. 4pm, Rm 54-100.

Neutrino Reactions at NAL* – Prof. Barry Barish, California Institute of Technology. Physics Colloquium. 4:15pm, Rm 26-100. Refreshments, 3:45pm, Rm 26-110.

The Politics of Technology Transfer to the Third World* – Ramon Barguin, political science. Seminar for Foreign Students and Participation in Development. 7pm, International Students Lge, Walker.

Friday, November 16

UARL Laser Initiated Target Experiment – LITE** – Dr. A.F. Haught, United Aircraft Research Lab. RLE Plasma Dynamics Seminar. 4pm, Rm 36-261.

Structure of Reynolds Stress and the Occurrence of Bursts in the Turbulent Boundary Layer* – Prof. W.W. Willmarth, aerospace engineering, University of Michigan. Mechanical Engineering Seminar. 3pm, Rm 3-133. Coffee, 4pm, Rm 1-114.

Form Reflects Sense: An Analysis of Some Poems by Wallace Stevens* – S. Jay Keyser, linguistics, University of Massachusetts. Foreign Literature & Linguistics, Humanities Lecture. 3:30pm, Rm 36-155.

Community Meetings

Pre Law Meetings – Boston University, Prof. Tamar Frankel, Mon, Nov 12, 10-11am, Rm 4-163. George Washington University, Dean Kilpatrick, Tues, Nov 13, 12n-1pm, Rm 4-149.

Information Processing Center Course – Non-credit course in "Intermediate TSO", Mon, Nov 12-Fri, Nov 16, 2-3pm, Rm 39-530. Fee \$5. Preregister, Lynne Penney, Rm 39-427, x3-6320.

SCEP – Meeting on academic projects: Decision on which projects to continue, their organization, frequency of meetings, finances, working space. Project chairmen & coordinators should present progress reports. If time, discussion on educational policy questions concerning omnibus project. Wed, Nov 7, 7:30pm, Stu Ctr Rm 353.

MIT Club of Boston Luncheon Meeting* – Charles Chaves, founder of Northeast Judo Club, will give a demonstration of the "gentle way." Thurs, Nov 8, 12:15-1:30pm, Aquarium Restaurant. Cost \$4, pay at door. Reservations, Leena, x3-3878.

Grievance Committee* – Meeting Sun, Nov 11, 6pm, Stu Ctr Rm 401. Info, James Moody, x3-2696.

MIT Community Players* – Monthly meeting. Presentation of "The Lesson," by Ionesco. Mon, Nov 12, 7:30pm, Stu Ctr Mezzanine Lge. Refreshments.

Women's Forum – Skits: "The April Salary Review" & "Professor Procrastinator" – Mon, Nov 12, 12n, Bush Rm 10-105.

SCEP – Meeting on the freshman year. Speaker, Peter Buttner, executive officer of the Freshman Advisory Council. Wed, Nov 14, 7:30, Stu Ctr Rm 353.

Student Art Association** – Open drawing workshop. Tues, 7:30pm, Stu Ctr Rm 429.

Urban Action Volunteer & Resource Center – Volunteer tutors, teachers urgently needed in Cambridge and Boston schools, as well as volunteers for other community agencies. Mon-Fri, 9am-5pm, Stu Ctr Rm 437, or call x3-2894.

Course Evaluation** – Sponsored by TCA & SCEP. Come help out. Info, lve msg at TCA, Stu Ctr Rm 450, x3-4885.

MIT Club Notes and Meetings

Bridge Club - ACBL Duplicate Bridge. Thurs. 6pm, Stu Ctr Rm 407. IMP-scored team games (similar to rubber scoring). Smaller IMP games Fri, 8pm, Sat, 2pm, Stu Ctr Rm 407. Jeff, x3-5285 or 864-5571. Club Tournament Fri, Nov 16, 8pm.

Chess Club** - Sat, Sun, 1:30-5pm, Stu Ctr Rm 473.

Chinese Choral Society** - Singing. Sun, 3-6pm, Stu Ctr Rm 473.

Classical Guitar Society - Classes, group or private. Mon & Thurs, 5-8pm; Sat, 8am-12n; Rm 4-146,148,149. New group class for beginners every month. Vo Ta Han, 494-8353.

MIT/DL Duplicate Bridge Club** - Tues, 6pm, Stu Ctr Rm 473. Jeff, x3-5285 or 864-5571.

Fencing Club** - Wed & Thurs, 6:30pm-9:30pm, du Pont.

Figure Skating Club** - Trying to organize a club for figure skating and ice dancing. If interested, call Gwen Champion, 327 McCormick, x8827. Must have athletic card.

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

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

Kung Fu Club** - Northern Praying Mantis. Tues, Thurs, 7-9pm, T Club Lge. Info, H.C. Wong, 876-5071.

Math Club Revitalization* - Fri, Nov 9, 7:30pm, Stu Ctr Rm 400. Info, R. Sacks, Rm 2-363 or Steven Swernofsky, x8452 Dorm.

MIT Karate Club** - Evening classes, 8-10pm, Mon, Wed, du Pont Wrestling Rm. John Miller, x3-1588.

MIT Magazine: Free Parking - Weekly meeting. Sun, 8pm, Walker Mem Rm 316.

MIT Wheelmen* - Wholesale parts orders placed, racing & touring events planned, informal discussion of everything about bicycling. Wed, 7:30pm, Rm 1-203.

Outing Club* - Mon & Thurs, 5-6pm, Stu Ctr Rm 461.

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

Science Fiction Society* - Fri, 5pm, Rm 1-236.

Scuba Club** - Compressor hours: Mon, Fri, 4-6pm, Alumni Pool.

Scuba Club*** - Pool session, Wed, Nov 14, 8-10pm, Alumni Pool.

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

Student Homophile League* - Meeting Sun, Nov 11, 4pm, Rm 14E-307. Possibly a dinner party the following Sat nite. Hotline number is 492-7871 for info, talk, help in coming out.

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

Tech Engineering News** - General staff meeting, Sun, 5pm, Stu Ctr Rm 453.

Technique*** - Yearbook staff meetings. Sat, 11am & Wed, 7:30pm, Stu Ctr Rm 451.

Tech Squares*** - Western style square dancing. Tues, 8-11pm, Sala de Puerto Rico. Admission \$1, first time free.

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

Unicycle Club* - Meetings, Sun, 1pm, front Stu Ctr. Beginners welcome, we have unicycles. We now play "unicycle hockey."

Volleyball Club** - Serious volleyball and eventual participation in Boston area tournaments. Sun (except vacations), 2-4pm, duPont Gym.

White Water Club** - Pool session. Tues, Nov 13, 8-10pm, Alumni Pool.

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

Wellesley Events

Experimental Theatre - Ladies in Waiting - By Peter DeAnda. Fri, Nov 9 & Sat, Nov 10, 8pm, Jewett Auditorium. Tickets \$1, available at door.

Symposium on Womanhood - Many facets of womanhood will be explored through workshops and speakers during a three-day symposium. Workshops will be held during the days, prominent women will speak in the evenings in the Chapel. Thurs, Nov 8-Sun, Nov 11. For further scheduling information, contact Ellen Rosendale, 237-2857, at Wellesley.

Bates Poetry Reading - Robert Lowell. Thurs, Nov 15, 8pm, Houghton Memorial Chapel.

A Mid-Summer Nights Dream - Wellesley College Shakespeare Society. Thurs, Nov 15-Sat, Nov 17, 8pm and Nov 17, 2pm, Shakespeare Society House. Free.

Lilly Martin Spencer: The Joys of Sentiment* - Exhibition of many of the works of the Victorian painter. Through Nov 25, Main Gallery.

Social Events

24-Hour Coffee House* - The MIT 24-Hour Coffee House has re-opened. Inexpensive food, candy, non-alcoholic drinks are sold. Relax, play games, read. Daily, Stu Ctr, 2nd fl Center Lge.

Pot Luck Coffeehouse** - Live entertainment, cider, donuts, coffee. 8:30pm-12m, W20 Mezzanine Lge, 3rd fl. Performers & others interested in helping out, call Doug, x8766 Dorm.

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

Muddy Charles Pub** - Join your friends for music, beer, wine, snacks, conversation at the Muddy Charles Pub, 110 Walker. Hours: Mon-Fri, 11:30am-2pm and 4-8pm; call GSC, x3-2195.

Deutscher Tisch - Wir treffen uns freitags von 1-2 in Lobdell, um auf Deutsch und ueber Deutschland zu reden. Wir sind an der schwarz-rot-goldenen Tischflagge zu erkennen.

Movies

Socrates* - Department of Humanities. Wed, Nov 7, 7pm Rm 10-250. Free.

The Third Man* - Concourse Forum. Wed, Nov 7, 7:30pm, Rm 26-100. Free.

Solid Waste Management: Realities of Recycling and Sanitary Landfill: 1 Part Earth, 4 Parts Refuse** - Barker Engineering Library Environmental Film Series. Thurs, Nov 8, 5pm and Fri, Nov 9, 12n, 4th fl conference rm (enter Rm 10-400). Free. Coffee.

Coffy - LSC. Fri, Nov 9, 7pm, 9:30pm, Rm 26-100. Admission 50 cents, ID's required.

Ballad of a Soldier (Grigori Chukhrai) - Film Society. Fri, Nov 9, 7:30pm, 9:30pm, Rm 6-120. Donation \$1.

The Day the Earth Stood Still and 2 - Midnite Movie Series. Fri, Nov 9, 12m, Sala. Free, ID's required. Bring your own blanket.

The Ruling Class - LSC. Sat, Nov 10, 7pm, 10pm, Rm 26-100. Admission 50 cents, ID's required.

The Producers - LSC. Sun, Nov 11, Rm 10-250. Admission 50 cents.

The Caretaker* - Department of Humanities. Wed, Nov 14, 7pm, Rm 10-250. Free.

Shame - Department of Humanities. Thurs, Nov 15, 7pm, Rm 10-250. Free.

King Dinosaur* - UMOG movie. Candidates will perform to relieve the tension of this horrifying movie. Thurs, Nov 15, 7pm, 9:30pm, Rm 54-100. Free, mandatory 49 cent donation to Care African Fund.

Chemical-Biological Contamination: Pesticides in Focus and Paradise Lost (short) and Of Broccoli, & Pelicans & Celery & Seals** - Barker Engineering Library Environmental Film Series. Thurs, Nov 15, 5pm, and Fri, Nov 16, 12n, 4th fl conference rm (enter 10-400). Free. Coffee.

The Last Picture Show - LSC. Fri, Nov 16, 7pm, 9:30pm, Kresge Auditorium. Admission 50 cents, ID's required.

The Forty-First (Grigori Chukhrai) - Film Society. Fri, Nov 16, 7:30pm, 9:30pm, Rm 6-120. Donation \$1.

Take The Money and Run - Midnite Movie Series. Fri, Nov 16, 12m, Sala. Free, ID's required. Bring your own blanket.

Music

Noonhour Concert Series* - Thurs, Nov 8: James Busby playing the organ and harpsichord, featuring soprano Dolores Liffingwell. Thurs, Nov 15: John Gibbons will present Bach's Partitas 3 and 4 on the harpsichord. 12n, Chapel. Free.

MIT Matrons Sponsor Musicale*** - Matrons and their husbands are invited to a Musicale. Sun, Nov 11, 3pm, President's House, 111 Memorial Drive. Followed by sherry hour. Space is limited, please send reservations to Mrs. George Petievitch, 103 Sargent St, Newton, 02158.

Concert - Chinese pianist Fou Ts'ong will appear in a concert sponsored by the Chinese Student Club, featuring works by Mozart and Chopin. Sun, Nov 11, 8pm, Kresge Auditorium. Tickets, \$3, \$4, \$6, 7 \$10, Victor Yuan, 494-9272, or Ashdown Rm 308, or booth lobby 10.

Philadelphia String Quartet* - The Music Section presents a concert including pieces by David Epstein, Prof. of music and director of MIT Symphony Orchestra; Haydn and Mendelssohn. Mon, Nov 12, 8pm, Kresge Auditorium. Free.

Recorder Ensemble** - Music provided, but bring instruments and any music you particularly wish to play. Tues, 7pm, ESG Hdqtrs, 6th fl bldg 24. All aficionados are welcome, freshmen encouraged to attend. Details, David Dreyfus, x3-7787.

Theater and Shows

Musical Theatre Guild* - "Man of La Mancha," Nov 2,3,9,10 at 8pm, Sun, Nov 4 at 3pm Kresge. Tickets \$3, (\$2 with ID) for evening performances, \$2.50 (\$1.50 with ID) for matinee. Reservations, call x3-6294 or x3-4720, at box office on days of performances.

Moby Dick* - The Karl Taylor Compton Lecture Series presents Jack Aranson, solo performer, in a dramatization of *Moby Dick*. Fri, Nov 14, 3:30pm, Kresge Auditorium. Free, Tickets, Bldg 10 Lobby.

Dance

Institute for Contemporary Dance - Dance Workshop - Day & evening classes starting Wed, Nov 7 in modern, jazz, blues, improvisation & Afro-American. Classes at MIT open to students & community at reduced rates. Brochures & applications at TCA office & Student Art Association.

Folk Dance Club* - International, Sun, 7:30-11pm, Sala. Balkan, Tues, 7:30-11pm, Student Center Rm 491. Israeli, Thurs, 7:15-10:15 T-Club Lge du Pont Afternoon dance break, Fri, 12:30-1:30pm, Kresge Oval.

Exhibitions

Boston Visual Artists Union - An exhibition of 75 works by members of the BVAU selected by jury last spring. Hayden Gallery, Oct 19-Nov 10. Mon-Sat, 10am-4pm, closed Sun. Free.

7 X 7* - An exhibition at the Creative Photography Lab of forty-nine photographs by seven midwest photographers. Thurs, Nov 1-Wed, Nov 28, W31-310. Hours: Mon-Fri, 9am-10pm, Sat, Sun, 12n-6pm.

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

Music Library Exhibit - In honor of St. Cecilia, patron saint of music. Scores, books, pictures.

Athletics

WV Sailing* - Emily L. Wick Lark Championship, 12:30pm, Charles River Lower Basin.

Women's Swim Team - Practice Mon-Fri, 6-7pm, Alumni Pool.

Women's Basketball** - Practice Mon, Tues, Wed, Fri, 4-6pm, Rockwell Cage, Beginning Fri, Nov 2.

Religious Services and Activities

The Chapel is open for private meditation from 7am to 11pm every day.

Philosophical Talks on "Bahajogovindam"* - Swami Chinmayananda will give a series of talks on the Hindu philosophy. Sponsored by SANGAM. Fri, Nov 16-Thurs, Nov 22, 7:15-8:45pm, Stu Ctr Rm 473. Info, Subramanian, x3-6231.

Campus Crusade for Christ/College Life Family Time* - Singing, sharing, prayer & teaching from God's Word. Fri, 7-9:30pm, Rm 1-132.

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

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

Seminars on the Catholic Faith* - Catholic Belief I. Introduction or refresher seminar on the teachings of the Catholic Church. Tues, 7pm, Bldg W2, 2nd fl seminar rm. Father MacNevin, x3-2981. **Knowing and Believing.** Readings and discussion on the interaction of religion and culture. Thurs, 7pm, Bldg W2, 2nd fl seminar rm. Steven Murphy, x3-2981.

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

Hillel Services - Mon-Fri, 8am, Rm 7-108; Fri, Traditional 6:45pm, Kosher Kitchen, Non-Traditional 8:45pm, Chapel; Sat, 9am, Chapel.

Islamic Society* - Juma prayers. Fri, 12:15pm, Kresge, Rehearsal Rm B. Discussion on the Qur'anic Interpretations. Sat, 5pm, ISC Lge, 2nd fl Walker.

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

Protestant Communion Service* - Wed, 5:05pm, Chapel.

Protestant Worship Services* - Sun, 11am, Chapel.

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

United Christian Fellowship* - Christians for Dinner and Sharing Meeting. Thurs, dinner, 5pm Walker, followed by singing, sharing, praying 6pm, Rm 6-321.

Westgate Bible Study Meeting* - Includes study of the Gospel of Mark. Wed, 8pm, apt 1202 Westgate I.

Announcements

Boston Ballet Student Discount Tickets - Available at TCA office, 4th fl Stu Ctr. All series available, three performances/series. First performances Nov 8-11. Information, TCA, x3-4885.

Student Innovation Contest - Sponsored by the Innovation Ctr & Eta Kappa Nu, to encourage creativity and confidence as inventors. Must present detailed plans for original project and estimate of marketing potential. Certificate of award and cash prizes. Register starting Mon, Nov 5, Bldg 10 Lobby or Rm 38-476. Info, Rm 38-476, x3-4645 (lve msg) or Bob, 926-3335.

Chelsea Relief - Volunteers needed to sort donated clothing at First Baptist Church, Bellingham Square, Chelsea. MIT Urban Action, x3-2894.

Christmas is coming! - Give someone you love a gift! Give yourself Maggie's self-designed fitness classes - every body welcome. M, W, F, 12n-1pm, T, Th 1-2pm, M-F 5-6pm, Fencing rm. Athletic card required.

Placement Interviews

The following companies will be interviewing Wed, Nov 7-Fri, Nov 16. Those interested may sign up in the Career Planning and Placement Office, Mon-Fri, 9am-4pm, E19-455, X3-4733.

Monday, November 5 - Boston University, College of Business Administration; Goodyear Tire & Rubber Co; Honeywell Inc; Keithley Instruments Inc; Xerox Corp; Northern Research & Engineering Corp; Texas Instruments Inc.

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Tuesday, November 6 - Northern Research & Engineering Corp; Texas Instruments Inc; Air Force Systems Command-Aeronautical Systems Div; The Badger Company Inc; The Gillette Co; Motorola, Inc; Philadelphia Electric Co; SESA (Bureau of the Census); Sperry Research Center United Nuclear Corp-Naval Products Div; Lutron Electronics Co, Inc; The Analytic Sciences Corp.

Thursday, November 8 - The Analytic Sciences Corp; Standard Oil of California and Chevron Research Co; Amoco Oil R&D; Amoco Chemicals Corp R&D; GTE Lab Inc; General Dynamics/Electric Boat Div; Hamilton Standard, Div. of United Aircraft Corp; Marine Corps Officer Selection Office; Procter & Gamble Co International Div; Watkins-Johnson Co.

Friday, November 9 - Aetna Life & Casualty; Analytic Services Inc; Eaton Corp; Eastman Kodak Co; General Dynamics; M.I.T. Lincoln Lab; University of Michigan Graduate School of Business Administration.

Monday, November 12 - Semiconductor Group; Bell Telephone Lab Inc; General Electric Co.

Tuesday, November 13 - Bell Telephone Labs Inc; General Electric Co; Deering Milliken Research Corp; Battelle Columbus Labs.

Wednesday, November 14 - Battelle Columbus Labs; Bell System (A.T.&T. Co); Celanese Corp; Mechanics Research Inc; United Aircraft Corp/Sikorsky Aircraft Div.

Thursday, November 15 - Naval Ship Systems Command & Naval Ship Engineering Center; Naval Ordnance Lab; U.S. Naval Weapons Lab; IBM; T.J. Watson Research Center; 3M Co; United Aircraft Corp./Pratt & Whitney Aircraft Div; Westinghouse Electric Corp.

Friday, November 16 - IBM; T.J. Watson Research Center; 3M Co; United Aircraft Corp./Pratt & Whitney Aircraft Div; Westinghouse Electric Corp; Hydroacoustics Inc; Mission Research Corp; Naval Civil Engineering Lab.

Wednesday, November 7 - Lutron Electronics Co, Inc; The Analytic Sciences Corp; Naval Ship Research & Development Center; Softech Inc; Standard Oil of California and Chevron Research Co.

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 November 14 through November 23 to the Calendar Editor, Room 5-111, Ext 3-3279, before noon Friday, November 9.

New UROP Listings

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

Tufts New England Medical Center Boston
A physician at Tufts NEMC has proposed two project areas for undergraduates: (1) antibiotic resistance in bacteria; and (2) tumor virus-induced leukemia. Students should have completed some biology coursework and have some laboratory experience.

Center for Advanced Engineering Study
CAES is examining the present crisis in cable television development which is slowing, rather than growing, in major metropolitan areas, and has virtually come to a stop in rural areas. Many factors have contributed to this: the high cost of capital, the political decision-making process, income limited by subscribers' acceptance and tariffs permitted and competitive—to name a few of the factors. Particular attention is being given to political analysis in the urban cable setting, and to determining economic parameters for potential cabling of rural America. The present effort is part of the MIT telecommunications planning project supported by the National Science Foundation, jointly sponsored by the Center for International Study, the Center for Policy Analysis, and the Center for Advanced Engineering Study. Students interested in the cable television projects should contact Mr. Bowen, 9-228, ext. 3-7409; those interested more broadly in telecommunications planning should contact Prof. Ithiel Pool, E53-401, ext. 3-3124 or Prof. Herbert Hollomon, 39-551, ext. 3-1661.

MIT Legislative Service
The MIT Legislative Service will be placing student interns at the Massachusetts State Legislature for the spring term, 1974. All students interested in participating in this program should contact Prof. James Annable, E52-443C, ext. 3-4427.

Department of Transportation Cambridge
DOT in Kendall Square has suggested a number of projects for UROP students: (1) Computer system design for the Federal Aviation Administration to assist in communication between aircraft and control towers; (2) High-speed travel between Dallas and Fort Worth which would consider energy costs and other requirements for high-speed travel; (3) Impact of Environmental Protection Agency's air quality regulations on urban areas with an emphasis on Boston; and (4) communications systems for dial-a-bus which would involve a communications network between the central dispatching location and each bus.

Intermedia Systems Corporation Cambridge
A design and media production company specializing in communications, audiovisual facilities and presentation, is in the process of designing an information-orientation system for a museum of the Diaspora, in Hebrew Beth Hatutsoth, to be established at Tel Aviv, Israel. The project would investigate traditional and innovative conceptual design and technological solutions for information displays. Technology can include computer techniques, light programming, holograph, liquid crystal display, audiovisual techniques, and other formats.

National Information Services Cambridge
NIS is heavily involved in the development of turnkey minicomputer systems designed to operate without operator intervention. Thus, specialized computer repair personnel will not be necessary in day-to-day system operation. Problems develop, however, when software or hardware malfunctions. NIS would like to work with an undergraduate in the design of a "black box" for use in diagnosing the causes of system failure in remote locations. Strong background in digital hardware needed.

Cordell Engineering, Inc. Everett, Mass.
The company manufactures Automatic Modu-Lab Processors for either color film or color paper. Cordell would like to involve undergraduates in designing three devices: (1) A robot control for the Modu-Lab Processors which would allow several containers of film to be "in process" at the same time; (2) A device which will expose printing plates to the alcohol bath in such a way that the screened image on the plate will achieve maximum acuteness; and (3) A small, inexpensive machine to develop 16mm microfilm in lengths from 3 to 100 feet.

Barnstead Corporation West Roxbury, Mass.
A designer and manufacturer of water purification systems for research and medical applications has years of experience re-

moving inorganic contaminants by distillation, ion exchange and other techniques. Experience is in the realm of making ultrapure water, though organic, colloidal and microbiological contamination problems are not fully understood or solved. The company wants to collaborate on a study of microorganisms in sterilizing and distillation purification systems.

Nutrition and Food Science
The Second Symposium on Undergraduate Research of the Department of Nutrition and Food Science will take place on Wednesday, November 14, 1973, 2:15 to 5pm in Room 9-150. Several undergraduates will present their research in the areas of chemistry, toxicology, endocrinology, nutrition and biochemical engineering.

Foreign Studies

Graduate Postdoctoral
Belgian American Educational Foundation, Inc. Fellowship

For advanced study at one of the Belgian universities or other institutions of higher learning. The candidate must be less than 35 years of age, and must either have received his doctoral degree or have passed the qualifying examinations for that degree, and should be in a position in which his thesis preparation will benefit from an academic year in Belgium. The grant covers: (1) A fixed stipend of \$1,500 payable in the US, prior to the Fellow's departure; and (2) A fixed stipend of 150,000 Belgian francs payable in Belgium in five bimonthly installments of 30,000 francs, the first of which is usually paid at the end of the second month after arrival. Amounts in (1) and (2) include all travel expenses from the Fellow's home or university to Belgium and, upon his return, from Belgium to his home, the cost of his passport and visa, his medical examination before departure, baggage transportation, his living expenses in Belgium, as well as his tuition, if any. A Fellow accompanied by his wife (and children) must provide an additional sum from his own resources. Tenure of the Fellowship will be adjusted to the plan of study and appointments will be made for periods of six to ten months. Stipends will be pro-rated according to tenure of the Fellowship. DEADLINE: January 4, 1974. For further information and application forms see the Foreign Study Office, Room 10-303, Ext. 3-5243.

Other Opportunities

Teaching Internships in the Advanced Studies Program at St. Paul's School, Concord, N.H.
The advanced studies Program of St. Paul's School offers 20 teaching internships for six weeks in the summer to students who have completed their junior or senior year and who have a major in one of the fields taught in the Program. The Program pursues intensive work in Advanced Physics, Advanced Chemistry, Advanced Biology, Linear Algebra, Calculus, Mathematics, German, Russian, Classical Greek, Creative Arts, Western Intellectual History, Modern European History, History of Majority-Minority Group Relations in the United States, Shakespeare for Production, Media and Communications, and English. In most cases a year's work is accomplished in the six week program. The internship is designed primarily for students who are considering entering the teaching profession and education courses are not a prerequisite. Along with the teaching responsibility, the intern is expected to perform additional duties of library supervision, counseling and instruction in various sports. The salary is \$500 plus room and board. Although the deadline for applying is Jan. 15, it is to your advantage to submit applications as soon as possible. The director will decide to come to interview applicants on the basis of the applications he receives early. Additional information and application forms are available in the Preprofessional Advising and Education Office, 10-186, 3-4158.

Floyd Russell Mechem Prize Scholarships—University of Chicago Law School

Each year the University of Chicago Law School offers these scholarships which provide a stipend of \$3,800 per year (renewable for the second and third years) to a limited number of entering students with exceptional promise. The awards are based entirely on academic promise, and financial need is not a consideration. In recent years Mechem recipients have generally had LSAT scores in the middle or high 700's and have had undergraduate and graduate grade point averages in excess of 3.8 on a 4.0 scale. Applicants who wish to be considered for Mechem Scholarships should so indicate on their application for admission. Only candidates whose applications have been completed by Feb. 1 will be eligible.

The Weymouth Kirkland Law Scholarships

A number of full-tuition awards are made each year by the Weymouth Kirkland Foundation to entering law students whose state of legal residence (not necessarily where they are attending college) is Illinois, Indiana, Iowa, Michigan or Wisconsin. Recipients may use Kirkland funds only to attend a law school in one of the same five states. Selection of recipients is made by a special committee on the basis of scholarship, good character, personality, potential leadership and need. Stipends are in the amount of tuition (\$2,775) and, in certain cases, up to \$1,000 for living expenses, and grants are renewable at the discretion of the trustees for the second and third years of study. Application deadline is Feb., 1974. For further information contact the Preprofessional Advising and Education Office, 10-186, ext. 3-4158.

Root-Tilden Scholarship Program—New York University Law School

The Root-Tilden Program is designed to provide a unique educational opportunity for the student committed to the use of his professional talents in the service of the public. Complementing the normal law curriculum, the Program offers its members the opportunity to observe and support the work of lawyers committed to practice in the interest of the public. Grades and LSAT scores are not the principal criteria used in selection of Root-Tilden Scholars; given evidence of academic capacity, primary attention is then paid to the candidate's demonstrated commitment to, and capacity for, public service. Twenty Root-Tilden Scholarships are awarded each year to graduates of accredited colleges entering the Law School at New York University. Two scholars are selected from each of the ten federal judicial circuits. Each scholarship covers full tuition for one year and is renewable based upon satisfactory academics and participation in Program activities and internships. The scholarship is awarded without regard to financial need, but additional aid over and above the tuition award may be granted, either on a loan or part-loan, part-grant basis, upon demonstration of need. Candidates from MIT will be nominated for the Root-Tilden Scholarships. If you are interested in applying for the scholarship, make an appointment to see Susan Haigh Houpt, Preprofessional Advising and Education Office, 10-186, ext. 3-4158.

Patrick Wilson Scholarships in Law—Vanderbilt School of Law

Each year five Patrick Wilson Scholarships are awarded by Vanderbilt Law School. Five thousand dollars (\$5,000) will be paid each Patrick Wilson Scholar the first year. Subject to satisfactory performance, a similar sum will be paid each of the remaining two years of law school. Applicants are judged on the basis

of academic achievement, leadership potential, moral standards and dependability. Applicants who, in the judgment of the Admissions Committee of Vanderbilt Law School, merit consideration will be recommended to the Patrick Wilson Scholarship Selection Committee, which then makes the final decision on the Scholarship awards. A separate application form must be completed for this scholarship, and these are available in the Preprofessional Advising and Education Office, 10-186.

Rockefeller and Ford Foundation—Population Policy

Rockefeller Foundation and the Ford Foundation jointly announce the fourth year of a worldwide program of awards in support of research on population policy. Proposals for social, scientific and legal research on population policy will be accepted. In some cases, awards may be made to cover all costs of the research proposal but in no case will such an award exceed \$50,000. Deadline: Jan. 15, 1974.

Graduate Studies

The following brief descriptions of selected graduate fellowships and advanced study opportunities have been received recently by the Graduate School Office. More complete descriptions are available in the Office, Room 3-136.

International Development Research Center Fellowships

Five fellowships for graduate students working in fields related to international development. Applications are being requested from Canadian students ready to undertake research for the PhD. Each one-year grant provides: stipend \$5,500, travel (including family) and research costs. Deadline: Jan. 31, 1974.

Resources for the Future-Doctoral Dissertation

Fellowships designed to enable selected students who have completed all doctoral requirements except the dissertation to devote full time for one academic year to dissertation research. Candidates must be nominated by the academic department in which the student is a doctoral candidate. The research proposed by the candidate must relate to natural resources, their products, or their services. It must involve the social sciences or related fields of study, such as economics, economic history, political science, etc. Interdisciplinary research involving the application of more than one social science or the combination of social science with a physical, biological or engineering science is appropriate. Stipend is \$4,000. Deadline: Feb. 1, 1974.

Lawrence Maguire Named Student Employment Head

Lawrence E. Maguire, Institute financial aid officer, has been appointed to the position of Director of Student Employment, effective Nov. 1.

The appointment was announced by Jack H. Frailey,



which he assumed in December 1971. Mr. Maguire received his BS from Harvard University in English literature and sociology in 1958 and his master's degree in education from Boston University in 1972. He joined the administrative staff of the MIT Library System in 1965 and became head of administrative services in 1967. In 1968 he joined the Division of Sponsored Research as assistant director with responsibilities for budgets and departmental contract administration and also served in the Financial Planning Office helping develop the MIT Operating Plan.

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Lobby 7 Exhibit

A multi-media exhibit, entitled Weather, will be mounted in the Building 7 lobby this week. The displays, to be completed by next Wednesday, will combine factual and artistic materials on the aspects and events of weather. The project has been organized by Otto Piene, visiting professor in the architecture department and Suzanne Weinberg of the Lobby 7 Committee.

CLASSIFIED ADS

Ads are limited to one per person per issue and may not be repeated in successive issues. All ads must be accompanied by full name and Institute extension. Only Institute extensions may be listed Members of the community who have no extensions may submit ads by coming in person the Tech Talk office, Room 5-111, and presenting Institute identification. Ads may be telephoned to Ext. 3-3270 or mailed to room 5-105. Please submit all ads before noon, Friday, November 9.

For Sale, Etc.

Pr Ohm 'C' spkrs, 3 wks old, w/wrnty, cards, packing, \$275. x9498 Dorm.

K set, BR furn, dishes, hse appl, 365-day clock, f 10 spd Peugeot braided rugs. Susan, x3-3306.

Pioneer SX-727 35/ch rcvrr, b nw, unopened, w/all cards, \$310. x8221 Dorm.

Raleigh intntnl, \$225. Andy, x3-5113.

Golf clubs w/cvrs, bag, cart, \$25; Regina vac, \$15; tennis rckt w/press, \$10; 2 pr snow shoes, \$15, \$18; gold Lawson sofa, lk nw, \$100. x3-6116.

Wh mod buffet or stereo cab, 66x21, \$25 or best. x3-2593.

Blk cloth coat, trim w/blk beaver, sz 10, lk nw, was \$200, sell \$70. x8-2465 Draper.

Ski boots, f, bckl, sz 7, used 2x, \$25. Sandy, x3-2574.

Bike, m, 3 spd, lite & bskts, \$25. Ted, 494-8351.

Boys wntr fur-lined coat, lthr trim, sz 10, unused, \$15; Sears Guardsman 5.60x15 tires, v low miles, 2, \$10 ea. Bill, x3-2152.

Snows, F78x14, mtd, nw '72, \$40/pr. x3-6739.

Garrad 40B trntbl w/base, dust cvr, cartridge, exc cond. Call, 494-9172, evgs.

Bike, boys Schwinn, \$20 or best; want pr used mtd snows, Toyota. Ron, x3-3241.

AC, Philco, 5000 BTU, \$70. x0416 Dorm.

China/4, \$8; auto baby swing, \$4; baby bk carrier, \$4. Bruce, x3-4197.

Wstghse compact stereo, \$45; Polaroid swng, \$7.50; Voronado m hot comb, \$5; Sunbeam salon hrdr, \$11. Mars 8 trk car tape plyr, \$20; Dokorder r-to-r tape rcvrr, \$8. Joel, 494-9142.

Bckl ski boots, f, 8 1/2 m, nw last yr. Benner, x3-2250.

Sailboat, 23' gaff rig, True Rocket, 18 hp inbrd, mooring & dinghy, \$2,600 or best. Marilyn, x8-3605 Draper.

Nw lg snorkle parka, nvr worn, orig \$75, \$35 or best. Bob, x3-7305.

ADC 25 stereo pickup sys, w/3 interchang styli for dif rcrd types, exc cond, nw \$100, sell \$20. Bob Graham, x252 Linc.

Kryptonite bike lock, \$12. x0496 Dorm.

Shoes, 8 1/2 m, \$35, worn once, too wide, brn w/bge platform, ask \$10. x3-3329.

Aquariums, 55, 20 gal, asst smaller. Randy, x3-7273.

Sheared raccoon coat, exc cond, \$35; pedometer, \$5. Dr. A. Buynr, x3-4155.

Beg skis, stl edge, plastic tops, bndgs, poles, 66", step-in, \$10; 69", \$5; ski boots w/bndgs, sz 6, \$5; wh skates, f, sz 5, \$2; wtr skis, \$15. Nichols, x314 Linc.

Craftsman radial arm saw, b nw, 9", nvr uncrated, yr wrnty, \$134. x8-3336 Draper.

Nw photographic lens: Nikon 35mm, f/2.8, \$75; Pentax 85mm, f/1.9, \$110; Pentax 105mm f/2.8, \$100. x7611 Linc.

Bike, f, 26", Raleigh Sport, exc mech cond, \$35. x3-5117.

GE refrig, gd cond, \$75 or best. Donna, x3-4271.

Ski parkas, m, f, med, wh; bl swtr, med; 2 Arrow check shirts, 15 1/2x33. Paul, x3-5483.

Pr sz 8 1/2 w Caber ski boots, worn once, \$30. Ivan, x8-1379 Draper.

Aria classical guitar & hard shell case, yr old, beaut tone & action, nw: guitar \$85, case \$25, now both for \$75. Charlie, 547-4988, evgs.

Motorola b&w tv, 17", nds some repair. Helen, x8-3501 Draper.

Leath coat w/fur trim, navy p-coat, quilt all-weath coat, all sz 14, nego; bl bedspr, \$5. Pat, x8819 Dorm.

Mags: Computing Rev 7/65-2/73; JACM 10/65-10/69; Computing Surveys 3/69-6/70; CAM 10/56-3/73; \$30 or best. x3-2284.

Hyde ice skates, f, fig: sz 7 1/2, \$15, sz 5 1/2, \$18; m hockey skates, sz 4, \$18. x5778 Linc.

Waterbed, k sz, 2 matt, liner, fr, \$75 or best. Call, 864-8087.

Wilson-Jack Kramer wd tennis rckt, w/cvr, brly used, \$15 or best; b nw stuffed animals, all sz. Call, 536-5497.

Houseplants, assort types, 3 1/2 pots, 50 cents. x3-6893, Rm 13-3078.

Sears washer, 2 yrs, cpprtne, exc cond, ask \$150. Barbara, x633 Linc.

Delta ww snows, 2, not bltd, H78-15, mtd Ford rims, 3 mos, exc cond, best. Larry, x7500 Linc.

Waterbed, 5x7, w/fr, heater, thermostat, liner, gd cond, \$80 or best. Paul, x3-2270.

Sm upright piano, bench, gd cond, \$100. Don Willim, x5869 Linc.

Kastinger ski boots, sz 10, brly used, \$18; '73 Suzuki 550, best. Jan Willums, 494-8918, evg & morn.

Upright piano, fr cond, on 1st fl, free to mover. Call, 667-7064, aft 4pm.

Do your kids lk to take things apart? Old camera, cheap. Valdis, x3-3539.

Port tv, 17", nds work, \$5; assort spkrs, \$2 & up. Ray, x3-7235.

Craftsman metric tools: 10 pc wrench set, 9 pc socket set, spark plug wrench, all \$15; Sears 6 v car batt, exc cond, 3 mos, 3 yr wrnty, \$20; scissors jack, 1 1/2 ton, \$5; couch, buffet, bureau, \$15. Ed, x3-2270.

Pr slg beds, w/matt & fr, nrlly nw, \$20 ea, Saed, x9258 Dorm, aft 7.

Nw Carleton badminton rckt. x3-2818.

Cosco org bar stools, 2; f sz 10 Harris tweed riding jacket, best. Julie, x3-6908.

Skis Daiwa fbrglas, 180 com, Salomon 505 step in bndgs, Reiker boots sz 10 1/2, 52" poles, less 5 hrs ski time, best. Robert x8653 Dorm.

Braun hand elec mixer, nvr used, cost \$22, sell \$16. x3-6395.

Zenith port 4 spd stereo phono, amfm, TDC stereo hphones, 60 class rcrds, rack, \$199. Richard, 536-4308, morn or late evg.

Skis, K2-3, 204 cm, sgl seas, fac refin, \$60. Doug, x3-7220.

Thayer convert stroller/carriage, 2 yrs, \$15; wd plypn w/pad, \$10; port Kantwet baby bed, \$5; bathinet, \$5. Call, 661-8676, aft 6.

Snows, (2), 825x14, gd 1 more seas or as reg tires, \$5/pr. Dave, x7689 Linc.

Stereo Lafayette mdl RK850A, 20 w amp, 8 trk tape plyr, mag phone input & vol contour, \$40; 4-8 trk tapes, \$10. x9469 Dorm.

Hanging wdn storm wndws, 12, dif sz. Jeff, x8-4093 Draper, aft 4.

Heathkit HW100 transceiver, ac & dc supply, \$200; '69 Cox tent trlr, mdl 220, \$350. Don, x465 Linc.

Rugs, 9x14 & 2x14, lt grn, \$20 both, nego. Rochelle, x3-1752.

Folding child seat for bike, easy attach, \$3.50. x9203 Dorm.

Ross bike, f, 5 spd, bskt & lock, \$65; Canon TL camera body, \$60; Braun juicer, \$35; Waring 8 spd blender, \$15; Zenith 19" b&w tv, hdpnns, \$60; tripod, \$10; car bike rack, \$10. Jeanne, x3-2824.

Skis, 205 cm, Kneillel White Star, 3 yrs, exc cond, \$50. x3-6128.

Roll top desk, \$350. Bob, x3-5043.

Sony TC-630 tape recdr, yr old, amp & spkrs, can power 2 rcrvs &/or trntbl or hook up any spkrs, was \$500, now \$275. Call, 244-6409.

Ski poles, 53", nrlly nw, \$5. Bill Beebee, x8-3661 Draper.

GE refrig, 16.6 cu ft, 2 yrs, was \$300, \$175; Zenith 19" b&w tv, 3 yrs, w/std, \$75; gold shag rug, 9x12, bubble pad, 2 yrs, was \$12/sq yd, \$100; stereo/rcrd std, \$5. Betty, x3-2061.

Wd desk, 48", w/chr, \$85; brass fl lamp, \$15; bkscse-cab, 3 movable shlvs, 4 drwrs, 60x90. Silvio, x3-6752.

Skis, Cony Glass, mtl & fbrglas, 200 cm, 3 seas, \$20; fig skates, m, sz 10, blk, \$8. Ted, x3-7066.

Kodak pocket instamatic 60, nw, nvr used, was \$129.95, ask \$75; pocket carousel proj, was \$100, ask \$50 or both \$110. Don, x8-3333 Draper.

Vehicles

'64 Valiant conv, big 6 eng, auto, depend transp, orig ownr, best. Fred, x3-2543.

'65 Chevy Imp convrt, 56K, 8 cyl, 2 dr, p st & br, gd cond, \$300 or best. Sarah, x8-4609 Draper.

'66 Plymouth Val, gd body & eng, nds br & other work, must sell, best. Nancy, 723-8542, aft 4.

'66 Triumph TR4-A, 31K, nw top, shocks, muff, clutch, best. x3-3344.

'66 VW semi-camper, nw rebtl eng, nw gen, batt, v gd tires, gd body, \$750. x3-5596.

'67 Chevy Imp wgn, 59 v gd cond, \$700 or best. x3-5629.

'67 Ford cntry sed wgn, p st & br, r, auto, \$490 or best. Eaton, x7554 Linc.

'67 Ford Gal 500, 70K, 4 dr, p st & br, ac, 2 snows, \$450. Nagoaka, x3-6726.

'67 Austin, std, gd run cond, body nds work, \$250. Call, 494-8353.

'67 BMW 2000, 52K, v gd cond, nw exh, clutch, batt, \$1,000 or best. P. Sparis, x3-7010.

'68 Renault 10, mostly rebtl eng, run cond, nw clutch, muff, no rust, \$150. Chuck, 262-6929.

'68 Olds Cutlass, 2 dr sed, ac, p st. Wendy, x3-6089.

'69 Falcon, 4 dr sed, r, gd cond, \$225, Jane, x3-4804.

'69 Ford cntry sq, '66 Tempest, exc transp, must sell. Chuck, x8-3360 Draper.

'69 Ford Cortina, nw batt, exh, 4 xtra tires, 2 snows w/rims, \$350 or best. x3-3304.

'69 Ford LTD, 4 dr, 54K, p st & br, ac, tuned, nw shocks, v comf, exc cond, \$1,250 or best. Tsai, x3-1916.

'70 Mercury Marquis, brn, 4 dr, vinyl top, p st & br, ac, only 28K. Jack, x8-3528 Draper.

'70 Mustang Boss 302, \$1,400 spent nw eng, best. Call, 776-7253.

'71 Mustang Mach I, low miles, auto, p st, ac, \$2,000. Call, 846-7426.

'72 Ply Fury III, 4 dr hdtpr, fac ac, auto, p st & br, vinyl rf, tint glass, ww, nw stud snows, \$2,350. x326 Linc.

'73 Jeep CJ5, exc cond, \$2,500. Al, x5873 Linc.

'67 Yamaha 350, 36K, exc cond, 2 hlmts & chain, \$525. Ron, 232-3258, lve msg.

'72 Honda 350, w/hlmt, lock, chn, kidney belt, 48K, \$500. X8762 Dorm.

Mini-bike, v gd shocks, used little lately, exc cond, was \$180, \$90 for immed sale. x8-2830 Draper.

'68 Chevy mobile home, exc cond, self-contained, ideal for couple, \$3,500. x3-6733.

'72 Argosy travel trlr, by Airstream, 24', tandem axel, slps 4, gas & elec refrig, gas stove w/oven, h, h wtr, B, \$4,750. x3-7776.

Tent trailer, 168 camel oasis mdl, hd tp, slps 4, awning poles, spare parts, gd for sm car, \$500 or best. Zimmerman, x8-3840 Draper.

Bos, Beac St, stu, lg, \$182 incl util. Michelle, x3-7752.

Bos, nr Kenmore Sq, BR, moving & must sub, desperate, \$165 nego. Jim, x3-1769, lve number.

Camb, 2 BR, sub 10 mos, 5 min walk MIT, \$175. Toni, x8-4561 Draper.

Camb, Tang Hall 8E2, K, LR, B w/shower, BR, avail now must be grad stu, \$111. Call, 494-8881.

Camb, Tang Hall 12D, avail 12/20, MIT grad stu, \$119. Call, 494-9120, 10pm.

Wtrtwn, 7 rm apt, 3 BR, \$250. x447 Linc.

Sgl rm w/river view, apt nr MIT, share B w/1, breakfast priv. Call, 547-4763.

Bartlett, NH, wkly rental, nr 5 alpine ski areas, 2 ski touring cntrs. Dave, x7821 Linc.

Gunstock, NH ski chalet, 3 BR, indoor pool, etc, \$200/ek. x8-4415 Draper.

Stowe, Vt, Xmas, & NY ski hse, contemp, 3 BR, 2 1/2 B, slps 8, K fully equip, frpl. Tally Stone, x3-4637.

Sugarbush, Vt, wnter rental, 3 lvl chalet on access rd, slps 10, 3 BR, 2B, mod K, stone frpl LR & more. Linda, x3-7022.

Ski hse, architect designed, w/sauna, 15 min Wtrville Vy, slps 10 comf, avail Feb, by wk or mo. x3-2533.

Virginia Bishop 3-1591

Mike Parr 3-4266

Philip Knight 3-4267 (secretary - Joy Dukowitz)

Sally Hansen 3-4275

Jack Newomb 3-4269

Evelyn Perez 3-2928 (secretary - Mary Ann Foti)

Dick Higham 3-4278

Pat Williams 3-1594

Claudia Liebsny 3-1595 (secretary - Dixie Chin)

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

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

73-1073-A DSR Staff

73-1055-A DSR Staff

73-1058-R Secretary IV

73-1026-R Secretary IV

73-1132-R Payroll Clerk III

73-1095-A Secretary III Canc

73-1082-A Tech Typist III

73-1124-A Tech Asst IV Canc

73-1028-R Gen Asst Canc

73-580-R Secretary III

73-976-R Secretary IV

73-1101-R Clerk Typist III

73-1090-R Tech Asst III-IV P-T

73-640-A Admin Staff Prog

73-1112-R Tech Asst Acad Staff

73-1115-R Secretary IV

The following position is on HOLD pending final decision:

Staff Recruiter (Admin. Staff) will report to the Employment Officer; will be responsible for coordination of search for well-qualified persons to fill non-academic staff positions. Particular emphasis will be given to assisting laboratories, centers, and departments in fulfilling Affirmative Action Plans with respect to research staff openings. Person will work closely with Personnel Officers and departments in defining description of positions and qualifications required. Frequent travel will be expected; experience in Personnel and/or recruiting required. Technical background with degree in Engineering or Science preferred. Please submit resume. 73-643-A (7/18)

Administrative Staff member will work in the area of resource development dealing with individual contributors. Develop strategies and programs, prepare reports, provide advice and counsel of a legal nature for resource development activity. Some travel required to represent MIT. Must have legal training and preferably some experience as a counselor in practice or a job situation utilizing legal training. Writing and organizational ability; motivation, enthusiasm required. 73-480 (5/30).

DSR Staff member will plan, manage, and execute high-quality research projects having a strongly experimental orientation. Familiarity and experience with low-speed flight and wind tunnel

DSR Staff member will participate in lipoprotein studies, and will supervise the activities of several technicians in a clinical research setting. Ph.D. or M.D. in Biochemistry required, as well as experience with lipoprotein and supervising. 73-515-R.

Manager of Subsystem Development - Administrative Staff in the Programming Development Office will provide technical direction of the design, development, and maintenance of software subsystems under the OS/360, OS/VS2, and Multics Operating Systems. Minimum of 7 years professional experience, and 2 years experience in technical management. 73-912-R (9/12).

Systems Analyst - DSR Staff at the Cambridge Project will adapt Time Series processor programs for use with the Consistent System on Multics. Knowledge of calculus, econometrics, statistics, and linear algebra; extensive PL/I programming experience on Time Sharing Systems; familiarity with TSP-CSP required. Position is temporary until 6/74. 73-845-R (8/29).

Environmental Engineer - Administrative Staff in Physical Plant will organize and direct an Institute-wide energy conservation program. Survey campus buildings to determine areas of possible energy economy; plan procedures; maintain the Institute's compliance with environmental requirements. BS in Electrical Engineering with a basic knowledge of building Mechanical systems for heating, ventilating, and air conditioning. Experience in engineering design or operation of buildings. Experience in energy conservation helpful. 73-875-R (9/5).

DSR Staff at the Cambridge Project will maintain and develop a major Multics System's operating primitives including dynamic storage allocation routines and a PL/I preprocessor needed to support programs. Will work with others in development of behavioral science applications software Multics and PL/I experience; minimum 1 year system programming experience in the area of high order parsers, dynamic storage allocation, and multi-process interactions required. 73-1057-R (10/3).

Director of Personnel Development - Administrative Staff will coordinate the Career Development and Training Programs for all non-academic personnel. Responsible for organization development; assess training needs; plan and develop new training programs; coordinate existing training and development programs; develop career planning and counseling capability. Experience in organization development and career development and planning desirable. 73-1116-A (10/17).

Administrative Staff - Associate Director of the Alumni Fund will be responsible for Staff support to alumni boards and committees engaged in the annual solicitation programs for the Fund. Duties require extensive interaction with senior alumni and corporation executives throughout the country, and extensive interaction with senior members of the MIT faculty and administration. Incumbent must be an alumnus/alumna of MIT. The position will entail a moderate amount of travel. 73-1018-R.

DSR Staff in Metallurgy will perform scanning transmission electron microscopy and high spatial resolution electron probe microanalysis of biological specimens; prepare thin films to use as microanalysis standards; technical subjects. BS with experience in the performance of high spatial resolution and physical constants of thin films, or MS degree required. 73-1127-R (10/24).

Technical Librarian - Administrative Staff will design and implement procedures for organizing and maintaining an Industrial Administrative Information Systems. Process and document EDP reference manuals, technical journals, internally prepared documentation. Aid in implementation, and thereafter maintain, formal methods of interfacing with vendor support personnel. Be directly involved in process of documenting material developed by technical support group, including editing and re-writing of such material. Will also edit and re-write material for a Programmer's User's Guide. Knowledge of methods for development and maintenance of a Special Library required; minimal knowledge of data processing concepts and terminology desired. 73-953-A (9/19).

DSR Staff at the Aeroelastic and Structures Research Laboratory will be Project Engineer at a large subsonic wind tunnel. Plan, prepare, run and report production and research wind tunnel experiments. Related in the study of the aerodynamics of buildings and aircraft. BS degree in Aeronautical Engineering required. 73-488-A (6/20).

DSR Staff member will participate in lipoprotein studies, and will supervise the activities of several technicians in a clinical research setting. Ph.D. or M.D. in Biochemistry required, as well as experience with lipoprotein and supervising. 73-515-R.

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Biochemist - DSR Staff member will participate in lipoprotein studies, and will supervise the activities of several technicians in a clinical research setting. Ph.D. or M.D. in Biochemistry required, as well as experience with lipoprotein and supervising. 73-515-R.

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Director of Personnel Development - Administrative Staff will coordinate the Career Development and Training Programs for all non-academic personnel. Responsible for organization development; assess training needs; plan and develop new training programs; coordinate existing training and development programs; develop career planning and counseling capability. Experience in organization development and career development and planning desirable. 73-1116-A (10/17

(Continued from page 7)
neering or equivalent experience required. 73-1004-A (9/26).

Administrative Staff in the Office of Personnel Relations will assist the Wage and Salary Administrator with the development implementation and long term maintenance of a formal, integrated classification and salary administration program. BS degree or equivalent and 2-4 years of direct experience with the administration of a formal exempt classification and compensation system required. Familiarity with basic statistical methodology is desired. 73-1108-A (10/17).

Administrative Staff - Personnel Officer in the Center for Space Research will serve as staff liaison between the Center and its groups and the Institute Personnel Office. Maintain all personnel files, interview job candidates; prepare salary review and various reports. Represent the CSR management concerning employee policies, hiring policies and standards, promotions, reviews and terminations. Will act as a consultant for equal opportunity employment practices and in connection with employee grievances. Individual should be a college graduate with 2-3 years in personnel administration or a non-graduate with 5-7 years of relevant experience. Familiarity with all phases of personnel administration as well as experience in union activities and classifications required. Excellent communication skills are essential. 73-1167-R (11/7).

Administrative Staff - Program Administrator in the Office of Sponsored Programs will represent the department with respect to sponsored programs in a number of academic departments and laboratories, including proposal review and submission, grant contract negotiation and post-award administration. Experience in an academic department or research laboratory working with faculty principal investigators on sponsored programs preferred. Experience in MIT financial or business administration valuable. 73-1156-A (10/31).

Systems Programmer - Administrative Staff will provide technical expertise; develop and implement methods of improving computer performance. Minimum of two years S/360 or S/370 BAL (ALP) Assembler Language Programming experience. Knowledge of tele-processing, and COBOL or PL/1. 73-2650R (4/73).

DSR Staff (part time-temporary) in Earth and Planetary Science will need Fortran IV and JCL experience to work closely with staff and students. Convert, edit, manage and scientifically analyze large quantities of geophysical and oceanographic data. Primary emphasis is on time series analysis methods. 25 hour work week, temporary 2-3 months with a possibility of becoming permanent. 73-1179-R (11/7).

DSR Staff - Systems Programmer at Project MAC will perform system analysis and system programming on a research version of the Multics operating system. SM or EE degree required; 2-3 years programming experience in the supervisor of some advanced operating system required. Ability to contribute to research and work with students important. 73-1137-A (10/24).

Administrative Staff - Application Programmer/160 Analyst at the Information Processing Center will advise users on procedures and techniques in setting up a statistical problem for computer solution, in selecting and using the proper statistical package, and on debugging the problem. Evaluate available statistical packages; incorporate new packages into our libraries; prepare documentation; conduct seminars and teach classes on the use of language and packages; which may be assigned. MS degree or equivalent in statistics or in social sciences with relating training in statistical applications required. Experience in computer programming and in solving statistical problems essential. 73-1171-R (11/7).

DSR Staff at the Laboratory for Nuclear Science will program for the APC group. Work on existing bubble chamber data analysis programs and develop new programs. Familiarity with FORTRAN; BS or equivalent in physics or math required. 73-1166-R (11/7).

DSR Staff - (part-time) will be the Cambridge Project's documentor. Edit, verify and sometimes write detailed reference documentation for consistent system programmers; write program descriptions to be included in an informal primer for the uninitiated and non-programming Consistent System User. Familiarity with on-line computing systems, PL/1, or FORTRAN; ability to organize ideas into logic sequence required. 10 hour work week. 73-1074-R (10/10).

DSR Staff - Systems Analyst at Cambridge Project will adapt Time Series Processor programs for use within the Consistent System on Multics. Knowledge of calculus, econometrics, statis-

tics, and linear algebra; extensive PL/1 programming experience on Time Sharing Systems; familiarity with TSP-CSP required. This position is temporary 7/1/74. 73-749-R (8/8).

Scientific Programmer DSR Staff in Earth and Planetary Sciences will design and implement modifications to an existing scientific software system in connection with the Mariner 9, MVM, and other space-related experiments. Also write auxiliary data. Experience working with a large scientific program; advanced knowledge of FORTRAN; math and/or engineering background on a bachelor's level required. Knowledge of System/360, assemble, JCL, and O/S would be helpful. 73-1094-R (10/17).

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

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

Engineering Assistant - Exempt in the Fuel Research Laboratory of Chemical Engineering will analyze and calculate emission rates of nitric oxide, carbon monoxide, carbon dioxide, and soot from gas range burners. Will also design and make modifications to the equipment. Associate degree in Physical Science or engineering minimum requirement. 73-1084-A (10/17).

Technical Assistant - Academic Staff in Nutrition and Food Science will study biochemical characteristics of squid and use such data for the development of stable squid protein concentrate. Evaluate the nutritive value of these products and develop means of utilizing these in foods. BS degree in Food Science Technology or Home Economics required. 73-968-A (9/26).

DSR Staff-Temporary in Earth and Planetary Sciences will analyze and interpret seismic data, especially P and S waves from the earth's core, and surface waves generated by explosions and earthquakes. Will also use the computer. MS in geophysics preferred; experience in computer programming and data analysis important. Job is temporary until 8/31/74. 73-1148-A (11/7).

DSR Staff - Temporary in Earth and Planetary Sciences will research in geophysics related to ultrasonic seismic modeling to study scattering problems. Will require some electronic work and use of computer. MS in geophysics or related area; background in seismology; ability to do computer programming required. Experience and knowledge of electronics desired. Job will run through 4/30/74. 73-1147-A (11/7).

Administrative Staff - Systems Programmer will work full time in the Programming Development Office on the 370/165. The job will consist of programming and maintenance, systems assurance, and user interface functions. Applicant should have some project management experience, and understanding of operating system, and a good working knowledge of assembler language. 73-795-R (8/15).

Senior Secretary V in the Arteriosclerosis Center will coordinate the office activities of the Director of a multifaceted medical research program. Schedule appointments, conferences, lectures, maintain student records and appointments and a variety of office files; periodically prepare reports; type manuscript reviews and other materials. Individual will have extensive telephone contact with other medical areas and patients. Good organizational skills ability to establish priorities and supervise junior secretaries required. Knowledge of medical terminology and machine transcription helpful. 9:30-5:30. 73-1088-R (10/10).

Secretary IV in Academic department will type correspondence, proposals, DSR reports, manuscripts, these (much of it technical) keep DSR account records; maintain small library; compose routine letters; assist professor with details of registration. Ability to work independently and to write letters important; accurate typing essential; knowledge of shorthand, technical typing and bookkeeping preferred. 73-578-R (6/27).

Secretary IV in the Institute Archives, MIT Libraries, will handle all general office work and library processing, assist in arranging historical record material, aid library users. Accurate typing required; interest in history; strong reading and writing skills, mature judgement important. 73-1026-R (10/3).

Senior Secretary V to the Ocean Engineering Department Head will perform a variety of complex duties. Answer correspondence independently or from verbal instructions; maintain busy schedule of appointments; assist with salary reviews; act as department liaison with other Institute offices; organize and maintain departmental files; coordinate work of other secretaries during peak periods. Excellent shorthand or speedwriting, and typing skills; several years responsible secretarial experience required; ability to organize and to establish priorities; initiative and poise essential. 73-1155-R (11/7).

Secretary IV in the Office of the Vice President and Treasurer will handle general secretarial duties, assist with administrative functions. Candidate should have the ability to grasp the basics of the insurance industry and to deal with legal terminology. Excellent secretarial skills required; shorthand preferred. Maturity to make decisions, establish priorities, and ability to work under office pressures important. 73-1159-R (11/7).

Secretary IV to a Professor in Economics will handle all general secretarial duties; type correspondence, course material, technical manuscripts; perform editorial secretarial duties for *Econometrica*. Good typing and organizational skills required. 73-1170-R (11/7).

Secretary III (part-time) in the Office of the Dean for the School of Humanities and Social Science will type manuscripts from handwritten material, occasionally assist with other general office duties; maintain books for one account. Previous manuscript typing experience and good skills important. 12 hour work week. 73-1161-R (11/7).

Editorial Secretary IV at Graphic Arts will type on a variety of typesetting units; proofread and make corrections, do paste-ups; operate to meet deadlines for publications; responsible for processing using the Ektomatic developing and stabilizing unit. Will also perform other clerical duties and assist customers on the phone and in person. Excellent typing required; previous commercial experience preferred. Knowledge of proofreading symbols, codes and units of measure important. 73-1141-R (10/30).

Secretary IV to two Professors on Committee on Biomedical Engineering and Man Vehicle Laboratory in the Center for Space Research will handle general secretarial duties. Excellent typing and dictaphone skills required; ability to work independently doing editing and research important; familiarity with medical terminology desirable. 73-1138-A (10/31).

Secretary IV in Urban Systems Laboratory will be receptionist and general secretary for the Headquarters Office. Will type general correspondence, file, reconcile accounts, handle purchasing, payrolls, travel arrangements, and maintain a small library. MIT experience preferred; good typing; ability to establish priorities important. 73-1146-R (10/31).

Secretary IV in Mechanical Engineering will perform general secretarial duties for the department head. Type correspondence from machine or shorthand dictation. Excellent skills (shorthand preferred); ability to establish priorities and to occasionally work under pressure with a variety of people is important. 73-1151-R (10/31).

Secretary IV in the Office of the Provost will coordinate extremely busy appointment calendar, type correspondence, maintain records of several office accounts. Excellent typing skills, shorthand preferred, knowledge of basic accounting required; Ability to set priorities and work with details important. 73-1153-R (10/31).

Secretary IV to the headquarters staff of Housing and Food Services will type correspondence, special reports, budgets; assist in compiling and organizing general office duties. Secretarial training; excellent typing and shorthand skills; knowledge of accounting and bookkeeping required. Ability to work independently important. 73-986-R (9/26).

Secretary IV to the Director of the Industrial Liaison Office will handle all office procedures including accounting and some statistics necessary in operation of a large office. Excellent typing and shorthand skills are essential; previous experience required, preferably at MIT, business school background preferred. 73-1031-R (10/3).

Secretary IV for Institute Secretary for Corporations will organize and run the office. Very accurate typing needed for some letter-perfect copy. Other typing duties require speed. Preliminary research on corporate prospects; gather backup information for visits; draft not-too-technical correspondence. Work closely with other Institute offices in obtaining pertinent data; receive visitors. Flexible, adaptable, good telephone presence. 73-1091-R (10/10).

Secretary IV to Physician in Medical will schedule Faculty Health and DSR physicals; transcribe case histories, reports, and correspondence; handle all general secretarial duties. Individual must be an experienced Medical secretary with excellent skills and knowledge of medical terminology. 73-1150-R (10/31).

Secretary III-IV in Economics will handle regular secretarial duties for two professors; type class material and research reports (some technical). Both professors teach undergraduate and graduate courses and are active with students thesis research. Shorthand or speedwriting and good typing required. Ability to work independently is important. 73-1150-R (10/31).

Secretary III-IV to a professor in Metallurgy and Materials Science will type manuscripts and correspondence; handle all standard office duties. Good skills; shorthand desirable. Ability to organize important. 73-837-R (8/29).

Secretary III-IV (part-time) in the office of the Vice-President for Research will handle general secretarial duties for the Undergraduate Research Opportunities Program. Good typing and dictaphone skills required. Ability to deal with students, academic and research staff important. 20 hour work week. Afternoons preferred. 73-1100-R (10/17).

Secretary III in Aeronautics and Astronautics will provide secretarial support for staff of a research group. Good typing skills, experience in handling accounts helpful. Ability to work independently important. Shorthand preferred. 73-956-R (10/31).

Secretary III for a group of faculty members and research staff in the Research Laboratory of Electronics. Type technical manuscripts, including setting format and verifying footnotes and references; handle all other general office duties. Excellent typing experience preferred. 73-861-R (9/5).

Secretary III in the MIT Associates Program will handle general secretarial duties for one staff member servicing industrial firms' participation in the Program in their dealing with MIT. Excellent office, shorthand and typing skills required. Secretarial or business school background and previous experience desired. 73-1104-A (10/17).

Secretary III in Mechanical Engineering will assist with general secretarial duties in Headquarters Office. Good typing skills, ability to work accurately in a busy office important. 73-1152-R (10/31).

Secretary III in the Student Accounts Office will assist with the preparation of the degree list and review of students financial status; will also handle all general secretarial duties. Accurate typing skills required; ability to deal effectively with students in a busy atmosphere important. 73-1154-R (10/31).

Reactor Operator Trainee IV in Nuclear Engineering will serve as shift operator on the MIT Reactor after passing AEC Operators Exam. Two yrs. of technical college education or its equivalent background will be necessary for preparing for operators' licensing. Knowledge of electronic circuits would be helpful. Ability to work under pressure of emergencies important. 40 hour work week. 73-988-R (9/26).

Senior Clerk III will take and process orders at Graphic Arts. Price and schedule Xerox work, handle requisition details. Knowledge of photography preferred, but not essential. 73-946-A (10/10).

Senior Clerk III in the Microreproduction Laboratory (Libraries) will process requests for microfilm and photocopies; type invoices, work orders; prepare statements for the Accounting Office. Ability to assist customers over the phone and in person is essential; accurate typing skills required; bookkeeping knowledge helpful. 73-1160-R (11/7).

Senior Clerk III in Physical Plant Telecommunications Office will issue orders for telephone service; maintain file of inventory of equipment and orders. Previous office experience; ability to deal effectively with people over the phone, to work independently and to establish priorities important. 73-1143-R (10/31).

Technical Artist IV at Graphic Arts will size photos, paste-up copy and prepare finished mechanicals on brochures, reports, etc, for offset printing. Will make changes on drawings; operate headliner and typesetter machines. 1-2 years applicable experience; knowledge of printing processes, type and lero lettering; strong background in paste-up field. 40 hour work week. 8-5. 73-1123-R

Senior Library Assistant IV (part-time) in the Serials Department of the

Libraries. Prepare and edit data for publication of the MIT Serials & Journal guide, assist with serials cataloguing process; input and edit data directly on the console utilizing computer programs. Library experience essential; aptitude for computer applications. Accurate typing required. 20 hour work week. 9am - 1pm, M-F. 73-1041-R (10/3).

Senior Library Assistant IV - Temporary in the MIT Libraries will maintain the central communications desk for the Northeast Academic Scientific Information Center service at MIT. Answer questions re: services and procedures; interview users to determine desired searches; schedule appointments and arrange terminal logistics; process bills and maintain fiscal records; distribute printouts and in-house publicity releases. College degree and accounting background preferred; accurate typing required. Excellent organizational skills, initiative, and the ability to work effectively with many individuals and occasionally under pressure is essential. Temporary to 6/30/74. 73-1175-A (11/7).

Senior Library Assistant IV - Temporary in the LC Card Cataloguing Section of the Libraries will catalogue added copies of monographs and social science working paper series; remove old cards and file new cards into the card catalogue; perform other varied clerical assignments. Neatness, accuracy, and capacity for cataloguing detail is required. Previous library experience helpful, college background preferred. Temporary to 3/31/74. 73-1173-A 73-1174-A (11/7).

Junior Library Assistant II - (part-time) in the Library Acquisitions Department will type and affix call number labels on books; paste bookplates, charge cards and pockets in books; perform other clerical assignments. Experience and accuracy in typing required. Ability to work with details important. 20 hour work week. 73-1172-A (11/7).

Microfilm Trainee - Messenger II in the Microreproduction Laboratory will work as a camera operator; assist in all phases of microfilm production; deliver and pick up material to be microfilmed. Individual must be reliable; have good attendance and references. Ability to follow detailed instructions required; some manual dexterity desired. Temporary through 7/74. 73-1158-R (11/7).

Painter in Physical Plant must have minimum of 5 years experience in all phases of painting, including interior and exterior work. Preparation and mixing paint materials and matching colors, thorough knowledge of the various materials, tools, equipment and rigging used in the trade. Must have a Painter Rigger's License and be able to work effectively on staging and ladders. 40 hour work week. M-F. 73-1106-R (10/24).

Machinist B (Temporary 9 mo-1yr) in Nuclear Engineering will work from blue prints, specifications, verbal instruction, or sketches. Set up and operate machine tools. Work in reactor machine shop on experimental and reactor components fabrication with supervision. Will handle and be exposed to radioactive materials. Strict adherence to approved radiation protection procedures will be required. Minimum 2 years applicable experience or graduation from a 2-year day technical school machinist course required. 73-1059-R (10/24).

Electronic Technician B in the Center for Space Research will assist in research work under the Supervision of Scientific personnel. Breadboard and test, linear and digital circuit systems for satellite type experiments. Do flight quality soldering and cabling. Will perform function tests on subsystem and make indicated adjustments and corrections. Graduation from a 2-year day technical school or its equivalent and a minimum 2 years applicable experience are required. Use basic test equipment: power supplies, scopes, pulse generators, etc. NASA soldering certificate desirable. 73-1121-A (10/31).

2nd Class Engineer must have a Mass second class Engineer's license or higher. Individual must be willing to work on any shift. 73-182-R (4/73).

Electrician for Physical Plant will install and maintain all types of electrical equipment and systems. Ability to work from blueprints, verbal instructions or sketches as necessary. Some electronic experience desirable. Must be able to work all shifts and on irregular schedule. Minimum of five years experience and Mass State license required. 73-1107-R (10/17).

Waitresses/Waiters (part-time) at the Faculty Club will set up silver & china on dining room tables. Take number orders; serve food and beverages. Clear, clean and reset tables. Experience helpful but not necessary. Shifts: M-F 11:00am - 3:00pm. (3 jobs). All positions may require weekend work. 73-1070-R, 73-1071-R, 73-921.