

July 25, 1973
Volume 18
Number 3

## NATIONAL AUTHORITY PROPOSED

## US Energy Problem Called National Emergency-Now

An MIT professor, declaring the energy problem constitutes a present national emergency-not merely the threat of some future crisis-has proposed a plan that would meet the emergency by 1985 through heavy use of coal, the construction of underground nuclear power plants and a reduction in the growth rate of energy consumption.
Carroll L. Wilson, a professor in the Sloan School of Management, says "miracle" sources of
energy-nuclear fusion, hydrogen broken down by nuclear methods, solar energy, and others-"will contribute nothing by 1985 nor be substantially operative before roughly the year 2000 , if then. And we simply cannot wait that long," Professor Wilson said.
"We need to take the kind of action we traditionally take only in the face of a national emergency, and that is exactly what we are facing," he said.
Professor Wilson's view that a
national emergency is upon usoutlined in the quarterly review, Foreign Affairs-differs sharply from the view of the Nixon administration as expressed by the President in his energy policy statement of June 29. In that statement Mr. Nixon said the country faces "a serious energy problem" that could become "a genuine energy crisis in the foreseeable future" unless swift action future
taken.
Profe
manager of the Atomic Energy Commission from 1947 to 1951, says the most critical aspects of the current energy emergency are the perilous dependence of the United States upon Middle East oil and the "enormous foreign-exchange drain" that dependence will entail "by the late 1970s alone."
Citing "recent 'symbolic' interruptions" by some Middle East nations in protest against US policy toward Israel, Professor

Wilson said: "Although we will have to live through a period ofsubstantial reliance on Middle East oil it is hardly an acceptable national policy to leave the emerging situation in this highly unsatisfactory state. There are simply too many cumulative problems and dangers involved.'
Two parallel strategies-the Decade Program, containing the goals to be reached by 1985, and the Emergency Program, de(Continued on page 2)

## Objective: More Women Students

Women at MIT want more women at MIT, so the women students have collaborated on a 32 -page recruiting booklet to be mailed to some 10,000 high school seniors.
The just-published booklet is the latest in a series of steps taken by MIT admissions officers and women students to encourage more women to attend MIT. The booklet is also one of several commemorations of the hundredth anniversary of the 1873 graduation of the first women from MIT, Ellen Swallow Richards
The number of women attending MIT has doubled in the past five years, largely because of the Institute's increased ability to accommodate them residentially. Approximately 500 women will be enrolled as undergraduates in the 1973-74 academic year.
Part of the increase in numbers, the authors said, is because "The appeal of an education in science and technology is greater now. Active participation in our world now relies heavily on at least understanding the forces of science and technology."
The booklet will be distributed this summer to 10,000 girls who have completed the Preliminary Scholastic Aptitude Tests with scores of 65 and above in mathematics and 50 and above in the verbal test. The recipients were selected through the Student Search Service of the Educational Testing Service.
Also to receive the booklet are some 1,000 MIT educational counselors throughout the world.

The booklet was initiated by the MIT Association for Women Students.


Depicting life at MIT are, above, Yolanta $H$. Geisler of Queens Village, N.Y. and Albert L. Oliver, Jr. of Philadelphia, both freshmen; above right, Catherine A. Lu, a freshman from Tallahassee, Fla.; right, Carol Dees, a junior in urban studies and planning from Buffalo, N.Y.; far right, Dr. Holly Heine, an instructor in biology.

## MIT Affirmative Action Plan Accepted by HEW

MIT's affirmative action plan for guaranteeing equality of opportunity in employment and education has been found "acceptable and in substantial compliance" with federal regulations, President Jerome B. Wiesner was notified on Friday.

John G. Bynoe, regional civil rights director of the Department of Health, Education and Welfare's Office of Civil Rights, handed Dr. Wiesner a letter saying that the MIT plan "evidences a sincere and demonstrable good faith on the part of the Institute.'
"In some aspects," Mr. Bynoe said in the letter, "the Institute has gone byond minimum standards of compliance and should be commended for this effort and the commitment to positive affirmative action development which it demonstrates."

At the meeting in Dr. Wiesner's office, Mr. Bynoe said that the MIT staff and department heads "deserve a lot of praise for putting the plan together.
"We'll be able to help a lot of universities as a result of what you've done," he said.

Dr. Wiesner said that while the "planning part is done, the hard part is yet to come."
Others at the meeting included John M. Wynne, vice president for administration and personnel and MIT equal employment opportunity officer; James J. Culliton, assistant to Mr. Wynne and director of personnel services for the Institute; and Dr. Leon Trilling, professor of aeronautics and astronautics and chairman of the MIT Equal Opportunity Committee.
The Institute is conducting a search for a special assistant for minority affairs in the office of the President and Chancellor, to replace James C. Allison, Jr., who has been granted leave from MIT to pursue advanced study at the Harvard Graduate School of Education.

## Dear President Wiesner:

The Office for Civil Rights has determined that the affirmative action plan of the Massachusetts Institute of Technology, dated April 6, 1973, is acceptable and in substantial compliance with Executive Order 11246, as amended.
The document evidenced a sincere and demonstrable good faith effort on the part of the Institute. In some aspects the Institute has gone beyond minimum standards of compliance and should be commended for this effort and the commitment to positive affirmative action development which it has demonstrated. The Massachusetts Institute of Technology is the first institution of higher education in Region I to develop a comprehensive program which included individual departmental programs.
The remainder of the letter is organized into two parts. The first part will address areas of the Institute-wide plan which require further clarification or amplification, or additional documentation. The various departmental plans will be discussed in the second part. In our evaluation of the departmental plans we have identified those areas needing clarification which are common to a significant number of plans. For your guidance in modifying these we will point out those plans which we consider to be the best examples of affirmative action commitment.

Part One. Institute-wide Affirmative Action Plan
For purposes of clarity and coherence in analysis and evaluation this office has determined that the regulations which implement Executive Order 11246, as amended, suggest that an acceptable affirmative action plan should (Continued on page 8)

The MIT affirmative action plan, dated April 6, 1973, was printed in full in a Tech Talk supplement on April 11. It describes the Institute's program for guaranteeing equality of opportunity in employment and education as well as for reducing under-representation and underutilization of minorities and women.

## The plan states:

"As a major educational institution, a large-scale employer and an influence on our society through its students, its alumni and its employees, the Institute stands committed to the principle of equality of opportunity in employment and in education."

Government regulations require colleges and universities to develop acceptable affirmative action programs in order to qualify for certain federal contracts.

Mr. Bynoe's letter to President Wiesner was in two parts: The first dealt with areas of the Institute-wide plan that require additional clarification, amplification or documentation; the second evaluated individual department plans.

The letter said that MIT, which included 87 departmental plans in its over-all program, "was the first school of higher education in Region 1 (the six New England states) to develop a completely departmentalized program.'
"Our review of these plans revealed a wide range of effort with most programs meeting a minimum standard of acceptability," it said.

Each department will receive the part of the letter dealing with the departmental programs and also the specific critique of its own program.

## WILSON PRESENTS STRA TEGIES

## 10-Year National Energy Authority Proposed for US

(Continued from page 1) signed to meet the serious problems that will continue to arise until then-have been proposed by Professor Wilson.

The Emergency Program calls for additional refinery construction, at least one superport and building additional tankers-proposals which Professor Wilson admits "inevitably would not be wholly consistent" with the Decade Program.
"The painful fact is that some part of total refinery capacity, and as much as half of the planned superport capacity, will become obsolete or surplus as we carry out the shift to coal and the reduction in the proportion of our energy needs supplied by oil imports. When a problem has been neglected as long as we have ignored or misjudged the energy situation, the short-term requirements may not mesh with the requirements for the medium and longer termand so it is in this case. We have to fix the roof and build a new house at the same time.
Funding for such short-lived programs and for other elements of Professor Wilson's plan would be provided by a National Energy Finance Corporation.
Professor Wilson proposes that the corporation operate under a National Energy Authority. The authority, whose life would be limited to 10 years, would have the power to override obstacles to land acquisition, siting, environmental impact-in short, power to overcome many of the problems stalling energy development today.

## The Elihu Root Lectures

"A Plan for Energy Independence" was outlined by Carroll L. Wilson, a professor in the Sloan School of Management, in the course of delivering the Elihu Root Lectures at the Council on Foreign Relations.

The Root lectures provide an opportunity for a distinguished member of the council to develop his ideas on a foreign policy issue. The lectures are usually published in book form. The full text of the lecture can be found in the July issue of Foreign Affairs.

The Wilson plan has been praised in the World Environment Newsletter of the International Institute for Environmental Affairs as "the most realistic and persuasive program we have seen." Speaking of Mr. Wilson, the newsletter says:
"His credentials are exceptional...Above all in this context, he is an environmentalist who was primarily responsible for the stillauthoritative SCEP report (Study of Critical Environmental Problems, 1970) and the subsequent Study of Man's Impact on Climate...Thus his call for tought measures takes full account of the possible impact on the environment."
Mr. Wilson, a professor at MIT since 1961, has been a member of the United Nations Advisory Committee on the Application of Science and Technology to Development and the US member to the Committee for Scientific Research of the Organization for Economic Cooperation and Development.

The objectives of the Wilson plan would be to achieve by 1985 "independence of the United States from critical reliance on imports of energy in any form-defining critical reliance as anything more than ten percent of our needs," and to keep energy costs below $\$ 1$ per million British Thermal Units.
"Looking at all the technological possibilities...it is my conclusion that the best sources of energy that can be greatly expanded in this time frame, at reasonable cost and with an impact on resources

## National Program...or Nationalistic?

"A Plan for Energy Independence" is, says its author, "a national program for the United Sates, calculated on the basis of particular American resources and American needs.'
But is the plan also "nationalistic," asks Carroll Wilson? Would it affect others negatively? "Does it mean an increase in American autarky, fortifying the tendency other countries now see for the United States to take care of its own needs and let the rest of the world go hang?'

The answer: A "resounding no," says Mr. Wilson.
"This is the most obvious if we look at the relations between the United States and the other major industrialized countries, which are also the major consumers of energy...Western Europe and Japan are inescapably dependent, far more than the United States and far longer into both past and future, on imported oil and gas; if the United States becomes a vastly increased buyer of both, the effect can only be, at best, friction, and, at worst, price wars and preemptive deals that would cut at the very roots of cooperation between the United States, Europe and Japan. This danger is indeed already visible, and it will take a good deal of statesmanship to avoid it as things stand now; by 1980 or 1985, on present trends, the seeds of strife could be byond control.'
Mr. Wilson points out that since Japan and most of Europe have no alternative comparable to what coal can be for America, a determined effort by the United States to reduce dependence on oil would be welcome.
And such a reduction, he adds, would not mean that oil-producing countries would be hurt. "To prolong the life of these (oil) reserves and to space out the income of the producers can mean a net benefit to most of the producing countries. Their prices will rise in any event in the years to come, but the present prospect of runaway increases in production cannot be attractive compared to a more orderly expansion that prolongs their assets."
In conclusion, Mr. Wilson says: "On any rational look at the production and consumption of energy all over the world, the United States represents not only a statistical discrepancy and target for the role of villain (six percent consuming 33 percent, and getting greater), but a potential disruptive force in almost every market day by day; only if this is brought under control can the United States play any responsible role in the effort that may have to be undertaken within the next decade, or at least by the end of the century-to balance and distribute world energy supplies much more fairly and reasonably than nature or men have ever done to date. For unless we do this there is scant hope for human progress and peace in the long run."
and on the environment that we can bear, are nuclear fission and the production of gas from coal through gasification-a process which produces from coal a clean, all-purpose and readily transportable gaseous fuel," Professor Wilson said.
Nuclear plants, if they are to provide ten percent of the nation's power needs by 1985 as proposed power needs by 1985 as proposed
by Professor Wilson, will have to meet growing public demands for improved human and environmental safety.
"The determined opposition of states and localities and citizen action groups, plus rising caution by the Atomic Energy Commission, has stretched out to ten years the interval between application for a plant permit and bringing the plant 'on line' at an economic power level," Professor Wilson power
said.

To overcome objections-and to shorten the time required to bring nuclear plants on line-Professor Wilson suggests building new plants 500 or more feet underground and cooling them with water from surface towers that would recycle and cool the hot would recycle and cool the hot
water many plants now are diswater many plants now are dis-
charging into streams and larger bodies of water, risking environ mental damage.
The keystone of Professor Wilson's proposal is the restriction of oil to transportation needs, withdrawing it from other energy uses such as heating.
If oil imports are kept to ten percent of energy requirements by 1985 and the energy growth rate is held to three percent, oil's role in the total energy picture would drop from the currently projected 47 percent to about 30 percent.
"Thirty percent is roughly the proportion of our energy that now goes to transportation, especially automotive uses..." Professor Wilson said. "It will take work to keep our transportation uses down to this proportion, for they are now expanding faster than total energy consumption and this tendency will be accentuated by lowered efficiency due to tighter emission controls...This is a harsh measure,
but an indispensible one
At the same time, Professor Wilson said, the country should begin planning now to meet as much as 75 percent of its energy needs by the year 2000 from coal There are ample reserves to ac complish this, he said.
Although Professor Wilson's plan to slow the rate of energy consumption will have some beneficial ecological effects, the environment may be set back in other ways.
"Up to now we have behaved as if we had the luxury to have the best of both worlds," Professor Wilson said. "We have not made the tough choices. Now the energy emergency makes us choose, and the choices are few. Some environmental prices must be paid: one or more oil superports off the East coast, and added refineries (however pure) inland; the Alaska pipeline with residual risks that even the safest design and procedures cannot avoid; much increased offshore oil development, and much increased coal mining largely from surface sources-which even with the best possible measures would tend for a time to deface the particular area.
"I do not minimize these costs, but feel them keenly as one who has been active for several years in the scientific effort in support of national and international environment measures. In each case, the trade-off has been weighed, and it seems to me that the gain outweighs the loss."

## Visiting Professors Appointed to Faculty

Four visiting professors and one visiting associate professor have been named to the faculties of the Sloan School of Management, the Department of Mechanical Engineering and the Department of Urban Studies and Planning.
Wilbur G. Lewellen, a professor at the Krannert Graduate School of Industrial Administration at Purdue University, has been appointed visiting professor of management, effective September 1 , for nine months. Dr. Lewellen received the SB degree from Pennsylvania State University in 1938. He received an MS degree in 1961 and a PhD in 1967, both from the Sloan School of Management.
Hans H. Weber, a professor at the University of Gottingen in Berlin, has been appointed visiting professor of management, effective September 1, for a year. Dr. Weber received a diploma of com-
mercial science from the University of Mannheim in 1957 and a doctorate degree from the University of Saarland in 1965.
Harvey M. Wagner, a professor at Yale University, has been appointed a part-time visiting pro fessor of management, effective February 1, 1974, for four months. Dr. Wagner received a BS in 1953 and MS in 1954, both from Stanford University, and a doctorate in 1960 from MIT.

Giuliana C. Tesoro, of the MIT Department of Mechanical Engineering, has been appointed parttime visiting professor effective this month for a year. Dr. Tesoro completed her undergraduate education in Italy. She received a PhD from Yale in 1943. She came to MIT in 1972 as a senior research associate in mechanical engiassociate

## 6 New Hertz Fellows Plan Graduate Studies at MIT

Six undergraduate students who received the coveted Hertz Foundation Graduate Fellowships plan to do graduate work at MIT. Three of the students also received their undergraduate degrees at MIT

The fellowships, awarded by the John and Fannie Hertz Foundation, include an annual stipend of $\$ 5,300$ plus full tuition. The program is designed to stimulate interest in engineering and the physical sciences.
Twenty-eight fellowship winners were selected from 315 applicants in a nationwide competition. The fellowships can be held at only 14 specified graduate schools in the US. MIT and Stanford led in fellowship awards with six each.
Winners who will use their fellowships at MIT are: Manoug N. Ansour, of Forest Hills, NY, who
received his undergraduate degree at MIT; Arthur B. Ellis, of Hialeah, Fla., from the California Institute of Technology; John E. Keesee, of Phillipsburg, Ka., from the US Air Force Academy; Donald R. Ponikvar, of Willowick, Ohio, from the US Military Academy; James G. Richman, of Sunnyvale, Calif., a graduate student at MIT; and John E. Thomas, of Oyster Bay, NY, of MIT.

Hubert E. Jones, of the Department of Urban Studies and Planning, has been appointed visiting associate professor, effective September 1 , for nine months. Mr. Jones, formerly a community fellow and lecturer in the department received a BA from City College of New York and an MA in social work from Boston University.

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## Skipper Fegley to Pilot Research Vessel Schrock

The search for a skipper of the R. R. Schrock has ended with the addition of Captain Fred C. Fegley to the MIT staff.
Mr. Fegley will guide the 50 -foot diesel research vessel on the waters of Boston Harbor and Massachusetts Bay-as far as 15 miles out to sea and 50 miles up and down the coast of Massachu-setts-as MIT graduate students collect research data in connection with environmental studies.
Previously, the new captain of the Schrock changed his job with the seasons.
During winters for the last four years he worked for the Deans Office at Boston University as assistant director of residents. In the spring and fall he delivered boats up and down the coast of New England, to Florida and to the Bahamas. Summers he worked as an independent boat operator out of Woods Hole, taking out yachts and occasional work boats.
The Schrock had been without a captain for a few months, and found one when Mr. Fegley heard of the opening through the grapevine at Woods Hole

The 30-year-old Captain Fegley, a graduate of C. W. Post College in Greenvale, N.Y., is living at Woods Hole, but he and his wife Sharon, are planning to move to the Boston area soon. Mr. Fegley grew up in Marblehead, where he spent much of his time "hanging around the water" and became interested in boating. He had no real professional aspirations, he said, but added, "Here I am."
Captain Fegley said that there's work to be done on the Schrock. "She's not looking very pretty," he said, explaining that the boat will probably go to the yard this fall for a going over.
Few people at MIT realize that the Institute maintains a small fleet consisting of the Schrock (named for Robert R. Schrock, retired head of the Earth and Planetary Sciences Department), and two Whalers, all docked at Lewis Wharf at Atlantic Avenue in Boston.

The boats are under the supervision of Delbar P. Keily, associate professor of meteorology, who retired this summer after 36 years at MIT. He wants the MIT community to know that the facility, including ample storage space and the boats, is available to any department for environmental studies in such areas as fishing, marine pollution and maritime resources.

Professor Keily said, "We'd like to see more departments and laboratories at MIT working or planning to work on oceanographic problems using the Schrock since it is such an accessible and effective facility.

Overnight trips are not uncommon and the Schrock can remain out for several days. Some of the students who use the Schrock for close-in-to-shore research also do deep-sea research from other craft at Woods Hole, the oceanographic institution at Falmouth with which MIT has a co-operative education program. However, the accessibility of the Schrock's docking quarters makes it ideal for work in local waters.
The MIT vessel, acquired in 1966, is equipped with two diesel electronic generators that provide ample power for any electronic research equipment that might be needed on board.
The Schrock also carries up-to-date navigation devices such as radar, loran and acoustic sounders, plus two winches for lowering small or moderate size underwater instruments down-to 200 feet or more.


Captain Fred C. Fegley (left), new skipper of the R $R$. Schrock, is shown above on deck of the MIT craft at Lewis Wharf preparing for an outing on New England waters where Institute graduate studentso
will study the circulation patterns of Massachusetts Bay, as well as new oceanographic instrumenta-tion-the principle research projects being carried out on board the Schrock.

## SEPTEMBER SYMPOSIUM

## Food Scientist Mercer Receives 11th Underwood-Prescott Award

An American food scientist has been selected to receive the 11th Underwood-Prescott Memorial Award at MIT for his contributions to food processing technology
Walter A. Mercer, vice president of the National Canners Association and director of the association's Western Research Laboratory at Berkeley, Calif., was cited for his research on problems affecting the food canning industry and studies relating to the quality and conservation of water resources.
The award and an honorarium will be presented by MIT on Sept. 25 at a luncheon at the Faculty


SHIP SHAPE-The Hart Nautical Museum is open and ship shape again as Joe Martell, of Woburn, a member of the Institute's painting crew gives the binnacle (a ship's compass stand) a polish. The museum has been closed for a month while the walls and exhibit cases were painted.

Club. George C. Seybolt, president of the Wm. Underwood Co., Watertown, Mass., and Dr. Walter A. Rosenblith, MIT provost, will participate in the program.
Following the luncheon, Mr. Mercer will head a panel at a symposium in Kresge Auditorium on "Ecology, the Environment and the Food Industry: New Horizons and Hazards in Resource Management.'
The symposium will focus on management of water supply, protein supply and utilization of by-products.
Other panelists will be Evan F. Binkerd, vice president and di-
rector of research for the Armour Food Company, Oak Brook, Ill.; Dr. Robert J. Dimler, area director of the United States Department of Agriculture's Northern Regional Research Laboratory, Peoria, Ill.; and Dr. Robert S. Timmins, president of Abcor, Inc., Cambridge, Mass
More than 300 food scientists, food industry executives and students are expected to attend the luncheon and symposium.
Mr. Mercer was selected for the 1973 Underwood-Prescott Award by an MIT Department of Nutrition and Food Science faculty committee headed by Dr. Samuel A. Goldblith, associate department head.
The committee said the award was made to Mr. Mercer "in recognition of your contributions to the field of food science with particular reference to canning in general and conservation of water supplies in particular."
This will be the 11th year in which outstanding food scientists from throughout the world have delivered lectures in Boston.
The award and lectureship are in memory of William Lyman Underwood, grandson of William Underwood, who founded the Wm. Underwood Co. in Boston, 1822, and Dr. Samuel Cate Prescott, the first dean of the School of Science. In one of the very first industry university research partnerships, they were the first to establish, in 1895, that spoilage in canned foods was due to bacteria, and they developed the temperature and time guides necessary to destroy the spore-forming organisms responsible for the spoilage

## Concert Cancelled

The last program in the July concert series, the Festival of Summertime Chamber Music, scheduled for Tuesday, July 31, has been cancelled
The cancelled program will be replaced with a free concert by students in the MIT String Ensemble on Monday, July 30 at 8pm in Kresge Auditorium.


July 25
through
August 3

## Seminars and Lectures

Thursday, July 26
Police Civil Service Selection Procedure: Comparison of Ethnic
Droups Jan Chaiken, RAND Institute, NYC. Operations Research Center, Innovative Resource Planning Project Seminar. $11 \mathrm{am}, \mathrm{Rm}$ 24-307.

## Community Meetings

Women's Forum
Meetings and discussions. Mondays, 12 n , Great Court, if raining
Bush Room, 10-105.

Course Evaluation** S SCEP. Come and help out. For info, call Robert, 494-8889 evgs, or lve msg at TCA, W20-450, x3-4885.
scep
Summer meetings cancelled. First meeting in fall: Wed, Sept 19

## MIT Divine Light Club*

Disciples of 15 year old perfect master Guru Maharaj Ji present concert \& program on his spiritual knowledge of inner perfectio Sat, July 25, 7:30pm, Kresge Little Theater. Free.

## MIT Club Notes and Meetings

Bridge Club
ACBL Duplicate Bridge. Thurs, 6 pm , Stu Ctr Rm 473. IMP-scored team games, (similar to rubber bridge scoring). Call Jeff, x3-5285 or 864-5571.

Chinese Choral Society***
Singing, every Sun, 3-6pm, W20-473.
Min Chinese Student's Club*
All are welcome.
Classical Guitar Society
Classes, group or private. Mon \& Thurs, $5-8 \mathrm{pm}$; Sat, 8am-12n; Rm 1-132, 134, 136. Vo Ta Han, 494-8353.

## Goju Karate Club*

Open to the Cambridge Community. Mon, Thurs, $7-9 \mathrm{pm}$ Stu Ctr Rm 407. Call 253-2018.
Hobby Shop
summer term, $12 \mathrm{n}-5 \mathrm{pm}$, Rm W31-031. Fees: $\$ 10 /$ term for students; $\$ 15 /$ term for community. Call x $3-4343$.

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

MIT/DL Duplicate Bridge Club** Tues, 6pm
$864-5571$.

## Outing Club*

Every Mon \& Thurs, $5-6 \mathrm{pm}$, W20-461.

## Rugby Club**

Informal practice sessions: almost every Tues, Thurs, 5:30 Briggs Field.

Science Fiction Society*
Fri, $6 \mathrm{pm}, \mathrm{Rm}$ W20-421.
Scuba Club***
Compressor hours, Mon \& Fri, 4-6pm, Alumni Pool.
Strategic Games Society
Come try some of our games: Star Lord, Emperor of China, Feu \& Acquire. Sat, 1pm-1am, Walker 50-318.

## Student Homophile League

Sun-Thurs, $8-11 \mathrm{pm}$, (most nights aft 12 m ), for counseling, activity info, help in "coming out," rapping.
Student Information Processing Board Meeting* Mon, 7:30pm, Rm 39-200.

## Tech Squares*

Western style square dancing. Tues, $8-11 \mathrm{pm}$, Sala de Puerto Beginners dances: Aug 7, Aug 21, 8-11pm, in the Sala. Come join us. Admission: $\$ 1$, first time free.

Tiddlywinks Association*
Tues, $7-11 \mathrm{pm}$, Student Center Rm 407
MIT Wheelman***
All aspects of bicycles and bicycling discussed, events plan advice ${ }^{\text {and }}$
$\times 3-2384$.

## 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 exten sions may be listed. Members of the comay submit who by coming extension the Tech Talk office, Room 5-111 a the Tech Takk office, Room 5-111, an presenting Institute identification. Ads
may be telephoned to Ext. 3-3270 or mailed to room 5-105. Please submit all ads before noon, Friday, July 27.

## For Sale, Etc.

Rug, braided, $8^{1 / 2} \times 11^{1 / 2}$, red, gr, blk. Guitar, Martin D-18, w/case, v gd cond Call, x8-4048Drape
Bike, boys, Rollfast, 10spd, used Tires, Uniroyal, 4 F $78 \times 14$, belt, blk w, used less $200 \mathrm{mi}, \quad \$ 80$. Jack, x8-3528Draper
Ovens, 2, GE, built-in, st steel, w/sep controls; entr top range, st steel, all $\$ 225$. Gene, x7787Linc.
Sew mach, Singer, tch\&sew, deluxe, exc cond, $\$ 75$; gate leg tbl, antique
mahog, $3^{\prime}$ 'tall, $\$ 35$. Debie, x $3-4871$.
BR set, 8 pc , incl bkcase hdbrd, 2 nite tbl, triple dr w/mirror, 2 bach chsts
w/vanity, ask $\$ 115$. Gary, x 7755 Linc.

BR set, 6 pc , mahog, $\mathrm{fr}, \$ 70$; cedar trunk, $\$ 35$; baby crib, w/matt, $30 \times 54$, $\$ 20$; humid, was $\$ 10,6 \mathrm{mos}$ old, $\$ 5$
iron, was $\$ 16, \$ 8$. Ho, $442-5877$.

Swap S\&H for Top Value stamps, or TV for S\&H. Jones, x 3-3404.
Furn, rugs, stereo, clothes, refrig, beds etc, moving. Call, 646-7785
$K$ set, mpl, oval tbl w/formica top, cond, \$75. Fran, x3-3221.
$\begin{aligned} & \text { Playboy mags, '66-'71, } \\ & \text { must sell, } \\ & \text { mo }\end{aligned}$ cents ea. Bob, must sell, 30

Bike, mens, Fleetwing, 10 spd, $\mathrm{dk} \mathrm{gr}_{\text {gr }}$ pnctr-proof inner tubes, nw fr tire, less $10 \mathrm{mos}, \$ 65$. Henry, 547-4836aft 6pm.
Bed, tw, \$20; sofabed, $\$ 15 ; \mathrm{K}$ tbl, formica, w/4chrs, $\$ 25$. Janie, x3-4912.

Florida vac "offer": 5 dys, 4 nts, Miam $\underset{\text { Bch, } \mathrm{Ft} \text { Laud, or } \mathrm{Ft} \text { Myers, } \$ 20 \text {. Call, }}{ }$

ADC 25 crtrdg, hi qual, 2 mos, $\$ 35$. Call, x3-5626.
Draft tbl, \$40; draft tbl, hmmade, w/stool, $\$ 15$; persian rug, imit, $6 \times 9$, $\$ 28$; bamboo wndw shade, 4 'w, $\$ 5$;
Knmore fan, exc cond, $\$ 18$. Kathy, Knmore fan

Hubcaps, 4, 13"; Royal 10 desk typwrtr, Xmod, $50-60 y$ yrs; training
whls, bike, 4sets; best reas. Mack,

Pool filter, cartridge, Coleco, $1 / 4 \mathrm{hp}$ used 10 hrs , too sm for my 18, pool,
was $\$ 70$, now $\$ 35$. Dick, x5597Linc,

Stereo: Sony TC-630 tape rec, was $\$ 500$, now $\$ 300$, less yr old, w/12
tapes;
RCA compact sys, turntbl, spkrs, was $\$ 275$, now $\$ 125$ Call, 244-6409.
Dbl bed, $1 \mathrm{k} \mathrm{nw}, \$ 40$; tbl, mahog, 1 lg seats 6, $\$ 40$; stereo cmpnts. Kenwood tp
stereo
80, PAT4, best. Marshall, 494-9069.

Camera, Argus, 35 mm , case, flash att hrdly used, \$15. Bob, x3-3887

Bed, dbl, w/box spr, mahog
hdbrd, best. Margie, x 3 -2507.
Bike, Columbia, mens, 10 spd, $\$ 70$ Phillips 3spd frame, br \& gears, no whls, $\$ 10$.
Bike, Motobecane L14, mens, 21' touring, bl, best. Anita, x3-2049.

Car top carrier, canvas, zip, lt b1, $\$ 35$ firm. Call, $\times 7565$ Linc aft $3: 30 \mathrm{pm}$. VW parts: rf rack; nw running brd
drivers side, bug; '66 points; '69 sq bk drivers side, bug; '66 points; ' 69 sq bk discs.
Baby crib, $\$ 10$; bike, child, $20^{\prime \prime}, \$ 10$; bike, child, w/trn whls, $\$ 12$; fan, $\$ 5$ baby car st, $\$ 7$; rugs, $2, \$ 10, \$ 15$; blankets, 4, $\$ 2.50-\$ 3$; pillows, $\$ 1.50$ dishes

Bowling ball \& bag, AMF, 161b,
Mr, Sufton, $\times 8-2826$ Draper
Scott stereo; squash racket; bl D/R sofa; Castro convert; teak DR tbl; 9x12 bl-gr rug; Kirby vacu
mach, etc. Call, x3-1632.

Refrig, Indesit, exc cond, $\$ 60$ or best; door mirror, new, \$4. Syivia, x3-3716.
Tbl, DR, lg, wint top, $5 \mathrm{chrs}, \$ 80$; chr, high back, $\$ 10$; parsons $\mathrm{tbl}, 1 \mathrm{pc}$,
plastic, $\$ 10 . J o h n, ~ 33-4713$.

Pool tbl, Jordan Luxury, 8, nw 13levellers, w/2cue sticks, balls, triangle, chalk, dust cover, $\$ 100$. Call x5309 Linc.
Windows, dbl hung, $2: 32 \times 40$; dbl unit, $63 \times 40$; toilets, 2 ; $\$ 5$ ea. Alan, $\times 3-4284$

Tennis racket, Dunlop Maxply, gut str sz4 $4 / 2 \mathrm{~m}, \mathrm{nr}$ new, to
Marjorie, x $3-3623$.
Tennis dresses, sz 14: culotte, $\$ 4.99$; dotted swis w/match cover-up skirt, $\begin{aligned} & \text { Streeter \& Quarles, } \\ & \times 3-3329 .\end{aligned} \quad \$ 11.99$. Pat

Sew mach, Singer, old but exc cond console, wint cab, some attach, $\$ 25$
Structo elec kettle grill, 18 ", infinite Structo elec kettle grill, 18 ", infinit temp control w/pso off, hinged lo
w/lava rocks, hickory chips, 120 v , ori $\$ 79.95$, used few times, $\$ 30$. Audrey, $\times 3-4837$.
Tires, 5 , driven 50 mi , Toyota, $165 \times 13$ $\$ 10 \mathrm{ea}$. Lou, x 7885 Linc.

Indian imports: brass chess set $\$ 50$ brass \& wd decoration pces, $\$ 1-\$ 10$; silk \& cotton dresses, shirts, etc,
$\$ 2-\$ 40$; leather bags, belts, etc, $\$ 2-\$ 20$
 x8-1530Draper.

Electronic muse box, $\$ 149$; Zenith port stereo, $\begin{aligned} & \text { am-fm, } \\ & \text { records, } \\ & \$ 199\end{aligned}$. Richard, $\mathbf{x} 30$-6028aft.

Ladder, extension, 12, nw, $\$ 10$ Ladder, extension, 12 , nw, $\$ 10$
spreader, $\$ 3$; elec heater, $\$ 5$; bar-brakes; snow shov; brooms. Call,
$\times 3-5330$. $\times 3$-5330.
Aquariums, $2,10 \mathrm{gal}$, all glass, dbl florescent), $\$ 40$. Bill, x8-2588Draper.

AC, Whrlpl, 8500BTU, csement wndw, yr old, exc cond, was $\$ 210$, ask $\$ 130$. Eric, x3-7210aft 1 pm .

Rug, Bokhara (Persian), semi-antique 3'5"'x6'4", exc cond, \$200. Dave,

AC, Airtemp, $5000 \mathrm{BTU}, \mathrm{v}$ gd cond \$60. Mort, x7517Linc.
Washer \& dryer, Sears Kenmore, 700series, 3yrs, wh, $\$ 250$ both or best. Call, 944-6128.
Player piano, Starck, gd cond, must sell now, \$175. Call, 237-0460.

Radio, am-fm, \$15; sm tbl, \$3; handmde bkcase \& coun
wd, $\$ 20 e a$. Pete, $\mathbf{x 3 - 5 2 7 2}$.

Bug zapper, $2^{\prime}$ hi, 14 "diam, 15 w blk lite, new, $\$ 60$. Guy, x5597Linc
Moving, msic hsehold gds, baby furn,
bkcse, etc. Call, x $3-5693$.
Sgl bed, 2 yrs , exc cond, orig $\$ 130$ now $\$ 50$ or best; bkeses, $2,1 \mathrm{lg}$, wd \$5ea; desk, wd, lg, 3drwr, w/chr, \$20; rug, orng, br, $10 \times 12$, rubber bk, $\$ 40$; sm broiler oven, $\$ 10$. Bob,
x 8 -3395Draper.

Tape recorder, AIWA, port, 2spd, 7"reels, self-contned amp \& spkrs,
seldom used, $\$ 37$. Carol, $\times 359$ Linc.

Stereo receiver, Regency WT-4, am/sw, amateur, military, citizen, intl sw
band, $550-1600 \mathrm{kc}$. (am),
$1.6-30 \mathrm{mc}$ (sw), exc cond, $\$ 45$; toneau-30m ${ }^{6} 65 \mathrm{MG}$ midget, nvr used, $\$ 35$; both nego. Call, 646-3157evgs.
Radio, National, am-fm, 4 band, old but gd cond, $\$ 35$ or best. Donna,
$\times 3-4271$.

Ham antenni: 6 m sm beam, 2 m 1 g beam, gd cond, nego. Steve, $646-5878$. Refrig, GE, 13.5 cu ft , wh, will help AC 12000 BTU 115 V , exc cond $\$ 150$ High chr, \$8. x5326Linc.

Chest drwrs, 2, \$20ea; des,\$15 changing tbl, $\$ 5$; car st, $\$ 10$; GE refrig, $\$ 35$; stroller,
Call, $862-6038$.

Bed, sgl, wd hdbrd, exc cond, $\$ 20$.
Helen, $492-1258$ ft 5 . Helen, 492-1258aft 5 pm or lve msg .
Stereo, Longines Symphonette, sm , non-port, gd cond, \$50. Sally
x0454Dorm aft 5 pm .

Chest, 4 drwr, $\$ 15$; brick \& board bkcase, $\$ 10$; bbq, $\$ 5$; skis, $\$ 15$; coctai tbl, \$15. Gene, x5724Linc.
Lafayette stereo sys: LRK-480, 20w $\mathrm{am} / \mathrm{fm}$ receiver, blt-in 8 tr tape player, 2 Criterion 50 A spkrs, $11 / 2 \mathrm{yrs}$, exc cond,
gd compact sound. $\$ 150$. John, gd, compact
$\times 5424$ Linc.

VW 1300eng, extra carbs, coils, fuel pumps, gen; Volvo B18 cylinder head ass'bly, nw pres plate; 9000 BTU ac w/leak; 2 rad stud snows, $155 \times 15$, mtd Saab96; girls 3spd bike; lg desk; nw iron brd; Sears barbels; squash racket all v cheap. Bob, x8943Dorm

Bike, Sears, mens, 3 spd , carrier, 6 mos , $\$ 50$; boys bike, $\$ 5$; Fedders ac, port tv, $11 / 2 y$ yss, $\$ 50$; Exakta Varex IIa camera, $50 \mathrm{~mm}, 100 \mathrm{~mm}$ lens 2 viewfndrs, bellows, extras, $\$ 200$ or
best. Rudy,

Glass \& chrome coffee tbl top, $28 \times 20$ exc cond, $\$ 25$. Fred, x7739Linc.

## Vehicles

'62 Chevy impala, auto, nw tires \& can see at Kresge $7-10 \mathrm{pm}$ Thurs, best Call, x 346 Linc.
'63 Pontiac strchf, 87 K , auto, p st \& br, gd cond, old dependable, ask $\$ 350$ Call, x3-2420.

65 Mustang, snows, 2extra tires,
' 67 VW bug, red, gd cond, $\$ 475$. Dick x3-2816
'67 Jaguar $3.4 \mathrm{~S}, 48 \mathrm{~K}$, slvr bge, tan leather, Zeibarted, nw cltch, MichelinX tires, exc cond, orig owner, $\$ 1,600$;
O-Day Interclubs sail dinghy spare rudder \& cntrbrd, \$50; Myford pro wd-trning latre w/stand tools $\$ 125$. Johnson, x 3-4650.

67 Toyota corona, 65 K , auto, nds wk
${ }^{\prime} 68 \mathrm{VW}, 35 \mathrm{~K}$, it bl, 3extra tires, snows exc cond, 1 owner, $\$ 850$ or best Eleanor, x 3-4642.
'68 Chevy nova, 35 K , auto, p st, ac, r/tape deck, gd tires \& snows, exc
cond, mving west, must sell. Alan, cond, mv
$\times 3$-5069.
'69 Ford rch wgn, 57 K , auto, p st\&br r, $\$ 800$ or best Paul, $\times 3$-2380

69 Ford XL, 66 K , auto, bkt sts, spare 2snows, ac, r, ru
Larry, x3-3392.
'69 Corvette convert, dk gr, wh top, tint wndws, thrush side pipes, 350 eng
300 hp , gd on gas, low miles, $\$ 3,100$ of best. Larry, x8-4602 Draper.

69 Ford galaxie 500 , nw snows, exc cond, $\quad \$ 1,40$
$\times 56-145$ Haystack
${ }^{7} 70$ Peugeot 504, std, disc br, Michelin rads, \$1,800nego. Ihara, 491-0334.
' 71 Ford LTD, convert, 400 eng , ac, st \& br, p acces, am/fm stereo, $\$ 2,500$ or best. Joan, $\times 7002 \mathrm{Linc}$.

71 Saab 99E, 4dr, sunrf, am-fm, best. Call, $x 7856$ Linc.
' 71 VW sqbk, auto, rf rack, 16.5 K , still
on warranty, $\$ 2,300$ or best. Dr.
71 VW bug, exc cond, $\$ 1,800$ or best.
Das, x3-7873.
' 71 Torino $500,21 \mathrm{~K}, 6 \mathrm{cyl}, 2 \mathrm{dr}$ hd tp vinyl rf, ask $\$ 1,500$. Dick,

72 Dodge colt, 7 K , std, perf cond moving to Eur, must sell, $\$ 1,700$ or best. Eugene, x 3-5868.
' 73 Hornet, all opt. Joe, x3-7709.
'64 Winnebago travel trlr, 16', slps 5 inclu 3brnr stove, icebox, frnce, gass \& $\$ 650 \mathrm{w} / \mathrm{el}$, $\$ 700 \mathrm{w} /$ Reese hitch or cond, $\$ 3,500$. Tom, $\times 8-3366$ Draper

67 Honda $305, v$ gd cond, $\$ 200$ or
best. Powelson, x3-3157evgs.

## Housing

Acton duplex, $3 \mathrm{BR}, 11 / \mathrm{B}, \mathrm{lg} \mathrm{K}, \mathrm{LR}$,
DR, yr lse DR, yr lse, no pets,
Hamlin, $\mathbf{x 5 0 3 L i n c .}$

Allston, Camb St, apts: BR, $\$ 150$ $2 \mathrm{BR}, \$ 200 ; 3 \mathrm{BR}, \$ 225$; n T, pking. Jeff, $969-3560$.

ARI, sub $8 / 1$ w/opt, 4 Rms, plus K , B
Camb 9 Pm hse 6 BR , Camb, 9 Rm hse, 6 BR , new B\&K Call, $\times 3-4112$ Charles, conv, $\$ 520 / \mathrm{mo}$

Camb, sub $10 / 1-9 / 1,50$ Craigie St , Porter Sq, 3BR, LR, K, B. Call,
$\times 3-5783$. $\times 3$-5783.
Camb, sub 8/1-8/31, mod studio, dw disp, ac, bleny, sndeck, stor \& Indry

Milton, 3BR splt entry, $21 / 2$ B, 2 car gar central ac, acre,ask $\$ 48,000$. Call
$327-6514$.

Westwood, deck hse, $\mathbf{3 0 0 0}$ sq ft liv space, $5 \mathrm{BR}, 2 \mathrm{~B}, \lg \mathrm{~K}, \mathrm{gg}$ deck, 2 acres 60,000. Cail, 259-9441. Hit
Maine, nr Rangeley, 3BR hse, lux contemp on huge lake, wilderness area,
 incl. Jeannie, $\times 8$-2577Draper.

NH, 1kfrnt cott, 3BR, mod conv plygrnd, pool, swim, fis
Aug, Sept. Kitty, x 3 -6466.

Newport, Vt, canadian 1kside hse, slps 15, spectacular view,
rent. Denny, x3-5606.

## ocial Events

mer Coffee House*
MIT 24-Hour Coffee House has re-opened as a 12-Hour Coffee ks are sold. Relax, games, read. Open: daily $3 \mathrm{pm}-3 \mathrm{am}$, center 2nd fl, Stu Ctr.
and all the cold draft you can drink. Fri, 6pm, Thirsty Ear, Ashdown basement. Admission: $\$ 1$ men, 50 cents nen. Must be over 18 .
ddy Charles Pub**
your friends for music, beer, wine, snacks, conversation at the
ddy Charles Pub, 110 Walker. Hours: Mon-Fri, 11:30am-2pm
4-8pm; call GSC, x3-2195.

## ovies

ana (Bunuel)
film society. Thurs, July $26,8 \mathrm{pm}, 10 \mathrm{pm}, \mathrm{Rm} 10-240$.
nission \$1.
et of the Apes
Fri, July 27, 7:30pm, Rm 10-250. Admission: 50 cents, no

Trip
Fri, Aug 1, 7:30pm, Rm 10-250. Admission 50 cents. No IDs.

## husic

Mon, 7:30pm, Rm 4-260. For info, call John Chandler,

## Dance

## Folk Dance Club ${ }^{*}$

International, Sun, $7: 30-11 \mathrm{pm}$, Sala. Balkan, Tues, $7: 30-11 \mathrm{pm}$,
Student Center Rm 491 . Israeli, Thurs, $7: 30-11 \mathrm{pm}$ Sala dance bers

## Exhibitions

Music Library Exhibit
Pictorial Exhibition, Mozart's Opera the Magic Flute. Daily, Rm 14E-109.

## Religious Services and Activities

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

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

## Islamic Society*

Prayers, Fri, 12:15pm, Kresge Rehearsal Rm B. Discussions on the Qur'anic interpretations of various aspects of life. Sun, $10 \mathrm{am}-1 \mathrm{pm}$, W20-473 \& W. Lge.

Roman Catholic Masses
United Christian Fellowship*
Summer meeting. Fellowship, singing, sharing, praying. Newcomers welcome. Thurs, 8 pm , Westgate I, Rm 708.

Westgate I \& II Bible Study
Wed, 8pm, Westgate I, apt 1202. For information, 494-8405 or 494-8778.

## Announcements

Maggie's Exercise Classes
Summer schedule: daily, $1-2 \mathrm{pm}, 5: 15-6: 15 \mathrm{pm}$; east end small track, Summer schedule: daily, $1-2 \mathrm{pm}, 5: 15-6: 15 \mathrm{pm}$; east end small track,
good weather, or DuPont Athletic Center. Must have athletic card. Change: Group Tennis Lessons
The following time changes for group tennis lessons have been made: Fri, Aug 3: beginning, 12 n \& $5: 15 \mathrm{pm}$; intermed $4: 15$ \&
6:15pm. Sat, Aug 4, 11: beg, 10 am , intermed, 11 am . Mon thru Fri, Aug 6-10: beg $12 \mathrm{n} \& 5: 15 \mathrm{pm}$; intermed $4: 15 \& 6: 15 \mathrm{pm}$.

The redecoration of the museum has been completed, and it has reopened. Sorry for the inconvenience.

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 August 1 through August 10 to the Calendar
Editor, Room 5-111, Ext. 3-3279, before noon Friday, July 27.

## Animals

Kittens, f, $2, \lg$ hair, tricolor, 8 wks ,
trained. Call $491-2672$, Airedale terriers, AKC, champ line,
wormed, shots, 10 wks , home envir, avail now. John, x 3-2556.

Cats, adult, 2, nd home, manx-x,m;
blk \& wh, long hair, f; lving cntry. Jane, x3-5649.
Kittens, 4, free. Call, $x 8$-4061 Draper.
Gldn rtrvr-like, warm, loving dog,
hsebrkn, 5yrs, nds gd home, Indlrd hsebrkn, 5yrs, nds gd home, Indlrd
hates dogs, free. Call, 489-2772.
Baby rabbits, 5, for pets, free. Call,

## Lost and Found

Found: umbrella, mens, IPC Pding Rm.
Call, x3-4105.
Lost: cat, f, blk, lg hair, wh on chest, seen $21 / 2 w k s$ ago, No. 6 Club, ( 428
Mem). Call, $\times 3-1485$ dys, or x3-3213evgs.
Lost: bifocal glasses, tortoise shell,
prob print case, while
prob print case, while ago. Vi,
x $3-6824$.

## Wanted

Rmmate, fem, share apt w/2, own rm,
nonsmoker, 10 min wk MIT, $\$ 46$ plus util. Call, 491-2672.
Ride or car to drive to Calif, mid Aug. Buddy, x3-7179.

Bike rack, roof, fit VW bug. Carol,
Power mower, cheap, no 2 stroke,
$\$ 20-\$ 25$. Nancy, x3-5322.
w/2, Bri, gd area, n T, shops, $\$ 100$.
Diane, x3-1473.
Male, spks Ital, offers free rent for hr Eng conversation dly, share BR apt,
$\begin{aligned} & \text { Jam P1, } \\ & \mathrm{n} \\ & \mathrm{Jam} \text { Pond, } \\ & \mathrm{lg} \\ & \mathrm{LR} \text {, }\end{aligned}$ Jam PI, n $\quad$ Jam Pond, 1 Ig
$8 / 20-12 / 30$. Mr. Jarvis, x3-1913.

Rmmate, fem share 2 BR apt, LR, K, gg , Mass Ave, Arl Cntr, no pets, avail
$9 / 1, \$ 117.50$. Diane, x $3-1648$.

Hse, $s$ shore or west area, beg $8 / 1$ or $9 / 1$, for $\mathrm{yr}, 3-4 \mathrm{BR}, 3-4 \mathrm{sgl}$ prof men,
exc credit \& rental ref. Call, $646-5878$.

Resident counselor, p-t, for teens in
Bklne, no exp nec, 1 k kids, 2 evgs \& some wkends, modest salary, start Sept, Call, 566-5658.
Rmmate, fem, $8 / 1-8 / 31, \mathrm{rm}$ in 4 BR
Beac Hill twnhse. Susie, x3-3717.
Refrig. Wink, $\times 8782$ Dorm.
Cat-lover, to feed, be kind to 2 cats
while living in lg Wtrtwn apt, $\mathrm{n} T$, while living in 1 g Wtrtwn apt, n
$8 / 18-9 / 1$, will pay. Call, x $3-1659$.
Deep freeze, apt-sz, reas. Patty,
x $3-4905$
Apt, 2 BR or $1 \mathrm{~g} \mathrm{BR}, 9 / 1, \$ 200-\$ 225$.
Call, $\mathrm{x} 3-3138$.

Apt in Camb environs, to rent
long-term to professional woman, reas rent, start Aug. Sally, x 3-3277.
'66 Nova hubcap, 13". Call, x3-4495.

## Miscellaneous

Ride offered to KC, lve NY Aug 15, share exp. Mike, 783-2436.
Grad stu wife will babysit full or part time in
$494-8738$. her Westgate apt. Call,

## Positions Available

The following positions are on Hold pending final decisions:

| 73-645-A | Admin. Staff |
| :---: | :---: |
| 73-577-R | Dorm Manager-Exempt |
| 73-573-R | Assoc. Editor |
| 73-498-R | Secretary IV |
| 73-531-R | Secretary IV |
| 73-546-R | Jr. Animal Caretaker |
| The following positions have been filled since the last Tech Talk and are no longer available: |  |
|  |  |
| 73-669-A | Systems Programmer |
| 73-677-R | DSR Staff (cancelled) |
| 73-678-R | DSR Staff |
| 73-444-R | Keypunch Operator |
| 73-610-R | Secretary IV |
| 73-558-R | Secretary IV |
| 73-605-R | Secretary III-IV |
| 73-606-R | Secretary III-IV |
| 73-614-R | Secretary III-IV |
| 73-593-R | Secretary III-IV |
| 73-322-R | Secretary III-IV |
| 73-534-R | Secretary III-IV |
| 73-586-R | Secretary III |
| 73-599-R | Secretary III |
| 73-608-R | Secretary III |
| 73-660-R | Secretary III |
| 73-655-R | Sr. Clerk III-IV |
| 73-533-R | Sr. Clerk III |
| 73-397-R | Tech. Typist III |
| 73-604-R | Nurse |
| 73-316-R | Maintenance Mechanic |
| 73-522-R | Infirmary Matron |

Employees at the Institute should call their Personnel Officer for further
information.
Virginia Bishop
Mike Parr
Phil Knight
(secretary - Priscilla Mah)
Sally Hansen
Jack Newcomb
Evelyn Perez
(secretary - Mary Ann Foti)
Dick Higham
Pat Wiliams
Claudia Liebesny
(secretary - Dixie Chin)
$3-1591$
$3-4266$
$3-4267$
$3-4275$
$3-4269$ $\begin{array}{r}3-2928 \\ \hline\end{array}$
$3-4278$
$3-1594$
(secretary - Dixie Chin)
New applicants should call the Personnel Office on extension 3-4251.

Special Assistant for Minority Affairs -Admin. Staff - the Special Assistant
will advise the President and the Chancellor on minority matters and concerns. He or she will act as advocate
for minority interests, with a particular
concern for the well-being of minority members of the community students, faculty, and employees. The Assistantitute on minority affairs and will be the principal official representative of the Institute to minority communities. Within the Institute the Assistant will be a member ex-officio of the Equal Opportunity Committee,
the Administrative Committee, the the Administrative Committee, the
Administrative Council, and such other Mdministrative Council, and such other
groups as may be deemed desirable in order to carry out his or desirabe in order to carry out his or
her responsibilities effectively. The Assistant will be a point of appeal for complaints of discrimination because of minority status, with a principal
responsibility for the handling of charges of discrimination filed with MCAD, EEOC, HEW or other agency.
Qualifications must include an Qualifications must include an
dvanced degree or appropriate equivalent experience and concern with minority problems and interests, and
interpersonal skills. It is expected that the Assistant will be familiar with university life and procedures, and will have demonstrated the qualities of judgment and communications skills required by the position. $73-646-\mathrm{R}$ (7/11).

Administrative Staff member in PerAdministrative Staff member in Per-
sonnel Development Training Section
will instruct empolyees in the areas of will instruct empolyees in the areas of tion, basic education, and general office practices. Background and expe-
rience in tutoring and/or teaching rience in tutoring and/or teaching
adults helpful. Ability to prepare aduits helpful. Ability to prepare
course plans, and to work independently important. Please submit resume. 73-611-R. (7/11)
Staff Recruiter (Admin. Staff) will
report to the Employment Officer will report to the Employment Officer wil 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 Person Person will work closely with Personfining 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. $(7 / 18)$.

Executive Officer - DSR Staff for Mid-Ocean Dynamics group will manage multi-institutional and international oceanographic deep sea program;
supervise, under responsibility for all project funding, logisitics of the field project funding, logisitics of the field
program, scheduling of ships and projects, publication of results, and planning future field work projects. PhD physical oceanographer required experience as Chief Scientist, having conducted research at sea. Ability to write and negotiate proposals, experi-
ence with relevant Washington agencies, good theoretical knowledge of geophysical fluid dynamics. Fluent
English; Russian language useful. English;
73-325-R.
Administrative Staff - Assistant Direc tor in an administrative office dealing in resource development will handle
specific tasks of educational fund raising; extensive writing of letters, memoranda, statements on priorities some proposals and informational studies. Must have a minimum of three
years active, consecutive experience in fund-raising, preferably in a university environment. Effective writing skills, fessionalism and career motivation important. Exposure to data processing systems useful, BA required; advanced degrees are welcome. 73-479-R.

Administrative Staff member will work in area of resource development dealing with individual contributors. Develop strategies and programs, prepare reports, provide advice and development activity. Some travel required to represent MIT. Must have legal training and preferably some
experience as a counselor in practice or experience as a counselor in practice or a job situation utilizing legal training. Writing and organizational abilyty,
motivation,
enthusiasm required 73-480-R.
Administrative Staff Writer in Resource Planning will provide substantial writing support for resource development activities. Tasks will include private donors, pamphlets supporting planned giving programs and correspondence. The position is sensitive and demanding. College graduate with previous writing experience and a sense of humor required. 73-452-A (7/11). Director for Alumni Association Resources in analytical and planning support for the Association. Develop and implement improved systems for researching, codifying, storing, recalling and maintaining information on alumni re: their
areas of MIT interest. Coordinate with the Corporation, Development office, other Institute offices and data processing group. Coordinate, develop, maintain performance and cost measurements, and statistical support data.
Must relate easily to individuals in Must relate easily to individuals in ent preferred. 73-670-R (7/18).

DSR Staff member will plan, manage, and execute high-quality research pro jects having a strongly experimenta orientation. Familiarity and experience
with low-speed flight and wind tunnel testing methods and advanced piloting qualification for particularly general aviation type aircraft; Ph.D in Aerody namics and five years applicable research and development exerience

Biochemist - DSR Staff member will participate in lipoprotein studies, and will supervise the activities of several technicians in a glinical research setting. PhD or MD in Biochemistry required, as well as experience with
$\qquad$
Administrative Staff Project Officer will be principal staff administrator fo
major funding programs. May support major funding programs. May suppor or two, or more smaller projects which are determined by Institute's priorities Individual will work with Resourc Development Office. Will arrange for solicitation visits, provide follow-up and coordinate all activities leading to have capacity for hard work, mus have capacity for hard work, often well organized and able to work easily with institutional and industrial leaders. Familiarity with MIT desirable.

Micro Automation Systems Programmer - DSR Staff member will develop a PDP-10/PDP-11 operating system for the project; design and implement a
computer operating system. Expericomputer operating system. Experi-
ence on the PDP-10 and PDP-11; as well as a background in automata theory is required. 73-512.
Administrative Staff member will work with corporations to increase member-
ship in Industrial Liaison Program and related areas. Identify prospective member companies, evolve solicitation strategy travel extensively and establish continuing relations with senior management of member companies. MIT graduate desirable with several years experience in marketing-related fields.
Technical background helpful. Must relate easily to senior corporate management. 73-569-A.
Administrative Staff - includes participation in the activities of the Group which provides staff support to the
senior officers and to the Academic Council in the conduct of studies of academic and administrative programs, plans, and organization. The ASPG is a part of the Office of the President and he Chancellor and reports to the Vice President C.B.Simonides. Candidates
for this position should have an or this position should have an graduate study, and/or working experience in such areas as management, program planning, analysis and evaluation. Systems analysis and computational background and skills would be
especially helpful. Superior communi cation and writing skills are essential. This position offers very useful caree preparation for senior responsibility in universities and other complex organizations. 73-461-R.
Administrative Staff Accountant for the Comptroller's Accounting area will perform internal cost audits of research contracts and grants; prepare contrac variety of grant fiscal reports and fund accounting reports. Coordinate accounting and audit functions with Office of Sponsored Programs and
various MIT schools and departments. College graduate with major in ac counting or general business is desired counting or general
$73-619-\mathrm{R}$. (7/11)
Administrative Staff - Asst. Loan Officer in Student Loan Office will
assist in collection of delinquent student loans through correspondence telephone and personal interview. Liaison with data-processing section; con-
trol data input and output in Loan System, help prepare reports for MIT administration and the Frepts for M1 Accounting experience required edge of loan operations particularly desirable. Maturity, tact to deal with individuals concerning Institute loan policies. Available Sept. 1, 1973.
$73-639-\mathrm{R}(7 / 11)$. -R (7/11).
Editorial Director - Administrative Staff opening requires wide, diversified define and create innovative publishing programs as well as administer existing ones. Acquaintance with international publishing and a distinguished record a variety of areas such as environment al studies, linguistics or the public Appreciation of science and technolo $\mathbf{g y}$, a developed sense of publishing
(Continued on page 6)

## (Continued from page 5)

 process and practice, a desire for and the staff essential. 73-326-R.Administrative Staff Planner will direct long-range physical planning for the Institute; monitor and coordinate the
various efforts of the planning team; various efforts of the planning team;
develop budgets and schedule of events. Will act as liaison between events.
government agencies and community
groups. Must have a Masters degree in groups. Must have a Masters degree in
Planning and a minimum of 5 years
Application Programmers -Admin.
Appuication Programmers - Admin.
Staff the office of Administrative Information Systems is seeking tw
Application Programmers to take pro gram specifications and translate them
into an efficient computer program. into an efficient computer program.
The process includes the evaluation of specifications, flowcharting, coding,
testing, debugging and final program documentation. Knowledge of IBM DOS ANS COBOL and/or PL/1.
Knowledge of 360 Assembler Language Knowledge of 360 Assembler Language
desirable; experience with university accounting or teleprocessing applica-
tions helpful. $73-340-\mathrm{R} / 73-341-\mathrm{R}$.
Systems Analyst-Admin. Staff for
the office of Administratvie Informathe office of Administratvie Informa-
tion Systems will design financial and/or administrative applications to be run on a medium-sized computer
Duties include making feasibility studies, system flowcharting, defining pro gramming specifications, conducting system tests, implementation, docu-
mentation and client education. Experience in designing financial applicarience in designing financial applica-
tions, teleprocessing applications, data base management systems and a
working knowledge of ANS, COBOL working knowledge of ANS,
and/or PL/1 is desired. 73-330
Administrative Staff Programmer for
the MIT Information Processing Center the Mit have experience and thorough
must
knowledge of large-scale, time-sharing knowledge of large-scale, time-sharing
computer system. PL/1 language, doc-
umentation and communication skills umentation and communication skills
are necessary qualifications. The Users are necessary qualifications. The Users
Services Group requires an individual who understands and is responsive to
the needs of the Center's users. Thi person will be challenged in entering a new area of time-sharing operation for
this group which includes the followthis
providing Assistance - assisting users by and debugging help and tracking down special problems.
documentation and conducting semi nars, workshops, and other courses DSR $\quad$ Staff member will perform
chemical assays for enzyme and neuro--transmitters. MS degree in Chemistry

DSR Staff member in Civil Engineering will be administrator for active re
search group: responsible for fisca management for research accounts,
budgets, payrolls; will compile, edit, budgets, payrolls; will compile, edit
compose reports for lay audiences prepare reports for sponsors; wil
manage production manage production of all reports
maintain liaison with staff, faculty, maintain liaison with staff, faculty,
students. Much internátional corre spondence. Assist in policy administra-
tion. Coordinate a variety of activities will arrange administrative aspects workshop and conferences held a
MIT. Must have mature, independen judgement; tact; ability to organize.
$73-667-\mathrm{A}(7 / 18)$.

Industrial $\underset{\text { Hygienist }}{\text { Staff }} \mathbf{-}$ will work in the Environmental Staff) will work in the Environmental
Medical Service to study and control occupational disease and other environ-
mental factors such as noise, heat pressure and toxic materials that may be physically or chemically hazardous
to employee health. Will work closely with physicians, depts., supervisors. EDP Coordinato

- (DSR Staff) will maintain the software systems and computer facility; assist users; deter-
mine loads and aid in scheduling. Will mine loads and aid in scheduling. Will
work with students and faculty in developing and maintain systems for
academic computer usage. Individual language programming and operating
systems; detailed knowledge about compilers, interpretors, schedulers, pri ority processors, and basic knowledge
of computer hardware. Degree in
D.

Administrative Staff - Assistant Director for a program which provides
member industrial firms direct and tional and research programs, while a the same time providing the Institute
with unrestricted financial assistance and professional relationships. Primary responsibility would be liaison func-
tion between MIT faculty and research tion between MIT faculty and research
staff and representatives of participastaff and representatives of participa
ting companies. Requirements include Bachelor's degree (MIT preferred), Bachelor's degree (M1T preferred),
approximately two years of technical
experience (preferably engineering) and management perspective (MBA
preferred and ability to deal with
executives of small to medium-siz
corporations). $73-508-\mathrm{A}$.
Computer Systems Analyst - DSR Staff - in Electrical Engineering/Elec tronic Systems Laboratory will work
on research and development projects in information retrieval including net working of I-R systems. Develo systems, research computer interface for interconnecting heterogeneous I-R systems, develop information centers
by which individuals can access all by which individuals can access al
sources of information. Broad experi ence with hardware and software computer systems; experience with
$\mathrm{PL}^{2} / 1, \quad 360 / 370$, MULTICS, or ARPANET systems; programmer supervisory experience and an advance
degree required. $73-691-\mathrm{R}(7 / 25)$.

Systems Programmer - Admin. Staf will provide technical expertise; devel op and implement methods of improv-
ing computer performance. Minimum (ALP) two years $\mathrm{S} / 360$ or $\mathrm{S} / 370 \mathrm{BA}$ (ALP) Assempler Language Program ming experience. Knowledge of tele-
processing, and COBOL or PL/1.

Systems Programmer DSR Staff will Office as a full-time Multics System Programmer. Two or three years
experience with the Multics system and $\mathrm{PL} / 1$ is required. Other experience system design and programming desir

Advertising Assistant (Exempt) at the
Technology Review requires skill in all Technology Review requires skill in all
phases of advertising sales including phases of advertising sales including
actual advertising space sales, creating promotion material, advertising pro Some typing skills needed. $73-642-\mathrm{R}$

## Admin. Asst./Exempt - P.T. for the Institute Secretary for Corporations

 will research corporate possibilities fo financial support; will assess succes potential; recommend priorities; pro-vide background research on corporavide background research on corpor
tions and executives; compose pro-
posals. Will handle special mailing posals. Will handle special mailing work week, flexibly arranged. Mus
enjoy writing and detailed researching enjoy writing and detailed researching
flexible; tactful. 73-673-A (7/18)

Accounting Asst./(Exempt) will pre-
pare monthly dining operating state-
ments and supporting workpapers for ments and supporting workpapers for
the MIT Dining Services. Will reconcile pare month ly operating statements for the Faculty counting field. 73-675-R (7/18)

Administrative Assistant $V$ will work
part-time ( 15 hrs) in the DSR - Paten Administration section. Prepare mar keting abstracts and marketing plan based on MIT indions. Engineerin background, combined with marketing
research or business background is required. $73-708$ - ( $7 / 25$ )

Administrative Assistant $V$ in Urba Studies and Planning will assist the
Department Head. Responsible for Department Head. Responsible for
development of grant proposals; in organization and implementation of new research projects and development of department information sys tem; prepare and edit the departmen newsletter; prepare departmental class experience and good writing and exiting
$(7 / 11)$.

Admin. Asst. $V$ for the Director of th Operations Research Center, an active
interdisciplinary research center. Will have responsibility for interdepart mental academic program procedures
such as admissions, correspondence such as admissions, correspondence
and records. Substantial interaction with records. Substantial interaction ule appointments for Dirctory; nontechnical editorial work; supervision of room. Able to make independent judgments; establish priorities; deal ground preferred. 73-662-R. (7/18)

Computer Technical Assistant $V$ wiil computer system for the book orde process: categorize orders, generat cess special coding and entries, generate new codes and records on new puter input. Individual must have ability and interest in Electronic Data
Processing. Maturity, a good memory, ability to handle details with precision most important. 73-467-R.

Computer Operator IV will operate
IBM Model 135 and all peripheral
equipment associated with it, including disk drives, tape units, card reader punch, pringers. Must have a good edge of DOS job contro, ble of understanding operating instruc-
tions. 4pm-12:30am shift. 73-443-R.

Senior Keypunch Operator III wil
operate the IBM 029 keypunch ma chine. Will punch into computer inpu cards formated and unformated docu-
ments. Minimum of two years experiments. Minimum of two years experi-
ence operating IBM 029 or comparable ation of program drum cards desired ation of
$73-574-R$.

Senior Secretary $V$ will be responsible for smooth operation of an academic
dept. headquarters office. Type corredept. headquarters office. Type corre-
spondence from dictation or shorthand, maintain busy schedules, handle workloads, supervise support personnel, maintain complicated files. Ability to recognize priorities, to wrok under
pressure, to organize important. Excel pressure, to organize important. Excel-
lent typing; knowledge of MIT valulent typing; kn
able. 73-519-R.
V.V in Sloa School to work for visiting professor in
Industrial Relations who will direct project on equal employment opportu-
nity, funded for one year. Assist in organization and implementation o
plans for three workshops. plans for three workshops. Type
correspondence and reports; schedule and coordinate activities regarding conference held at MIT. Maintain account records. Some administrative
experience valuable; MIT familiarity preferable; good typing skills ability to 73-672-A (7/18).

Senior Secretary $V$ to Civil Engineering Department Head will have contact
with a variety of faculty, administra tors, and students. Screen phone call schedule appointments and meetings
maintain department records of techni cal reports and research papaers, an arrange for their publication and distribution; prepare correspondence for signature. Excellent typing and
shorthand; ability to organize and essential. Knowledge of MIT helpful. 73-700-R (7/25).

Secretary IV in academic departmen will type correspondence, proposals,
DSR reports, manuscripts, theses (much of it technical). Keep DSR account records; compose routine
letters; assist professor with details of letters; assist professor with details o
registration. Ability to work indepen dently and to write letters important accurate typing essential; knowledge o
shorthand, technical typing and book keeping preferred. 73-578-R.

Secretary IV in academic department
will type manuscripts and correspon will type manuscripts and correspon-
dence for life science lab; handle dence for life science lab; handle
operation and renewal of grants; perform all functions of one-secretary office. Excellent typing and dicta
phone skills required; ability to orga nize important. 73-591-R.

Secretary IV or Senior Secretary V to the Director and Assist. Director of an type technical reports and journal fice workload; handle all general secretarial procedures. Excellent short hand and typing skills, $3-5$ years cal typing required. 73-342-R.

Secretary IV to three psychiatrists will
handle all secretarial duties; transcribe patient case histories; maintain accu-
rate records. Excellent typing skill, maturity, ability to deal with patients

Secretary IV will perform secretarial
duties for the administrative officer o department contract and personnel phone . Excellent shorthand, dict phone, typing skills needed. Organiza punch or computers desirable 73-390-R.



Secretary IV in the Clinical Research Arteriosclerosis Center, will perform secretarial duties for the clinical
director. Transcribe from dictaphone patient records; type manuscripts, speeches, proposals; schedule appoint ments, maintain bookkeeping records
Knowledge of medical terminology is preferred. Previous medical secretarial preferred. Previous medical secretarial
exped. $73-698-\mathrm{R}$
$(7 / 25)$.

Secretary IV in Urban Studies and Planning will handle registration for
special program in regional studies, se up special meetings, type correspon program Fellows and the Program tion, answers pose letters by instruc program. Good typing skills, ability to take on additional responsibilities Institute background desirable.
$73-699-$ R. $(7 / 25)$.


Secretary I
professors
of course
papers; mai
coordinate
search pro
scientists,
students. A
preciate an
tween medi
and to in
workers fro
al and se
excellent; in
assistant to
(7/18).

## Secretary III-IV in Meteorology will assist with administrative duties and perform secretarial functions for the perform secretarial functions for the Executive Officer of a large research program in physical oceanography Handle routine office duties, type correspondence, arrange meetings fo program participants from all over the world. Ability to organize office and to communicate with 60 scientists on a regular basis. Good office skills ography desirable. $73-701-\mathrm{R}(7 / 25)$.

Secretary III-IV in Meteorology w. handle all general secretarial duties fo research account; keep records, handl travel arrangements. Will also maintai small departmental library. Goo
typing required. $73-705-\mathrm{R}(7 / 25)$.

Secretary III or IV to a Professor of computer science and his graduate staff
will type quizzes, reports and technical manuscripts. Excellent secretarial skills with faculty and Atudents important. 73-545-R.

Secretary III-IV two openings in an
academic department working for $2-3$ academic department working for 2-3 professors, Good skills of shorthan experience required. $73-323-\mathrm{R}$.
 the office. Excellent typing, (shor good judgment and sense for prioritie important. 73-613-R (7/11).

Secretary IV to two professors at the
Sloan School of Management will typ correspondence from dictaphone schedule appointments, maintain files type course material. Will also handle
some administrative duties including maintenance of information system for group; arrange seminars; coordinate information about class schedules, teaching assignments and description changes for catalogue. Strong secreta ence in both required. 73-615-R ence in
$(7 / 11)$.

Secretary IV in Chemistry for several professor will type scientific manu dence, reports, reviews, and course materials. Maintain all files. Audit monthly accounts, rectify errors. Maintain busy calendar; make travel
arrangements, handle visitors. Maintain student rolls, answer student inquiries. Machine dictation. Technical typing
experience helpful. $73-648-\mathrm{R}$. ( $7 / 11$ )

Secretary IV in Administrative Office of Mechanical Engineering will wor
for three administrators, handling cor respondence, calendars, composing let ters, departmental records, general accounts. Will order supplies, set up and maintain files, schedule meetings
and rooms. Deal frequently with and rooms. Deal frequently with peopre, answer variety of questions
Shorthand, good typing; knowledge o office procedures. Accurate; coopera-
tive; poise to work with many tive; poise to work with
interruptions. $73-652-\mathrm{R}(7 / 11)$.
Secretary IV will work in Center for Theoretical Physics for three-four pro-
fessors. Must be able to work well in priorities; pressured office; establish work priorities, type technical manuscripts,
correspondence, class notes, papers Some telephone work. Typing and
shorthand skills must be excellent. shorthand skills
$73-630-\mathrm{R}$
$(7 / 11)$.

Secretary IV in Physics Department t head of the Optical Maser group will
assume wide responsibilities for output assume wide responsibinties for outpu
of large volume of work for a very active group. Ability to work under heavy pressure; will coordinate the workload of another secretary. Experience and good shorthand and typin
skills are a must. 73-632-R (7/11).

Secretary III in the Industrial Liaison
Office will take and transcribe dicta$\begin{aligned} & \text { Office will take and transcribe dicta- } \\ & \text { tion, handle travel arrangements }\end{aligned}$ tion, handle travel arrangements, staff member dealing with major industrial corporations. Secretarial or business
experience preferred. Shorthand, good ffice procedures essential. 73-683-R (7/25)

Secretary III will handle reception duties for busy student-oriented and complex schedules, Good typing and dictaphone skills required, as well previous office experience. 3-429-R

Secretary III to one staff member will take and transcribe dictation; type respondence; handle travel arrangeduties, Ability other general offo independently; good secretarial skills required. Previous working experience secretarial training preferred 73-581-R/73-580.

Secretary III in the Office of the resident and Chancellor will handle material; preparation of speeches; filing; screening phone calls; incoming
mail. Will eventually handle complicated travel arrangements. Excellent typing and command of English machine; poise, tact, good telephone presence. Will be second secretary in office. No smoking, due to allergy of other staff member. $73-647-\mathrm{R}$ ( $7 / 11$ ).

Secretary III in Metallurgy Department will assist a professor with the coordination and administration of a will type all class material, lecture notes, and material for publications. expenditures, Shorthand or speedwrit ing desirable, organizational and ad ministrative skills required. Previous secretarial experience or training
essential. Lots of student contact in this job. 73-520-R (7/11).

Secretary III in Physics Departmen Theoretical Center to work for three-four busy protessors. Ability to hande some pressure, decide work and papers, cover phones as needed Typing skills must be excellent; shorthand preferred, experience necessary. $73-629-\mathrm{R}(7 / 11)$.

Secretary III to work closely with support staff of Physics Optical Maser group. Second secretary in two-person
office will handle heavy volume of correspondence, type proposals and manuscripts; shorthand; experienc helpful. 73-631-R (7/11)

Secretary III in Physics Department Graduate Office handles all material relating to prospective graduate
students including applications, correstudents including applications, corretyping acceptance and rejection letters. Good typing and shorthand; experience desirable. 73-633-R (7/11).

Secretary III to the Manager and members of Technical Service Section of the Information Processing Center (about 20 people) will handle corre--
spondence, occasional technical typing; travel arrangements some registration procedures, preparation of course mahelpful. Must enjoy variety of duties; and interaction with many people. $73-624-\mathrm{R}(7 / 18)$.

Secretary III in the Sloan School of Management will work for three management information and control, and information systems. Correspondence, typing of class materials, distribution of them; some manuscript typing (occasionally technical); handle secretarial details of a one-secretary quired; able to organize a variety of tasks. $73-664-\mathrm{R}$ ( $7 / 18$ )
ecretary III in the Treasurer's Office ill use dictaphone and magna card for security transactions, acknowledgement letters, and general correspondence; type gift records on all security
gifts; keep $\log$ of MIT Community Service Fund gifts; file, Accuracy with figures and details; good typing and selling; familiar with corporation names. August 1st opening. 73-671-R (7/18)

Secretary $I I I$ at the Joint Center for
Urban Studies will type manuscripts of Urban Studies will type manuscripts of ocial science research from dictaphone receptionist and secretary for group of researchers. Typing skill must be strong; secretarial training plus some
experience preferred. 73-676-R (7/18)
 tor in the Office of Sponsored on contracts and grants; coordinate routing them for approval; keep accounting statements, governmen regulation books updated; set up meetings, write letters, arrange travel.
Previous secretarial experience hand helpful; careful worker, able to work without close supervision. $73-680-\mathrm{R}$ ( $7 / 18$ )

Secretary III in Medical Department will transcribe clinic notes and case histories for the Surgical clinic and Specialty Clinics. Will cover for the
otlier secretaries when needed. Excellent typing; previous transcribing experience and knowledge of medical terminology are required. Must be flexible and willing to assume a variety
of assignments. $73-659-\mathrm{R}(7 / 18)$.

Senior Clerk III or IV in the Personnel
Records Section will process personne actions; act as liaison with employment sections; answer phone inquiries and follow-up on department problems generate required statistics or reports.
Good typing skills; ability to work Good typing skills; ability to work
with details; minimum of three office clerical experience required. 73-612-R (7/11).

Sr. Clerk-Receptionist III-IV will be one of two receptionists serving entire Personnel Office. Will handle general information inquiries by phone, in person; must be well informed of
current status of all jobs on all payrolls; will type job listings, postings, job updates, handle mailings, will maintain daily calendars for eleven Personnel Interviewers. Extremely important contact point in a very hectic ity, diplomacy, good humor at all ity, diplomacy, good humor at all
times. Good typing skills needed; patience and a positive attitude. $371 / 2$ hr . work week. 73-649-R (7/11)

Sr. Clerk/Media Asst. III-IV at the MI Press will set up and maintain budget fiscal records and inventories, proces
invoices. Will process all reprints and rebinds; deal with printers; binders handle scheduling and follow-up. High ly organized individual required interested in analyzing and solving prob lems. Bookkeeping experience helpful
productive manner in extremely busy productive manner in extremely busy
atmosphere. Interested in learning about book production. $73-663-\mathrm{F}$ (7/18).

Technical Typist $\Psi I$ in the Office of Administrative Information Systems will type technical memoranda, data
processing control documents and manuals. Maintain documentation li brary, including filing, organization and maintenanace of programmer re experience in a data processing environment desirable. 73-684-R (7/25).

Statistical Typist III will type a variety of Institute reprots including Financial and Treasurer's reports, Professorship, NIH and Research Grant reports etc; as well as other reports and typing that
comes in from various departments. Will operate a 24 in . typewriter; work with A. B. Dick Masters; use the adding machine. Excellent typing skills and a
minimum of one year statistical typing minimum of one year statistical typing
necessary. $73-565-\mathrm{R}$.

Senior Clerk III in Academic Record Office must type letter-perfectly for all letters, etc. File all appointment forms set up Personnel folders; will learn use of IBM Mag card selectric typewriter Other typing demands accuracy for records and Personnel changes; and for
statistical counts and surveys. Discretion, maturity to work with highly ability to follow through. 73-641-R (7/11)

Senior Clerk III in Student Account Office in Comptroller's Accounting will help prepare Degree list: typing,
filing, work with Registrar. Handle variety of check requests, distribution of funds; inventory of supplies. Wiil help analyze student accounts and duties inclüded: schedule appts., travel, handle mail, type correspondence for a supervisor. Bookkeeping familiarity helpful. 73-650-R (7/11).

Library Assistant III in Barker Eng neering Library will type biweekly Bulletin; type reference corresponling for list maintain file Check in journal issues (approx. 1000 ) claim missing issues. Flexibility, organization ability; strong typing skill; able to work with a variety of people $73-626-\mathrm{R}(7 / 18)$.

Library Assistant III in Reserve Book
Section of Dewey Library will work in Section of Dewey Library will work in
demanding public service job, processes reserve book lists from faculty, maintains reserve book circulation statistics, prepares overdue notices, bills, collects
fines. Will supervise must be willing to assist in other areas of the library maysist in other areas and weekend hours. 73-679-R (7/18).

Electronic Technician A will operate, maintain, and repair commercial elec-
tronic instruments. Will assist in laboratory, research, or analytical work under direction of scientific personnel Graduate from a two year day minimum of two years experience in trouble shooting and repairing instruments, especially oscilloscopes and $\underset{73-391-\mathrm{R}}{\text { digital }}$ measuring equipment

2nd Class Engineer must have a Mass. second class Engineer's license or work on any shift. 73-182-R.

3rd Class Engineer at the Power Plant may work any and all shifts and do all kinds of work, consistent with self sufficiency of the plant. Mass. Third license of a higher grade required Experience on high grade required. and gas fired with' automatic combus tion controls, turbine driven auxilia ries: AC and DC generation, switchquired and feed water controls redriven refrigeration equipment is desir able. $73-703-\mathrm{R}(7 / 25)$.

Electronic Technician B in Center for Space Research will assist in laboratory
or research work under the supervision or research work under the supervision
of scientific personnel. Operate highly technical experimental apparatus; Should have considerable skill and puter or related fields. Requires some supervision. Breadboard and test linear and digital circuit systems for satellite type experiments. Does flight quality soldering and cabling. Will be required
to perform function tests on subsystem to perform function tests on subsystem
and make indicated adjustments and corrections. Gpduate from a two-year day technical school. 73-602-A.

Technician A (EM) in the Center for Space Research will assist scientific personnel in laboratory or research troubleshooting equipment or instrumentation of an electro-mechanical nature. Work with minimum super
vision, have a general knowledge of the theoretical aspects of the apparatus he/she uses on the experiments on which he/she assists or the equipment he/she helps to make or set up. Graduation from a two-year day technical school or its equivalent and a minimum of two years of applicable systems and their use; some experience in use of machine shop equipment such as millers and lathes. 73-603-R (7/25)

Architectural Draftsman will develop architectural plans, elevations and
details of Institute remodeling and alteration work. Technical school grad uate with $5-10 \mathrm{yrs}$ experience, knowl edge of electrical and mechanical hhlphi. 40hr/week. 73-396-A

Clinical Research Nurse will assis scientists and physicians in research procedures. Work being done at this
12-bed unit includes research in cardiology, clinical nutrition and biomedical engineering. Must be Mass. Registered
Nurse with at least 2 years hospita Nurse with at least 2 years hospital
experience. $4 \mathrm{pm}-12$ midnight shift experience.
$73-236-\mathrm{Rm}$
. 12 midnight shift.

Grounds Crew member in Physical
Plant will lift rubbish, platforms, fertiizer, concrete blocks, lumber, gravel and equipment onto trucks
shovel snow. General care of Mechanical aptitude helpful; special physcial examination required. Mus have a Mass. driver's license. Hours M-F $8 \mathrm{am}-4: 30 \mathrm{pm}$. 73-561-R (7/11) Hours: Irregular schedule (73-616-R) (73-617-R) $(7 / 11)$

Pot Washer in the Faculty Club will wash pots, store merchandise received kitchen floor, basis; sweep and mop Hours $7: 30 \mathrm{am}$ to $3: 30 \mathrm{pm} 73-668-\mathrm{R}$ (7/18)

Custodians - We are seeking qualified applicants for our waiting list. Openings will be on the second and third
shifts. Candidates shifts. Candidates must have a steady,
reliable work record and ences. The waiting list will be used to fill openings as they occur over the fill openings as they occur over the
next several months. Interested applicatns should fill out an application at the Personnel Office and leave it for consideration.


SACRIFICIAL ALTARS? Not exactly, but stone benches at MIT Student Center do attract worshippers of a sort who, at lunch time, willingly put themselves under the spell of the summer sun

## Science Writer Meredith Appointed to News Staff

Dennis L. Meredith, former science editor for the University of Rhode Island, has been appointed assistant director of the MIT News Office.

Mr. Meredith, 26, has received science writing awards from the


Meredith

National Society for Medical Research and the Atomic Industrial Forum. His most recent award was the 1972 AAAS-Westinghouse Science Writing Award for news papers with circulation under 100,000 . Mr. Meredith was given the award for a series of articles on the problems of nuclear power plant siting.

At MIT, Mr. Meredith joins the staff of Tech Talk, and will edit Reports on Research, a publica tion on MIT science and engineering.

Mr. Meredith received his BS in chemistry from the University of Texas in 1968 and an MS in biochemistry and science writing from the University of Wisconsin in 1970. He has also been a science writer for the University of Wisconsin and assistant director of information for the University of Wisconsin Medical Center.

Mr. Meredith and his wife Joanne live at 68 Lancaster Road in Arlington.

## MIT Affirmative Action Plan Accepted by HEW

(Continued from page 1 )
be organized under five major areas. These areas are (1) Administrative Component, (2) Policy Component, (3) Analysis Component, (4) Remedies and/ or Program Component, and (5) Goals and Timetables Components. While no specific written format was im posed on the Institute for the information of its plan, we believe its current organization lends itself readily to analysis and comment in terms of these overall concepts. Accordingly, the questions and comments which follow will deal with the Institute's plan in terms of these com ponents and the essential elements they must contain if the plan is to adhere closely to the requirements of the Executive Order and the Higher Education Guidelines.

## I. Administrative Component

A. Responsibility for Affirmative Action Program Implementation

1. To clarify the textual description of the decisionmaking process in the employment area of the plan an organizational chart identifying and linking the various levels of authority relating to em ployment decisions should be submitted as a sup plement. The lines and levels of authority in this crucial area could then be readily identified in their appropriate relationships to each other
2. We believe that the responsibilities of the Institute's Equal Employment Opportunity Officer (i.e. The Assistant for Minority Affairs in the Of fice of The President and Chancellor) have been adequately described in the Plan but the question of this officer's actual authority to initiate or en force remedies to problems or deficienceies uncovered in the course of his normal duties is not clear from the text in the plan. Additional, more explicit information on this point is necessary.
3. The plan indicates that committees play an im portant role in implementing the Institute's Affirmative Action Program. For this reason precision and clarity in the description of the responsibilities and authority of these committees is imperative. In the case of the MIT Equal Oppor tunity Committee, discussed in Appendix C-1, there is a clear statement of its responsibilities and authority. These are not explained in the same way for the Academic Council, Academic Appointments Subgroup and Staff Appointments Subgroup (Appendix C-2). This same comment is applicable to the Draper Laboratory-Equal Opportunity Committee (Appendix $\mathrm{C}-3$ )
4. On the subject of committees there is a series of related questions which should be answered in the text of the plan describing the roles of each committee involved in the affirmative action process:
a. How is the committee formed?
b. Is there assurance of equitable representation of protected class members on the committee? What is the relationship between the Affirmative Action Officer and the committee?
d. Does the committee have the same type of authority in administering the affirmative action plan as do other committees in administering their respective programs?
B. Method of Dissemination of Affirmative Action Program
Based on Section 60-2.21 dissemination of the affirmative action plan is required both internally to the Institute community and externally to the community and public at large. The latter grouping is meant to include potential and prospective employees, contractors, subcontractors and vendors, community and minority and women organizations, and all recruiting sources.
Our review of the Institute's Plan indicates that the subject of dissemination is discussed in the preface and in Parts III (Section B, No. 7) and IV (Section A, No. 5). As the subject is currently treated in your plan, much more detailed information about the specific plans and procedures for internal and external dissemination of the affirmative action plan is required. Your response to the following questions and requests for information will meet this requirement:
5. Please provide samples of the actual or proposed correspondence to be used for both internal and external dissemination of the plan.
6. Is the EEO Policy Statement contained in the Affirmative Action Plan to be included in the employee handbook and/or policy manual and what is the time frame established for their inclusion in these documents?
7. What are the details of the procedure to disseminate the plan through lower level supervisors to all employees? And, if not already ac complished, is there a target date?
8. Does the plan:
a. establish periodic meetings with executive management and supervisory personnel to ex-
plain the intent of the Institute's policies? (Minutes of these meetings should be included. If not already established then target dates should be included).
b. provide for informing employees of affirmative action progress on a periodic basis?
c. include scheduled meetings with union officials to inform them of the Institution's policy?
d. give a time frame for the inclusion of nondiscrimination clauses in union agreements?
e. give a time frame for union negotiation to correct any discriminatory aspects to union contracts?
f. include correspondence to recruiting sources? (The letters should stipulate that these sources actively recruit and refer minorities and women for all positions listed.).
g. contain correspondence which stipulates that the recruitment source acknowledges an understanding of the affirmative action program?
h. include letters to all subcontractors, vendors, and suppliers requesting appropriate action from them? (A list should be provided).

## HEW LETTER

C. Procedures to Insure Effective Implementation

The Institute's Plan,on page 10, states that the Assistant for Minority Affairs and the Special Assistant for Women and Work.... "will assist department heads in the preparation and implementation of specific plans to ensure the effectiveness and continuity of the Institute's Plan within each department unit.'
For purposes of clarification we would like to have your response to the following questions

1. Is any verbal or written notice being given at the department level that the work performance of the supervisors is being evaluated on the basis of their Equal Employment Opportunity efforts and results?
2. Is any form of disciplinary action contemplated or implied in the plan for failure to adhere to EEO policies and procedures? If so, what official(s) is authorized to initiate such action and to ensure that it is enforced?

## I. Policy Componen

A. Equal Employment Opportunity Policy Statement Our reading of the Institute's Plan indicates that this major policy component is covered in Parts I and II of the document. We believe these sections comprise a sin cere and effective statement that clearly explains the Institute's attitude and commitment to a meaningful affirmative action program.

1. However, as a technical matter the Higher Education Guidelines require that this particular policy component be set forth over the signature of the chief administrative officer of the Institute which, in the case of MIT, is President Jerome B. Wiesner. We would consider a letter signed by President Wiesner stating his personal agreement to and support for the policy outlined in Parts I and II of the Institute's Plan as constituting compliance with this requirement. Upon receipt of this letter it will be automatically appended to the Plan. This letter should be given the same internal and external dissemination as the plan.
A. Maternity Leave Policy

As a point of clarification a statement of the effect that "regardless of marital status the maternity leave.policy is applicable to any female employee of the Institute," should be added to this important policy statement. Your response should indi cate that this is the intent of the policy for both staff members and other personnel specifcally mentioned in Appendix D-5 of the Institute's Plan.
C. Anti-Nepotism Policy

As in Appendix D-1, the Institute's anti-nepotism policy is considered to be in compliance with the requirements of the Higher Education Guidelines.
D. Other Policy Issuances

1. Any other policy statements affecting employment which have not been written and otherwise disseminated to all employees should be included here.
2. Where the absence of a written policy (e.g. "un written rule against hiring anyone with an arrest record") has caused a disparate effect and a part of the remedy is the development of a written policy, that statement of policy would be included here.
3. If there are any criteria, standards and procedures which govern employment practices on the departmental level which differ from the Institute-wide Policy it would be appropriate for them to be included as part of this component.
III. Analysis Component

The various analyses which make up this component to the Institute's Plan are central to the proper developmen of all the other components. For this reason it is necessary that they be carried out accurately, thoroughly and honestly.
A. Utilization and Analysis

This office considered the required utilization analysis to be the keystone of any well-developed set of goals. The prominence of this requirement is obviously recog. nized by the Institute because its importance is stressed throughout the Plan. In Part Two of this letter, which deals with the individual plans submitted, we will discuss the utilization analyses in more detail.

1. However, the areas of non-academic employment where the Plan states there is a sharing of responsibility between the departmental leadership and the Personnel Office, we would like to review any efforts on the part of the latter to develop a utilization analysis for those categories of employees not included in the departmental analyses submitted thus far.
B. Other Analyses

The following analyses should be completed and supporting documentation maintained on file at the Institute:
. Salary Analysis to determine disparate compensation between male and female and/or majority and minority employees.
2. Promotional Analysis for all but the terminal position in each career ladder during a given period of time, preferable for one year prior to the date of analysis.
3. Tenure Analysis which equates the number of minorities and women eligible for tenure to those receiving or having received tenure as compared with the majority and/ or males for a given period of time.
4. Termination Analysis which compares the percent of terminations by classification for majority vs. minority and male vs. female.
At the earliest practicable date representatives from this office would like to visit the Institute to review this information and to discuss other areas of concern relevant to the continuing development of the Institute and departmental affirmative action plans.

## IV. Goals and Timetables

The Institute and its departments have obviously made a strong effort to meet this requirement and our office wishes to acknowledge the fact and commend the effort. However, still more refinement is needed in this area on the part of a number of the departmental plans. The most important aspect of setting goals and timetables is that their development be equated to the required utilization analysis as closely as possible. Second only in importance to this aspect is the need for goals and timetables to provide for the elimination of underutilization in a realistic manner. Clearly, the accuracy and thoroughness of the various departmental utilization analyses will dictate the formulation of the goals and timetables component of your plan.

## V. Remedies and/or Programs

The Institute's Plan has excelled in specifying the development and execution of programs to eliminate deficiencies in its affirmative action posture. This evaluation was a major factor in our decision to accept the Institute's Plan and its departmental components in their current state of development. We found the section of the Plan dealing with Affirmative Action for Educational Opportunity especially noteworthy.
To formally recognize the close interrelationship between increasing undergraduate and graduate representation of minorities and women at MIT and increasing the size of the availability pool of qualified persons in these groups is extremely important and instructive to the MIT community and the public outside the Institute. The scarcity or complete absence of minority and women employees in certain of the highly specialized disciplines at MIT will never be remedied without a vigorous effort to enlarge the numbers of women and minority students in these same fields. The Institute's acknowledgement of this often-overlooked fact, by including an extensive treatment of Title VI activities in the formal plan, merits special recognition and encouragement from the Office for Civil Rights.
(Editor's Note: Part 2 of the letter, dealing with individual departmental programs, is being distributed to the various departments.)

