Massachusetts Institute of Technology

August 15, 1973 Volume 18 Number 6

Women Appointed to MIT Athletics, Patrol

One is Named Patrolwoman

There's a new look to the MIT Campus Patrol. Her name is Maureen Twomey a South Boston housewife.

Mrs. Twomey has yet to be seen by a majority of the people at the university. She has been working the evening shift since starting as a patrolwoman in July. But she will go on day duty at the regular changing of the shifts in September.

A native of Ireland, Mrs. Twomey is a trained nurse who did hospital nursing in England before coming to the United States. Since then, she has been a housewife raising a family of three and doing private duty nursing on the

She became aware that MIT was seeking patrolwomen through her husband, John, a senior stock clerk in MIT's Department of Nu-

trition and Food Science.
Patrolwoman Twomey, and three new patrolmen were hired to replace four Campus Patrolmen who retired last June. All will attend regular police academy training as soon as academy programs permit.

The other new Campus Patrolmen are Ronald W. McAlister of Dedham, formerly a provisional policeman in Lincoln; Grant R. Schofield of Wayland, a former security guard at the MIT Coop; and William C. Smith of Medford, who was a member of the security force at Childrens Hospital Medical Center.

In addition, the Campus Patrol has announced the promotion of Lt. Richard G. Driscoll of Reading to Captain, effective July 16. Capt. Driscoll joined the Patrol when it was formed in 1957 after serving in the U.S. Marine Corps for 22 years.

The Registrar's Office will mail summer session grades to student homes Friday, Aug. 31. Address changes must be reported to E19-335 by this Friday. No grades will. be given on the telephone.



Patrolwoman Maureen Twomey

Professor Sayles

-Photos by Susan Pogany

Two MIT Projects to be Seen on TV

filmed by a California-based health information project have been scheduled for broadcasting on local television programs around the country.

One of the projects filmed in June was that of Dr. Robert S. Lees, director of MIT's Clinical Research Center. Dr. Lees and his colleagues are developing techniques to determine the severity of atherosclerosis from outside the body.

The other project was the

Two MIT research projects BRAILLEMBOSS system which produces braille printing from a standard keyboard input. BRAILL-EMBOSS was engineered by a research group in MIT's Sensory Aids Evaluation and Development

> The film project, conducted by the University of California at San Francisco, was funded by the John and Mary Markle Foundation. Under the project, film teams at the university are producing a 26-week series of films, consisting of five films per series, to be shown on 50 selected US television

stations.

According to Leona Butler, project director, the films are scheduled to be shown in the Boston area on WKBG-TV, channel 56, on the station's daily 11:30am news show.

Dr. Lees' project is scheduled as part of a series on heart disease scheduled this week; the BRAILLEMBOSS project is to be telecast as part of a series on aids for the handicapped, the week of October 1.

One is Named Women's Coach

Mary-Lou Sayles, former women's swim coach at Brandeis University, is the first woman to be appointed to professorial rank in the MIT Athletic Department.

Professor Sayles, who has been appointed assistant professor of athletics and director of women's athletics, will join the athletic staff full time Sept. 1. She has been spending one day a week at MIT this summer while serving as swimming instructor at the Wellesley Country Club.

"My plans for women's athletics are just forming," she said. "One priority will be to increase the number of women's varsity sports.

"Only two women's sports-sailing and crew-are now recognized at the varsity level," she said. "I would like to see sports such as swimming, tennis, fencing and basketball meet criteria for varsity status, as determined by the women's council of the Athletic Association.'

Professor Sayles has an extensive background in both dance and swimming. She said she hopes MIT's dance program can be strengthened further and is considering beginning a synchronized swimming program if pool time can be arranged.

Born in Rochester, N.Y., Professor Sayles received the BS degree in education from Tufts University Bouve-Boston in 1967 and the MS degree in physical education from Smith College in 1972. She has been at Brandeis University since 1969 teaching dance, tennis, swimming, gymnastics and bicycling. She makes her home in Cambridge.

The MIT Silver Club, the organization for women who have worked at the Institute for 25 years or more, is updating its membership list. Women qualified for membership may call Isabelle Kole, Ext. 3-2286.

New Gospel Choir to Sing at Kresge Tomorrow Night

The New Community Gospel Choir will sing music of the black church at 7:30pm this Thursday in MIT's Kresge Auditorium. The program is titled: "The Soul of Black Folk." Admission is

The choir-which has been preparing for eight weeks-is composed of 40 young black men and women, mainly from Boston area colleges, who were brought together by Ronald A. Blount under a summer grant from the MIT Student Projects in Community Affairs Program.

Director-pianist is Carl Blake, a Boston University music graduate. Narrator will be Rev. William B. McClain of the Union Metho-



dist Church, Boston, who will explain the relation of the several forms-anthems,

spirituals, hymns and gospel music-to the black church. The program will include

classical music-a baritone aria and an original flute composition-as a reminder

that the black church fosters all types of music and serves as a music conservatory for black people. But most of the program will be religious songs of black people including anthems, the formal music sung infrequently in black churches on special occasions, and spirituals, in Negro dialect, the music from the time of slavery.

The choir also will demonstrate how black people have transposed traditional hymns into a form that satisfies their own musical needs: "Thy Will Be Done" and "Amazing Grace." The concert will conclude with contemporary gospel music—closely related to the spiritual, but more lively and joyous.

Desalting Brackish Water Urged To Develop Arid Western Land

An MIT professor contends that there is plenty of water available-in the form of brackish surface and groundwaters—to make the parched American west economically amenable to development.

Dr. Ronald F. Probstein, a professor of mechanical engineering, concludes that brackish waters can be desalted at reasonable cost for use by communities and industry. He says that desalting technology has not fulfilled its promise in the past because it has been concentrated on desalting sea water, a formidable task.

Brackish water, which is much lower in salt content, presents much less of a problem, he said.

Dr. Probstein and a graduate student, J. Manuel Alvarez, of Mexico City, presented their thesis of desalting feasibility at the annual meeting of the American Association for the Advancement of Science, held recently in Mexico City.

Reviewing present methods for brackish water, Dr. Probstein observed that all were useful, but under differing conditions:

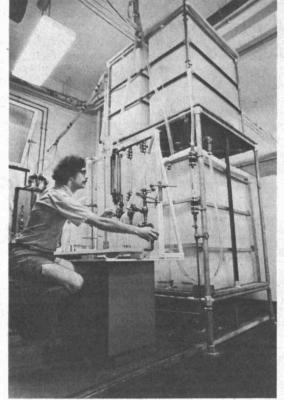
Reverse osmosis is the purification of water by running it under pressure through a membrane that holds back impurities but permits the water to go through. Dr. Probstein said that this method would be most feasible where there are high levels of dissolved solids and where mechanical pumping power is available, for instance at artesian wells.

Electrodialysis is the use of an electric current to membranes. Dr. Probstein concluded that this method would be most desirable where electrical power is readily available at low cost, and where concentrations of dissolved solids in water were low to intermediate.

Ion exchange desalting utilizes special resin beads which attract and hold salts as water is passed over a bed of beads. This method is the simplest, and is the desired one when the cost of cleaning the salt from the resins is low, Dr. Probstein concluded.

In examining past attempts to use desalted brackish water, Dr. Probstein found that, though the water was not economical for large-scale agriculture, it was quite economical for use in communities, industry, or mining.

As an example he cited the town of Buckeye, Ariz., which for the last ten years has been using desalted water at a cost of about 70 cents per thousand gallons. At full usage of the desalting plant Dr. Probstein said this cost could be reduced "to the very reasonable value of about 40 cents per thousand gallons." At the same time, he said,



draw impurities out of water through special COOL, CLEAR WATER-MIT graduate student Morton Isaacson of Rochester, N.Y., adjusts an electrodialysis unit for removing salt from water. Isaacson works with MIT Professor Ronald Probstein, who contends that water for arid regions of America can be economically produced by desalinizing large deposits of brackish surface and groundwaters.

> agricultural use of desalted water in the arid Buckeye region was found to be very uneconomical.

> "Though the data on the amount of brackish water available is sketchy," said Dr. Probstein, "we can safely say that there are large low-salt water deposits in the dry areas of the Southwest where water is badly needed."

> Maps of brackish water locations that Dr. Probstein compiled from U.S. Geological Survey data show large areas of deposits in midwestern and western states-including the Dakotas, Kansas, Oklahoma, Texas, New Mexico, Utah, Arizona, and California. Smaller deposits are located in other states in that area, Dr. Probstein

Conference Scheduled For Alumni Officers

Some 400 MIT graduates are expected to attend the 1973 national MIT Alumni Officers Conference scheduled for Sept. 15 on the Institute campus.

Remarks by Corporation Chairman Howard W. Johnson, President Jerome B. Wiesner, Provost Walter A. Rosenblith and Chancellor Paul E. Gray will open the conference. They will discuss plans for MIT's immediate and long-range future.

Later in the program alumni officers will form panel discussion groups and meet with representatives from the Institute's financial division, the faculty, the Admissions Office and the Alumni Association.

The annual alumni officers awards will be presented at a luncheon in the Sala de Puerto Rico by William S. Edgerly '49, president of the Alumni Associ-

In the afternoon Dr. Rosenblith will introduce three faculty members who will make short presentations on new teaching and research programs underway at the Institute.

Speaker at the dinner closing the conference will be Dr. Gray.

New Programs to Orient Foreign Freshmen to MIT

Freshmen foreign students will receive part of their orientation to MIT this fall through a series of informal group meetings sponsored by the Medical Department and the Foreign Student Office.

Discussion groups will consist of nine or 10 foreign students, a pair of MIT upperclassmen and a discussion leader.

Weekly "rap" meetings will be concerned with acquainting foreign students with MIT-both as a place to live and to work.

Group leaders will be Charlotte G. Schwartz, a sociologist, and Dr. Aaron W. Menzin, a physician, both from the Medical Department; Alan Sager, a doctoral student in the Department of Urban Studies and Planning; and Alana Cohen, a summer research associate in the Department of Urban Studies and Planning.

In addition, foreign students also will take part in the regular MIT freshmen orientation week program. (Short-term orientation courses which in previous years were offered at MIT by BASIS (Boston Area Seminar for International Students) have been discontinued.)

Newly arrived foreign students and their wives will also have an opportunity to informally meet with members of the MIT community at an open house daily, Aug. 27 through Aug. 31 from 9am to 5pm in the Foreign Students Lounge in Walker Memorial, Bldg. 50, Room 200.

During the open house, wives of foreign students will have a chance to find out about particular MIT services such as child care programs and English classes which are available to them.

Volunteers are needed to serve as hosts and hostesses at the open house. Those interested in volunteering should contact Myra Rodrigues in the Medical Department, Ext. 3-4911.

Drs. Papert and Minsky invite graduate or undergraduate students interested in artificial intelligence or computerized educational technology research to contact them at the Artificial Intelligence Laboratory, 545 Tech Square, Ext. 3-5864.

Artificial Intelligence: Seeking the

(The following article on education projects in MIT's Artificial Intelligence Laboratory is reprinted with permission from the August 4, 1973, issue of Science News.)

BY ROBERT J. TROTTER

Robots, iron men, mechanical monsters....These automatons lumbered around between the covers of science fiction novels for years before computers, television, transistors and other technological advances made it possible for them to clunk their way onto the pages of scientific journals. Even when they did, in the 1950's and 1960's, the optimistic proposals and vivid imaginations of their controllers sometimes brought skeptical frowns from the more staid members of the scientific establishment. Machine translation was one such proposal. But an advisory committee of the National Academy of Sciences investigated and reported in 1966 that high-quality translation from machines was unlikely and probably not worth devoting a lot of time or money to.

Even so, such projects continued. They usually come under the heading of artificial intelligence (AI). During the past few years, advances in AI have been steady. Mathematicians and engineers at the Massachusetts Institute of Technology Artificial Intelligence laboratory have combined a computer, a television camera and a mechanical arm into a system with enough arti-

ficial intelligence to recognize blocks of various sizes, colors and shapes, and to assemble them into structures without step-by-step instructions from an operator. For more complex tasks, an advanced arm has been developed. It has eight movable joints and can reach around obstacles. A similar mechanical arm at Stanford University has been programmed to pick up the pieces of a water pump, assemble them and screw them together. Binocular vision and touch sensors are being developed to make these arms even more useful. A mini-robot at MIT's AI laboratory will eventoo minute or delicate for human

A computer at the Bell Laboratories in Murray Hill, N.J., has a vocabulary of 1,600 words. It can read stories and then speak them aloud. Checker- and chess-playing computers have the ability to learn from their mistakes. One at MIT has been rated as a betterthan-average chess player in tournament competition. And the previously frowned upon translation projects are well under way. The U.S. Air Force is currently funding machine translation of German to English, Chinese to English and Russian to English. As a part of the recent Vietnamization policy, a computer was programmed to translate English to Vietnamese. Programming the computer took 18 months but now it can translate an average U.S. Army Manual into Vietnamese in less than two hours.

Such advances, however, have not silenced the critics of AI. Sir James Lighthill of Cambridge University surveyed the field for the Science Research Council of Britain. His report suggests that research on AI may be a waste of time. Lighthill discourages work on robots, especially, as intellectually unimportant.

Some of the things robots have been programmed to do may seem frivolous, but AI researchers say robots are only tools for the study of intelligence. Getting a machine to learn English, for instance, demonstrates the problems and methods humans have in learning to speak. Such problems don't always show up in the linguistics laboratory. Seymour Papert, codirector with Marvin Minsky of the AI lab at MIT, compares the study of intelligence to the study of flight. Flight couldn't be analyzed until the principles of aerodynamics were worked out. Human intelligence can't be thoroughly studied until the basic principles of intelligence are formulated. Jean Piaget is studying principles of intelligence by observing the mental development of children. Papert and his coworkers are doing the same thing by finding out how machines learn. The end result, he says, will be theories of intelligence that apply to humans and machines. And this has led Papert to theories of childhood education.

'Wings' of the Mind

Papert and Minsky believe that enough is known about machine intelligence to use it as a basis for planning new learning environments for children. An ongoing project at MIT is attempting to provide examples of how AI technology can be used in education. The idea is not to use machines as teachers. Instead, computers are being used to give children practice in thinking. To do this, says Papert, it is not sufficient merely to have a computer. It is necessary to develop contexts in which the computer can be used by a child to serve real purposes. Several computer-controlled devices have been designed to do this. One is a music generator that enables a child to produce songs and to experiment in music composition. Another is a graphics system with the ability to produce simple animated cartoons. The computer also has a teletype that can be programmed to compose stories or poems. And there is a cybernetic animal called the turtle that can be programmed to do a number of things including move around a classroom and leave a track or draw a picture on the floor.

By learning to program the computer to generate music, pictures or mechanical processes, the student develops the mental tools to think about temporal, tonal, geometrical and physical matters.

"In many of the projects," the researchers explain, "the child programs the machine to imitate some aspects of his own behavior. school as it is known today."

To see how to make the turtle move, he looks at his own motion. To make the computer produce grammatical English, he looks at his own sentences. By programming the computer to play games of skill, he acquires a model of the process of improving a mental skill." In this way, the child is learning and using elements of biology, physics, linguistics and heuristic or discoverist thinking.

Much of the work at the MIT lab has been concentrated on developing a science known as Turtle Geometry. By programming the turtle to draw geometric figures, a child begins to learn the basics of geometry. Such work, Papert, provides a conceptual frame for manipulating geometric objects without a knowledge of algebra. And as Turtle Geometry gives a child a grasp of movement in space (that can be used in geometric or physical applications), work with music may lead to a child's being able to think clearly about time as it applies to things other than music. Mathematics and music are not

the only things Papert and the MIT team are working on. Within two years they hope to have fully developed educational modules for such subjects as physics, linguistics, biology and psychology. "Much of science," they believe, "can be reconceptualized to become vastly more accessible." And the final goal of their work will be "a total alternative to the

After 12 Years, CTSS Has Gone Into Retirement

Another era in computer history came to a close this summer with departure of CTSS (Compatible Time Sharing System).

The modified IBM 7094 on which CTSS was developed officially went off-line on July 20, after nearly 12 years.

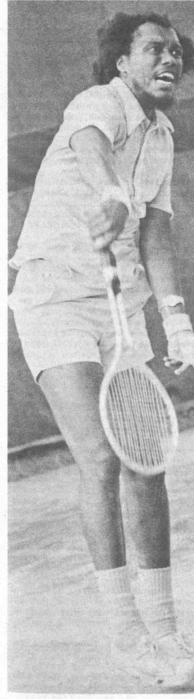
The system has been superceded MULTICS (MULTiplexed Information and Computing Service), which also was developed at MIT and is now marketed commercially.

MULTICS began operating in 1969 and CTSS has been phasing out since then. MULTICS, operated on a Honeywell 6180, has greater capability and accommodates more sophisticated programs and many more users.

Several months ago CTSS hardware was sold to a used equipment dealer, and bits and pieces have been gradually disappearing. Since CTSS was developed as a combination hardware-softwarepeople system, the dispersion of its hardware means its three elements will never again be linked.

The Boston Section of the Society of Women Engineers has elected Evelyn Murray-Lenthall as chairman for 1973-74. Mrs. Murray-Lenthall is air traffic control document librarian at Lincoln Labora-

Tennis Anyone?



LOUIS GLASS of New York City follows through on serve in an early match in the American Tennis Assn. 1973 National Championships being played at MIT West Campus courts this week through Saturday. Admission free, 9am to 7pm.

Scroll Buried as First Unit Is Completed In MIT's Program of Housing for Elderly

A time capsule was buried in Cambridgeport late last week marking completion of the first building in a three-site \$17.1 million "turnkey" housing program for the elderly in Cambridge, sponsored by MIT.

The 181-unit building on Hamilton St., between Brookline and Pearl Sts.-one of three complexes with a total 684 units that make up the MIT program-will be turned over shortly by MIT to the Cambridge Housing Authority under the US Department of Housing and Urban Development's "Turnkey Program."

According to federal officials, the MIT-sponsored program is the largest turnkey project thus far undertaken anywhere in the nation.

At the capsule burial, presided over by MIT Chancellor Paul E. Gray, a cement cylinder was placed beneath a sidewalk with a scroll bearing the names of Cambridgeport residents who participated with MIT and the CHA in planning the project.

Assist Relocation

Two remaining complexes-one with 199 apartments on Clarendon Ave. in North Cambridge, another with 304 apartments on Gore St. in East Cambridge-are nearing completion. They will be conveyed to the CHA as they are finished. Once turned over, MIT will have no continuing operational or financial interest in the buildings.

Under HUD's Turnkey Program, a developer-in this case, MIT-acquires sites, builds the housing and sells it to the local housing authority. HUD provides support for the authority to meet the sponsor's costs.

All buildings in the MIT program are on sites which were formerly underdeveloped and, in some cases, blighted. Minimum existing residential property was involved. MIT assisted in relocating the residents, often in Institute-owned properties.

One Quarter Income

In addition to apartments, the new buildings contain extensive common facilities for use by the residents and, in some cases, the neighborhood. Common areas include a large multi-purpose room with a kitchen, laundry and drying facilities, smaller rooms for crafts and activities, and space for a medical clinic. Office space for a building manager is also included in each complex.

Residents of the neighborhoods and representatives of the Cambridge elderly participated in planning. Zoning changes were necessary at each site and neighborhood received wide

The buildings were designed by Benjamin Thompson & Associates of Cambridge and built by the Peabody Construction Co. of Braintree.

Applications for apartments are



Top: Some of the 2,000 Cambridge residents who came to open house at Hamilton St. enjoy refreshments in courtyard. Below: Mrs. Mary Castriotta, Cambridge Housing Authority, and MIT Chancellor Paul E. Gray plant a time capsule in front walk. Concrete building is L-shapedone section five stories, the other 12-and contains 181 apartments. Amenities that make life pleasant and secure for the elderly include thermopane windows with a section which can be removed for an air conditioner, private balconies with sliding, lockable doors, emergency alarms in each apartment that both buzz and turn on a corridor light, annunciators and closed circuit television for monitoring the outer lobby, secure mailboxes in the inner lobby, basement storage space for each apartment, a connection in each apartment for a master television antenna, and garbage chutes on each floor that connect with a ground level trash compacter. Nineteen apartments at Hamilton St. are designed for handicapped persons, including those confined to wheelchairs.

made through the CHA. Occupancy will be restricted to persons 62 or older, whose incomes do not exceed \$5,200 for couples or \$4,600 for single persons. Rents will not exceed one-quarter of an occupant's income.

Open More Apartments

Ten percent of the apartments in each were designed for handicapped persons, including those in wheelchairs. Occupants of these

units will not need to meet the minimum age requirement.

housing for the elderly, MIT since 1969 has completed two new on-campus residences for ad-

According to Charles D. O'Neal, Jr., director of the MIT Real Estate Office, both on-campus housing and elderly apartments housing elderly residents, both in existing CHA facilities and in the private



Simultaneous Art Shows Planned at Hayden

MIT's Hayden Gallery will begin its fall season with not one, but two separate shows opening simultaneously Sept. 14.

"Elephant Skull," a large sculpture by Henry Moore, will be the focus of one exhibition which will also include some 20 etchings the artist made of details of an actual elephant skull.

Inspiration for the works of art came from an elephant skull given to the artist by Sir Julian Huxley, the British biologist, and Lady Huxley.

The other show is "Lightworks," an experimental exhibit by MIT students under the direction of Robert Preusser, professor of visual design.

The exhibit is a collaborative effort of 14 students and presents large scale works which make use of advanced light and optical technologies for creative purposes.

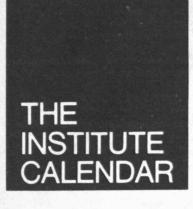
The gallery has been divided into two separate rooms for the

exhibits, which are sponsored by the Committee on the Visual Arts. "Lightworks" is also jointly sponsored by the Massachusetts Council on the Arts and Humanities, the MIT Council for the Arts, the Undergraduate Research Opportunities Program and the Department of Architecture.

The Henry Moore exhibit will continue through Oct. 12 while "Lightworks" is scheduled to close Oct. 5.

Whither Diplomas?

The Registrar's Office informed candidates for September degrees at MIT that they must return their postcardsindicating if their diplomas are to be mailed, picked up in person, or held for next June's commencement-to the Registrar, Room E19-335, not later than Friday, Aug. 17.



August 15 through August 24

Community Meetings

Women's Forum

Meetings and discussions. Mondays, 12n, Great Court, if raining – Bush Rm, 10-105.

Women's Groups in Fall

Women's reading and consciousness groups will be forming in the fall, sponsored by the Women's Forum. Information, call Cathy, x3-7304 or Jane, x3-2311.

Women's Forum - Lincoln Lab

Professor Mildred S. Dresselhaus, associate head of electrical science and engineering at MIT, will speak on activities on the women's front at MIT. Tues, Aug 21, 12n, Lincoln Lab Rm A-166.

MIT Silver and Quarter Century Clubs

Annual steer roast banquet. Open to all members of the Clubs, retired members of the Clubs, retired members of the community, and their spouses. Thurs, Augs 16, 5:30pm, Kresge Plaza (if rain – Sala de Puerto Rico). Reservations, Bob Radocchia, x3-7914.

Course Evaluation**

Sponsored by TCA & SCEP. Come and help out. For info, call Robert, 494-8889 evgs, or lve msg at TCA, W20-450, x3-4885.

MIT Club Notes and Meetings

Association at Tang Hall***

General meeting, Sun, Sept 9, 8pm, 24th fl lge. Members only.

Bridge Club

ACBL Duplicate Bridge. Thurs, 6pm, Stu Ctr Rm 473. IMP-scored team games, (similar to rubber bridge scoring). Special beginners' section (designed for newcomers to duplicate bridge) starting Aug. 16. Call Jeff, x3-5285 or 864-5571.

Chinese Choral Society*** Singing, every Sun, 3-6pm, W20-473.

MIT Chinese Student's Club*

CSC softball practice, every Sat, 2pm, Briggs Field. Refreshments. All are welcome.

Classical Guitar Society

Classes, group or private. Mon & Thurs, 5-8pm; Sat, 8am-12n; Rm 1-132, 134, 136. Vo Ta Han, 494-8353.

Goju Karate Club*

Open to the Cambridge Community. Mon, Thurs, 7-9pm, Stu Ctr Rm 407. Call 253-2018.

Hobby Shop

Mon-Thur, summer term 12n-5pm, Rm W31-031. Fees: \$10/term for students; \$15/term for community. Call x3-4343.

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, Student Center Rm 473. Call Jeff, x3-5285 or 864-5571.

Outing Club*

Every Mon & Thurs, 5-6pm, W20-461.

x3-7216.

Rugby Club**

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

Science Fiction Society*
Fri, 6pm, Rm W20-421.

Student Homophile League

No summer meetings. MIT gay phone, 492-7871, is active, Sun-Thurs, 8-11pm, (most nights aft 12m), for counseling, social activity info, help in "coming out" rapping.

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

Tech Squares*

Western style square dancing. Tuesday, 8-11pm, Sala de Puerto Rico. Beginners dance, August 21. Come and try it. Admission: \$1; first time free.

Tiddlywinks Association*

Tues, 7-11pm, St Ctr Rm 407.

MIT Wheelman**

All aspects of bicycles and bicycling discussed, events planned, advice and help given. Thurs, 7:30pm, Rm 1-203. Call Harry, x3-2384.

Social Events

Summer Coffee House*

The MIT 24-Hour Coffee House has re-opened as a 12-Hour Coffee House for the summer. Inexpensive food, candy, and non-alcoholic drinks are sold. Relax, games, read. Open: daily, 3pm-3am, center lge, 2nd fl, Stu Cntr.

Friday Afternoon Club**

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

Muddy Charles Pub**

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

Movies

The Nanny

LSC. Fri, Aug 17, 7:30pm, Rm 10-250. Admission 50 cents, no IDs.

CLASSIFIED ADS

Ads are limited to one per person per issue and may not be repeated in successive issues. All ads must be accompanied by full name and Institute extension. Only Institute extensions may be listed. Members of the community who have no extensions may submit ads by coming in person to the Tech Talk office, Room 5-111, and presenting Institute identification. Ads may be telephoned to Ext. 3-3270 or mailed to room 5-105. Please submit all ads before noon, Friday, August 17.

For Sale, Etc.

Moving: Kenmore wash, dry, nw 11/72, 3fab sets; rugs, 9x12 gr sculp w/pads, 11x11 bl sculp w/pads, 9x12 red/gold; loveseat; chr; end tbl, 2 tier, rnd, marble inlay; tbl lamp; old trunk; eng pram; all reas. Call, 489-3411.

Clausing lathe, new, no.14, 48" bed, 5hp, var spds, 45-2000rpm, comp set collets, 3 jaw chuck, best. Call, x3-6041 or x3-6047.

Sofa, fr prov, gr/turq, \$60; Hotpoint refrig, \$30; mirrors, 2, \$2ea; coffee tbl, wh, \$5. Call, 926-4799.

Chest, 2 drwr, \$15, chrs, \$8; infant st, \$1.50; curtains; Kware. Sigrun, 666-2545.

Toneau cover, Sprite or MG midget, '65, Mark III, nvr used, \$30; radio, Regency, WT4, am/sw/amm/mil/cit bands, intl sh/w band, 550-1600kc, 1.6-30mc, exc cond, \$40. Call, 646-3157 evgs.

Lving cntry, must sell: '65 Plymouth sta wgn, 96K, \$200; dining tbl; beaut, 4 chrs, \$50; steam iron, \$5; fan, \$5; Chilton's Amer cars manual, \$8; misc. Call, 354-2559.

Refrig, Indesit, 6 cu ft, exc cond, \$75; bkcse, unfin, 5 shlv, 5'x2', \$8; Westgate curtains, hooks, org, 14 pc, yr old, \$15; fm stereo tuner, nw, \$40; rcrd cab, 40", \$15; typwrtr stand, metal, blk, \$15; 2 sm catfish, free; 2 birdcages, free. Jean, x3-6322.

Nite tbl, \$5; sect'y desk, \$25; brd & block bkshlvs, \$3; butterfly chr, \$10; tennis rkt, \$5; 9x12 bl/gr shag rug & mod bl sofa, best; pprbk & chldrn books, 10-25 cents. Charlotte, x3-1632.

Dinette tbl, formica, 4 chrs w/pad bk & st, \$75; Singer sew mach, \$15; 2 sgl slumberpedic box spr & matt, \$60; 3 lg scatter rugs, w/rubber bk, 2 lilic, 1 aqua, \$10/3. Mrs. Shechter, 298-0484.

Outdoor alum rocking sofa, pillows, 2 match rock chrs, \$50. Call x354 Linc.

Dresser, br, \$20; 2 wdn fold chrs, \$10, sgl bed w/matt, \$15, Sony clk/r, \$15; hair dryer, \$5; tennis rkt w/press, \$5; all gd cond. Claudio, x3-5934.

Furn, balc furn, finished shelving, cork insul, hi-fi, etc, lving area. Call, x3-3832.

Collier carriage-stroller-carbed; walkerjumper; alum & mesh playpen; jolly jumper; infant rocker st & reg st; inf carrier; all yr old, gd cond, Cheap. Call 734-3930.

'64 Pontiac, \$200 or best; b&w tv, Philco, 16", 4 mos, \$45. Call, x3-7026.

Girls coats, 3: 2 spr or fall, gr wool, bl crush vlvt, jr sz 5-6; sz 8 bl wool; all exc cond, \$5 ea; also hdbrd tw bed, gr, exc cond, Simmons dupont. Call, 646-2351.

Used tires, 7.00x13: 2 snows, 1 reg. Bill Beebee, x8-3661 Draper.

Playpen, \$8; walker, \$1; windup swing, \$8; jolly jumper, \$5; lwn mower, \$8. Bonnie or Todd, x3-3724.

Furn: DR tbl w/4 chrs, \$35; LR chrs; bkcses, \$5 ea; lamps; iron brd; etc. Kim, x3-4710.

Bed, qu, matt, box spr, exc cond, \$60 or best. Pierre, x3-4670 or 494-9274.

Furn, chrs, tbls, desks, beds, lamps, bkshlvs, carpets, evrything for poor grad stu. Gil Chu, x3-7197.

Sngl bed w/frame, \$40; sgl bed & dresser, \$60. Steve, x3-5932.

Alum real-type clothes line, nvr used, orig carton, \$8. Al, x149 Linc.

Sofa, gr, gd cond, \$35. Gene, x3-4328.

Advents, 2 lg, new \$238, \$180 or best. Call, 864-3793.

Bunk beds, \$50; K tbl w/4 chrs, \$15. Dick, x3-4170.

Exec desk, 34"x60", \$30; metal type desk, 30x60, \$30; gray metal desk, lk new, formica top, 30x60, \$60; coat rack, \$5. Nick, x5883 Linc.

TV, Motorola, 23", vhf, w/stand, \$35. Harbo, x3-1827.

Couch, colonial, wdn arm rests, conv to bed, br print upol, \$30. Harold, x3-1318.

Bed, qn, w/matt, box spr, frame, \$80. Carlos, 646-9528 evgs.

BR set: bed, dresser, desk, blshlf, moving, \$75 or best. Ramon, x3-6613.

Coffee tbl, colonial, mpl, exc cond, \$15. M. Humphrey, x5502 Linc.

Sew mach, \$45; 3 spd bike w/chn, \$35; matt, best. Lida, 547-8395 lve msg.

Sofa bed, 60", fair cond, gd matt, \$25; Barbra, x3-1646.

Dishwasher, Hotpoint, butchblock top, convert, 8 cyc, sanicyc, 2 mos, was \$245, ask \$175. Call, 449-0920 evgs.

Bike, mens, race, Liberia (fr), 10 spd, 23", exc cond, \$115. Fred, x5362 Linc.

Cabinet for clothes, v gd cond, lk nw, \$23. Call, 494-8494 evgs & wknds.

Ice cream freezer, elec, 4 qt, \$20; Modar no.1636 cab, \$22. Will,

Drake 2C receiver w/xtal calibrator & TA-33 Junior beam. Call, 334-4752.

Lester baby grand piano. George, x3-7855.

Radio, National, am/4 band sw, \$30 or

best. Donna, x3-4271.

S/360 OS Manuals, programmer &

logic, come & take, E19-689.

Fish tank, 20 gal, incl fish; GM auto spd control; new unicycle. Chuck, x8-3360 Draper.

Drexel open hutch, pine, gd cond, \$50. Call, x118 Linc.

Skis, Yamaha ARI, 170cm, Salomon 404 bndgs, were \$130, ask \$100 or best; buckle boots sz 7w used twice, were \$75, ask \$35. Call, x0437 Dorm.

Cut glass flower vase, \$35; lg leather suitcase, \$50; hand-tooled leath handbag, \$25; 2.7yds silk, \$15; amber nklace, ring, \$40; ladies body shirt, \$18; mocassins, 7½-8, \$7; all new. Call, 484-6374.

Maytag elec wring washer, old but gd cond, \$40 or best. Freve, x3-7054.

Antique brass bed, dbl, hdbrd, ftbrd, sides, w/Simmons btyrst matt & box spr, yr old, \$350 or best. Pat, x7784 Linc.

Infant seat, GM, \$7; carbed, \$4; jumper seat, \$4. John, x8-3531 Draper.

Refrig, Philco, side/side, frstfree, cprtne, 3 mos, lving town, was \$450, now \$275. Bob, x8-1323 Draper.

Bedroom suite, Lane, 4 piece Qu sz, head and foot boards, men's 5 drw dresser w/mirror, women's 6 drw dresser, bedside tbl, box spring and matt spread incl, \$275; Fedders a c 18,000 BTU, 3 yrs old, \$140. Call x3-4868 or 495-2262.

Wedding ring quilts, 2, old, beaut, twin, date, \$150 ea. Call x7896 Linc.

Vivitar 200mm lens, \$75; 1890 Enc Britanica, americanized, 10 vol, f-gd cond, \$25; bkcse bedframe, wlnt, \$25; misc yd & gdn equip. Karolyn, x3-6010 (MWF).

Screened patio, 12'x12', Camel, exc cond, \$30 firm. Call, x8-8243 Draper.

Sofa, danish mod, gold toned, chr, coffee tbl, end tbl, all \$65. Call, x3-3127.

Console stereo phono, \$35; frpl screen, \$5; Friden calculator, nds minor repair, \$5; MG midget tonneau, \$5. Bob Domnitz, x3-2534.

AC, 7500BTU, 8 yrs, keep cool for \$25. Mel, x3-6302.

Baby carriage, \$15; baby scale, \$3; 3 fiberbrd chests, \$3 ea; foldaway bed, \$10. Jose, x3-5951.

Hoover wash mach, comp w/spin dryer, yr old, \$90 or best. Margie, x8-4013 Draper.

Building lot: over ½ acre, mi Gunstock

ski, elec, town wtr, percolation test done, bld permit, trout brook, indoor pool, cocktail bar, tennis, docks, priv bch, \$8,200. Nunzio, x8-3976 Draper.

Crosby-built sloop, 21', equipped, rdy to launch, specs & sail plan avail. Call, x3-2092.

Dress & jacket, gray & tan, wool, sz 7-9, was \$40, B. Altman, now \$10. Call, x3-7430.

Bed, tw, incl box spr, matt, gd cond, \$20. Margaret, x3-2566.

Solid teak door, 33"x80", for desk or tbl, \$40. Call, 868-0764 evgs.

Vehicles

'60 Buick sta wgn, gd trans, mech gd, \$50. Call, x3-6781.

'63 Pontiac le mans, conv, v8, auto, p st, r, 70K, exc cond, n tires, br, exh, \$300. Call, x3-1428.

'63 Ford galaxy 500, hd top, v8, auto, lo miles, \$100. Larry Dario, x8-3530

'64 Olds F85, mech exc, body gd, r, p st, \$285. Call, 494-8576.

'65 Chrysler, full power, gd tires, runs well, body bad, \$175. Joe, x7683 Linc.

'65 Mustang, gd cond, nw batt, \$250. Carlos, x3-6220.
'65 Mustang, sgl ownr, gd cond, 2 extra

tires, Iving US, \$300 nego. Call, x3-2160.

'66 Pontiac cat conv, p st & br, exc mech cond, wh w/blk top & int, \$475.

'66 Chevelle SS 396, 4 spd, mags, new carb & tires, best; XLCH sportster, all chrome, new mtr, \$1,700. Al Murray,

Ann, x414 Linc.

x8-1598 Draper.

'66 Peugeot 404, gd cond, best over \$395; Harv bed frame, \$7; clock r, \$7; 2 sets curtains Wstgate, \$5 ea; matt & box spr, \$2.50; iron, \$2.50; fem hairdry, \$5; 24" bike, \$1; teapot, \$1; nw baby food warmer, \$1.50. Call, 494.8322

'67 VW, It bl, nds \$100 repair, moving, handyman's delight! \$150. Rich or Bill, 261-5255.

'67 Merc cougar, fast, smooth, p st & br, snows, exc cond, best. Call, x3-5567.

'67 VW sqbk, eng overhauled, gd cond, \$650 or best. Call, 776-9116.

'67 Buick spec, sed, 6 cyl, auto, p st, gd cond, must sell immed, \$300. Allan, x3-3872.
'67 Mercury, convert, p st & br, wh,

70K, am/fm, n tires, v gd cond, best. Zeki, x3-3104.

'68 Buick LeSabre 400, auto, p st & br,

r, v gd cond, \$700. Shlomo, x3-7559. '68 Javelin SST, auto, p st & br, 70K,

exc cond, best, Jan, x3-7006.

Arno, 494-9130.

Carlos, x3-7004.

'68 Corvair, convert, 75K, orig owner, exc run cond, \$200. Call, x7511 Linc. '69 Toyota, 4 spd, v gd cond, \$750 or

best. Call, 354-3497 aft 4pm.
'69 VW bug, 33K, gd cond, \$950.

'69 Rambler Javelin, 40K, 2 dr sed, 6 cyl, std, tr, snows, exc cond, \$1,000.

'69 Triumph spitfire, convert, 33K, dk bl, nds some wk, \$800 or best; also Heathkit amp, model AA21D, solid st, best. Call, 489-2772.

'69 Chevelle ss, 43K, 4 spd, ac, v gd cond, \$1,100. Wayne, x3-2445.

'69 Austin America, 48K, exc body & mech, trans nds less \$250 wk, best. Call, 494-8918 evgs.

'69 Toyota Corona, orig ownr, 54K, bl, am/fm, nw tires, valves, exh sys, \$750 or best. Ruthanne Hamlin, 263-0484 aft 5:30pm.

'71 Peugeot, 504, snrf, eng exc cond, damaged fender, rad, wndshld, nego. Call, 868-2146.
'71 Ford torino GT, lt grn w/str, 31K,

stereo am/fm, ac, \$2,500. Faith, x3-1708.

'71 Renault, R10, 42K, 30+mpg, 4

mtd rad snows, 4 spd, 4 dr, am/fm, tint

glass, adj bkt sts, lving entry, must sell, \$950. Richard Taylor, x7001 Line. '71 VW sqbk, 24K, r, ww, ask \$2,200.

Call, x3-3257.

'60 runabout, 14', fbrglas, w/'73 40hp Merc mtr, tilt trailer, canvas cover, other extras, \$1,300. Fred, x3-2484.

'66 Honda 305, superhawk, just reblt motor, has \$80 nw parts, you assemble, \$210. Ed, x8-4459 Draper.

'72 travel trailer, Yellowstone, 18', slps 8, complete K, gas elec refrig, wtr flush toilet, therm furnace, 30 gal wtr tank, self-support, sgl axel, used 6 times, \$2,600. Gene, x7787 Linc.

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Triple Mandarin Movie Feature CSC presents: The Blade Spares None, Call of the Mountains, Magic Bowl. Sat, Aug 18, 6pm, Kresge. Tickets: \$2 adults; \$1 children;

The Haunted Palace

LSC. Fri, Aug 24, 7:30pm, Rm 10-250. Admission 50cents, no IDs.

Music

Historical Arts Program Concert*

members free with membership card.

The Student Summer Project at MIT will present a concert by the New Community Gospel Choir, conducted by Carl Blake. Thurs, Aug 16, 7:30pm, Kresge Auditorium. Free.

Ravi Shankar

Concert, Sun, Aug 19, 8pm, Kresge Auditorium. Tickets: \$7, \$5, \$3 with college student ID. Reservations and info, call SANGAM, 354-6172.

Theater and Shows

The Fantasticks*

MIT Musical Theater Guild production. Fri-Sat, Aug 17-18 & Wed-Sat, Aug 22-25, 8pm; Sun, Aug 19, 3pm; MacGregor House Dining Hall. Admission \$2. Reservations, x3-4720.

Dance

Folk Dance Club*

International, Sun, 7:30-11pm, Sala. Balkan, Tues, 7:30-11pm, Student Center Rm 491. Israeli, Thurs, 7:30-11pm, Sala. Afternoon dance break, Fri, 12:30-1:30pm. Kresge Oval.

Exhibitions

lart Nautical Museum*

Permanent exhibit of rigged merchant and naval ship models, half nodels of yachts and engine models. Open daily in Bldg 5, 1st floor.

Music Library Exhibit

ictorial Exhibition, Mozart's Opera the Magic Flute. Daily, Rm 4E-109.

Religious Services and Activities

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

Christian Bible Discussion Group*

Thurs, 1pm, 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 10am-1pm, W20-473 & W Lge.

Roman Catholic Masses Sun, 10am, Chapel.

United Christian Fellowship*

Summer meeting. Fellowship, singing, sharing, praying. Newcomers welcome. Thurs, 8pm, Westgate I, Rm 708.

Westgate I & II Bible Study

Wed, 8pm, Westgate I, apt 1202. For information, 494-8405 or 494-8778.

Announcements

Open House - Foreign Students and Wives

Volunteers are needed to serve as hosts and hostesses at the Open House for foreign students and their wives to meet members of the MIT community, which will be held daily, Mon, Aug 27-Fri, Aug 31, 9am-5pm, Foreign Student Lounge, Walker Memorial (50-200). Refreshments.

Boston Area Seminar for International Students Needs Volunteers BASIS needs dependable and friendly volunteers to meet and aid international students arriving at Logan airport, Aug 15-Sept. 15. Prefer volunteers who can make weekly committment. Short preliminary orientation period necessary for volunteers. For information call Sandy Shriver, coordinator, 723-8225, afternoons, or MIT Foreign Students Office, x3-3795.

Dining Service

Wed, Aug 15

Lunch: Egg Foo Young over Rice w/Sauce Dinner; Spaghetti & Meat Sauce, "all you can eat" Thurs, Aug 16 Lunch: Gaucho Pot Pie Dinner: Baked Turkey & Biscuit

Fri. Aug 17

Lunch: Fried Ocean Perch w/tartar sauce Dinner: Chopped Beef Steak w/mushroom gravy

Mon, Aug 20

Lunch: Sweet & Sour Pork over Rice Dinner: Chicken Leg Continental

Tues, Aug 21

Lunch: Manicotti w/italian sauce Dinner: Stuffed Flounder w/tomato sauce

Wed, Aug 22

Lunch: Chicken Croquettes w/gravy Dinner: Oriental Night

Placement Interviews

Westinghouse Electric Corporation

A representative from Westinghouse will be at the Career Planning and Placement Office, E19-455, on Thursday, Aug 16, to interview September graduates (and others) who might be interested in working for the company, which is looking for bachelors and masters in chemical, electrical, mechanical, materials, and nuclear engineering to fill a variety of positions in a variety of locations. Candidates should be U.S. citizens or have a permanent resident visa. For an interview appointment, call Mrs. Karen Knecht or Mrs. Lynda Vincent at the Career Planning and Placement Office, x3-4733.

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 22, through August 31 to the Calendar Editor, Room 5-111, Ext. 3-3279, before noon, Friday, August 17.

Housing

Andover, 5 rm tnhse, mod K, dw, ac, pool, pking, nr schools, shop, \$275 incl util. Vicky, x7764 Linc.

Back Bay, studio, view river & MIT, frpl, elev, furn, no lse, avail 8/27, \$165, ask \$200 for furn. Call, 536-6206 bef 10pm.

Belmont, 31/2BR, brk, fr cntr ent, colonial, lg LR w/frpl, 11/2B, fam rm, 2 car gar, dw, lg secluded patio w/scr, res zone, n shops & T, avail 9/1, high \$40's. Owner, 484-4331.

Boston, Beac St n Mass Ave, 2BR, xlg, bsmnt, study, dining area, new K & B, ww, \$320 incl util. Call, x477 Linc.

Camb, 5 rm, 2 BR, exc cond & loc, 2nd fl, 5 min MIT, lg bk yd, avail now, \$250. Tasos, x8-4980 Draper.

Gloucester, wtrfrnt hse, Sept-June, 2BR, mod K, dw, DR, LR, den, B w/shower, panel bsmnt, wash & dry, furn, no pets, prefer adults. Call, 1-281-1433.

Revere, 5 rm bungalow, nw tile B, pking, married grad stu pref, \$180. Call, 646-5348.

Saugus, 7 rm colonial, 3BR, Indscape lot, nr sch, LR w/frpl, form DR w/china cab, den, K w/cab, dw, disp, tile B, 2 car gar, extras, owner, low \$40's. Call, x3-6168.

Waltham, 6 rm rch, 1/2 acre, n Lex, 3BR, 1+B, fin htd study & plyrm bsmt, frpl, dkrm, lndry, toolhse, wkshp, \$40,500. Paul, x7511 Linc.

Animals

Baby wh mice, 10, adorable, for pets, free. Stephanie or Sue, x3-6768.

Kittens, half siamese, clvr, frndly, free.

Cocker spaniel, 5 yrs, free. L. Brown, x8-4455 Draper.

Lost and Found

Lost: soft leather key case, 15 keys, 8/10 am. Call, x3-6240.

Found: Car key, st bet Ashdown & Kresge, Fri am, 8/10. Erika, x3-2728.

Found: Perscription sun glasses, 3 wks ago, Rm 9-150. Come to Rm 9-223 or call x3-6162.

Found: cat, gray tiger w/wh paws, 8/5, McCormick. Janet Johnston or Joy Judell, x3-5961.

Wanted

Overnight sitting exch, Camb parents w/boy nr age ours (9), 1-2 nts/wk. Call 492-7642 aft 4pm. Used starter guitar for 11 yr old girl. Dom, x8-3689 Draper.

Apt needed in Camb or environs, for long term rent, for profess woman, reas rent, start mid Aug. Sally, x3-3277.

Rmmate, fem, East Camb apt, w/fem & 2 males, own BR, furn, piano, \$85 incl util. Bob, 661-3197.

Rmmate, share old hse, Wnchstr, qt, pceful, 15 min MIT. David, x8-1286

MIT PhD working Cap Hill seeks BR apt in D.C., will pay to \$250 for Hill area or Grgtwn, will share 2BR apt or hse, 1st wk Sept. Mike, 868-1275 evgs.

Lively, energetic babysitter w/ref, in my Arl home, 3 dys wk, on bus line H Sq. Eykamp, x3-5685.

Rmmates, 2, male, Concord ctr hse, own rm, den, LR w/frpl, cellar, attic, pking, \$97.50 +util. Paul, x3-2270.

Rmmate, fem, 9/1, 20's, share space apt, 2BR, LR, DR, K, bk prch, off H Sq, \$97.50. Call, x3-1573.

Used copy, Architectural Graphic Standards, 6th ed. Dick Wolfson, x207 or x261 Linc.

Daily ride, Revere to MIT, hrs 8:30-5. Call x8-3305 Draper.

Rmmate, male, 2BR apt, Arl, \$100. Andy, x3-7010.

Someone who listens to BSO brdcsts, has RR tape recorders, to tape few of coming yrs concerts while I'm away. Marshall, 354-3836 evgs.

Rmmate, male or fem, Camb apt n H Sq, own rm, \$71 plus util. David or Neal, 262-7622 evgs.

Rmmate, fem, non-smoke, share Cent Sq apt with fem, own rm, furn, \$87.50 incl util. Nikki, 661-9498.

Used physics texts: Schiff, QM 2nd or 3rd ed; Jackson, Cl EM; Bethe &

Jackiw, Intro QM. Bill, x3-1471. Refrig, gd cond, up to \$50. Anastasia,

Person to share spac hse w/41/2, Winchester, co-op but indep, nr woods & trans, \$100 incl util & Indry. Ann,

x8-1147 Draper.

Rm in apt or hse, w/grad stus, Camb/Bos area, end Aug, rent \$60-\$90. Colin, 494-8244.

IBM select or exec, immed, gd cond. Call, x9757 Dorm.

Rmmates, 2, fem, share BR in 2BR Beac Hill apt, pref 23+, lg apt, mod appl, B, LR, no drugs, no men move in, Chas & Pk St, MGH, need for 9/1, sec dep, \$87. Laurie, 227-3621.

Sailing lessons, Bos harbor, beaut 30' sloop, \$15/day. Call, 522-1506.

Expert piano tuning and repairs. Lynne, x3-3487 anytime.

Exp violin tcher offers patient, organized instruction, esp gd w/beg & chldrn. Call, x3-5874.

Positions Available

Employees at the Institute should call their Personnel Officer for further information.

| Virginia Bishop | 3-1591 |
|-----------------------------|--------|
| Mike Parr | 3-4266 |
| Phil Knight | 3-4267 |
| (Secretary - Priscilla Mah) | |
| Sally Hansen | 3-4275 |

| Jack Newcomb | 3-4269 |
|----------------------|---------|
| Evelyn Perez | 3-2928 |
| (Secretary - Mary An | n Foti) |
| Dick Higham | 3-4278 |

(Secretary Dixie Chin) New applicants should call the Personnel Office on extension 3-4251 to make appointments and confirm open-

Pat Williams

Claudia Liebesny

The following positions are on Hold pending final decisions:

| 73-325-R | Exec. Off'r - DSR Staff |
|----------|-------------------------|
| 73-479-R | Asst. Dir - Adm. Staff |
| 73-508-R | Asst. Dir Adm. Staff |
| 73-391-R | Electronic Tech. A |
| 73-709-R | Dental Hygienist Exempt |
| 73-602-R | Electronic Tech. B |
| 73-611-R | Adm. Staff |
| 73-452-R | Adm. Staff Writer |
| 73-667-A | DSR Staff |
| 73-712-R | Sec. IV |
| 73-736-R | Clrk/Typist II |
| 73-726-R | Ir. Animal Caretaker |

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

| 73-619-R | Accountant - Adm. |
|----------|--------------------------|
| 73-326-R | Edit. Dir Adm. Staff |
| 73-642-R | Adv. Asst Exempt |
| 73-662-R | Adm. Asst. V |
| 73-519-R | Senior Sec. V |
| 73-672-A | Sec/Adm. Asst. IV-V |
| 73-342-R | Sec. IV-V |
| 73-665-R | Sec. IV |
| 73-615-R | Sec. IV |
| 73-65-R | Sen. Clrk III |
| 73-707-R | Jr. Acet. Clrk II-III |
| 73-711-R | Sr. Lib. Asst. IV |
| 73-725-R | Lib. Gen. Asst. III |
| 73-561-R | Grounds Crew |
| 73-577-R | Dorm Manager - Exempt |
| 73-639-R | Asst. Loan Off'r - Adm. |
| 73-573-R | Assoc. Editor |
| 73-546-R | Jr. Animal Caretaker |
| 73-523-R | Diet Aide |
| 73-673-A | Adm. Asst/Exempt P.T. |
| 73-648-R | Sec. IV |
| 73-659-R | Sec. III |
| 73-670-R | Dir. for Aluni Data Res. |
| 73-708 | Adm. Asst. V |
| 73-700-R | Sen. Sec. V |
| 73-591-R | Sec. IV |
| | |

Sec. IV

Sec. IV

Sec. III

Sec. III-IV

73-699-R

73-681-A

73-701-R

73-706-R

73-743-R Lib. Gen. Asst. III P.T. 73-626-R Lib. Asst. III 73-675-R Acctg Asst. Exempt 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 – stu-dents, faculty, and employees. The Assistant will be expected to speak for

Sec. III

Sr. Clrk III-IV

Sr. Clrk/Med. Asst. III-IV

73-624-R

73-612-R

73-663-R

3-1594

3-1595

the Institute 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 administrative Council, and such other groups as may be deemed desirable 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 advanced 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-R

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

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

Technical Assistant - (Academic Staff) in Biology will conduct reinvolving isolation and physical characterization of key components of blood coagula-

tion systems, studies of the molecular mechanisms by which components interact in fulfilling their physiological roles. Individual must have good laboratory skill; background in physical chemistry and biochemistry is highly desirable. 73-772-R (8/15).

Economic Research Assistant - DSR Staff member will work on regional economic research on transportation and energy problems, write research reports for government agencies, submit computer runs, maintain large multi-regional input-output data bank. Excellent background in economics, minimum one semester of linear algebra, experience on IBM 370/165, 1-2yrs. research experience, familiarity with FORTRAN programming required. 73-798-R (8/15).

DSR Technical Staff - in the Center for Advanced Engineering Study Video Operations group will plan, produce, shoot, and edit motion picture films. This individual will head an initially small film unit. Extensive knowledge of all aspects of film production is expected, including the ability to shoot "Cinema Verite" and industrial films, record cync sound, edit film and tracks, conform originals to work prints, and supervise laboratory procedures. The small size of the video operations group will also require initially that occasionally the individual will operate a professional TV

camera. 73-799-A (8/15). DSR Staff member will plan, manage, and execute high-quality research projects having a strongly experimental orientation. Familiarity and experience with low-speed flight and wind tunnel testing methods and advanced piloting qualification for particularly general aviation type aircraft; Ph.D in Aerodynamics and five years applicable research and development experience

required. 73-488-A. (6/20). Biochemist - DSR Staff member will participate in lipoprotein studies, and will supervise the activities of several technicians in a clinical research setting. PhD or MD in Biochemistry required, as well as experience with lipoprotein and supervising. 73-515-R.

Administrative Staff Project Officer will be principal staff administrator for major funding programs. May support very large campaign such as a building or two, or more smaller projects which are determined by Institute's priorities. Individual will work with Resource Development Office. Will arrange for solicitation visits, provide follow-up and coordinate all activities leading to completion of campaign. Person must have capacity for hard work, often under considerable pressure. Must be well organized and able to work easily with institutional and industrial with institutional and leaders. Familiarity with MIT desirable 73-600-A. (6/27).

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. Experience on the PDP-10 and PDP-11; as well as a background in automata theory is required. 73-512. (6/20).

(Continued on page 6)

Administrative Staff member will work with corporations to increase membership 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. (6/20).

Administrative Staff - Associate in the Analytical Studies and Planning 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 the Chancellor and reports to the Vice President C.B. Simonides. Candidates for this position should have an educational background equivalent to 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 communication and writing skills are essential. This position offers very useful career preparation for senior responsibility in universities and other complex organizations. 73-461-R (5/30).

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

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

Administrative Staff — A pplications Programmer in the Office of Administrative Information Systems will take program specifications and translate them 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 and 360 Assembler Language desirable; experience with university accounting or teleprocessing applications helpful. 73-776-R (8/15).

Application Programmers — Admin. Staff the office of Administrative Information Systems is seeking two Application Programmers to take program specifications and translate them 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 desirable; experience with university accounting or teleprocessing applications helpful. 73-340-R/73-341-R. (5/1).

Systems Analyst – Admin. Staff for the office of Administrative Information Systems will design financial and/or administrative applications to be run on a medium-sized computer. Duties include making feasibility studies, system flowcharting, defining programming specifications, conducting system tests, implementation, documentation and client education. Experience in designing financial applications, teleprocessing applications, data base management systems and a working knowledge of ANS, COBOL and/or PL/1 is desired. 73-330. (5/1).

Administrative Staff Programmer for the MIT Information Processing Center must have experience and thorough knowledge of large-scale, time-sharing computer system. PL/1 language, documentation and communication skills are necessary qualifications. The Users Services Group requires an individual who understands and is responsive to the needs of the Center's users. This person will be challenged in entering a new area of time-operation for this group which includes the following:

User Assistance – assisting users by providing programming information and debugging help and tracking down special problems.

User information – instructional documentation and conducting seminars, workshops, and other courses. 73-640-A (7/11).

DSR Staff member will perform chemical assays for enzyme and neurotransmitters. SM or MS degree in Chemistry required. 73-590-R. (6/27). DSR Staff member in the Energy Laboratory will assist in the construction of a mathematical energy model for U.S. supply and demand. Gather data, participate in econometric model building and analysis of various energy sectors. S.B. degree in economics with econometrics and mathematics background desired. Experience in FORTRAN programming and use of Econometric Software Package necessary. Ability to interact and communicate with a large interdisciplenary group working on the project important. 73-752-A (8/8).

DSR Staff — Systems Analyst at Cambridge Project will adapt Time Series Processor programs for use within the Consistant System on Multics. Knowledge of calculus, econometrics, statistics, and linear algebra/extensive PL/1 programming experience on Time Sharing Systems; familiarity with TSP-CSP required. This position is temporary until 7/1/74. (8/8) 73-749-R.

DSR Staff (temporary until 7/74) at Cambridge Project will direct efforts of 2-3 staff programmers; coordinate project sub-contract work; participate in project planning; advise prospective users of consistent systems capabilities and use. PhD in Mathematics (Statistics); experience in time sharing systems (Multics, PL/1 and FORTRAN); knowledge of Behavioral Science applications desired. (8/8). 73-750-R.

Infirmary Staff Nurse — Part-time (Exempt staff) will work in the MIT Infirmary on the day shift Sat. and Sun. and one day during the week. Administer first aid and emergency treatment after clinic hours. Mass. Registered Nurse's license required, as is previous nursing experience, preferably emergency room or industrial nursing. This position is on the permanent night shift (11pm-7am) with weekend rotation. (8/8) 73-731-R.

Industrial Hygienist — (Academic Staff) will work in the Environmental Medical Service to study and control occupational disease and other environmental 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. BS. in Chemical Engineering is required. 73-336-A. (4/29).

Medical Technologist/Technical Assistant – Academic Staff in the Clinical Research Center must be ASCP registered or the equivalent to work in the laboratory of a twelve-bed research unit. Experience in clinical chemistry, hematology, and urinalysis; familiarity with laboratory instruments required. A BS degree in Biology or Medical Technology preferred; non-degree candidates will be considered depending on experience. 73-754-R (8/8).

EDP Coordinator — (DSR Staff) will maintain the software systems and expand the operating systems for a computer facility; assist users; determine loads and aid in scheduling. Will work with students and faculty in developing and maintain systems for academic computer usage. Individual must have experience in machine language programming and operating systems; detailed knowledge about compilers, interpretors, schedulers, priority processors, and basic knowledge of computer hardware. Degree in computer science required. 73-537-R.

Computer Systems Analyst — DSR Staff — in Electrical Engineering/ Electronic Systems Laboratory will work on research and development projects in information retrieval including networking of I-R systems. Develop systems, research computer interfaces for interconnecting heterogeneous I-R systems, develop information centers by which individuals can access all sources of information. Broad experience with hardware and software computer systems; experience with PL/1, 360/370, MULTICS, or ARPANET systems; programmer supervisory experience and an advanced degree required. 73-691-R. (7/25).

Systems Programmer - DOS - Admin. Staff will provide technical expertise; develop and implement methods of improving computer performance. Minimum of two years S/360 or S/370 BAL (ALP) Assembler Language Programming experience. Knowledge of teleprocessing, and COBOL or PL/1. 73-265-R. (4/2).

Systems Programmer DSR Staff will work in the Program Development Office as a full-time Multics System Programmer. Two or three years experience with the Multics system and PL/1 is required. Other experience in system design and programming desirable. 73-466-R. (5/23)

Administrative Assistant (Exempt) in the Aeronautics Department, Aeroelastic and Structures Research Laboratory will assist the Director with administrative functions. Handle matters relating to payroll procedures, purchasing; prepare and maintain expenditure records on all accounts; prepare proposal summary sheets. Candidate should have some accounting background as well as the ability to handle modest typing assignments. 73-760-R (8/8).

Administrative Assistant V in the Fiscal Planning and Budget Office will assist in data collection; review budget information submitted by departments and labs; maintain logs of expenditures; perform some statistical typing. Ability to work independently is important. 73-757-R (8/8).

Data Preparation Assistant V will be responsible for all input into the computer system for the book order process: categorize orders, generate invoices, process foreign orders, process special coding and entries, generate new codes and records on new books and accounts, update all computer 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. (5/30).

Computer Operator IV will operate IBM Model 135 and all peripheral equipment associated with it, including disk drives, tape units, card reader/punch, printers. Must have a good knowledge of DOS job control, multiprogramming experience and be capable of understanding operating instructions. 4pm-12:30am shift. 73-443-R. (5/16).

Senior Keypunch Operator III will operate the IBM 029 keypunch machine. Will punch into computer input cards formated and unformated documents. Minimum of two years experience operating IBM 029 or comparable equipment; familiarity with the creation of program drum cards desired. 73-574-R (6/27).

Secretary V at the Center for Policy Alternatives will act as receptionist and provide secretarial support for three staff members. Excellent typing needed for correspondence and reports. Will assist with other projects as necessary; handle travel arrangements; order laboratory supplies for the center. 75-531-R (7/18).

Senior Secretary V in resource Development will be Personal Secretary to the Vice President. Perform projects requiring considerable knowledge of Institute procedures and practices, such as visitations to the Institute by domestic and foreign government and business leaders, staff meetings and special events. Will also handle typing, machine dictation, travel arrangements, other office procedures. Maturity and poise in dealing with prominent people required. Ability to make decisions, exercise good judgment important. Several years applicable experience essential. 73-796-R (8/15).

Secretary IV or Senior Secretary V will be Economics Department Headquarters secretary. Perform general secretarial duties necessary to the smooth operation of the office; provide assistance to the Administrative Officer; handle graduate registration procedures for the department. Maturity; ability to work with details and recognize priorities; good typing skills required. Knowledge of MIT procedures helpful. There is a lot of contact with students, faculty and visitors in this busy office. 73-263-R (8/1).

Secretary IV in Nuclear Engineering will handle general secretarial duties for four professors. Type technical reports and journal articles from handwritten drafts, dictaphone, and shorthand; maintain student records; schedule appointments. Knowledge of general office procedures, ability to work important. Good typing and shorthand skills required, as is technical typing and dictaphone experience. 73-718-R (8/1).

Secretary IV in the Dean for Student Affairs Office will make appointments, answer routine correspondence, maintain students' files. Opening for one person in 3-secretary team to work for four full-time and one part-time counselling dean. Will have contact with students, faculty, and staff. Good typing skills; ability to write letters, to recognize priorities required. Knowledge of Institute procedures helpful. 73-716-R (8/1).

Secretary IV to several faculty members and one visiting professor in Economics. Provide general assistance and perform secretarial duties; type class material, memos and correspondence; maintain busy calendars. Good typing and the ability to work for several people is required. 73-785-R (8/15)

Secretary IV in Economics will type correspondence, course material, technical manuscripts; make appointments; handle general secretarial duties for three faculty members. Will also act as editorial secretary for an Economics publication. Log, acknowledge, forward to readers all manuscripts submitted for publication, compile and type monthly report for all editors and

co-editors. Good skills important; shorthand useful. Ability to type difficult, mathematical material and to organize own work in the midst of a busy office is important. 73-784-R (8/15).

Secretary IV in Urban Studies and Planning will handle registration for a special program in regional studies, set up special meetings, type correspondence, act as liaison between the Program Fellows and the Program Director. Compose letters by instruction, answer questions related to the program. Good typing skills, ability to take on additional responsibilities; Institute background desirable. 73-699-R (8/15).

Secretary IV will provide secretarial support for the Administrative Officer of the Educational Council. Individual will be responsible for several office procedures, including travel arrangements, scheduling appointments; transcribing correspondence from dictaphone. Minimum of two years secretarial experience, good typing skills required. Initiative and willingness to assume responsibility important. 73-778-R (8/15).

Secretary IV in the Research Laboratory of Electronics will provide secretarial support for a faculty member and research staff. Type technical manuscripts, set up material from rough data and verify footnotes and references; maintain busy calendar; independently handle other procedures. Excellent typing skills required; technical typing experience preferred. 73-780-R (8/15).

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

Secretary IV to three psychiatrists will handle all secretarial duties; transcribe patient case histories; maintain accurate records. Excellent typing skill, maturity, ability to deal with patients important. 73-525-R. (6/13).

Secretary IV will perform secretarial duties for the administrative officer of an academic department. Maintain department contract and personnel records. Excellent shorthand, dictaphone, typing skills needed. Organizational ability, familiarity with keypunch or computers desirable. 73-390-R. (5/9).

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 appointments, maintain bookkeeping records. Knowledge of medical terminology is preferred. Previous medical secretarial experience is desired. 73-698-R (7/25).

Secretary IV in Psychology will type articles and papers, schedule appointments, handle travel, maintain files, take dictation for one professor. Secretarial training or previous experience important. Maturity and good general skills required. 73-704-R (7/25).

Secretary IV to Associate Director of an Administrative group will type bulletins, correspondence, minutes of meetings; maintain committee records and files; arrange travel; monitor and process solicitation materials returned by alumni. Will also independently answer routine inquiries. Excellent typing, shorthand and a flair for details required. Overtime sometimes necessary. 73-585-R (7/25).

Secretary IV in Laboratory for Nuclear Science will work for group of professors and staff; schedule appointments; type technical reports, correspondence; handle all other general secretarial duties, good secretarial skills (typing and dictaphone); ability to work independently required. Experience typing technical reports very helpful. 73-609-R. (7/11)

Secretary IV to busy professor in Earth and Planetary Sciences will compose correspondence; manage heavy typing load; do some editing and library research; handle general administrative chores necessary in the operation of the office. Excellent typing, (shorthand preferred); ability to edit; tact, good judgment and sense for priorities important. 73-613-R (7/11).

Secretary IV in Administrative Office of Mechanical Engineering will work for three administrators, handling correspondence, calendars, composing letters, departmental records, general accounts. Will order supplies, set up and maintain files, schedule meetings and rooms. Deal frequently with people, answer variety of questions. Shorthand, good typing; knowledge of office procedures; Accurate, cooperative; poise to work with many interruptions. 73-652-R (7/11).

Secretary IV will work in Center for Theoretical Physics for three-four professors. Must be able to work well in busy, pressured office; establish work priorities; type technical manuscripts, correspondence, class notes, papers. Some telephone work. Typing and shorthand skills must be excellent. 73-630-R (7/11).

Secretary IV in Physics Department to head of the Optical Maser group will assume wide responsibilities for output 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 typing skills are a must. 73-632-R (7/11).

Secretary III-IV (Center for Space Research) to the Head of the Laboratory and four staff members will type correspondence and reports (technical and non-technical); make travel arrangements; maintain project and personnel files; handle other general office duties. Secretarial school training and/or experience desired. Technical typing skill helpful. 73-765-R (8/15).

Secretary III-IV to the Administrative Officer of Metallurgy and Materials Science will type correspondence and reports; schedule appointments; maintain personnel files and process paperwork relating to appointments and terminations. Will also act as backup to the Accounting Assistant. Good typing; ability to establish priorities important. MIT experience helpful. 73-771-R (8/15).

Secretary III-IV to a group of faculty and instructors in Mathematics will handle general duties of making travel arrangements, typing correspondence, filing; Good typing skills are important since the bulk of the workload is typing mathematical manuscripts, quizzes, exams, notes. Willingness to learn technical typing desired. 73-783-R (8/15).

Secretary III or IV to a Professor of computer science and his graduate staff will type quizzes, reports and technical manuscripts. Excellent secretarial skills and technical typing ability a must. Ability to deal with faculty and students important. 73-545-R. (6/20).

Secretary III-IV opening in an academic department working for 2-3 professors. Good skills of shorthand and typing, organizational ability and experience required. 73-323-R.

Acct. Clk./Secretary III-IV will work for the Administrative Officer in Nuclear Engineering, and his assistant in the Reactor Business Office. Perform all typing, filing; compile data and prepare various records and reports; maintain various departmental budget records; prepare vouchers; process reactor use charge information. Must work with little supervision; accurate typing; dictaphone; must like figures, complex clerical work. 73-653-R (7/18).

Acct. Clk/Secretary IV in Nuclear Engineering for the Administrative Officer will maintain budget records for various departmental accounts including processing statements; maintain various administrative and financial files; originating or answering correspondence and questions concerning monthly statements. Previous experience in secretarial and accounting work required. Dictaphone typing. 73-654-R (7/18).

Secretary/Sr. Clerk IV in the Medical Department will be responsible for the secretarial and clerical duties for the X-ray and ECG unit. Maintain files; process X-ray reports; transcribe reports; compile statistics; schedule hospital appointments. Work closely with the ECG technician. One part-time typist will provide clerical assistance. Excellent typing and transcription skills. Ability to work with a volume of details. Maturity important in contact with patients and staff, and in coordinating the work of others. 37½ hr work week (8:30-3:00) 73-732-R (8/8).

Secretary IV in the Division for Study and Research in Education will work for the Executive Officer of this new research group. Type proposals, reports, budgets; establish and maintain office procedures for all administrative functions; arrange schedules and travel. Good typing and shorthand skills a must; organizational ability, initiative, tact important in assisting with the beginning of the headquarters operation. 73-753-A (8/8)

Secretary IV to the Associate Director of Admissions will answer busy phones; type correspondence; make travel arrangements; keep records and assist with other functions during peak periods in the office. Excellent typing skills; good spelling, grammar, and office experience important. 73-759-R (8/8)

Secretary IV to the Director of Alumni Services will be responsible for all communication regarding the operation of the Alumni Association Office. Maintain records, files, statistics, accounts, assist with a variety of administrative functions serve as recording secretary for a committee; handle circulation responsibilities for the *Technology Review*, Excellent secretarial skills (typing, dictaphone), poise in dealing with people, ability to work independently with good judgment required. 73-740-R (8/8)

Secretary IV for two professors and affiliated staff and students at Project MAC will handle all secretarial duties for the office. Type and update technical notes, arrange meetings, schedule conferences, answer routine questions. Excellent technical typing skills are important; ability to transcribe dictation from tapes desired. 73-739-R. (8/8)

Secretary IV to two professors in Mechanical Engineering will compose some letters; keep records on research accounts; type papers, proposals, and correspondence; assist with other functions of the office, including activities of registration. Ability to understand academic routines and procedures and to deal effectively with students important. Excellent typing, preferably technical experience; skills in English grammar and composition important. 73-733-R (8/8).

Secretary IV to a group of instructors and professors in Mathematics will type papers using technical typing skills; handle general office functions; assist with department duties and help out at peak times. Ability to communicate with faculty and students important. Excellent typing skills and/or technical typing experience required. 73-741-R (8/8).

Secretary IV in Mathematics will handle general secretarial duties for a group of professors and instructors. Type mathematical papers, oversee the department Reading Room, make travel arrangements, maintain files and records. Shorthand, experience or the ability to learn technical typing required. Organizational ability will be important for working for several busy people. 73-742-R (8/8)

Secretary IV in the Humanities Department will work for the head of the Literature Section. Type manuscripts and other material, transcribe notes for correspondence, act as liaison between members of the section, coordinate other assignments. Previous secretarial experience and training, excellent skills of shorthand and transcription required. Ability to work with students, faculty and staff important, as well as a strong sense of responsibilities and priorities. 73-746-R (8/8).

Secretary IV to the head of the History Section of the Humanities Department will transcribe notes for correspondence, act as liaison between the section and its head, organize seminars, type manuscripts, and handle other general secretarial duties. Excellent typing and shorthand skills, previous excretarial experience and training required. The ability to organize, recognize priorities, handle responsibilities is needed to maintain smooth operation of the section. 73-747-R (8/8).

Secretary III-IV to two professors and one staff member in the Sloan School of Management. Prepare materials for courses in the management science/marketing field. Type manuscripts (some technical typing), exams, reports; handle all duties in one-secretary office. Excellent typing, shorthand or speedwriting. Ability to work with details important. 73-735-R (8/8)

Secretary IV for Institute Secretary for Corporations will organize and run the office. Very accurate typing needed for some letter-perfect copy; other typing duties require speed. Preliminary research on corporate prospects; gather backup information for visits; draft not-too-technical correspondence. Work closely with other institute offices in obtaining pertinent data; receive visitors. Flexible, adaptable, good telephone presence. 73-674-R (7/18).

Secretary III (Part-Time) — to a Professor in the Sloan School of Management will type papers (some techineal), memos, correspondence; handle other general secretarial duties. Good typing skills with some experience in technical typing desired. 20 hour work week; afternoons preferred. 73-777-R (8/15).

Secretary III in the Philosophy Department headquarters will type manuscripts and correspondence; act as headquarters receptionist; order textbooks and supplies; schedule films for courses; maintain student records. Good typing essential; shorthand helpful. Previous secretarial experience desired. 73-758-R (8/8).

Secretary III in the office of the President and Chancellor will handle heavy typing of tapes and handwritten material; preparation of speeches; filing; screening phone calls; incoming mail. Will eventually handle complicated travel arrangements. Excellent typing and command of English, spelling required; Norelco dictating

machine; poise, tact, good telephone presence. Will be second secretary in Office of the Chancellor. 73-647-R (7/11).

Secretary III to two professors and junior staff in Organization Studies Group of Sloan School of Management. Type correspondence, proposals, research, questionaires; distribute and receive questionaires; coordinate coding and keypunching of data. Maintain files on courses, assist with student registration. Good typing, shorthand or speedwriting required. Ability to organize and work with details important. 73-748-R. (8/8).

Secretary III to the Vice President for Administration and Personnel and To the Administrative Assistant in that office will handle heavy load of typing, transcribe from dictating equipment, maintain active calendar, serve as office receptionist, maintain files and answer phones. Good language skills, ability to take accurate messages are essential. Knowledge of Institute policy and resources is desirable to provide assistance to a large number of callers and visitors. Will use IBM Executive typewriter. 73-737-A (8/8).

Secretary III in Physical Plant will handle general secretarial duties for the Building Operations group. Type correspondence; answer phones; maintain petty cash; answer general inquiries concerning maintenance and operating problems. Excellent typing skills and ability to communicate with people important. 73-768-R (8/15).

Secretary III to two Professors and the Soils Division Head in Civil Engineering. Duties will include typing, answering phones, filing. Ability to coordinate duties and recognize priorities important; strong typing skills a must. 73-789-R (8/15).

Secretary III to four faculty members in Economics will type class material and research papers, arrange travel, maintain files and handle other general office duties. Good typing skills; knowledge of grammer and spelling would be helpful. Ability to work for several people with frequent interruptions from students and telephones important. 73-774-R.

Secretary III-IV in Personnel Benefits Office will answer phones and explain benefits to employees and faculty. Excellent typing skills and shorthand or speedwriting are needed. Knowledge of insurance, pensions or medical plans would be helpful. Initiative, poise and the ability to clearly explain benefits important. 73-687-R (7/25).

Secretary III in the Industrial Liaison Office will take and transcribe dictation, handle travel arrangements, perform secretarial duties for one staff member dealing with major industrial corporations. Secretarial or business school background, 1-2 years experience preferred. Shorthand, good typing, spelling and ability to master office procedures essential. 73-683-R (7/25).

Secretary III will handle reception duties for busy student-oriented administrative office; maintain files and complex schedules. Good typing and dictaphone skills required, as well as previous office experience. 73-429-R (5/16).

Secretary III to a faculty member in the labor relations/law area will handle general secretarial duties. Type correspondence, course material, manuscripts; arrange meetings and maintain calendar. Good typing skills; speedwriting or shorthand would be helpful; secretarial school training preferred. 73-599-R (8/1).

Secretary III — (temporary for 6-8 months) in Urban Systems Lab will type correspondence from handwritten material, maintain accounts, handle travel arrangements and schedule appointments for project staff. Knowledge of medical terminology helpful; familiarity with MIT preferred. Previous secretarial experience desirable. 73-720-A. (8/1).

Secretary III to one staff member will take and transcribe dictation; type correspondence; handle travel arrangements; handle other general office duties. Ability to organize and work independently; good secretarial skills required. Previous working experience and secretarial training preferred. 73-581-R/73-580-R (6/27).

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

Secretary III in Metallurgy Department will assist a professor with the coordination and administration of a large undergraduate "service" course; will type all class material, lecture notes, and material for publications. Maintain records of research project expenditures. Shorthand or speedwriting desirable, organizational and administrative skills required. Previous secretarial experience or training essential. Lots of student contact in this job. 73-520-R (7/11).

Secretary III in Physics Department Theoretical Center to work for threefour busy professors. Ability to handle some pressure, decide work priorities, type technical manuscripts and papers, cover phones as needed. Typing skills must be excellent; shorthand preferred, experience necessary. 73-629-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; experience helpful. 73-631-R (7/11).

Secretary III in the Sloan School of Management will work for three professors in management science, management information and control, and information systems. Correspondence, typing of class materials, distribution of them; some manuscript typing (occassionally technical); handle secretarial details of a one-secretary office. Shorthand or speedwriting required; able to organize a variety of tasks. 73-664 R (7/18).

Secretary III in the Treasurer's Office will 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 spelling; familiar with corporation names. August 1 opening. 73-671-R. (7/18).

Secretary III to a Contract Administrator in the Office of Sponsored Programs will type letters, keep records on contracts and grants; coordinate routing them for approval; keep accounting statements, government regulation books updated; set up meetings, write letters, arrange travel. Previous secretarial experience; shorthand helpful; careful worker, able to work without close supervision. 73-680-R (7/18).

Section Head V will supervise the publications section of an administrative office. Individual will be responsible for preparation of periodic publications listings; distribution of MIT reports outside of the Institute; contacts with MIT departments and laboratories, budget management, and development of effective systems for record keeping and activity statistics. Good organizational and supervisory skills and a careful attention to detail are required. Must be able to work independently, sometimes under pressure. 73-797-R (8/15).

Senior Clerk III or IV in Earth and Planetary Sciences will share the workload of four professors with another secretary. Will perform the clerical duties of filing, travel arrangements, phones; handle purchasing and invoicing procedures on twenty research contracts. Ability to do some typing; willingness to perform clerical and administrative chores is important. 73-767-R (8/15).

Senior Clerk IV will work in the Business Office of the Medical Department. Prepare, process and distribute all clerical and accounting projects for the office. Maintain payroll, vacation, sick leave records; process clinic Infirmary, office supply orders. Previous business office experience (preferably with payroll and accounting procedures) required. Ability to handle a variety of assignments, and to work with detail important. Typing skills will be needed. 73-721-R (8/1).

Senior Clerk/Keypunch Operator III in the Records Section of the Personnel Office will keypunch data for the Personnel file; analyze and interpret data conditions of the file to determine necessary input requirements and resolve data problems; perform other clerical tasks required on the job. Minimum of three years keypunching experience, preferably combined with clerical duties; ability to cope with detail and analyze as well as understand data conditions; ability to design program control cards is desirable. 73-786-R (8/15).

Technical Typist III in the Research Lab of Electronics will type manuscripts and reports from rough data. Responsible for punctuation and paragraphing, may involve some editing for preparation for publishing. Excellent skills, minimum of one years experience. 73-397-R. (7/27).

Technical Typist III in the Office of Administrative Information Systems will type technical memoranda, data processing control documents and manuals. Maintain documentation library, including filing, organization and maintenance of programmer refer-



Ravi Shankar, one of the foremost classical masters of the sitar, will appear in concert at MIT on Sunday, Aug. 19 at 8pm in Kresge Auditorium. He will be accompanied by Alla Rakha, the well-known tabla player. The concert is sponsored by the MIT Sangam Club. Tickets are \$7 and \$5. Special \$3 tickets are available to students with college IDs. Tickets are on sale in the Lobby of Bldg. 10. For reservations call Sangam at 354-6172.

ence library. Good typing skills, experience in a data processing environment desirable. 73-684-R (7/25).

Senior Clerk III in the Research Laboratory of Electronics will handle distribution of scientific literature; maintain logs, files, subscriptions; fill requests for publications; type biweekly list of new acquisitions. Will also assist with library cataloging of reports, books and theses; order office and library supplies. Previous clerical experience, ability to type and handle details required. (8/8) 73-751-R.

Senior Clerk III in the Accounts Payable Section of the Comptroller's Accounting Office will be liaison between Accounts Payable and Control Section. Batch processed invoices, accumulate cash totals and dollar volume totals, perform other duties in the Section. Minimum 2-years experience in Accounts Receivable or Accounts Payable preferred. Ability to operate a 10 key adding machine desirable. 73-761-R (8/8).

Senior Library Assistant IV-V will maintain a library of systems documentation and technical information for the Office of Administrative Information Systems. Circulate professional publications; type write-ups developed by technical support group. Knowledge of basic dataprocessing concepts and terminology; good typing and clerical skills with emphasis in filing and library techniques required. 73-714-A. (8/1).

Clerk-Typist II in the Admissions Office will perform general clerical duties; answer busy phones; open, sort, deliver over 150,000 pieces of mail yearly. Accurate typing skills, ability to work in a busy office with a variety of details is important. 73-745_TR (8/8).

Clerk II in the Financial Aid Office will act as office receptionist, answer telephones, handle routine clerical duties. Maturity, ability to handle responsibilities important. 73-734-R (8/8).

Clerk-Typist / Receptionist II will be receptionist for Urban Studies and Planning Department. Receive visitors; supply information regarding class schedules and locations of faculty and staff members; answer call director, screen phone calls; assist with typing; maintain address file of departmental personnel. Typing skills; good judgment; desire to work with a variety of people important. 73-782-R (8/15).

Clerk II (part-time) in Preprofessional Advising and Education will assist in mailing premedical letters of recommendation to medical schools; maintain files; answer questions from students and faculty. Accurate typing skills needed; ability to work independently important. A 14-hour work week. 73-794-R (8/15).

Senior Library Assistant IV in the Barker Engineering Library will maintain the flow of current periodical material into the journal and reference collection; check material; process claims, title changes, materials for binding. Individual will also work at the reference desk. Previous library experience and/or graduate school training preferred. Knowledge of for-

Study of Nixon

Penguin Books this month is publishing in paperback a psychoanalytical study of President Nixon, entitled *In Search of Nixon*, by Professor Bruce Mazlish of humanities. The book was originally published in 1972 by Basic Books.

eign languages is valuable in working with foreign journal titles. Ability to organize and communicate with the Staff and users important. 73-793-R (8/15).

Library General Assistant III in the Barker Engineering Library will assist with the process of the removal of items from the collection; pull catalog cards; type transferral forms; process all new engineering theses. Basic typing and filing skills are necessary; enthusiasm and willingness to learn library technical skills essential. 73-790-R (8/15).

Library General Assistant III in the Barker Engineering Library will process technical reports in print media and microfiche format; assist patrons in the use of microform viewing; file into card catalog; assist at catalog information desk. Accurate typing required; ability to effectively interact with library users and to learn library procedures important. 73-791-R (8/15)

Library General Assistant III at the Science Library will perform circulation desk routines: interpret loan procedures for borrowers; handle overdue procedures; handle renewals, charges, reserves. Will also sort and stack materials; keep statistics; assist with searches. Good clerical aptitude; accurate typing; ability to work without direct supervision required. Individual will work evening hours M-Fri. 73-755-R (8/8)

Library Assistant III in Barker Engineering Library will type biweekly Bulletin; type reference correspondence, literature requests; handle billing for lost books; maintain files. Check in journal issue (approx. 1000); claim missing issues. Flexibility, organizational ability; strong typing skill; able to work with a variety of people. 73-626-R (7/18)

2nd Class Engineer must have a Mass. second class Engineer's license or higher. Individual must be willing to work on any shift. 73-182-R (3/28).

Dietary Aid in the Clinical Research Center will prepare meals for all in-patients. Weigh formulas and other additives given to out-patients on dietary studies. Check to see that items are labelled and ready for patients, 73-775-R (8/15).

Custodians — We are seeking qualified applicants for our waiting list. Openings will be on the second and third shifts. Candidates must have a steady, reliable work record and good references. The waiting list will be used to fill openings as they occur over the next several months. Interested applicants should fill out an application at the Personnel Office and leave it for consideration. (8/1).

Meatless Days to Cut Cost Won't Avoid Heart Attacks

Low-meat diets popularized by skyrocketing meat prices will not be particularly effective in reducing the incidence of heart-attack-producing atherosclerosis, says Dr. Robert Lees, director of MIT's Arteriosclerosis Center.

On the contrary, if people switch from meat to high-cholesterol eggs or dairy products for their protein sources, they could be going "from the frying pan into the fire," he

Though Dr. Lees discounts the role of cholesterol and saturated fats in heart and artery disease, he points out that eggs and dairy products add more cholesterol to a diet than do meats.

Evidence Tenuous

Dr. Lees directs several MIT projects investigating the causes of atherosclerosis-the buildup of fatty deposits in the arteries, which thereby produce high blood pressure, heart attacks and

Dr. Lees attaches more importance to overall caloric intake as a possible cause of artherosclerosis and related diseases. He points out, however, that evidence relating diet to atherosclerosis is conflicting and incomplete. Many research projects have been done, but most are either scientifically unsound or do not test the effects of diet alone.

Some Substitutes

The most important factor in the production of atherosclerosis is heredity, Dr. Lees believes, followed in importance by total

caloric intake, and exercise

"Also, everyone is different," he said. "The effects of heredity, diet, exercise and stress are different for different people. It is not wise to issue blanket prescriptions for everybody."

Meantime, Center Dietician Peggy Miller offered suggestions on alternatives to meat that are high in protein, low in cholesterol and inexpensive. Dried peas, beans and lentils in casseroles and soups, she says, work well, as do cheese souffles and cottage cheese dishes. Dry skim milk works as a substitute for whole milk in many baking recipes and casseroles.

Season Well

Miss Miller also recommends soybean concentrate as a meat substitute or extender.

Plus', a mix of fresh hamburger and soybean concentrate, found in Boston's Stop & Shop stores, or 'Gran Burger', a soybean concentrate manufactured by Worthington Foods can be used in an American Chop Suey recipe for instance," Miss Miller said. "If you season the dish well, it is

Photo Show Deadline Set A closing date of Oct. 15 has been

set for submitting entries for "Celebrations," a photography exhibit being organized by Minor White, MIT professor of photography

The show, open to all photographers, will be in MIT's Hayden Gallery next April, sponsored by the MIT Committee on the Visual

" 'Celebrations' is an exhibition centered around a theme of those moments when spirit reveals itself in any way that photography can record," Professor White said. "Spirit, magic, a moment of

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revelation, or whatever it is called, appears now and then in all of the many forms of photography: straight, multiple, color prints, black and white, photographics, and so on."

Professor White suggested that photographers submit unmounted prints 8 by 10 inches or larger (smaller prints are at a disadvantage on gallery walls) with a minimum one-inch white margin to avoid chipping of edges. All prints should be sturdily packaged and prints 16 by 20 inches or larger should be sandwiched between homosote of masonite stiffeners,

Photographers whose prints have been selected will be notified by Dec. 1 and prints not chosen will be returned by the same date. Send entries to the MIT Creative Photography Gallery, W31-310.

Alberty Elected

Dr. Robert A. Alberty, MIT dean of science, has been elected to the Institute of Medicine, an arm of the National Academy of Sciences. He was among 60 chosen recently "for significant contributions to health and medicine, or to related fields...."

"Such products as

Guest Registry Transferred

Administrative responsibility for the MIT Registry of Guests has been transferred to the Institute Information Services, effective

The Registry, which formerly reported to the vice president and secretary of the Institute, has as its main charge the reception of foreign visitors to the Institute.

Director of the Registry of Guests is Mrs. Carolyn B. Cox, assisted by Mrs. Marie Christine Reti.

The Registry was established in 1952 to handle the burgeoning number of foreign visitors. Mrs. Cox has been its director since

Last year there were more than 450 foreign faculty and staff members from 54 countries who held appointments at the Institute. During the same period there were 750 short term visits by people from 77 countries.

Johnson Named

Howard W. Johnson, chairman of the MIT Corporation, has been named to a three-year term as chairman of the Environmental Studies Board of the National Academy of Sciences and the National Academy of Engineering.

Mr. Johnson succeeds Gordon J. F. MacDonald, who has been named chairman of the new National Research Council Commission on Natural Resources, under which the Environmental Studies Board will operate.

Announcement of the appointment was made by NAS President Philip Handler.

Library Promotes

The Office of the Director of MIT Libraries has announced the promotions of Mrs. Suanne Muehlner and Miss Margaret DePopolo, effective in September.

Mrs. Muehlner, of Cambridge, who has been Lindgren librarian since 1971, will take over responsibilities as personnel librarian in charge of overall personnel policies in MIT Libraries. Miss DePopolo, of Boston, an associate librarian in the Rotch Library of Architecture and Planning since 1972, has been appointed Rotch librarian.

Simha on Task Force

MIT's director of planning, Robert O. Simha, has been appointed by state college provost Lawrence E. Dennis to a task force that will plan the state's first open university.

Bement Cited

Arden L. Bement, Jr., professor of nuclear engineering was named a Fellow of the American Nuclear Society (ANS) at the society's recent annual meeting.

Dilorio Named to MIT News Staff



Robert C. Di Iorio, veteran newsman and former director of information services at Bridgewater State College, has been named assistant director of the MIT News Office.

Mr. Di Iorio, 39, a newspaper reporter for 15 years, has held editorial positions at the Boston Herald American, where he was assistant city editor, the Boston Herald Traveler, the New Bedford Standard-Times and the Westerly (R.I.) Sun.

A native of Providence, R.I., he received the BS degree in general business administration in 1958 from the University of Rhode

QUESTIONS AND ANSWERS

Extended Benefits: What Is Covered

This is the third and final article in a series of answers to the most frequently asked questions about Blue Cross and Blue Shield coverage. The first two segments dealt with questions pertaining to the basic benefit portion of the MIT program: hospital benefits-Blue Cross questions (Tech Talk, April 11, 1973) and physician's and dentist's benefits-Blue Shield (Tech Talk, July 18, 1973). This segment answers some questions about the Extended Benefit portion of the Master Medical Plan.

Q. What are extended benefits?

A. Extended benefits is the portion of the Master Medical Plan which provides up to \$50,000 worth of benefits in addition to Basic Benefits for each eligible member or dependent covered under a contract. Extended benefits include private duty nursing care, treatment of mental and nervous conditions (subject to a \$10,000 maximum) and partial reimbursement (after payment of a \$50 per person calendar year deductible) of other health services outside the hospital.

Q. What are the other health services covered under extended

- A. Other Health Services include the following:
- —Physician's home or office visits.
- -Services of Visiting Nurses Association.
- —Drugs requiring prescription.
- -Physical therapy by a registered physical therapist.
- -Purchase or rental of appliances such as artificial limbs, crutches, braces, wheel chairs, hospital bed (covered at 80 percent of purchase price or 100 percent of rental of least expensive appliance of its type).
- -Eighty percent of the cost of ambulance service to or from a hospital up to 100 miles.
- -Oxygen and rental of oxygen equipment.
- -Room and board up to \$10 daily in a chronic disease hospital or extended care facility and up to \$8 daily in a nursing home.
- -Coordinated home health care (all services other than meals, housekeeping services and personal comfort items).
- -Eighty percent of usual and customary charges for private-duty registered nurses in or out of the hospital (when certified by a physician) for prolonged illness conditions only (other conditions covered only while hospitalized up to \$1,000).
- -Follow-up treatment resulting from an accident to sound natural teeth. Reimbursement for the above services is made on the basis of 80 percent after a \$50 per person calendar year deductible. However, if these services are for a prolonged-illness condition, they are covered with no deductible at 100 percent reimbursement except for private duty nursing, appliance purchase and ambulance service.

Q. What is a prolonged-illness condition?

A. A prolonged-illness condition is an illness which usually requires expensive treatment and extended care and includes cancer in any form, acute rheumatic fever, active tuberculosis and fractures. Excluded from coverage are such conditions as diabetes, angina pectoris, coronary insufficiency. A complete listing of covered conditions is contained in the Master Medical

Q. What benefits are provided for mental illnesses?

A. Patients hospitalized for mental illnesses in a licensed general hospital receive the same benefits as are provided for other illnesses, including insulin or electric shock treatments. These benefits were described in the previous installments.

Patients in a private, licensed mental hospital receive the same benefits but are limited to a stay of 60 days per admission (readmissions within 90 days are considered as a single

Insulin or electric shock treatments administered in the hospital outpatient department, patient's home, or doctor's office are also covered. In addition, hospital charges for psychiatric care are covered up to \$300 per calendar year in the outpatient department

Q. How are claims for extended benefits handled?

A. You must personally apply for extended benefit services whether they are rendered in-state or out-of-state.

To apply for reimbursement, you must complete an extended benefits claim form (available from the Benefits Office, E19-230, 3-4271 or Lincoln Lab Personnel Office) for each patient and attach original copies of itemized, receipted bills. Bills for prescription drugs must include the name of the patient, prescription number, name of drug, date of purchase, and quantity. Before submitting bills for services requiring a deductible, they must be accumulated until their amount exceeds \$50 for each patient per calendar year. Bills which do not require a deductible (services of a private-duty registered nurse and care of a prolonged-illness condition) may be submitted as incurred.