

Carpools Expected to Grow in Popularity at MIT

BY PATRICIA M. MARONI
Staff Writer

To the 567 MIT commuters who may have to leave their automobiles at home under the federally issued cutback in employee parking spaces, setting up a carpool may seem one more reason for wringing their hands.

To Jack H. Frailey, director of Student Financial Aid, who has been pooling his resources with four members of the Department of Electrical Engineering for the past year, however, "It's the optimum situation!"

He commutes daily between Concord and Cambridge with Professors Wilbur

B. Davenport, chairman of the department; William M. Siebert, Richard B. Adler and Richard D. Thornton—all of whom have been riding to and from MIT together for more than 15 years.

Despite their kindred spirits, the freedom to enjoy a solitary drive to work at least one day a week is a cherished right, they say.

"We're able to adapt to most any scheduling situation because we all have two cars and individual parking spaces," Professor Siebert said. "But we each use Fridays for the inevitable personal errands of shopping or transporting weekend guests.

Without this freedom, such stops would impose upon the rest of the carpool and make the trip home longer."

With the federal Environmental Protection Agency calling for the elimination of 25 percent of employee parking space from all Greater Boston companies employing more than 50 persons, carpooling at MIT is fast becoming as much a status symbol as the private automobile. Whether it can succeed on a mass basis—for the Institute's 6,079 employees—remains uncertain.

In a two-day carpool survey conducted by Campus Patrol in MIT's six main parking areas last February, approximately 1686 cars arrived each day, but only about 250 carried more than one passenger.

According to Police Chief James Olivieri, the number of recorded carpools is "woefully smaller than 250." Currently employees who register with Campus Patrol as regular carpools are issued special cards that allow them, when possible, to park in the

most desirable location assigned to any given members of the group.

Lawrence E. Maguire, assistant director of financial aid, commented, "Commuting is the greatest curse of my job at MIT." A resident of Ipswich, he drives one hour each way to and from work each day.

"I've consistently avoided the responsibility of taking passengers because I already share a schedule with my wife, who works in downtown Boston. For a childless working couple such as ourselves, the hours before and after work are frequently used for running our daily lives."

In Melrose however, where Mr. and Mrs. Robert F. Scofield live, (he is a construction coordinator in Physical Plant; she is accounting assistant for the Department of Civil Engineering), the best way to keep up with the Joneses is to ride with them.

Last January, when long-term forecasts of energy shortages encouraged many MIT employees to rely on their own ingenuity instead of

WBZ-TV's computerized carpool-pairing system, the Scofields began sharing the driving with Mr. and Mrs. Glenn T. Curtis and Michael J. Karaffa, project manager in Physical Plant.

Mrs. Curtis, who recently gave up her "turn" in the pool to await the delivery of a baby, was secretary to Joseph S. Collins, Special Assistant to MIT's Chairman of the Corporation. Her husband, Glenn, is a buyer for the Purchasing Department and proud of the fact that the Melrose carpool is a non-smoking one.

Of the 152 persons issued parking stickers on MIT's medical staff, Laurence H. Bishoff, assistant director for administration, is one of the few who has made carpooling a success story.

"We're small, but we've got a lot of class," he said of his admittedly ad hoc association with Donald R. Uhlmann, associate professor in the Department of Metallurgy, George N. Petievich, the only administrative officer in Physical Plant who drives a

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"FILL 'ER UP" with carpools now that gasoline prices are zooming, says Larry Bishoff (left), George Petievich and daughter Carla Petievich.

Photos by Calvin Campbell



CONGENIAL COMPANY is one of the best reasons and Michael Karaffa, all of Melrose. According to for carpooling to work, according to Mr. and Mrs. the April transportation survey, they are one of Robert Scofield (front), Glenn Curtis (left rear) only 16 MIT carpools with four persons.

Computer Based Electrical Power Management Begins

MIT is in the first phase of a new computerized electrical power management program designed to take a big slice off the Institute's electricity bill.

The program, now in its fourth month, is expected to realize savings of \$150,000 in its very first year, according to Thomas E. Shepherd, Jr., superintendent of utilities in the Department of Physical Plant.

Subsequent economies promise to be even greater, Mr. Shepherd said, as the Institute pursues a long-range plan to install one central, automatic control of all utilities in as many as 38 of the Institute's buildings.

Directing the installation of the power management equipment is Andrew M. MacDougall of Revere,

foreman of heat, vent and air conditioning, and the hub of his project is a new IBM System 7 computer recently installed in the Physical Plant Control Center in Building E19. Paul M. Blanchard, of Whitman, manager of electrical systems, is supervising the wiring and electrical requirements.

The computer system has a dual function, Mr. MacDougall said. One is to reduce electrical consumption by cycling utilities off and on according to requirements.

Its second operation, for which it is "ideal," Mr. MacDougall said, is as a "load-shedding device."

Charges to the Institute for electricity are based on peak usage in each half-hour period, he ex-

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Deadline Extended

The Benefits Office of the Office of Personnel Relations has extended its July deadline to Sept. 30 for MIT community members interested in signing up for the new Group Life Insurance program announced earlier this summer.

Information about the program was sent to all eligible individuals, according to Allan J. Urquhart, Personnel Officer in the Benefits Office. Those eligible include members of the faculty, staff, exempt and bi-weekly personnel.

For further information and sign-up cards, call the Benefits Office, x3-4271 in Rm E19-230.

CIS Wins Grant to Study International Nuclear Power

The political and economic implications of the international nuclear power industry will be the subject of a study at MIT's Center for International Studies faculty members.

Their research is funded by a \$150,000 grant from the Ford Foundation, one of 10 awarded as part of the Foundation's competition on "Common Problems of Advanced Industrial Societies."

Among the MIT researchers' tasks will be to study the possible proliferation of nuclear weapons as a result of the international spread of nuclear power.

The researchers will examine four basic areas of the industry—costs of the international nuclear industry, its regulation, its organization, and its likely political im-

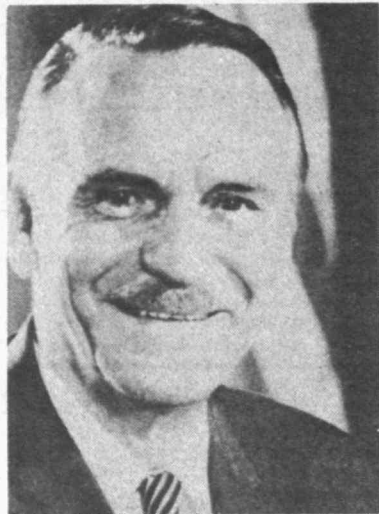
plications.

The last area will include examinations of international trade in nuclear equipment and fuels, the security of fuel transportation, safeguards against the spread of nuclear weapons through nuclear power technology, arrangements for insuring against international nuclear accidents, and problems relating to the disposal of radioactive wastes.

The three researchers are Henry D. Jacoby, professor of management in MIT's Alfred P. Sloan School of Management; Paul L. Joskow, assistant professor of economics in the Department of Economics; and Joel Yellin, associate professor of social science in the Department

(Continued on page 2)

Luis A. Ferré Becomes Alumni Assn. President



Luis A. Ferré

Luis A. Ferré of Ponce, Puerto Rico, widely known industrialist, patron of the arts and philanthropist, is the new president of the 60,000-member MIT Alumni Association. He succeeds William S. Edgerly of Cambridge, financial vice president of Cabot Corp.

Mr. Ferré, a former governor of Puerto Rico, is member of the Class of 1924 at MIT and has been in the forefront of a number of important activities involving his alma mater.

A life member of the MIT Corporation, he also is a member

of the MIT Council for the Arts and of the Corporation Development Council and has been a member of the Corporation's Visiting Committee for Civil Engineering.

By virtue of his election as the 1974-75 Alumni Association president Mr. Ferré, in addition to his life-term membership on the Corporation, will serve a concurrent one-year ex officio term.

It was Mr. Ferré who made possible the recent major exhibition at MIT's Hayden Gallery of 36 rarely seen 19th Century European and American paintings. The paintings were loaned by the Museo de Arte de Ponce, which was founded by Mr. Ferré.

The museum, located in Ponce, Puerto Rico, has risen to international stature since its opening in 1959.

Mr. Ferré is a partner in Ferré Industries and a director of nine companies in Puerto Rico and of the Luis A. Ferré Foundation. He received the SB and SM degrees in mechanical engineering from MIT in 1924 and 1925.

The new Alumni Association president will preside at a Sept. 14 Alumni Awards Luncheon, one of the high-lights of the annual MIT Alumni Officers Conference to be held Sept. 13-14 at MIT.

Computer Based Electrical Power Management Begins

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plained. Cutting off the peaks cuts costs, he said.

To accomplish this, the computer—at a given point in an approaching peak—shuts off power automatically (and sheds an electrical load) to selected utility areas deemed less essential at the time. At the end of the demand period, the computer adds them back on to the system.

The System 7 includes a printout of operations and has a keyboard input enabling an operator to intervene in the automatic cycles.

Building E19, which is now wired in, is the first of seven buildings to be connected in the first phase of the program, Mr.

MacDougall said.

The long-range, campus-wide site monitoring and control program, which is scheduled to tie in the Institute's buildings that are the biggest energy users, is in the latter stages of a survey being carried out by International Business Machines Corp. to block out the magnitude of the job. Mr. MacDougall said.

IBM will furnish a "cookbook" for basic needs of the system, he said. Costs permitting, the Institute will begin wiring the system in about 30 months, adding a few buildings at a time. Future uses of the system may include monitoring for fire and security as well, Mr. MacDougall said.

CIS Wins Grant to Study International Nuclear Power

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of Political Science. Professor Yellin is also associated with the Technology Studies Program and the Center for International Studies.

The MIT scientists were led to begin their research because of the energy-crisis-produced proliferation of nuclear plants worldwide; the possibility of enormous costs of nuclear power both in economic terms and in social terms, including the possible theft of weapons-grade fissile material; and the evident lack of understanding of the patterns of organization of the international nuclear industry.

"In our judgement the confluence of these trends goes far beyond every precedent in seriousness," said the researchers in their proposal for the project. "It warns us that the nuclear power bargain may precipitate a slide via an infinity of imperceptible steps into a universe where social cataclysms are commonplace, and, even worse, accepted as normal."

"Without serious thought about long and middle range prospects for the structuring of nuclear power programs, our future may

be set by a tyranny of small decisions."

As part of their work, the three researchers will set up a number of seminars and courses at MIT on civilian nuclear power. They also will consult with experts in other areas of MIT, including the Department of Nuclear Engineering, the Department of Political Science and the MIT Energy Laboratory.

They plan to study the operation of the US Atomic Energy Commission, and will compare the US nuclear industry with those of France and the United Kingdom. They also plan to work with a number of international agencies on the project, including the International Institute for Applied Systems Analysis, the International Atomic Energy Agency and the World Bank.

The MIT researchers caution that their study is only a beginning: "The international implications of nuclear power development are clearly immense, and we do not propose to provide resolutions for the issues involved as a result of this present work. However, we plan to use our work to establish the basis of a continuing dialogue centering on the international dimensions of nuclear power."



ARTS COUNCIL. Left to right, Susan Knight, Annette Anderson, Meredyth Patterson.

Three Appointed at Arts Council

Susan C. Knight has been appointed Associate Director and Annette Anderson has been appointed Assistant Director of the MIT Council for the Arts.

The appointments, effective Aug. 1, were announced by Professor Roy Lamson, Special Assistant to the President for the Arts.

Miss Knight replaces Mrs. Ellen Burbank as the Council's Associate Director. Mrs. Burbank resigned last June to take a job with the National Endowment for the Arts in Washington, D.C., as head of the application section of the NEA Grants Office.

Miss Anderson was promoted to the previously vacant post of Assistant Director. She formerly served the Council as staff secretary. The Council's new secretary is Mrs. Meredyth Patterson.

Pointing out that the new appointments increase the Council's staff by one person, Professor Lamson said: "It became evident as the Council's programs gained momentum during the past year that greater staff back-up was needed to accommodate the Council's increasingly active committee work as well as to obtain new funds for the arts at MIT. We are most fortunate to have found two such qualified people as Miss Knight and Miss Anderson."

Miss Knight came to MIT in 1969, after serving in the Library of Congress, to be editor in the Publications Office. In 1972 she became a member of the Analytical Studies and Planning Group, under the Vice President in the Office of the President and Chancellor, where she was editorial manager of the MIT Bulletin with responsibility for MIT's Catalogues and for the Report of the President and Chancellor. She received the AB in English Literature from George Washington University in 1968 and the MAT degree from the Harvard Graduate School of Education in 1971.

Miss Anderson began work at MIT in 1968 in the Experimental Astronomy Laboratory and later was secretary to Dr. Benson Snyder, former Dean for Institute Relations. She joined the Arts Council as staff secretary last fall. Miss Anderson majored in History at the University of North Carolina at Greensboro, where she was a member of the Greensboro Symphony and the college chamber orchestra. She recently received the certificate of the Harvard Institute in Arts Administration.

Mrs. Patterson came to MIT in 1971 and worked as secretary in the Sloan School of Management. She received her AB in Art History from Wells College in 1970.

The Council for the Arts at MIT,

founded in the fall of 1971, is a nationally based advice and support body composed of men and women who share the collective belief that relative progress in civilization rests in no small measure on a healthy balance between the arts and sciences and that the arts are a particularly significant aspect of a university based mainly on science and

technology.

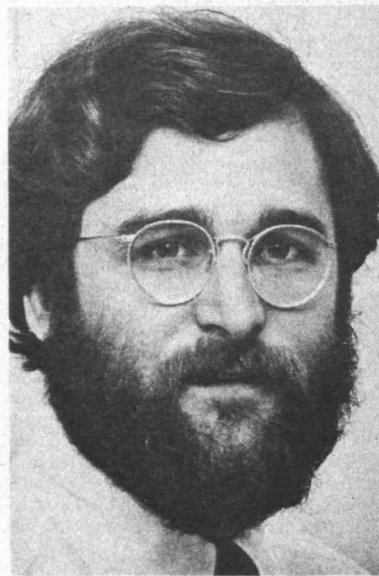
In 1972, the Council supported the first national tour by the MIT Symphony Orchestra and co-sponsored with WGBH a video concert that was later seen nationwide on the Public Broadcasting network. Last year, its first fully operational one, the Council made grants totaling \$69,500 to 34 programs in the arts at MIT.

The Council is not only a grant-making agency in its own right but a fund-seeking one. It attempts to augment its own modest support capacity by attracting matching funds from a variety of other sources and by helping arts groups at MIT obtain additional project funds for large-scale needs.

Grades Aug. 30

The Office of the Registrar announced this week that grade reports for students attending the regular summer session will be mailed Friday, Aug. 30.

Alumni Association Names Special Events Director



Stephen E. Barnes

Stephen E. Barnes, '74, has been appointed Director for Special Events for the MIT Alumni Association—a new position—and will coordinate and manage a series of 12 regional conferences scheduled to be held starting in 1975 in many of the nation's major cities.

The conferences will provide MIT with a way to deliver directly to its alumni and friends the insights, knowledge and authoritative opinions of its faculty members on the major issues of our time.

They will be similar in scope, purpose and design to the highly successful May 10 conference in Chicago, devoted to Management Amid Scarcity, which was organized by Dean William F. Pounds of the Sloan School of Management and featured a luncheon address by Institute Professor Paul A. Samuelson, a Nobel Laureate and a member of the Department of Economics. More than 1000 people attended the Chicago conference. Richard A. Knight, Alumni As-

sociation secretary, who announced Mr. Barnes' appointment, said the conferences will also help interpret the Institute to alumni and friends and aid in projecting MIT's educational leadership.

Mr. Barnes received his SB in Naval Architecture and Marine Engineering from MIT this summer. During his last two years at MIT he was awarded an undergraduate scholarship by the Society of Naval Architecture and Marine Engineers.

He is a member of Phi Eta Sigma and was elected to Tau Beta Pi this year.

Before coming to MIT in 1971 he attended the University of Illinois for one year, studying pre-medicine, worked in industry for two years and served in the Navy 18 months. He was discharged in May 1968.

Jurate J. Barnes, his wife, is coordinator for resource electronic data processing systems in the MIT Development Office. Mr. and Mrs. Barnes live in Marshfield, Mass.

TECH TALK

Volume 19, Number 7
August 21, 1974

Tech Talk is published 50 times a year by the News Office, Massachusetts Institute of Technology. Director: Robert M. Byers; Assistant Directors: Charles H. Ball, Robert C. Dilorio, Patricia M. Maroni, Dennis L. Meredith, Joanne Miller, William T. Struble and Calvin D. Campbell, photojournalist; Reporters: Sally M. Hamilton, Damon P. Wright; Institute Calendar/Want Ads: Susan E. Walker.

Address news and editorial comment to MIT News Office, Room 5-111, Massachusetts Institute of Technology, Cambridge, MA 02139. Telephone Ext. 3-2701.

Mail subscriptions are \$6 per year. Checks should be made payable to MIT and mailed to the Business Manager, Room 5-111, MIT, Cambridge, MA 02139.

43-Ton Concrete Door Due Soon at Bates LINAC

A 43-ton door that, when installed, will literally float on air is expected to be delivered to MIT's Bates Linear Accelerator in Middleton, Mass., later this month as part of the atom smasher's radiation shielding system.

The steel-reinforced concrete behemoth—13 feet high, 15 feet wide and three feet thick—will seal off the main truck access driveway to the accelerator's experimental hall and will form an impenetrable safety barrier to any stray radiation from within the laboratory.

The \$12 million accelerator, being built under a contract from the US Atomic Energy Commission, has been under construction for seven years. First successful tests with the accelerator beam were completed last January.

When completed, physicists from throughout the world will have access to the accelerator's

400 million electron volt beam of electrons to probe the structure of atomic nuclei. The facility is named in honor of the late William Bates who as a congressman from the district in which the accelerator is located was a champion of federal support for basic scientific research.

According to C. Ross Johnson of Topsfield, project manager for accelerator construction, the giant door is being fabricated by Precast Concrete of New Hampshire, Inc., at Epsom, N.H., and will be shipped by truck to the Essex County site hopefully during the last week in August.

When installed, the door will move easily on its hinges because its great weight will rest on large flotation pads injected with compressed air. One person will be able to open and close the door manually.



GEARING UP for the arrival of one of the largest freshmen classes in recent years are R/O Week organizers David August (standing left), chief coordinator; Janis Bestul, who is coordinating activities for incoming women students; Peter Buttner,

associate dean for student affairs, his assistant Nancy Wheatley, and Marie-France Pierre, secretary for the Office of Student Affairs.

Photo by Calvin Campbell

1974 R/O Schedule

Tuesday, Aug. 27

Foreign and transfer students arrive for special orientation programs in Mezzanine Lounge, Student Center.

Friday, Aug. 30

Official Arrival Date for all domestic freshmen.

4:30pm
6:30pm

Freshman Picnic in Killian Court. Fraternity rushing and dormitory open houses.

Sunday, Sept. 1
Monday, Sept. 2

Bidding for fraternities begins.

8am
6pm

Fraternity pledging. Housing preference cards must be returned to R/O Center.

Tuesday, Sept. 3
9:45am-3:30pm

Technology Community Association Blood Drive, Room W20-491.

1pm

Permanent dormitory assignments made available in Sala de Puerto Rico, Student Center. Group meetings with advisors.

Wednesday, Sept. 4
10am-12:30pm

Academic orientation panel discussion, Kresge Auditorium.

9:45am-3:30pm

TCA Blood Drive continues, W20-491.

2pm-4pm

Academic Midway, duPont Athletic Center.

Thursday, Sept. 5
6pm-9pm
6pm-9pm

Athletics Midway, Rockwell Cage. Activities Midway, duPont Athletic Center.

Friday, Sept. 6

Graduate student events continue throughout the day.

1pm-10pm

Block Party, Kresge Oval. Walking tours of Central Square, Harvard Square.

Saturday, Sept. 7

Sunday, Sept. 8
10am-3:30pm
3:30pm-5:30pm

Parents' Orientation. President's Reception for freshman and their parents.

Monday, Sept. 9

9am

Registration.

Tuesday, Sept. 10

Classes Begin.

Freshmen Arriving Next Week

Some 1,030 freshmen who will comprise MIT's Class of 1978 will begin arriving on campus next Tuesday (Aug. 27) for the beginning of Residence/Orientation Week.

Foreign and transfer students will arrive first for three days of special orientation. The bulk of the freshmen will arrive Friday, Aug. 30.

Throughout the 12-day R/O period, the West Lounge of the Student Center will be used as the official information center. Hours will be 8am to midnight.

David A. August, junior in physics from Shelburne, Vt., is R/O coordinator this year. R/O activities will include a block party on the Kresge Oval, bus and walking tours of Boston and Cambridge, and bidding and pledging, still viable traditions

Ives Exhibit Opens

A commemorative exhibit of photographs honoring American composer Charles Edward Ives (1874-1954) as part of this year's centennial celebration of his birth, is presently on display in the MIT Music Library, 14E-109. The exhibit will run through Sept. 25.

The 17 photographs, prepared by the Yale University Music Library, include pictures of Ives, his family, his homes and the composer's score sketches for three well-known works: "Fourth of July" (1912-13), the Second Piano Sonata, "Concord" (1909-15) and "Psalm XXIV" (1897).

among MIT's 29 fraternities.

The Undergraduate Association has also announced plans to sponsor a pre-rush week lawn party on the Kresge Oval Saturday, Aug. 24, from 8:30pm to midnight. Admission is free, with a university ID card or an MIT employees ID. There will be dancing and refreshments.

The Association of Student Activities will sponsor an Activities Midway for incoming freshmen and graduate students, as part of orientation week, Thursday, Sept. 5, from 6pm to 9pm in duPont Gymnasium.

Representatives from undergraduate activities and clubs will be on duty at booths during the Midway to give out information and answer questions. Representatives of Tutoring Plus, a community service organization and some members of graduate student clubs will also have booths.

For further information, call Bruce Lacy, ASA treasurer, x3-2696.

Tanks Installed

A new fuel storage facility to be used by the Department of Mechanical Engineering in a fuel related research project, is being installed outside the Sloan Automotive Laboratory in the roadway between Building 31 and the Bush Building.

The Association's fifth semi-annual rock revival is planned for the evening of registration day, Monday, Sept. 9 at 8:30pm in the Sala de Puerto Rico. UA President Steven Wallman, a senior from New York City, announced that "Little Walter" would be the featured performer for the evening. Admission is 75 cents per couple and an MIT ID is required. Traditionally one of the most popular events of the year, the revival is open to the entire MIT community.

GSC Seeks Nominees

The MIT Graduate Student Council this week issued a call for graduate students interested in serving as graduate student representatives on three MIT committees for the coming year.

Among the committees on which there are openings for graduate students are the Corporation Joint Advisory Committee on Institute-wide Affairs; the Discipline Committee, a standing committee of the Faculty; and the Committee on Privacy, members of which are appointed by the president.

GSC said open hearings on nominations from among graduate students for appointment to these committees will be held during the second week in September. For further information, call GSC, x3-2195, Rm 50-110.

Carpools Expected to Grow in Popularity at MIT

(Continued from page 1) yellow Barracuda convertible, and Mr. Petievich's daughter Carla, a summer employee in the Medical Department.

Their daily drive from Newton is sometimes combined with the carpool of Harry P. Portnoy, senior architect in the Planning Department and Professor Lawrence Rosen, of the Department of Physics.

According to the National Highway Users Foundation, if more people followed the example of MIT carpoolers and increased their average auto occupancy to just two persons, 20 percent of the cars now on the road would be removed from rush hour traffic. An idea which is being tried

experimentally on several West Coast freeways in an attempt to reduce traffic tie-ups is to reserve one lane exclusively for carpool drivers. Interstate Route 93, just north of Boston is already providing such a lane during peak hours.

Professor Richard D. Thornton of the Department of Electrical Engineering and original member of the 15-year-old Concord carpool, thinks that a system of satellite parking lots, where riders could assemble for the trip to MIT, would encourage large-scale carpooling. A staggered arrangement of issuing parking stickers to each carpooler on a two- or three-day a week basis would ensure the flexi-

bility required by persons with irregular schedules, he said.

"A plan that gives each carpool only one sticker penalizes personal driving schedules," he said. "Flexibility is the key to having fewer cars enter the lots each day. I would like to see MIT use its central lot only for carpools and medical staff personnel as an initial incentive."

Organizing or joining a carpool, for all its advantages however, can mean taking on some new legal responsibilities.

Milton G. McDonald (MIT '34), deputy commissioner for the state insurance department, claims that driving four and five persons daily could

make the \$15-20,000 liability insurance carried by most people inadequate. Under a comparative negligence statute of the state, designed for cases in which the operator of a vehicle is proven more negligent than his passengers, riders injured receive up to \$2,000 in medical payments from the operator's mandatory personal injury protection.

McDonald advised more carpool drivers to consider Medical Payments Insurance, costing \$4 per car and insuring each member of the carpool for \$5,000 in medical payments over and above the no-fault benefits of the operator's basic policy.

Among Boston insurance

companies, a major effort is under way to offer across-the-board discounts on premiums for persons who carpool. A spokesman for the Boston office of the St. Paul Companies, which were among the first to issue a 10 percent discount, said, "the only requirement is that three or more passengers share the driving on a regular basis."

According to Jose M. Vinueza Roesset, associate professor in the Department of Civil Engineering, who saves up to \$75 per month in public transportation costs by carpooling to work from Sudbury, "the potential savings are tremendous."

THE INSTITUTE CALENDAR

August 21 through September 1

Events of Special Interest

MIT Quarter Century Club Steer Roast*** - Third annual roast will be held Thurs, Aug 22, 5:30pm, Kresge Plaza (bad weather, Sala). Highlight will be a tour of the Historical Collections, N52-260, 3-6pm, during which sherry and cheese will be served.

Pre-Rush Week Lawn Party** - Dance under the stars, Aug 24, 8:30pm-12m, Kresge Lawn. Free admission and beer. College ID or MIT employee ID required.

Community Meetings

Women's Forum* - Meet with the Steering Committee to make plans for the fall. Mon, 12n, Killian Court; bad weather, Rm 10-280.

MIT Club Notes and Meetings

Bridge Club - ACBL Duplicate Bridge. Open apirs Thurs, 7pm; Knockout teams, Sat, 2pm; Stu Ctr Rm 473. New event starts Sat, Aug 24, entries due Fri, Aug 23, 2pm. Jeff, 864-5571.

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

Goju Karate Club* - Beginners enter class first week of each month. Classes Mon, Wed, 7-9pm; Fri, 7-10pm; 4th fl Stu Ctr. Terry Gibbs, 440-9631.

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

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

Scuba Club*** - Summer compressor hours: Mon & Thurs, 3-5pm.

Strategic Games Society* - Offers opponents and discounts on merchandise to members plus gaming and periodical library. Sat, 1pm-1am, Walker Rm 318. Info, Kevin Slimak, 868-5203 or Robert Sacks, 494-8889.

Tiddlywinks Association* - Tues, 7:30pm, Stu Ctr Rm 407.

Social Events

Summer 12-Hour Coffeehouse - Currently open Mon-Fri, 9am-2pm and 5pm-12m; Sat & Sun, 12n-12m. Enjoy relaxing, conversation, piano playing, games, inexpensive food, candy & drinks. Stu Ctr 2nd fl center lge.

Movies

Fahrenheit 451 - LSC. Fri, Aug 23, 7 & 9:30pm, Rm 10-250. (Watch for signs on hot nights indicating showings in Rm 26-100). Admission 50 cents.

Dreams (Bergman) - Film Society. Fri, Aug 23, 7:30 & 9:30pm, Rm 6-120. Admission \$1.

Duck Soup - LSC. Sat, Aug 24, 7:30 & 9:30pm, Rm 10-250. (Watch for signs on hot nights indicating showings in Rm 26-100). Admission 50 cents.

Geeta Mera Naam* - SANGAM. Indian movie with subtitles. Sun, Aug 24, 3:30pm, Rm 26-100. Admission 50 cents with ID. Refreshments.

Dance

Folk Dance Club* - International, Sun, 7:30-11pm, Sala. Balkan, Tues, 7:30-11pm, Stu Ctr Rm 491. Israeli, Thurs, 7:30-11pm, Sala. **Afternoon Dance Break**, Fri, 12:30-1:30pm, Kresge Oval.

Exhibitions

Be-Ing Without Clothes* - Theme show created by Minor White while director of the Creative Photography Gallery. Hayden Gallery, Thru Fri, Aug 30. Hours: 10am-4pm weekdays, 12n-4pm weekends.

Hayden Corridor Gallery* - Modern prints from the Catherine N. Stratton Collection, including works by Robert Motherwell, Claes Oldenburg, Victor Vassarely, Larry Rivers and Frank Stella. Sponsored by Committee on the Visual Arts, thru Fri, Aug 30. Free.

In Honor of Charles Ives* - An exhibit of photographs, manuscripts, and other items in celebration of the centennial of the birth of Charles Ives, Oct 28, 1874. Music Library, through Wed, Sept 25.

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

Religious Services and Activities

The Chapel is open for private meditation 7am-11pm daily.

Campus Crusade for Christ/College Life* - Family time, singing, prayer, teaching from God's word. Fri, 7:30pm, Rm 37-252.

Christian Science Organization* - Meetings which include the sharing of healing experiences, every 2nd & 4th weeks of the month. Tues, 7:15pm, Rm 8-314.

Islamic Society - Qur'an and Tafseer study group, Thurs, 8pm Rm 14E-311; Friday Prayers, 1pm, Kresge Rehearsal Rm B; discussions on topics related to Muslims, Sat, 4pm, LSC Lge, Walker Memorial.

Roman Catholic Mass* - Sun, 10am, Stu Ctr West Lge.

United Christian Fellowship* - Singing, sharing, praying meeting. Thurs, 7pm, Westgate 708.

Westgate Bible Study* - Currently covering the Book of Revelation. Wed, 8pm, Westgate Apt 1210. Info, 494-8778.

Announcements

A Streetcar Named Desire** - Auditions for Tennessee Williams play, directed by George Serries, will be held Mon, Aug 26-Wed Aug 28, 7pm, Stu Ctr Rm 400. Performances will be Oct 24-Nov 2. Both actors and technical people needed. Info, Paul Green (producer), 491-7300, days; 646-2648, evgs.

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 department and field.

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

Send notices for August 28 through September 8 to the Calendar Editor, Room 5-111, Ext. 3-3279, before noon Friday, August 23.

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 23.

For Sale, Etc.

Craftsman 10" radial arm saw, \$140. Dick, x3-5568.

Chrysler 11,000 BTU AC, \$150 or best. Gary, x3-6749.

Top 40 records: LP's, nw \$1.50, old \$1/ea; 45's \$.50/ea. Latif, x0137 Dorm.

Fisher X-100 stereo amp, tube-type, 34 W RMS, input for tape, trntbl, or tuner, \$35. Chuck, x3-7237.

Old fishn dresser w/lg attach mirror, gd cond, \$20, too lg for BR in nw apt. x3-6291.

Upright piano; 2 sgl beds. Neal, x3-2514.

Norge 2 dr refrig, gd cond, \$50. Leslie, x8-2185 Draper.

Pentax Spotmatic II, '73 mdl, best over \$180. Diane, x3-1637.

Schwinn 3 spd middle weight bike w/bkts, carrier, exc cond, \$30. Christopher, x8-4155 Draper.

Evinrude 35 hp outbrd, \$150 or best. Ray, x8-4244 Draper.

Blu wool 12x6 carpet, \$25; conv sofa/dbl bed/tbls, \$60; tbl, \$15; Hitachi 12" TV, \$50; 1000 W, 110-220 V transformer, \$25; other hsehold gds, lvg 8/31, best. David Weinberg, 494-8174.

AM radio from '72 Ply, exc cond, bought amfm, fits most late mdl Ply & Dodge vans, \$35. Dick, x5548 Linc.

Rocking chr w/cshns, funny looking but comfy, \$20/all. Mark, x3-6833.

Refrig, \$20; vac, \$20; dishwasher, \$75; all gd-exc cond; AC, guar working order, \$25. Eric, x3-4710.

Fbrglas 18' Day Sailor, 165 sq ft sail area, dacron main & jib, exc cond, \$1,800 w/trlr, x7297 Linc.

DR set, 4 chrs, v gd buy, \$125; 2 couches & foam seats, \$20, \$30; qn sz bed, spr, matt, \$50; desk, \$25; bkese, \$10; hollowcore doors, 3'x6', \$5; end tbls, other furn, all gd cond, Call, 776-5827.

F 10 spd bike, v gd cond, \$70 or best. Penny, x3-4255.

Girl Stingray 20" bike, \$15. x7809 Linc.

Nikkormat FTN camera w/50 mm fl.4 Nikkor lens, case, sunshade, skylite fltr, rubber eye cup, \$250; Nikkor lenses w/skylite fltrs, cases, caps, lk nw, 6 mos grnty: 35 mm f2, \$145; 85 mm fl.8, \$155. Mr. Mayer, x5545 Linc.

AC, 7000 BTU casement type, \$140. Lew, x3-2226.

Misc elec AC motors, 1/4-1 hp, best. Ben Dores, x8-2332 Draper.

Philco elec range, 4 brnr, 30" w, works well, cln, wht, \$40 or best. Ron, x5477 Linc.

Gasoline blow torch & lead ladle, 1 qt, perf cond, \$5. Call, 782-2373.

Citation 12 power amp, \$150; Miracord 50H auto trntbl, \$150; Citation 15 tuner, \$300; pr AR-5 spkrs, \$225. Call, 247-2456, aft 8.

GE dishwasher, used, brn, top loading port, \$40 or best. x3-6250.

Moving: old baby grand piano, gd shape, up to pitch, 1st fl, ca \$300; Magnavox port stereo; misc shoddy furn, etc, cheap or free. Call, 965-2972.

Luggage rack for Peugeot sed, roof mnt, \$24. Rick, x8-1469 Draper.

Hercules f 3 spd bike, oldie but goodie, \$25. Allen, x3-2555.

M Libertas 10 spd bike, b nw, Kryptonite lock, \$185 nw, now \$150. Brownell, 723-5926, aft 6.

Nw RCA b&w 16" TV, chrome std, \$75; cptns chests, 2 & 3 drwr, \$35; dbl bed w/posturpedic matt & fr, \$45; 7 drwr desk w/leath top, \$15; asst couches, chrs, shlvng. Ronnie, x3-2173.

Hsehold sale, lvg cntry: Sharp 19" clr TV, \$220; TR807 11 band sw rcvr,

\$135; elec typwrtr; SLR camera; stereo hphones, \$3; dbl ged, \$35; desk & swivel chr, \$35; misc furn & appl. Call, 494-8719, kp try.

Metal 4' tbl & 7 chrs, \$40; Fedders 5000 BTU AC, \$50; twn bed, \$30. Charlie, x3-7201.

Kids 20" bike, banana seat, exc cond, ask \$20. Dan, x3-6160.

RCA b&w TV, 12", lk nw, \$70. Jose, 864-1595.

Plants, must sell, prices reduced: merrigolds in wndwbox, coleus, \$.25; diffenbachia, \$1; philodendron, \$.50; spiderplant, \$1; others. Penny, Wed-Fri, 12n-3pm, rear Rm 7-038.

Mtd tires for Mustang, 2, \$50; Mustang car radio, gd working order, \$25. Call, 325-9236.

Frpl wd, cut & uncut, \$40; all u can take. Ed, x5760 Linc.

Evinrude 35 hp rebtl outbrd w/elec start cables, etc, 5 gal gas can, best; b nw windshield, 16' boat, best. Lew x8-3584 Draper.

M Phillips bike, nds some work, \$15. x3-5117.

Heath AR 1500 rcvr, \$285; pr sm Advent spkrs, \$110; all exc cond. Ken, 272-7488, evgs.

Victorian inlaid wardrobe w/4 drwrs, sm closet, \$30; SCM port man typwrtr, \$50; auto dent puller, \$6; sgl box spr & matt, \$20; woven rope chr dark wd frame, \$28; bkshlvs; dressers; cab; lamps, etc. Call, 423-7642.

M 3 spd bike w/coaster brakes, \$10; mtrcycl chn w/lock, \$12; 7.75x14 snow, \$10. Jay, x3-2593.

Underground comic books, 30, incl R. Crumb, Slow Death, Skull, etc, \$30. Bob, x8-3371 Draper.

Wd chests, 2, 21x21x41, \$8/ea; (4) 200W bulbs, \$.50/ea; (4) 12" reflectors, \$1/ea; frpl brass screen, \$5; ironing brd, \$1; sew mach, \$15; VW rims & tires, \$3/ea. Call, 731-6693.

TV, 21" b&w, nds antenna, free; 16' sq sailcloth w/reinforced rings, \$40 or best; strong chrome K tbl & 4 chrs, \$15; 5 bikes for parts, best. x8-2843 Draper.

Rugs: 6x9 grn shag; 9x9 blu w/pad; 9x12 gold w/pad; \$10/ea; sgl bed, \$20. Anton, x3-6658.

Lapstrate boat, 18 1/2', incl 50 hp motor, trlr, many other acces, \$1,000 or best. Call, 646-0702, aft 7pm.

Olympia 50 lg elec dual ribbon typwrtr, exc cond, many math/sci symbols, best over \$200 or trade for compact (24" wide) gas dryer. Helen, x3-7690.

AC, 220 V, 17,000 BTU, \$100; lg oak desk w/swivel chr, refin, \$50; dbl bed w/box spr, matt, bkese hbrd, \$35; gold wool 8 1/2 x 11 rug w/pad, \$30; flr lamp/end tbl combo, \$8/ea. x3-7315.

Texas Instr calculator, \$50; Dynaco SCA-35 stereo integrated amp, 17 W RMS/ch, \$70; or best. Mike, x3-7220.

Tbl & 4 chrs, \$30; 6 lg cshns, various sizes, \$2-\$6; lamp, \$5. Call, 494-8944.

Sailboat, 15' wht fbrglas sloop w/dacron sails, v gd cond, orig \$1,550, now \$600. x8-2577 Draper.

BR suite: dbl bed, nite stds, dresser, hrly used, \$120; sm couch, 8 mos, \$100; 2 armchrs, nw cshns, \$15; dresser, \$20; or best. Paul, x3-5270.

Solid mpl butcherblock tbl, 30x60", perf cond, \$125. Nora, x3-6408.

Tortshell carpet, 7 1/2 x 12, Bigelow Blairwood, nw, \$115; 6 pr grn & blu cafe crtns, \$2/pr. Nancy, x3-3748.

Hotpoint refrig, gd cond, 16 cu ft w/lg freezer, \$50. Kazi, x0356 Dorm.

Wht chest drwrs, \$25; wd desk, \$10; bkces, \$30; Rugs: blk 6x9, \$25; red 7x10, \$25; yel/blk/brn stripe, 3x4, \$10; coffee tbl, \$2; hide-a-bed couch, \$25; 3 spd fan, \$8; baby items & furn. Call, 494-8473.

Vehicles

'50 Merc sed, no dents, exc motor, \$650 or best. Ann, x3-5915.

'64 Classic P-1800 Volvo, gd cond & price. Mary, x7422 Linc.

'64 VW, gd run cond, many nw parts, 84 K, \$300. Call, 494-9224.

'65 Chevy van, mech sound, body ok, just tuned, \$467 or best. x3-2026.

'66 Tbird, full power, nds some work, \$200 or best. Nelson, x8-1650 Draper.

'67 Dodge Coronet wgn, ac, everything perf, lvg cntry, must sell, \$350. Rudy, x3-5547.

'66 Camaro w/Firebird nose, 6 cyl, nw trans, clutch & Hurst, wht w/blk int x8-3535 Draper.

'67 Ply Fury III wgn, 64 K, auto, p st, gd mech cond, \$295; '66 Mustang, 70 K, 6 cyl, auto, p st, mtd snows, gd mech cond, rough body, \$100. Call, 494-8719.

'68 Camaro SS, grn, 4 spd, 396 eng, v gd cond. Call, 965-1479.

'66 VW bus camper, b gd cond, blu/wht, \$650 or best. Al, x3-6389.

'68 Pontiac GTO, exc cond, \$750. Kohei, 523-6794.

'68 Ford Mustang fstbk, v gd cond, compl w/radio, snows, \$600. x3-4771.

'68 Impala, gd cond, \$800. Tony, x5713 Linc.

'69 Merc Comet, 6 cyl, 49 K, nw brakes, muff & batt, exc cond, \$900. Call, 494-9246.

'70 VW sqbk, must sell, lvg cntry, auto, gd cond, radio & other xtras, \$1,105 or best. Janet, x3-7251.

'71 Super Beetle, v gd cond, 57 K, blu, auto, radio, recent tune-up, recent exh, nw tires, gd snows on rims, \$1,500 nego. Jim Hannoosh, x3-5353.

'71 Ford Gal 500, perf cond, lvg cntry, best. Fred, x8-3454 Draper.

'73 Volvo 142, ac, overdrive, amfm stereo cassette deck, 24 K, still under wrnty, \$3,800. Call, 272-3527, evgs.

'74 Ford pick-up, std 3 spd, 302 eng, p st & disk br, chrome shls, wide rear tires, 8 K orig, approx 17 mpg, \$3,700 or best. Carol, x8-3591 Draper.

'70 Honda 100 cc mtrcycl, used v little, v gd cond, \$290; lk nw helmet, \$20; hvy duty plastic coated chn & lock. \$8. x3-6739.

'71 Yamaha Enduro, gd cond, exc for trail or commute, best over \$650. Joe, x8-3584 Draper.

'71 Kawasaki 90 cc w/carrier rack, helmet, chain, lock, exc cond, best, x8-2050 Draper.

'74 XL 350 Honda, 1 K, show rm cond, w/2 hlmts, trail-a-bike carrier, rubber coated security chn, must sell, compl pkg \$1,095. Don, x187 Linc.

Housing

Bri-Bkline line, 1st fl 2 fam brick home, off Comm Ave, 2 BR, ww, crtns, utility rm w/wash & dry, frpl LR, DR, eat-in-K, w/refrig, disp, \$390. Michael, x3-6394.

Bkline, lux furn hse, 7 BR, 5 1/2 B, eat-in-K, frml DR, library, all conveniences, sgl fam only. x3-6769.

Dorchester, 3 rm apt, \$170 incl ht & hot wtr, x3-5698.

Westwood, 4 BR colonial, furn, attractive acre lot, gd nbrhd & schools, nr bus to MIT or 20 min drive, avail 9/11, \$450 & util. Call, 661-9466, evgs.

Bridgton, Me, lkside cottage on pt of land, choice setting, 2 BR, LR, K, B, porch, avail 8/24/31, bargain price, \$130. x8-1457 Draper.

Animals

AKC Great Dane pups, 4 m, 2 harlequins, 2 Bos danes, wormed, shots, A. Jones, 427-2840.

Adorable kittens, playful, affectionate, 12 wks, 1 blk w/wh feet, 1 org/wht, litter trained, free to loving home. Call, 492-0522, evgs.

Free 4 yr old m St Bernard, had papers but lost, frndly, loves chldrn, hse pet, owners moving to apt. Call, 237-4257, evgs.

Free kittens, cute, 7 wks, Martin, x7391 Linc.

Lost and Found

Lost: Carnegie-Mellon Univ class ring, engraved "54 JEL", at Linc Lab, reward. John, x5432 Linc.

Wanted

Stu electronic technician to work pt-time in fall or sooner, nd help bldg analog & digital stuff. Mel Aden, x3-2422, Rm 26-021.

Drafting machine. Bill, x8-3395 Draper.

Used Bentwood-type rocker, finished or un; used sm freezer & 5 or 6 cu ft refrig. Karen, x8-4095 Draper.

Boy, 10, whose bike was stolen, is looking for odd jobs: plant watering, dog walking, yard work, pet care, etc, Harv Sq area only. Christopher, 864-3395.

MS geologist, f, seeks rm w/congenial fam during school yr. x3-4923.

Wdburning stove. Tom, x3-2953.

Tbl saw, 9 or 10". x7713 Linc.

Bartender for Mon nite shift, Muddy Charles Pub (Bldg 50), 4-8pm, \$2.40/hr. Darryl, x3-2195.

Artist/graphic designer to do figures & diagrams for mgmt journal. Gay, x3-7170.

Ride wanted (or offered) for cpl w/chld to Camb, Ohio, lve 8/23, rtn 9/1. BC, x3-5348.

F rmmtate, share spac, charming 2dn fl of hse, work frpl LR & DR, furn, own BR, 2 blks Harv Sq, prefer non-smoker, \$162 incl pkg, ht, elec. Joan, x3-5268.

Sm file cabinet; wd desk; lg pot w/lid. Richard, x3-3406.

F rmmtate to share lg frndly Som hse w/f, 2m, cat, nr McGrath Hwy & T, non-smoker, \$75 + util. Jim, x3-5323.

Nw asst dean nds temp housing for fam of 5, approx 9/3-9/10, furn apt or hse, pref Lex area. Jeanne, x3-4860.

Tchr w/gd system to give me lessons in Eng grammar 7 dys/wk, early morn, my passive Eng neary perf; also typist, my rm or take out, I have Royal port; write, give address, phone. Paul S. Borit, E18-439.

Carpools

Ride wanted Som (Bos Ave) to MIT, 9-5. Cathy, x3-2450.

Cpl nds ride Wash Sq (Wash & Beac St)-MIT & back, M-F, 9-5, wl share exp, beg 9/1. Kathy, x3-4271.

Miscellaneous

Floors sanded & refinished prof. Christine, x3-2742.

Exp, fast typist wl do theses, manu, gen typing. x3-3761.

Typing srvc, tech, layout, manu, theses, reports, etc, rates nego. Michelle, x3-6121.

MIT Family Day Care Program needs people to care for pre-school chldrn. Debbie Crocker, x3-3953.

Ride offered, Bos-Trenton, NJ, Sun nite, 8/25, priv plane, \$11. Call, 739-1355.

Positions Available

This list includes all non-academic jobs currently available on the MIT campus. Duplicate lists are posted each Tuesday preceding Tech Talk publication date on the women's kiosk in Building 7, outside the Office of Minority Affairs, 10-211, and in the Personnel office E19239, on the day of Tech Talk publication. Personnel interviewers will refer any qualified applicants on all biweekly jobs Grades I-IV as soon as possible after their receipt in Personnel. Employees at the Institute should continue to contact their Personnel Officers to apply for positions for which they feel they qualify.

Virginia Bishop	3-1591
Mike Parr	3-4266
Philip Knight	3-4267
(secretary - Joy Dukowitz)	
Sally Hansen	3-4275
Jack Newcomb	3-4269
Evelyn Perez	3-2928
(secretary - Mary Ann Foti)	
Dick Higham	3-4278
Pat Williams	3-1594

Claudia Liebesny x3-4595
(secretary - Dixie Chin)

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

Technical Instructor-Academic Staff in Physics will develop and maintain experiments in an undergraduate teaching laboratory. Work involves electronics, vacuum technology, optics, and small machine shop equipment. BS in Physics or EE desirable. 74-937-R (8/14).

Technical Asst.-Academic Conduct animal studies and biochemical experiments concerned with protein metabolism and aging. B.S. degree in biology or related field. 74-1007-A (8/24).

DSR Staff in the Joint Center for Urban Studies will work on the National Housing Goals project. Review theory and existing models; assist in developing theory and forecasts requiring extensive computer analysis of data; design and implement computer model documenting all stages of the work. Demonstrated skill in quantitative urban/social science research required. (Masters degree or equivalent). Working knowledge of FORTRAN IV, familiarity with computer analysis of U.S. census data important. 74-958-R (8/14).

DSR Staff in the Center for Cancer Research will make solutions; assay virus; prepare infected cells; assist with experiments; oversee maintenance of equipment. BS in Biology or Biochemistry, or related field required; experience in Chemistry, Biochemistry, Microbiology useful. 74-938-A (8/14).

Assistant to Director-Administrative Staff Administration of sponsored research projects, including proposal review, grant and contract negotiations, post-award administration. Bachelor's degree in business administration or equivalent. Reasonable experience in aspects of university sponsored program administration. 74-1024-A (8/21).

DSR Staff will perform a variety of duties in an immunologically-oriented laboratory. Bleed, inject, prepare cells from mice and rabbits; maintain cell and organ cultures; order supplies and maintain lab. Applicant should have considerable laboratory experience. Master's degree preferred. Superior manual dexterity required for performing a wide range of techniques. 74-885-R (8/7).

DSR Staff-Temporary (11 months) As member of System Dynamics Group, will work on national economic model, translating equations into DYNAMO III language. Organize and man computer files, prepare flow diagrams. Strong interest in economics and systems dynamics; some programming experience required. 74-1022-A (8/21).

DSR Staff in the Cell Culture Center will assist in the preparation of cell culture media including all aspects of quality control. Knowledge of sterile technique and tissue culture desired. BS degree or coursework and laboratory experience required. 74-886-A (8/7).

DSR Staff at Civil Engineering will develop federal criteria for allocation of mass transit funds. MS in transportation Systems Analyses required; knowledge of economic criteria, experience in urban transportation systematic analyses, familiarity with DODOTRANS computer models important. Excellent writing and communication skills essential. Some travel necessary; will work with federal, state, and local officials, faculty and students. 74-927-A (8/7).

DSR Staff Engineer in Earth and Planetary Science will be responsible for design, construction, and operation of prototype instruments to be used on ground-based telescopes and spacecraft for remote study of planets and other celestial bodies. Degree or strong background in EE required. Familiarity with charge couple and charge integrating devices, silicon vidicons, digital and analog circuit design, astronomical facilities necessary. 74-929-R (8/7).

Technical Assistant-Academic Staff in Nutrition and Food Science will inject animals and study the toxic compound effects on animals. BS degree in Biology required. 74-915-A (8/7).

Assistant Project Planner-Administrative Staff in the Planning Office will prepare architectural programs, and planning studies. Research and gather data, survey existing facilities, make recommendations, estimate project costs and work schedules. Edit, write, illustrate proposals and charts, prepare presentation materials. May represent MIT at project meetings. Bachelor's degree in Architecture or Planning or equivalent education and experience required. Some experience in an architecture or planning function necessary. Architecture license desirable. 74-882-R (8/7).

DSR Staff in the Arteriosclerosis Center will assist in laboratory research studies involving biochemical procedures for the determination, in VIVO, of lipoprotein turnover rates.

Duties also include ultracentrifugation, immunological techniques and various forms of electrophoresis. BS in chemistry or Biology required; some laboratory experience helpful. 74-841-R (7/31).

DSR Staff in the Energy Laboratory will design, build, and operate large scale heat transfer apparatus. Graduate degree in heat transfer; extensive experience in designing, instrumenting, and conducting laboratory tests in heat transfer experiments with a minimum of supervision required. 74-858a-A (7/31).

Applications Guidance Coordinator-Administrative Staff in the Office of Facilities Management Systems, Planning Office, will be responsible for providing all non-technical support of the INSITE System; provide expertise and guidance to apply the system to problems; assist in membership expansion by making presentations and writing proposals. Knowledge of/or ability to learn quickly MIT's INSITE system required. Good communication skills, aptitude for providing expertise and help to users essential. Some travel will be required. 74-868b-R (7/31).

Biomedical Engineer-DSR Staff in the Mechanical Engineering Department will join MIT researchers, and Children's Hospital medical Staff to work on the conception of diagnostic and therapeutic devices and processes for human rehabilitation. Supervise technicians, participate in the supervision of theses and student projects. Education in biomedical engineering required. Mechanical and/or electrical engineering, experience in engineer-physician collaboration very desirable. Innovation, creativity, ability to prosecute long-term and short-term research essential. Possibility of lecturer appointment in Mechanical Engineering. 74-869-R (7/31).

DSR Staff in Civil Engineering will work on transportation planning in developing countries. Will spend at least 3 months a year in Africa. MS in Civil Engineering, highway construction experience required. Familiarity with systems engineering, transportation economics, computer programming, transportation modeling important. Candidate must be a US citizen because of foreign travel involved. 74-805-A (7/24).

Electrical Engineer-DSR Staff in the Research Laboratory of Electronics will work on application of statistical pattern recognition techniques to problems in medicine, involving both diagnostic radiology and cytogenetics. Ph.D. and several years experience in applied pattern recognition techniques to problems in medicine, involving both diagnostic radiology and cytogenetics. Ph.D. and several years experience in applied pattern recognition required; experience in medical applications preferred. Part-time appointment acceptable. 74-830-A (7/24).

Technical Assistant-Academic Staff for a Biology laboratory studying the molecular of mammalian cells. Prepare samples for and conduct laboratory analytical techniques, cell labelling, fractionation and preparation of nucleic acids in proteins. BS or MS degree required; familiarity with tissue culture techniques desirable. 74-815-R (7/24).

DSR Staff Economic Advisor at the Joint Center for Urban Studies will advise the Presidents of MIT and Harvard on the state of the economy and labor force of Cambridge, and prospects for future economic development; evaluate and develop economic development proposals; review and evaluate proposals in fields of health, education, housing, transportation, and community development in view of their impact on the local economy. Will be assisted by an advisory committee of faculty and administration members from both institutions. Doctoral degree or equivalent experience in urban economics, manpower, community development required. Ability to work effectively with local government and university officials. Ability to plan and conduct research. 74-753-A (7/17).

DSR Staff member in the Electronic Systems Lab will study the application of modern control theory to optimize freeway traffic flow. Develop mathematical models and feedback control algorithms. Evaluate feasibility of using other control policies with existing freeways. Ph.D. in Systems related discipline, including working knowledge of techniques in stochastic optimal control theory, state estimation, etc. Familiarity with vehicular traffic flow theory highly desirable; practical experience in electronic traffic sensors and signal processing helpful. 74-778-A (7/17).

Technical Assistant-Academic Staff in Biology will work on a project concerned with the analysis of macro molecular changes in differentiating myoblasts. Will use cell and tissue culture techniques, electrophoresis, labelling with radioactive isotopes and general biochemical methods. Minimum BS degree in Biology, Biochemistry or related fields; laboratory experience essential. Previous tissue culture experience preferred. 74-759-R (7/10).

Administrative Staff-Editorial Manager in the Institute Information Services will coordinate the organization, design, editing, production, mailing, and budgeting for the General Catalogue, the President and Chancellor's report and other issues of the MIT Bulletin. Additional duties involve work on various projects, ad hoc special reports in association with the Analytical Studies and Planning Group. Bachelor's degree required; graduate work or equivalent experience preferred. Editorial and proofreading skills, excellent command of the English language required. Knowledge and experience with various aspects of graphic design and production very helpful. Ability to organize detailed information regarding academic and other activities, to work with large numbers of people throughout the Institute, and to plan and execute publishing tasks under pressure of deadlines important. 74-692-R (6/19).

DSR Staff at the National Magnet Laboratory will perform experimental and theoretical research on laser-induced plasmas in magnetic fields and laser-plasma interactions; develop optimal, X-ray, magnetic plasma diagnostics; operate advanced CO₂ and far infrared laser systems for plasma research. Ph.D. or equivalent in Physics and minimum 2 years research experimental techniques required. 74-689-R (6/19).

Technical Assistant-Academic Staff-Temporary in Nutrition and Food Science will help in preparation and teaching of a laboratory course in biochemical research methods. Knowledge of chemistry or biochemistry laboratory techniques required; BS degree desired. (8/1-12/31/74). 74-719-R (6/26).

Staff Recruiter (Admin. Staff) will report to the Employment Officer; will be responsible for coordination of search for well-qualified persons to fill nonacademic 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. 74-643-A (6/26).

DSR Staff Physicist in the Research Laboratory of Electronics will work on development of radio interferometry. The project will combine development of computer-controlled electronic systems and participation in the observations. Ph.D. Physicist with several years experience in radio astronomy or allied field required. 74-626-R (6/5).

DSR Staff in the Energy Lab will assist in the construction of a mathematical energy model for US supply and econometric model building and analysis of energy sectors. BS degree in Economics with econometrics and mathematics background desired. Experience in FORTRAN programming and use of Econometric Software Package necessary. Communication skills important. 74-602-A (5/29).

DSR Staff in the Energy Lab will develop a metal-air fuel cell preprototype and conduct research into powdered metal electrodes. MS in electrochemistry or chemical engineering; knowledge of electrochemistry, semiconductors; experience in fluid mechanics, academic or industrial exposure to metal-metal oxide systems required. 74-605-A (5/29).

DSR Staff Engineer in Earth and Planetary Science will supervise the design and implementation of electropical data acquisition systems for astronomical application; develop a solid state imager as a photometric data system; act as technical consultant to student projects. Degree or strong background in EE; extensive experience in analog and digital circuit design and mechanical hardware design. 74-429-A (5/15).

DSR Staff in the Energy Lab must have minimum of 5 yrs experience in defining, securing support, organizing and supervising research in heat transfer related to energy production and utilization. Familiarity with MIT; experience in supervising student theses research and staff; Ph.D. in Mechanical Engineering required. 74-359-A (5/1).

Administrative Staff-Associate Director of the Alumni Fund will be responsible for staff support to alumni boards and committees engaged in the annual solicitation programs. Duties require extensive interaction with senior alumni and corporation executives throughout the country, at MIT. Individual must be an alumnus/alumna of MIT. Position entails a moderate amount of travel. 74-347-R (4/24).

Marketing Director-Administrative Staff at the MIT Press must have experience and skills in some or all of the following areas: direct mail, scientific/technical, international, research and planning, trade and library

relations. Innovation, creativity, adaptability for goals; ability to work as part of publishing team in a university environment. Please submit resume with educational background; accompanying letter must describe in detail marketing methods in achievements. 74-313-R (4/17).

DSR Staff in the Laboratory for Nuclear Science will participate in fundamental particle research at major accelerators and in data analysis. Candidate must have Ph.D. in high energy physics or a related field with experience in scintillation counter and spark chamber techniques and familiarity with large computer data analysis. 74-221-A (3/13).

Programming Analyst-Administrative Staff for the MIT Information Processing Center must have experience and knowledge of large-scale time-sharing systems. FORTRAN, JCL, and PL/1 language and communication skills required. Assist users working by providing programming information and debugging help. Produce user documentation, serve as Programming Assistant and Consultant; conduct seminars, workshops, short courses. Implement and maintain software items such as the debugging compilers and plotting packages. 74-887-R (8/7).

Senior Programmer Analyst-DSR Staff in the Joint Center for Urban Studies will work on a large scale simulation of complex social systems attempting to explain and anticipate the process by which neighborhoods evolve. Familiarity with time-sharing, and with the substance of the study through knowledge of FORTRAN required. Willingness to learn the operating characteristics of the computer installation important. Neighborhood Evolution and Decay Project; 33 month duration. 74-873-R (7/31) Simulation Model of Migration Project, 20 month duration. 74-874-R (7/31).

Systems Analyst (DSR) in Laboratory of Architecture & Planning (Overlap Project) will implement series of mathematical programs originally developed in FORTRAN for other computers and command interfaces for routines. Participate in level design; some original design of mathematical and other routines. Fluency in FORTRAN and PL/1, including knowledge of IBM or Univac and Multics version of FORTRAN. Knowledge of Multics command, programming and debugging environment. Ability to deal with major issues in mathematical programming. 74-795-A (7/17).

Applications Analyst-Administrative Staff at the Information Processing Center will work in the Application services group to advise users on procedures and techniques in setting up a statistical problem for computer solution. The equivalent of a master's degree in statistics or social science with statistical training required. Experience in programming and solving problems is essential. 74-403-R (5/8).

DSR Staff Systems Programmer at Project MAC will perform system analysis and system programming on a research version of Multic operating system. SM or EE degree required; 2-3 years programming experience in the supervisor of some advanced operating system required. Ability to contribute to research and work with students important. 74-1234-R (11/14).

Computer Operator IV in the Office of Administrative Information Systems will operate the IBM 370/135 Computer and monitor system performance via console messages. Report operational problems, take corrective action where called for; process production and testing as scheduled. Minimum 1 year operations experience preferably IBM 360 or 370, DOS multi programming or DOS/VS environment required. 74-620-R (6/5).

Computer Operator IV in the Laboratory for Nuclear Science will operate the IBM 360/65; determine equipment set-up and run operations; detect errors, make corrections; assist in the training of junior operators. Must be able to run the entire IBM 360-65 computer complex without supervision. Knowledge of LNS operating procedures and HASP and OS operating commands required. Must be willing to work the evening shift: 4pm-12midnight; 40 hour work week. 74-865-R (7/31).

Document Coordinator-Exempt for the Center for Policy Alternatives will maintain the collection of English and foreign publications for research group involved in science, technology, and public policy. Order materials; catalogue in Library of Congress System; prepare for reproduction, billing, prepare and type cards and forms, bibliographies, abstracts. College degree, library experience required (MLS desired). Accurate typing, knowledge of French and German or Russian desired. Ability to work under pressure essential. 74-970-R (8/14).

Junior Electrical Engineer-Exempt in the Center for Space Research will design, test and check-out space

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Positions Available

(Continued from page 5)

satellite experiments, participate in prelaunch support. Emphasis is on low noise, low level analogue circuitry, through familiarity with digital electronics and logic design of the experiment. BS in EE with experience in design, development and testing of solid state low level analog systems required. Must be thoroughly familiar with modern semiconductor devices; signal detection theory and applications. 74-845-R (7/31).

Nurse-Exempt in the Clinical Research Center will work under close supervision of the Head Nurse and investigators. Responsible for general and specialized nursing procedures and medications in a twelve-bed research unit. Work with laboratory and dietary units; must keep accurate charts and observations on patients' condition. Must have R.N., Mass. registration, previous nursing experience; must be extremely reliable and conscientious; able to assume "take charge" duties when required. Evening shift: 4pm-12midnight. 74-902-R (8/7).

Infirmiry Staff Nurse-Exempt Bedside nurse in MIT Infirmiry. Must be capable of administering first-aid and emergency treatment. Registered Nurse with 1 1/2 years experience, preferably in medical/surgical unit. 3-11pm shift. 74-1019-R (8/21).

Infirmiry Staff Nurse-Exempt-Part-time will do bedside nursing in the MIT Infirmiry. Individual must be a Mass. Registered Nurse with 1-2 years experience in a Medical/Surgical Unit. Capability of providing first aid and emergency treatment for the emergency clinic required. Ability to work with students essential. 3 day week: 7-3, 3-11 rotating shift. 74-990-R (8/21).

Assistant Advertising Manager-Exempt for the Alumni Association, *Technology Review*, will research, prepare and produce sales support material. Maintain records; bill advertisers; prepare income reports. Typing, shorthand or speedwriting, composition skills needed for preparing correspondence. Ability to organize required. Previous advertising experience helpful. 74-1009-R (8/21).

Administrative Assistant-Exempt in Civil Engineering will handle administrative duties for active research group; responsible for fiscal management for research accounts, budgets, payrolls; compile, edit, compose reports for lay audiences; manage production of all reports; maintain liaison with staff, faculty, students; handle international correspondence. Coordinate a variety of activities; arrange workshops and conferences at MIT. Ability to organize, work independently, exercise tact and good judgment required. 74-806-R (7/24).

Food Production Supervisor-Exempt in Food Service will be responsible for all operations of the Kitchen and its food production personnel: daily production, inventory control, quality control and sanitation. Assist in menu planning and estimating food quantities. Manage administrative details in areas of personnel, payroll, budgeting, purchasing. Degree or experience in food production, menu planning, and operation of a food production facility required. Ability to train personnel important. Hours 6am-3pm, M-F; occasional weekend work. 74-837-A (7/24). 2nd opening: irregular hours and weekends.

Area Food Supervisor-Exempt in Food Service will be responsible for the unit serving areas: flow of food and utensils during meal periods; portion controls, sanitation. Will train and supervise pantry employees. Technical knowledge of food production; ability to work under pressure, irregular hours and weekends required. 74-455-A (5/22), 74-834-A 74-835-A, 74-836-A (7/24).

Building Services Assistant-Exempt for Physical Plant will supervise custodians, polishers and other Building Services hourly personnel. Requires working on various shifts for indefinite periods of time. Minimum of 2 years supervisory experience is required. 40 hour work week. 74-695-R 74-696-R (6/19).

Senior Secretary V to the Director of the Center for Policy Alternatives will handle a variety of administrative and secretarial duties; type speeches, papers, manuscripts; transcribe correspondence from dictation and tapes; maintain director's files; responsible for a variety of personnel procedures for the Center; train new employees; schedule foreign and domestic travel. Excellent secretarial skills, ability to set priorities, make decisions essential. Supervisory skills, knowledge of MIT procedures desired. 74-967-R (8/14).

Senior Secretary V will perform secretarial and editorial duties for the Foundation Scientist, Neurosciences Research Program. Type scientific manuscripts; prepare bibliographies;

maintain reference files; excellent secretarial and editorial skills required; shorthand preferred; willingness to learn scientific terminology and interest in the sciences of brain and behavior important. MIT experience helpful. 74-932-R (8/7).

Technical Assistant V in Nutrition and Food Science will order, house, weigh, feed and water rats. Mix diets; order necessary components; autopsy animals; collect, weigh, and prepare tissues for chemical assays. Will also wash laboratory glassware. Knowledge of the care of research animals, experience in conducting experiments involving animals required. BS degree helpful. Individual with a career commitment desired. 74-852-R (7/310).

Editorial Secretary IV or Editorial Assistant V-Part-time for the Sea Grant Program will handle general secretarial duties; plan details for conferences and symposia; type drafts and documents from written and dictated material; manage correspondence. Excellent typing, organizational skills, previous secretarial and dictaphone experience required. 25 hour work week. 74-964-R (8/14).

Secretary IV or Senior Secretary V-Part-time will handle a variety of secretarial and administrative details at the President's home at Watertown. Schedule appointments for Mrs. Wiesner and for the President's House at 111 Memorial Drive; arrange travel, transcribe correspondence, maintain extensive files. Work closely with Dr. Wiesner's secretary; act as liaison for Mrs. Wiesner with other MIT offices, community agencies and businesses. Keep payroll, and other records; attend meetings, when required; write and address invitations for Institute events. Excellent typing skills required; shorthand preferred. Knowledge of the Institute desirable. Discretion, honesty and tact essential to deal with confidential matters and to work in a private home. 25 hour work week; midday schedule preferred. 74-315-R (8/14).

Secretary IV or Senior Secretary V for Vice President in the office of the President and Chancellor will handle a variety of duties in a very busy office. Arrange and coordinate complicated appointment and meeting schedules; maintain communications among many people and offices of the Institute. Excellent typing, shorthand, organizational skills and command of language are essential; ability to anticipate, recognize and organize priorities and work as part of a team, resourcefulness for handling complex situations, discretion, tact, and good judgment important. 37 1/2 hour work week. 74-343-R (5/24).

Secretary IV in the Alumni Association will handle secretarial duties and office management for the *Technology Review* office. Answer inquiries; handle billing orders; compose and type letters. Excellent secretarial skills required; ability to perceive the importance of accuracy in relation to publication of material essential. Previous office experience important. 74-905-R (8/14).

Editorial Secretary IV-Part-time-Temporary in Humanities will help prepare and tabulate fund raising proposals and questionnaires for faculty and students. Handle all secretarial duties for the Writing Program including liaison between the Program and the Institute. Accurate typing skills, editing and proof-reading experience required. 17 1/2 hour work week; temporary through 6/30/75. 74-934-A (8/14).

Secretary IV will handle general secretarial duties for staff of International Nutrition Program. Help with special projects, handle small library. Should be able to handle the unexpected. Good typing. 74-1020-R (8/21).

Secretary IV Receptionist responsible in busy office, must be able to handle inquiries of MIT's extensive athletic program. Excellent typing for correspondence, reports. Shorthand desirable. Outgoing person, willing to serve MIT community. 74-1021-A (8/21).

Secretary IV in the Center for International Studies will handle general secretarial duties for 3 faculty members involved in research projects on nuclear power and urban economics. Schedule meetings, seminars, travel arrangements; type correspondence, papers. Technical typing ability desired; college background or equivalent experience preferred. Some flexibility in hours possible. 74-824-A (7/24).

Secretary IV or Senior Secretary V to the Director of a new Special Laboratory will assist in all aspects of developing the new lab; organize the Director's schedule and set up the office systems. Some college and 3-5 years secretarial experience; excellent typing and shorthand required. Ability to organize, establish priorities important. 40 hour work week. 74-1014-R (8/21).

Secretary IV in the Center for Cancer Research will handle general secretarial duties; type manuscripts and letters.

Maintain research grant records; schedule travel, meetings. Excellent typing, dictaphone skills required. Editorial skills, ability to compose letters, familiarity with biomedical terminology desirable. Familiarity with MIT procedures preferred. 74-963-R (8/21).

Secretary IV for several Nutrition and Food and Science Faculty will handle general secretarial duties; assist with the preparation of scientific manuscripts for publication; type technical material involving tables and scientific terminology. Excellent typing, organizational ability essential. Knowledge of biological and/or chemical terminology helpful. 74-982-R (8/21).

Secretary IV in the Laboratory for Nuclear Science will handle all secretarial duties for a high energy physics group. Type correspondence, reports, articles of publication (some technical); schedule meetings, appointments, travel. Good typing, technical typing experience desirable; discretion, initiative, organizational skills important. 74-992-R (8/21).

Secretary IV in Earth and Planetary Science will handle a variety of secretarial duties of a group of seismology professors and their research staff. Type and edit manuscripts, correspondence, class material (some technical); independently compose some correspondence; handle purchasing and accounting procedures. Excellent typing, editing, proofreading, grammar, spelling essential. Willingness to work independently occasionally under pressure important. 74-993-R (8/21).

Secretary IV to the Head of the Engineering Library will handle all general secretarial duties as well as act as receptionist for library visitors; compile financial statements; responsible for several payrolls and petty cash. Good secretarial training and experience desired. Accounting or bookkeeping skills are necessary. 74-994-R (8/21).

Secretary IV to Assistant Directors Development Office. Handle files, mail, calendars, error-free typing for correspondence. Will produce final reports for senior Institute officials. Some editing. Excellent secretarial skills, shorthand preferred. Discretion, tact, ability to interact with Institute personnel at all levels. 74-1015-R (8/21).

Secretary IV in Civil Engineering will handle all general secretarial duties; type technical research reports, maintain contract files; handle routine correspondence. Good typing skills required, technical typing experience preferred; ability to organize and work independently important. Knowledge of Spanish helpful. 74-939-R (8/14).

Secretary IV to an Electrical Engineering/Electronic Systems Laboratory group will type correspondence, class materials, reports, papers; schedule travel, appointments; maintain student records. Secretarial school training or experience, good typing (technical typing ability) required. Ability to work independently and effectively with people important. 74-940-A (8/14).

Secretary IV will handle standard secretarial duties for a group of Mechanical Engineering professors. Schedule travel, appointments, seminars; type correspondence, monitor accounts. Secretarial training or experience, shorthand/dictaphone, technical typing skills required. Ability to communicate and to deal with students and staff important. These positions are available for "job-sharing." 74-949-R, 74-950-R, 74-951-R, 74-952-R (8/14).

Secretary IV in the Center for Policy Alternatives will assist with programs related to industrial and social applications of technology. Compose memos, letters; type proposals, reports, correspondence; schedule meetings, travel; share other office responsibilities. Excellent typing, shorthand required. Minimum 3 years experience; college background desired. Knowledge of Spanish or Portuguese helpful. 74-953-R (8/14).

Secretary IV-Part-time in the Medical Department will provide typing and telephone support for the Psychiatry Service. Transcribe patient case histories, type correspondence, reports; assist with other duties as necessary. Excellent typing required. Maturity in dealing with the sensitivity of patient needs is essential. 74-956-A (8/14).

Secretary IV to a Committee on the Visual Arts professor will handle general secretarial duties: type manuscripts, take minutes at meetings, assist with library research, field work, compose correspondence, coordinate student projects. Excellent typing and French required; research and writing experience, familiarity with seminar processes necessary. Background in art history and/or French literature desired. 74-976-R (8/14).

Secretary IV will handle secretarial duties for the Technology and Culture Seminar. Arrange for lecturers, seminars, meetings, food and space; participate and take notes at discussions;

keep financial books; help edit, type transcripts; arrange for publication and distribution. Excellent typing required. Administrative skills, efficiency in dealing with details and people important. 74-707-R (8/7).

Secretary IV to the Director of the new Cell Culture Center will handle general secretarial duties; organize and maintain files; monitor budget records; type and proofread manuscripts. Strong typing, organizational skills required; MIT experience preferred for setting up office in new center. 74-888-A (8/7).

Secretary IV in the Chairman's Office will handle a wide variety of secretarial and administrative tasks under the direction of a senior secretary. Schedule meetings, organize and maintain files for correspondence and committee work related to MIT external community relations. Excellent typing and organizational skills essential. Ability to maintain communications with top level offices of the Institute and with the greater Boston community desired. 74-890-R (7/31).

Secretary IV in Political Science will handle all general office duties for a busy group of professors. Type correspondence, manuscripts, from drafts of tapes, arrange travel, meetings, appointments; contact with students. Excellent secretarial skills essential (shorthand helpful); previous experience, ability to establish priorities important. 74-892-R (8/7).

Secretary IV for several professors in Political Science will handle all general secretarial duties; type manuscripts, class material (some with mathematical symbols). Excellent typing skills required; ability to work under pressure in busy office is important. There is much student contact in this job. 74-893-R (8/7).

Secretary IV to three faculty members in Political Science will handle all general secretarial duties; type class material; independently answer routine letters. Transcribe from tapes, confidential interviews pertaining to a study on school desegregation. Excellent typing, shorthand or speedwriting, ability to organize and establish priorities; previous secretarial experience required. Background in sociology/social science preferred. 74-894-R (8/7).

Editorial Secretary IV in Nutrition and Food Science will edit and type manuscripts for publication in technical journals; proofread galley, correspondence; maintain office records. Good typing, editorial skills, command of English grammar and spelling required. Ability to deal with people important. College background desired. 74-846 (7/31).

Secretary IV in Political Science will assist the Administrative Officer and type a variety of material pertinent to the department's administration. Prepare for signature: adjustment reports, appointments, vouchers, requisitions, etc. Assist in collecting data for budgets and reports. Good typing skills, knowledge and experience with accounting procedures, ability to work in a busy environment required. Familiarity with MIT helpful. Position is intended to be full-time, but there is some flexibility for part-time. (25-30 hours). 74-895-A (8/7).

Secretary IV in the office of the Institute Secretary for Charitable Trusts will monitor the office budget; arrange appointment schedules and travel; type correspondence and proposals from dictaphone and handwritten copy; set up and maintain files; act as liaison between the office and other sources inside and outside MIT. May occasionally conduct research on charitable trusts and foundations. Excellent skills, organizational ability, professionalism essential. Previous experience required. 74-293-R (4/10).

Secretary IV to a Civil Engineering Professor will handle general secretarial duties; admissions materials and various department publicity information; maintain research and account records; independently answer some correspondence. Good organizational and typing skills required; ability to work independently and under constraints of deadlines important. 74-898-R (8/7).

Secretary IV will handle all general secretarial duties for two Chemistry professors. Excellent typing skills needed for technical manuscripts, grant proposals, class notes. Dictaphone skills desirable; organizational ability important. 74-901-R (8/7).

Secretary IV in the Center for Advanced Engineering Study will handle all general secretarial duties for the manager of video operations. Monitor office accounts and handle billing; maintain office records; coordinate schedule of recording and editing sessions; answer questions regarding video services. Ability to work with figures, bookkeeping background helpful; accurate typing and organizational skills required. 74-904-R (8/7).

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 secretarial experience and training required. The ability to organize, recognize priorities, handle responsibilities are needed to maintain smooth operation of the section. 74-917-R (8/7).

Secretary IV in the office of the Secretary of the Institute will handle standard secretarial duties, plus liaison with Corporation and committee members, officers of MIT, department heads and faculty; prepare correspondence, large mailings, annual publications. Excellent secretarial skills, training and/or experience required. Initiative, integrity, discretion important; knowledge of MIT valuable. 74-918-R (8/7).

Secretary IV will handle secretarial duties for two Biology professors. Type manuscripts, correspondence; monitor accounts. Good typing, ability to work with figures and under pressure required. Secretarial experience preferred. 74-928-R (8/7).

Secretary IV to a professor in Metallurgy and Materials Science will handle variety of general secretarial duties: monitor accounts; schedule seminars, travel; handle correspondence independently; type manuscripts, proposals, reports. Good typing, organizational skills required; shorthand or speedwriting preferred; ability to work with figures and to deal with students, staff, faculty important. 74-854-R (7/31).

Secretary IV in the Provost's Office must have good organizational skills to handle a variety of secretarial duties in a busy office; maintain complex filing system; work with complicated calendar. Good judgment; discretion; ability to maintain smooth communication with administrative offices inside and outside the Institute; ability to work with detail; excellent typing, proof-reading skills required. Shorthand preferred. 37 1/2 hour work week: 8:30am-5pm. 74-855-R (7/31).

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. 74-857-R (7/31).

Secretary IV in the Office of Sponsored Programs will type correspondence; maintain records of grants, contracts and proposals; take and transcribe dictation; handle a variety of other duties. Good typing required; shorthand preferred. Previous office experience; organizational ability important. MIT experience desirable. 74-863-R (7/31).

Secretary IV in the Laboratory for Nuclear Science will handle all general secretarial duties for an active high energy physics group. Excellent typing needed for memos, reports, correspondence, papers, (some technical). Shorthand skills desirable but not essential. Ability to work independently; good organizational skills important. 74-807-R (7/24).

Secretary IV at Endicott House Dedham, MA, will handle a variety of general secretarial duties: prepare payrolls for hourly and voucher employees, prepare and type bills, maintain inventory of supplies, schedule reservations, welcome visitors. Accurate typing and bookkeeping skills essential; ability to work independently and with guests and staff in a high pressure environment important. 40 hour work week. 74-823-R (7/24).

Secretary IV in the Real Estate Office will transcribe shorthand dictation: order supplies; maintain inventory and records; occasionally assist with figure work; handle other general office duties; good typing, shorthand skills required; ability to organize and to work with figures important. 74-663-R (6/12).

Secretary IV in the Arteriosclerosis Center will perform general secretarial duties for medical doctors and other staff members; transcribe letters; schedule appointments; type abstracts and manuscripts. Good typing, ability to work independently required. Secretarial school graduate with previous experience desired (preferably in a medical setting). 74-670-R (6/19).

Secretary IV for Mechanical Engineering will handle general secretarial duties for several professors in thermodynamics. Type technical reports and manuscripts; maintain accounts. Excellent typing required, technical typist preferred; knowledge of office procedures; ability to organize, set priorities important. 74-256-R (6/5).

Secretary IV to the Institute Secretary for Foundations will be responsible for budget accounting, file maintenance; research in reference materials, main-

tain communications and smooth relations with top level offices of the Institute. Excellent secretarial skills, ability to organize and use discretion required. Knowledge of MIT desirable. 74-332-R (4/24).

Secretary IV in the Office of Administrative Information Systems will handle general secretarial duties; maintain inventory of technical manuals, program test logs, files; type memos, reports, documents. Excellent typing, dictation skills required. Knowledge of English grammar and general office procedures important. 74-617-R (6/5).

Secretary III-IV in the Analytical Studies & Planning Group will work on official Institute publications such as the General Catalogue, Courses and Degree Programs, Report of the President; and assist with general secretarial duties within the Analytical Studies and Planning Group. Excellent typing and proofreading skills, willingness to work under pressure of deadlines required. Some experience with production and layout is helpful to work as part of an editing production team. 9:00-5:30; 3 1/2 hour work week. 74-984-R (8/21).

Secretary III-IV in the Center for Advanced Engineering Studies will handle all general secretarial duties for the marketing area of the Center; act as liaison between separate areas of the Center and its customers; monitor office accounts. Excellent typing required; ability to deal with a variety of activities and people of a very busy office important. 74-988-R (8/21).

Secretary III-IV in Personnel will work for the Employment Officer and two Personnel Assistants. Good typing skills needed for correspondence, memos, form letters, reports; maintain special files; assist in arranging schedules for recruiting; handle employee cases, references, applicants for Personnel Assistants. Ability to work independently; maintain a variety of schedules and procedures. Flexibility, experience, and interest in being a part of an active group is necessary. 74-969-R (8/14).

Secretary III-IV in Nuclear Engineering will handle general secretarial duties for several faculty and staff; type class materials, correspondence, manuscripts, reports from handwritten notes, transcription and dictaphone. Schedule travel, appointments, meetings. Good typing, organizational skills required; experience with dictaphone, technical typing, shorthand desired. 74-959-A (8/14).

Secretary III-IV to two faculty members in Electrical Engineering will type class notes, reports, proposals (some technical); schedule meetings, appointments, travel. Technical typing skills required; initiative and the ability to work with a minimum of supervision important. 74-843-R (7/31).

Secretary III-IV in Ocean Engineering will handle general secretarial duties. Type correspondence, class notes, reports, proposals; arrange meetings, appointments, travel. Good technical typing skills, ability to work under pressure important. Familiarity with MIT procedures preferred. 74-909-R (8/7).

Secretary III-IV for a group of Nuclear Engineering professors will type articles, proposals, class notes, correspondence from handwritten drafts, dictaphone; handle other general office duties. Good typing, knowledge of office procedures required; technical typing and shorthand skills desirable. Ability to organize and work independently important. 74-916-R (8/7).

Secretary III to several staff members of the Center for Theoretical Physics. Excellent typing needed for technical reports, manuscripts and correspondence (technical typing skills helpful); ability to work effectively with students, guests, and faculty important. 74-833-R (8/7).

Secretary III-IV in Physics Dept. Theoretical Center will work for three-four 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 desired, willingness to learn. 74-903-R (8/7).

Secretary III-IV for three professors at the Sloan School will handle general secretarial duties in one-person office; make travel arrangements; type and arrange duplication of course materials including manuscript and technical typing. Secretarial training, experience in technical typing, and ability to organize and work with a minimum of supervision required. 74-829-R (7/24).

Secretary III-IV in the Research Laboratory of Electronics will handle general secretarial duties; type course notes, problem sets and other technical material; maintain special files. Accurate typing; ability to neatly draw diagrams, to work independently important. 74-673-R (6/19).

Secretary III in the Institute Information Office, Design Services will handle general secretarial duties; maintain records and accounts; do some proofreading and other duties related to the

production of graphic design. Accurate typing and a good command of English required. 74-923-A (8/7).

Secretary IV to several oceanography professors in Earth and Planetary Science will type research proposals, technical papers, correspondence, set up and maintain files; schedule travel; monitor accounts; independently compose correspondence. Strong secretarial skills; some technical typing; ability to establish priorities and work independently required. 74-910-R (8/7).

Secretary IV in the National Magnet Laboratory will handle general secretarial duties with the Alcatraz thermonuclear research project. Type technical reports, papers, proposals; arrange meetings; set up files. Excellent technical typing, ability to organize, work independently, work under pressure required. 74-921-A (8/7).

Secretary III will assist the Aeronautics and Astronautics Undergraduate Officer with a variety of functions, including registration; type correspondence and technical reports for two professors. Excellent typing, good command of the English language, ability to deal effectively with students and faculty important. 74-987-R (8/21).

Secretary III in the Sloan School of Management will handle all secretarial duties in a one-person office; type correspondence; tabulate data; schedule travel, and placement interviews between company recruiters and Sloan students. Excellent typing, communication skills required. Ability to organize and to work independently important. 74-995-R (8/21).

Secretary III in Meteorology Dept. working with 4 staff members and graduate students. Handle accounts, manuscripts, travel arrangements. Some technical typing, interest in learning to do technical calculations. Good typing, some college background. 74-1023-A (8/21).

Secretary IV in Medical will handle secretarial duties for two psychiatrists and assist with support for the part-time psychiatric staff and fellows. Transcribe patient case histories; maintain accurate records and schedules. Excellent typing required; maturity, ability to work under pressure and to deal with patients important. 3 1/2 hour work week. 74-685-R (6/19).

Secretary III to the Urban Studies and Planning will handle secretarial duties for the Admission Officer; assist with registration processes; take notes at meetings. Good typing and dictaphone skills required; ability to work with details important. 74-933-R (8/14).

Secretary III in Meteorology will perform secretarial and reception duties in the headquarters office; answer inquiries from students and visitors; responsible for student records, list and registration. Excellent typing skills needed for a variety of typing duties; college background preferred. 74-955-R (8/14).

Secretary III to the Head of the Atomic and Solid State Division in Physics. Handle general secretarial duties, type correspondence reports (some technical), answer questions from students and faculty. Good typing and shorthand required; previous secretarial experience preferred. 74-961-R (8/14).

Secretary III in the Treasurer's Office will use dictaphone and magna-card executive electric IBM for typing security transactions, acknowledgment letters; general correspondence. Maintain logs and file gift documentation materials. Good typing, ability to work with figures and details required. Familiarity with corporation names and security terms desired. 74-957-R (8/14).

Secretary III in Architecture will assist with typing correspondence, reports from handwritten material; answer busy phone. Excellent typing, ability to establish priorities and to cope with interruptions important. Previous experience desired. 74-971-R (8/14).

Secretary III to an Urban Studies and Planning professor will type manuscripts, correspondence and reports; maintain office files; set up appointments; arrange travel. Excellent typing, previous secretarial experience, dictaphone skills essential. 74-972-R (8/14).

Secretary III in Urban Studies and Planning will type manuscripts, correspondence, reports; schedule travel, appointments, meetings. Excellent typing skills, previous secretarial experience required. 74-973-R (8/14).

"Floater" *Secretary III* in Medical Dept. will transcribe clinic notes and histories for the Surgical Clinic and Specialty Clinics. Will cover for the other secretaries when needed. Excellent typing, previous transcribing experience and knowledge of medical terminology are required. Must be flexible and willing to assume a variety of assignments. 74-974-R (8/14).

Secretary III Secretary to Associate Director of Admissions and Associate Advisor to Foreign students. Compose and type letters, prepare immigration forms, etc. At least three years of

clerical experience. Excellent skills, ability to organize, cope with interruptions. Some seasonal pressure. Tact in dealing with students. 74-798-R (7/17).

Secretary III for Project MAC will share secretarial duties for the Automatic Programming group; type technical manuscripts, class notes and correspondence; maintain files, schedule appointments. Excellent technical typing skills required; ability to organize important; previous experience helpful. 74-731-A (6/26).

Secretary III in the Research Laboratory of Electronics will take shorthand, handle correspondence, make appointments, type course notes, problem sets, quizzes, some involving technical typing; will maintain a small library for journals and technical reports. Some secretarial experience or schooling required. 74-634-R (6/5).

Senior Library Assistant IV in the Aeronautics and Astronautics Library maintain card catalogue; train and supervise personnel assisting with other library duties; accurate typing, library experience, knowledge of cataloguing required; supervisory capabilities important. 74-709-R (6/26).

Senior Clerk IV in the Center for Policy Alternatives will handle a variety of administrative and clerical duties in accounting, payroll, purchasing, project administration, and space related matters. Will also perform some reception duties for the Center. Good typing required; knowledge of accounting and bookkeeping procedures, ability to work with students and staff important. 74-968-R (8/14).

Senior Clerk IV in the Summer Sessions Office will handle a variety of clerical duties; type letters and memos, distribute mail, keep inventory of office supplies, file purchase orders, process bills and keep track of applications for programs. Will also assist with summer registration and training office assistant. Excellent typing required; ability to work under pressure. 74-789-R (7/17).

Senior Clerk III in the Development Office will maintain central fund raising files, acknowledgment system; review data and post on donor cards; assist with investigation and evaluation of donors and prospects. Flexibility, ability to work with details, accurate typing required. Previous office experience desired. 74-954-R (8/14).

Senior Clerk III Part-time in the X-ray and ECG section of the Medical Department will type reports, file information cards and films; schedule appointments, assist with other clerical duties. Good typing, accuracy required; previous office experience preferred. 20 hour work week. 74-975-R (8/14).

Senior Clerk III Assistant to Corporations Analyst will handle information requests from senior Institute Officers regarding fund-raising objectives. Help maintain files, evaluate donors and prospects, write background memoranda. Excellent opportunity for promotion. Excellent skills; dictaphone. Mature and experienced individual. 74-801-R (7/17).

Technical Typist III will assist in the production of the Neurosciences Research Program Bulletin through use of IBM/MTST computer system. Type manuscripts; adapt format, scientific symbols, tabulations, etc. to style of the Bulletin; proofread copy, check bibliographic format. Good typing skills essential, knowledge of publications procedures. Applicant can be trained on MTST. Off-campus location (Brookline); own transportation desirable. 74-803-R (7/17).

Technical Typist III in Chemical Engineering will type large volumes of reports, manuscripts and proposals from rough drafts using a magnetic tape typewriter. Excellent typing skills required; ability to handle equations and chemical symbols, punctuation and paragraphing necessary. 74-741-R (7/10).

Senior Clerk III Part-time at the Architecture Department Film Section must be familiar with the use of Sync-sound filming and editing equipment. Check and repair film equipment, sound transfer and mixing. Answer student questions, assist with classes. Hours to be arranged. 74-912-R, 74-913-R (8/7).

Accounting Machine Operator III in the Comptroller's Accounting Office will post daily accounts receivable transactions on the NCR bookkeeping machine; will also handle a variety of other clerical duties. Accurate typing and 10-key adding machine skills required. Knowledge of the NCR 160 bookkeeping machine helpful. 74-991-R (8/21).

Senior Clerk III will take and process orders at Graphic Arts. Price and schedule xerox work, handle requisition details. Knowledge of reproduction processes helpful; previous customer service experience desired. 74-1004-R (8/21).

Clerk-Typist II or Senior Clerk III in the Office of Sponsored Programs

Property Section will type a variety of letters and forms; maintain log books; prepare mailing of property cards; up-date mailing lists; proofread and make corrections on computer lists and cards. Good typing, accuracy and neatness required. Some accounting office or clerical experience desired. 74-862-R (7/31).

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; supervise student assistant. Some work at the reference desk. Previous library experience and/or graduate school training essential. Knowledge of foreign languages is valuable in working with foreign journal titles. Ability to organize and communicate with the staff and users, accurate typing important. 74-919-R (8/7).

Senior Library Assistant IV in the Science Library will process materials for the reserve collection; maintain files and catalogue. Accurate typing, ability to organize and work efficiently under pressure required. Previous library experience helpful; library school background desirable. 74-986-R (8/21).

Senior Library Assistant IV in the Library Catalogue Department will be responsible for descriptive cataloguing of MIT theses, input theses and technical report literature on the OCLC 100 computer terminal. Accurate typing; ability to accurately follow complex directions; college graduate preferred; background in library science desired. 74-1008-R (8/21).

Library General Assistant III in the Humanities Library will do bibliographic searching for and type monograph orders; maintain records and files; process materials. Will also answer questions at the Information Desk. Accurate typing, ability to work with details required. College background and library experience helpful. 74-884-R (8/7).

Library General Assistant III in the Dewey Library will process new materials; maintain card catalogue; perform other clerical assignments as required. Previous library experience desirable; accuracy in typing and in working with details required. 74-943-R (8/14).

Library General Assistant III in the Library Cataloguing Department will type master catalogue entry on the OCLC 100 terminal; perform clerical aspects of reclassification, and other varied duties. Above-average typing skills required; capacity for details important. College or business school background and previous library experience helpful. 74-942-R (8/14).

Clerk II Part-time will assist the Director of Exhibitions and Hayden Gallery Manager with a variety of duties. Maintain gallery supplies, distribute posters, perform inventory of materials, assists in hanging exhibitions, handles other general office tasks. Responsible individual, with technical skills and a desire to learn museum work required. Some experience helpful. 20 hr. work week. 74-931-R (8/1).

Jr. Dietary Aide II for the Clinical Research Center will be responsible for all procedures used in preparing, weighing, cooking and serving food for 10-20 patients on metabolic diets. Experience in handling of foods preferred. Ability to work independently required. 40 hr. work week. 74-1006-R (8/21).

2nd Class Engineer must have a Mass second class Engineer's license or higher. Individual must be willing to work on any shift. 74-182-R (11/24).

3rd Class Engineer at the Power Plant may work any and all shifts and do all kinds of work, consistent with self sufficiency of the Plant. Mass. Third Class Stationary Engineer's license or a license of a higher grade required. Experience on high pressure boilers, oil and gas fired with automatic combustion controls, turbine driven auxiliaries: AC and DC generation, switchboard, and fed water control required. Some experience on turbine-driven refrigeration equipment is desirable. 74-422-A (5/29).

Cook at Endicott House, Dedham, MA will cook breakfasts 6 days a week and make desserts for lunches and dinners. May also occasionally prepare lunches and cook dinner one night a week. Expertise in cooking and presenting a variety of breakfast food, desserts, hors d'oeuvres required. Maturity, dependability, honesty important. Must be willing to work on a very irregular and demanding schedule. Will begin at 6am when preparing breakfasts; will need own transportation. 40 hour work week. 74-658-R (6/12).

Reactor Operator IV in Nuclear Engineering will serve as shift operator on the MIT Reactor after passing A.E.C. Operator's Examination. Monitor operation of a 5MW reactor; assist with various technical tasks; maintain logs and check sheets. 3-4 years experience

Obituaries

J. Stein

Joseph Stein, 64, of Belmont, on leave since 1972 as administrative staff member at the MIT Press, died Wednesday, August 14.

Mr. Stein, first worked at the Press in 1956 on a part-time basis and joined the staff full-time in 1966.

He leaves his wife, Lise and three daughters Josephine Stein of Belmont, Mrs. Peggy Skemer of New Jersey and Mrs. Jane Wilson of Toronto.

E.O. Dennison

Ernest O. Dennison, 88, of East Machias, Maine, a former Physical Plant custodian, died Wednesday, July 17.

Mr. Dennison who retired in 1957 after 32 years at the Institute, is survived by his wife.

Correction

An open house at the MIT Historical Collections, Bldg. N52, organized for the MIT Quarter Century Club, will be held from 3pm to 6pm Thursday, Aug. 22. A report in Tech Talk last week gave an incorrect starting hour for the open house.

in the Nuclear field will be necessary for preparing for operator's licensing. Knowledge of electronic circuits helpful. Ability to work under pressure of emergencies important. 40 hour work week. 74-766-R (7/10).

Senior Offset Pressman at Graphic Arts will do one, two and four color process printing; expose and develop plates, mix inks, operate and maintain press and associated equipment to perfect a direct image, line and half tone registration. May guide and train other operators. Graduation from high school or its equivalent and a minimum of 7 years applicable experience required. 40 hour work week. 74-351-R (5/15).

Campus Patrolwoman/Patrolman Minimum 3-5 years experience required in all phases of law enforcement to include knowledge of court procedures and case preparation, investigation of criminal and other complaints and reporting on same. Rotating shift/40 hour work week. 74-946-R 74-047-R 74-948-R (8/14).

Senior Stock Clerk in Graphic Arts will perform all stock room functions, initiate orders for stock; keep reserve stock room records; check requisitions for descriptions. Prepare printed material for delivery to MIT departments and outside vendors. Check slips and purchase orders and forward them to the G.A. accounting office. Must have full knowledge of commercial printing paper including: types, finishes, grains, properties, etc. Must be able to use power cutter and work from material cards. Graduation from high school or its equivalent and two years applicable experience required. 40 hour work week. 74-350-R (7/31).

General Helper at Graphic Arts will perform a variety of routine jobs such as cleaning, oiling and supplying raw materials to the bindery, press room, ozalid room. Works in various groups doing repetitious work as assigned. Graduation from high school or its equivalent required. 40 hour work week. 9am-6pm, 8am-5pm. 74-1002-R, 74-1003-R (8/21).

The following positions have been filled since the last issue of Tech Talk.

74-872-R	Secretary IV
74-844-R	Senior Secretary V
74-889-A	Sr. Secretary V
74-723-R	Secretary IV
73-1261-R	Elec. Tech. B-Canc.
74-899-R	Secretary IV
74-871-R	Secretary III-P.T.
74-833-R	Radio Tele. Oprtr.
74-900-R	Clerk Typist II
74-870-R	Admin. Asst. V
74-448-A	DSR Staff
74-861-A	DSR Staff-Temp.
74-709-R	Sr. Libr. Asst. IV
74-653-R	Secretary III
74-800-R	Admin. Asst. V
74-824-A	Secretary IV
74-847-A	Admin. Staff
74-945-R	Secretary IV
74-579-R	Secretary IV
74-821-R	Secretary III-IV
74-790-R	Jr. Animal Caretaker
74-924-R	Tea Hostess-P.T.
74-930-R	Secretary IV
74-632-R	Staff Prog.
74-907-R	Clerk II-P.T.

The following positions are on HOLD pending final decision:

74-891-R	Secretary IV-P.T.
74-926-R	Sr. Clerk III
74-896-A	Admin. Asst. Ex.
74-907-R	Clerk II-P.T.
74-908-R	Diet Aide
74-665-R	DSR Programmer



THE ELECTRONIC BICYCLE—Beth Kleiner pedals her bicycle equipped with an electronic carbon monoxide monitor along a Cambridge street. In extensive studies Miss Kleiner found high levels of carbon monoxide throughout the Boston area.

Carbon Monoxide in Boston Found Excessively High

BY DENNIS L. MEREDITH
Staff Writer

Concentrations of poisonous carbon monoxide exceed federal standards on most streets in Boston and its suburbs and at most times of day, says an MIT student who measured pollution levels as part of a summer project.

Beth Kleiner of Denver, Colo., a junior in biology at MIT, pedaled a bicycle equipped with an electronic carbon monoxide monitor on over 200 trips in the Boston area this summer. After averaging three hours of pedalling and measuring per day over a three-month period, she reported sore wrists, aching knees, and some disturbing results.

Miss Kleiner said that her monitor recorded average carbon monoxide levels per bicycle trip of between 10 and 25 parts per million. However, in many locations short term averages exceeded 70 parts per million.

The US Environmental Protection Agency, promulgating National Ambient Air Quality Standards to protect human health has established that a person should not be exposed to more than an average of nine parts per million of carbon monoxide over an eight-hour period, or 35 parts per million for a one-hour period. Blood tests performed on a number of cyclists before and after trips through Boston confirmed Miss Kleiner's findings that high carbon monoxide levels plague city streets.

Carbon monoxide is poisonous because it binds very readily to oxygen-carrying hemoglobin in the bloodstream, reducing the blood's oxygen-carrying ability. Little is known about the long-term effects of low doses of carbon monoxide, although medical researchers know that high levels can cause dizziness, nausea, loss of mental abilities, or even death.

Miss Kleiner did her research as part of MIT's Undergraduate Research Opportunities Program. Also supporting her work was the New England Consortium on Environmental Protection. She worked under the auspices of Dr. John Spengler of the Harvard University School of Public Health, Dr. Philip Drinker of the Peter Bent Brigham Hospital and, Dr.

Tunney Lee of MIT's Department of Urban Studies and Planning.

Miss Kleiner plans to turn her results over to the Massachusetts Department of Public Works (DPW) for use in designing bicycle paths throughout the Boston area. The Federal Highway Administration recently announced that it will allow the department to spend \$1.4 million in federal funds on bicycle paths in the state. Paths planned by the DPW include a 9½-mile path in Boston, Brookline and Cambridge, and a 14-mile path from Charlestown to Concord. The paths would, for the most part, run along the side of existing roadways, defined by painted lines.

Miss Kleiner named several areas along the proposed bike routes as evidencing especially high and constant carbon monoxide levels, including Massachusetts Avenue and Kenmore Square, Watertown Square, Porter Square in Cambridge and "practically anywhere else several streets come together" also measured high in carbon monoxide levels, she said.

Miss Kleiner recommended several routes to bicyclists, based on her studies and on her assessment of safety hazards. She recommended that Boston cyclists use Beacon Street or Commonwealth Avenue, because of their lower carbon monoxide levels and higher safety. She also recommended that cyclists between Harvard Square and MIT take Broadway or Harvard Street, cutting back to Massachusetts Avenue on Windsor Street.

Carbon monoxide levels depend heavily on weather conditions and time of day, with levels rising highest during the rush hour or on windless days, she said. Shaded streets also cause carbon monoxide levels to rise, because winds through the area are blocked by housing or trees. Miss Kleiner plans to continue her studies this fall because of the different weather conditions prevailing then.

So, can bicyclists in Boston avoid high carbon monoxide levels anywhere? Certainly, says Miss Kleiner, if they bicycle only on the bridges over the Charles River, which were the only spots low in carbon monoxide.



"NO WAY" says Baker catcher Bob Shapiro as he blocks the plate against Colbert Reisz of Nine Planets who failed to score on this play in the early

innings of the MIT Community Softball League championship game won by Nine Planets, 9-5.

Nine Planets Win Softball Championship

The Nine Planets team put itself into championship orbit last week (Aug. 15) with a five-run rally in the fifth inning, defeating Baker 9-5 in the MIT Community Softball League's final/play-off game.

The victory gave Nine Planets the A Division title. Baker made it to the final round by winning the B Division. Winner of the C Division was Navy Ocean Engineering.

League Commissioner Santo A. (Sam) Benichasa said 372 people participated in the 24-team softball league this year. Nearly 80 percent of that number (295) were students; 21 percent (78) were employees of the Institute, and 7 percent (25) were women.

Members of the winning Nine Planets team were:

Robert W. King Jr., graduate student; Denis White, DSR staff; Stephen P. Synnott, Colbert Reisz, Robert Poole, Donald L. Paul and William Briggs, all graduate students; Alan Whitney, Haystack staff; Rick Hildebrandt, Draper staff; Sean Collins, graduate student, Prof. Irwin I. Shapiro, Department of Earth and Planetary Sciences and Stephen Kent, graduate student.

Members of the Baker team were:

Leonard H. Sherman, Peter Dimon, Richard M. Kruger, Ross S. Gale, Raymond E. Swartz, Howell P. Lee, Philip H. Mandel, Robert Y. Shapiro, Richard L. Stadterman, Donald D. Huang, all students.

Photos by Calvin Campbell



BALLET AT THIRD BASE—Alan Whitney, right of Nine Planets and Ray Swartz, third-baseman for Baker, fight for the bag. No. 42 is Baker shortstop Howell Lee. Nine Planets won, 9-5, clinching the MIT Community Softball League title.



HAIL TO THE WINNERS—Santo A. (Sam) Benichasa, right, MIT Community Softball League commissioner, presents championship trophy to three members of Nine Planets after the team's 9-5 victory over Baker last week (Aug. 16). From the left: Stephen P. Synnott, Robert W. King Jr. and Donald L. Paul, the winning pitcher. Synnott and King are two of 9 Planets' tri-captains. Denis White,

DSR Staff, the third tri-captain, who is in Spain. Synnott and King are graduate students in aeronautics and astronautics. Their thesis adviser is Prof. Irwin I. Shapiro of the Department of Earth and Planetary Sciences. Paul is a graduate student in the Department of Earth and Planetary Sciences. Benichasa, a mechanical engineer, works at the Charles Stark Draper Laboratory.