Inside:

Event in Moscow
Western scientists hold special seminar—in the face of official Soviet harassment—to hear papers of Russian Jewish physicists banned from meeting. Story page 3.

MIT in the Arctic
MIT banner is faded and missing some punctuation after flying in frigid winds on an Arctic ice island. Story page 5.

GED Program
The Training Section of the Personnel Office has instituted a new General Education Development program for Institute employes. Story page 11.

Elderly Workshop
MIT and an industrial firm join to establish a sheltered workshop, called Sage, which provides employment and a social structure for the elderly of North Cambridge. Story page 2.

Massachusetts Institute of Technology

TECH TALK

October 3, 1973
Volume 18
Number 13

Pierre Aigrain

French Scientist is Named To H.R. Luce Professorship

A world-renowned French scientist, Pierre Raoul Aigrain, has been named the first holder of the Henry R. Luce Professorship in Environment and Public Policy at MIT. The announcement was made by Provost Walter A. Rosenblith.

Dr. Aigrain is well-known to MIT, having been a visiting professor several times. He was the visiting Edwin Sibley Webster Professor of Electrical Engineering in 1957 and was a visiting professor in the Department of Electrical Engineering again in 1959, 1961 and 1962. In addition, he was the spokesman for European universities at the inauguration of Howard W. Johnson as MIT president in 1966.

Since 1968, Dr. Aigrain has been the French government's General Delegate for Research and Technology in charge of coordinating and budgeting government civilian research. He is a professor in the Department of Physics at the University of Paris (VII) and was a professor-at-large of Cornell University from 1969 to 1973.

"We at MIT feel particularly fortunate in having been able to bring Professor Aigrain—a man with extensive experience in science policy making—as the first holder of the Henry R. Luce Chair to MIT," Professor Rosenblith said. "The General Delegate for Research and Technology serves essentially as the Science Advisor to the French Prime Minister. Professor Aigrain has dealt with the whole range of technological, environmental and educational problems as they relate to public policy and French industrial development. We look forward to having Professor Aigrain share his different perspective with the many MIT faculty members and students concerned with these issues."

Pierre Raoul Aigrain

Professor Aigrain's early scientific activities were in the field of circuit theory (partly in collaboration with E. M. Williams of the Carnegie Institute of Technology) and communication theory and technology. His later work has been mostly in solid state physics, especially semiconductors (photoelectromagnetic effect, recombination radiation in semiconductors and semiconductor lasers, helicon waves, etc.) and in energy conversion.

He is the author of about a hundred scientific publications and has taken out more than 100 patents. He has co-authored three books: *Les Semi-conducteurs,* Dunod, 1956; *Electronic Processes in Solids,* MIT Press, 1960; *Entretiens,* Presses Universitaires de France, 1965.

The Henry Luce Foundation Inc. announced the establishment of the Henry R. Luce Professorship in February of this year, saying that it would focus on the public policy implications arising from the extraordinary impact that

(Continued on page 12)

Crystals Grown Aboard Skylab In MIT Zero-Gravity Experiment

The first set of crystals grown in space under zero-gravity conditions are due to be brought to MIT within a few days for the start of an exhaustive analysis.

The crystals may represent man's first step toward exotic scientific breakthroughs—such as a space factory for producing new and improved electronic materials that could not be made on earth, or an orbital power plant drawing energy from acres of solar cells that could be transmitted by microwaves to earth pollution-free.

The crystals coming to MIT were grown in space on September 10 by the Skylab 2 astronauts in an experiment planned by two MIT materials scientists at the request of the National Aeronautics and Space Administration.

The scientists are Harry C. Gatos, professor of metallurgy and materials science and electrical engineering, and August F. Witt, professor of metallurgy and materials science.

On May 14, three crystals of

(Continued on page 5)

Sea Grant Lecture

'World Energy and The Oceans'

"World Energy and the Oceans" is the subject of the second annual MIT Sea Grant Lecture and Symposium to be held at MIT Oct. 18. The program will begin at 2pm in the Center for Advanced Engineering Study, Room 9-150.

The lecture will be delivered by Dr. William E. Shoupp, Westinghouse Electric Corp.'s senior vice president for research. Dr. Shoupp also is chairman of the Marine Board of the National Academy of Engineering and national president of the Marine Technology Society.

Professor Ira Dyer, head of the Department of Ocean Engineering and director of the Sea Grant Program, said the lecture "is planned as a yearly milestone in the marine field, an opportunity for the lecturer to review current problems and to present perspectives for the future.

"The MIT Sea Grant program dedicates the lecture to the study and the evolution of major national and international opportunities and to the identification of inventive approaches to pursuing these opportunities. By inviting a recognized authority in the marine field to lecture, we expect this to be a national focus for all persons interested in and working on marine-related problems."

Two MIT professors also will speak at the symposium.

Dr. John W. Devanney III, associate professor of marine systems in the Institute's Department of Ocean Engineering, will discuss "Recent Research at MIT on Offshore Petroleum."

Dr. Donald R. F. Harleman, professor of civil engineering at MIT, will discuss "Innovations in Heat Disposal in the Ocean."

Dr. Dyer will open the symposium and extend the Institute's welcome to those attending.

(Continued on page 11)

$18.5 Million EE Complex To Be Dedicated October 5

The Sherman Fairchild Electrical Engineering and Electronics Complex—the largest single building project completed at MIT since the Cambridge campus was built in 1916—will be dedicated Friday, Oct. 5.

The complex, representing an overall project cost of $18.5 million, will be occupied by components of the Department of Electrical Engineering and the Research Laboratory for Electronics (RLE).

The department—the Institute's largest—has facilities in nine other buildings. The RLE, organized at MIT in 1946, was the prototype for the interdisciplinary research laboratories now commonplace at colleges and universities.

The building is named for the late Sherman Fairchild, the inventor, genius and industrialist who died March 28, 1971 at the age of 74.

The Fairchild Foundation, Inc., established by Mr. Fairchild, made a $4 million grant to the Institute to complete the construction of the complex.

In acknowledging the grant last March, MIT President Jerome B. Wiesner said of Mr. Fairchild:

"I can recall no person we have memorialized whose life and professional accomplishments have more closely paralleled the activities to be housed in a particular named building. The whole sweep of our Department of Elec-

(Continued on page 4)

Boy, 14, Suffers Cut in Collision On Mass. Ave.

A 14-year-old Cambridge youth, injured when his bicycle collided with an automobile near the crosswalk in front of 77 Massachusetts Avenue at about 5:15pm Monday, was released from Cambridge City Hospital after treatment for a scalp cut.

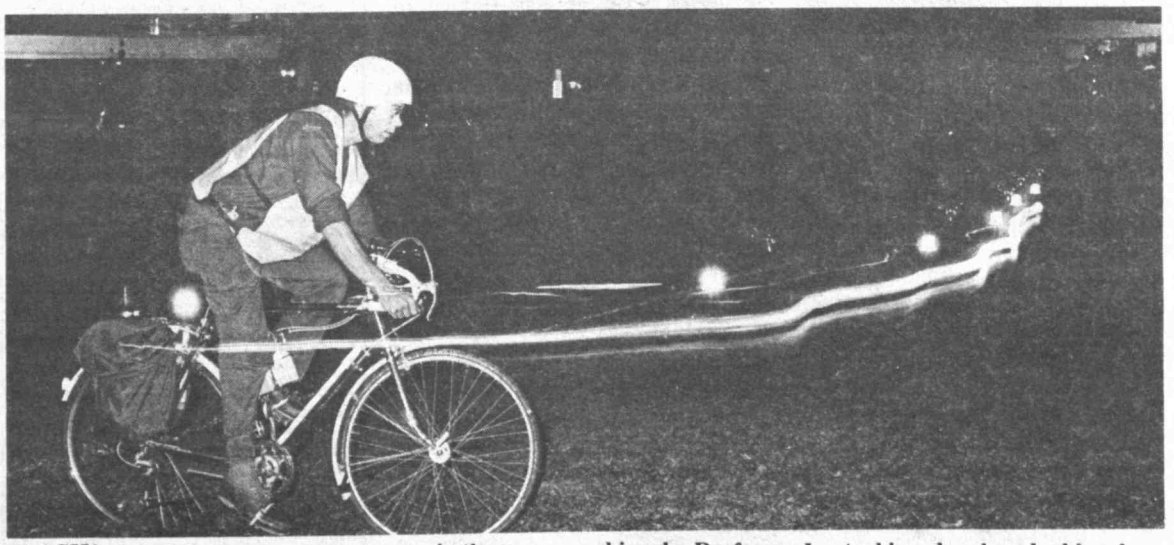
The boy, Werner Snitzer of 882 Main Street, was flung onto the hood of the car and against the windshield, shattering it, before falling to the street, according to the Cambridge police.

The youth was accompanied to the hospital in an ambulance by his mother, Carole, who until recently was a secretary in the Department of Humanities, and by Dean for Student Affairs Carola B. Eisenberg, a physician, who was at the accident scene.

Chief James Olivieri of the Campus Patrol warned that the Massachusetts Ave. crossing can be dangerous. He stressed Tuesday that pedestrians and bicyclists should cross within the crosswalk because it affords greater visibility.

Holiday

The Institute will be closed on Monday, Oct. 8, in observance of Columbus Day. Holiday pay provisions will be in effect on that date.



FLASH! FLASH. Flash. Flash . . is the way Stephen P. Loutrel, assistant professor of mechanical engineering, appears to motorists as he commutes from Lexington to Cambridge on his bicycle. Professor Loutrel has developed a bicycle-mounted strobe light as part of his research into ways to make bicycle commuting safer and more efficient. See story, page 5. —Photo by Margo Foote

New Guide Shows Way For Infirm

Thanks to "Access To Cambridge," a new guide to the architectural barriers of local commercial and public buildings, handicapped residents and visitors can move about the city with greater ease.

The 64-page booklet, compiled by members of the Alpha Phi Omega service fraternity at MIT and Boston College, surveys more than 32 categories of commercial businesses in the main districts of Cambridge.

International symbol for the handicapped for display on public buildings transportation facilities which are fully accessible to wheelchair users and other persons with limited mobility.

Listings include locations of elevators, rest rooms and ramps as well as the widths of doors and heights of steps. Telephone numbers of stores and buildings are also listed so that disabled patrons may call ahead for assistance or further information.

A chapter in the guide states building specifications approved by the American Standards Association, so that businesses and institutions can take steps to improve the city for the handicapped.

The booklet, begun earlier this year, was financed by the City of Cambridge, the MIT Community Service Fund, the MIT President's Fund, and the Rotary and Kiwanis clubs of Cambridge.

Copies of the guide can be obtained free from the Easter Seal Society of Boston, where a companion guide, "Wheeling Through Boston" is also available.

Hayden Gallery Shows Continue

"Lightworks," an experimental exhibit of light technology art by 14 MIT students, organized under the direction of Robert Preusser, professor of visual design, will continue at the Hayden Gallery until Friday, Oct. 5.

Adjacent to "Lightworks" is the Henry Moore exhibit, "Elephant Skull" which will be on display until Friday, Oct. 12.

The sculpture and 20 preliminary etchings and engravings were inspired by an elephant skull, a gift to the artist by British biologist Sir Julian Huxley. The skull is also included in the show.

Twenty-one recent acquisitions to the Catherine N. Stratton Collection of Graphic Art are currently on view in the Hayden Corridor Gallery through October. These new additions to the collection include etchings, silkscreen, photomontage, lithographs and serigraphs.

The new works are not included in the present Stratton Collection exhibit for the student loan lottery now underway in the Student Center West Lounge.

MIT and Industrial Firm Join to Establish Workshop for Cambridge Senior Citizens

A dozen Cambridge senior citizens are embarked on new careers in a unique sheltered workshop, named Sage, recently established by MIT and the Millipore Corporation.

Two open houses will be held at Sage. One is scheduled today, Oct. 3, and one Wednesday, Oct. 10, from 11am to 1pm. Visitors will tour the workshop and be entertained for luncheon by the employees. Those interested in attending may call Walter Milne, special assistant to the president for community affairs, Ext. 3-5278, for directions.

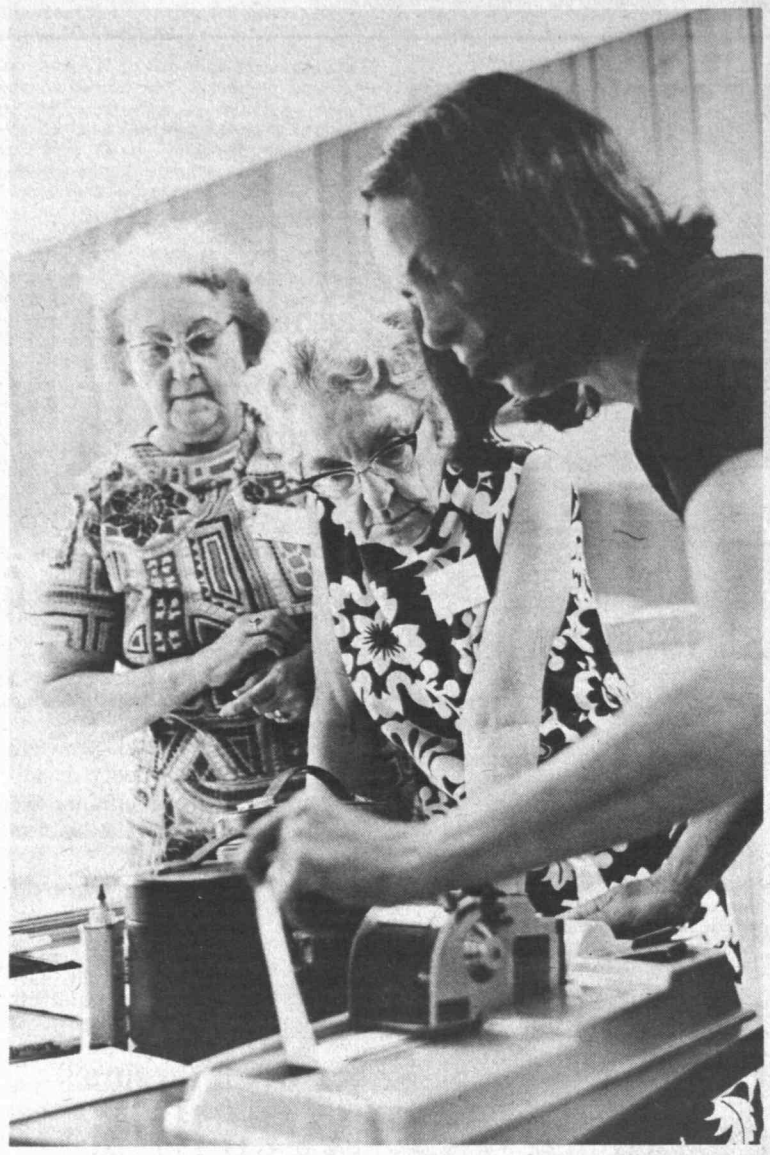
Sage—which stands for age plus wisdom—is unique in that it is the only sheltered workshop established on a one-to-one basis between an industrial company and a group of senior citizens. Sheltered workshops bring work from private industry to people unable to work in a normal work environment.

The workshop will handle mailing operations for Millipore, processing some 3,000 pieces of mail weekly. The income from Millipore is expected to cover all expenses for the workshop, including wages for the senior citizens.

Sage began operations in September in an industrial building at 35 Cottage Park Ave. in North Cambridge, near one of three apartment houses MIT has built for the elderly in Cambridge.

Workers at Sage are all Cambridge residents, aged 65 to 78. There is no upper age limit, nor are handicapped persons excluded. The rate of pay is regulated by federal and state agencies.

Besides remuneration, the sheltered workshop offers several social benefits to participants. One is the dignity and self-respect that accrue through productive work. The workshop also provides a supportive environment in which mutual concern and care can develop.



Sage workshop employees, Olive Martin and Christine Paynter, both of North Cambridge, and Donna Berman, special assistant to the Chairman of the MIT Corporation, and one of the organizers of Sage workshop.

—Photo by Margo Foote

The Sage workshop operates five days a week for three hours each morning. Herman Koss, 72, a retired businessman from Brookline, is supervisor of the operation. The only employee under 65 is Jack Barry of Medford, who is the stock clerk.

The idea for a workshop grew out of the housing program when MIT began investigating social services for the elderly in the apartment complexes. Senior citizens responded enthusiastically to the workshop idea.

A sheltered workshop for the elderly in Brookline which has been very successful, was used as a model for Sage. The Brookline workshop, however, is subsidized and there was no possibility for a subsidy for a workshop in Cambridge.

MIT then contacted several major industrial firms in an effort to find one or more firms to supply steady work and support for a workshop. Several expressed interest and Millipore Corporation responded favorably.

The Sage workshop has a board of directors including representatives from MIT and Cambridge senior citizen organizations. Administrative support—including billing, payroll and record keeping—is provided by New Communities Services of Boston, a nonprofit agency. The Cambridge-Somerville Mental Health and Retardation Center provides social service supervision and support.

Modest start-up funds for the workshop were provided by MIT through a no-interest loan from a special fund to be repaid over a two-year period.

Applications Due For ADP Session

Applications are due Friday, Oct. 5, for a new session of the Administrative Development Program, ADP II, which will start Tuesday, Oct. 16.

Eligible to apply for the program are members of the administrative staff (including DSR and Lincoln administrative staff members), exempt administrative staff and library and academic administrative staff. A broadly representative group from the MIT community is expected to participate in the program.

Application forms are available from Robert K. Weatherall, acting director of personnel development, Room E19-455.

Rabbi Mel Gottlieb

New Rabbi to Stress 'Spiritual Imperatives'

A young rabbi whose background includes work both with young people and the aged in New York City is the new spiritual advisor of the B'nai B'rith Hillel Foundation at MIT.

Rabbi Mel Gottlieb said one of his goals at MIT will be to clarify for students how the spiritual implications of the Jewish tradition relate to modern youth.

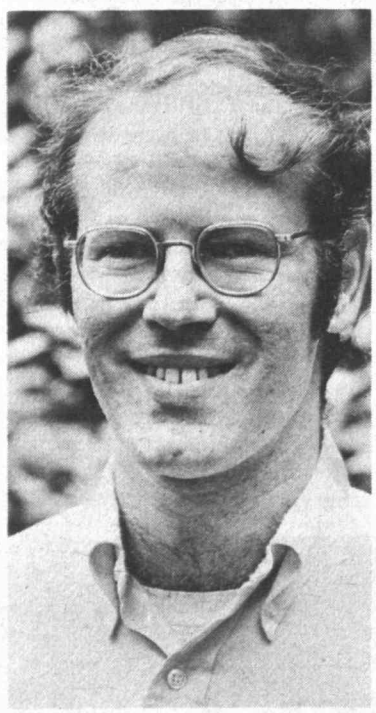
"I hope to form a community based on spiritual imperatives—that is, to enable students to engage in social action projects, such as projects for the aged," he said.

The 28-year-old rabbi said he also would be involved in forming self-help groups at Hillel "based on the psycho-ethical tradition within Judaism that stresses self-awareness, individual growth, spiritual sensitivity and respect for other group members."

Rabbi Gottlieb said he thought these would be the first groups of their kind among Jewish college students in the nation.

"It's an ideal opportunity," he said, "because there are certain idealistic imperatives to begin with and there is a trend today among students to turn inwards. This may be an opportunity to utilize some of this potential."

Rabbi Gottlieb said he would be teaching in the areas of Jewish philosophy, human growth and Judaism during the Independent Activity Period and also at Hillel.



Rabbi Gottlieb

Rabbi Gottlieb replaces Rabbi Herman Pollack, who retired. He received a B.A. in English literature from Yeshiva University in New York in 1966 and was ordained at Yeshiva in 1971, the same year he received an M.S. in Jewish philosophy. He received an MSW in social casework at Yeshiva last June.

Rabbi Gottlieb did psychiatric social work last year at Jacobi Hospital in New York City as part of his social work training.

He earlier had been a supervisor for New York's Summer Neighborhood Youth Corps program and also had been instrumental in establishing a group on the lower East Side of New York to help poor and aged Jews. He remains a member of the board of directors of this community action program, which is funded by the Federation of Jewish Philanthropies.

In 1970 and 1971, he was a Ford Foundation grant recipient working for the Synagogue Council of America as a student liaison in New York's Washington Heights community.

Rabbi Gottlieb is married to the former Tobie Brandriss of Silver Springs, Md.

2 Author Article

Two MIT scientists, Dr. Henry H. Kolm of the Francis Bitter National Magnet Laboratory and Dr. Richard D. Thornton, professor of electrical engineering, are the authors of the lead article in the October issue of *Scientific American* magazine. It describes work being done, including their own, on electromagnetic flight for high-speed ground transportation.

'A Doll's House'

"A Doll's House," by Henrik Ibsen will be presented by the MIT Community Players, Thursday through Saturday, Oct. 4-6, at 8pm in Kresge Little Theatre.

Tickets are $2.50, with $2.00 tickets for MIT students. Tickets are on sale from noon to 2pm in the Building 10 lobby and at the theater door. For reservations, call 253-4720.

TECH TALK
Volume 18, Number 13
October 3, 1973

Tech Talk is published 50 times a year by the News Office, Massachusetts Institute of Technology. Director: **Robert M. Byers**; Managing Director, News Office Publications: **William T. Struble**; Assistant Directors: **Joanne Miller, Margo Foote (Photojournalist)**; **Charles H. Ball, Dennis L. Meredith, Robert C. Dilorio**; Business Manager: **Paul E. Johnson**; Reporters: **Sally M. Hamilton**; **Damon P. Wright**; Calendar of Events 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 through 3-2707.

Mail subscriptions are $5 per year. Checks should be made payable to MIT and mailed to Business Manager, Room 5-122, MIT, Cambridge. Telephone Ext. 3-3676.

Tech Talk is distributed free to all members of the MIT community. Additional copies are available in the Information Center (Room 7-111) or the News Office (Room 5-111). Large numbers of additional copies should be requested within two weeks of the issue date.

Event in Moscow:

Western Scientists Hold Apartment Seminar—In the Face of Official Harassment—To Hear Papers of Russian Jewish Scientists Banned from Meeting

By DENNIS L. MEREDITH
Staff Writer

The exclusion of three Jewish Soviet scientists from an international physics meeting in Moscow in August resulted in a rump seminar for the physicists chaired by MIT Associate Professor of Physics H. Eugene Stanley.

Recently returned from the Moscow meeting, Professor Stanley reported that his organization of the rump meeting, at which the banned scientists were invited to give talks on their research, was met with heavy-handed attempts at dissuasion by Soviet authorities.

The scientific meeting was the International Conference on Magnetism, held Aug. 22-28 in Moscow, sponsored jointly by the International Union of Pure and Applied Physics (IUPAP) and the Soviet Academy of Sciences.

According to Professor Stanley, many participants in the conference were surprised to find that three internationally-known Soviet physicists—Drs. Mark Azbel, Moisei Gitterman and Alexander Voronel—were not present at the meeting.

The three physicists, who many months before had applied for exit visas to Israel, had later been forced to resign from their positions. Because they no longer held posts at official Soviet scientific institutions, the scientists would not be allowed to present talks or even attend the conference, they told Professor Stanley.

The Soviet organizers of the conference also said that the three physicists would not be allowed to attend the conference because the abstracts of their papers and applications for attendance had been received too late. This was in conflict with the Jewish scientists' assertions that they had submitted abstracts of their papers in June. Armed, uniformed guards were posted at the entrances to the meeting, and admission was permitted only to those who wore identification badges, Professor Stanley said.

During the conference, the international sponsoring committee held its customary meeting, said Professor Stanley. Although numerous western scientists repeatedly petitioned the committee to consider admitting the three banned scientists to the conference, the committee ruled that a host nation can exclude any number of persons from any country, including its own.

The three Soviet physicists then offered to present their scientific papers at a seminar in one of their apartments. Professor Stanley agreed to chair the rump session, and because of the absence of bulletin boards, conference attendees began circulating notices by hand announcing the seminar.

"At one point, I was suddenly approached by three men, who insisted that I immediately go to the 13th floor of Moscow State University. There, I was met by the general chairman of the meeting (a communist party member) and another official of the meeting.

"The conference officials tried to dissuade me from holding the seminar, insisting strongly that I was interfering with the pending US-Soviet detente. They were quite persistent in their attempts to dissuade me. I found out later that hotel officials had refused to give my wife the key to our room until I was found and brought to see these officials."

BANNED SOVIET PROFESSOR Mark Azbel lectures on his research in the rump session of the International Conference on Magnetism in Moscow, held in August. The session was chaired by Dr. H. Eugene Stanley (seated foreground), associate professor of physics at MIT.

The seminar was held, however, on Sunday, Aug. 26, at the apartment of Dr Voronel, and was attended by 41 scientists from eight nations, as well as about nine other banned Soviet scientists. Among the banned scientists was Academician Professor Benjamin Levich, whose son, Evgenie, was recently called into the army and sent to Siberia.

Each of the three physicists delivered a scientific talk in the presence of all 50 scientists crammed into the tiny apartment plus three "observers" who were identified KGB agents, said Professor Stanley.

In fact, said Professor Stanley, one of the agents had earlier identified herself to the wife of one of the conference participants as "assigned to keep track of these people" indicating to the wife that she meant the organizers of the rump seminar.

Indeed, the agent—a blonde woman—followed the organizers constantly, even to the point of attending the Moscow synagogue, though it was unanimously agreed by all that she was not Jewish.

Though the seminar was held strictly to scientific topics, Drs. Azbel and Voronel issued a statement afterward decrying the Soviet authorities' intervention. They also attacked the international sponsoring committee for bowing to Soviet authorities' demands.

Dr. Voronel, who participated last June in a hunger strike to protest the treatment of Soviet emigrants to Israel, has also been banned from other international meetings. Soviet officials refused to allow him to give an invited paper before a large IUPAP conference on Statistical Mechanics in Amsterdam in late August.

Back in Cambridge, Professor Stanley urged American scientists to send the Soviet scientists any scientific articles or papers, in order to help them keep up in their fields and in scientific developments in general.

"The scientists told me that they were denied contact with all scientific activity within the Soviet Union, and some have been out of touch with their colleagues for much more than a year. For many, the rump seminar was the first contact with more than one or two Western scientists since applying for exit visas. They must have continued contact to remain alive as scientists.

"There appear to be so many different engineers, scientists, and mathematicians in this situation, that any material, in any field, would be useful to someone," said Professor Stanley.

"And even the fact that people outside the Soviet Union are concerned enough about them to send material and therefore are keeping tabs on their situation will impress Soviet authorities."

Professor Stanley said that materials should be sent by registered mail to assure delivery, and could be mailed to any of the Soviet Jews. Two addresses are: Dr. Benjamin Levich, Leninsky Prospect 11, Apt. 5, Moscow, and Dr. Alexander Voronel, Naradrove Opolcheniye Street 45, Apt. 103, Moscow.

Lecture Series to Offer Debate on 2 Philosophies

The Technology and Culture Seminar at MIT will present a series of three lectures this month by Dr. Gian-Carlo Rota, professor of applied mathematics and natural philosophy at MIT, on "The End of Objectivity."

Dr. Victor F. Weisskopf, Institute Professor and head of the physics department, will serve as respondent.

The first lecture, "The Two Philosophies"—analytic and existential—will be presented Thursday, Oct. 11 in Room 9-150 at 5:15pm. A buffet supper ($1) will be served in the mezzanine lounge of the Student Center at 6:30 followed by an open discussion initiated by Professor Weisskopf's response to the talk.

In the English-speaking world analytic philosophy is the better known. Professor Rota maintains that existential philosophy has been unfortunately misunderstood and considered irrelevant to the foundations of science. In his lectures he will argue the opposing point of view.

The second and third lectures (Oct. 17 and 25)—"The Reform of Logic" and "Heidegger and the Shaking of the Foundations"—will be largely concerned with the philosophers Edmund Husserl and Martin Heidegger.

Husserl dedicated much of his work to creating a novel understanding of logic and mathematics, diverging from the strictly materialistic views prevalent in his time.

Heidegger is considered a major influence on 20th century existentialism. Professor Rota will attempt to give an introduction to his philosophy and make him accessible to potential readers.

Professor Weisskopf, widely known for his theoretical work in the structure of the atomic nucleus, is expected to act as apologist for the role of analytic philosophy in the sciences.

APARTMENTS CONVEYED—Paul V. Cusick, Vice President for Business and Fiscal Relations officially conveyed the Hamilton St. apartments for the elderly to the Cambridge Housing Authority on Monday. Accepting the deed for the 181-unit apartment complex is Mrs. Mary Castriotta, Chairwoman of the CHA. MIT financed construction of the $4,460,000 housing complex primarily through the Massachusetts Housing Finance Authority, and the complex was then purchased by the CHA.

—Photo by Margo Foote

Work-Study Jobs For Grad Students

A number of college work/study jobs are available this fall for MIT graduate students, Daniel T. Langdale, director of student employment, has announced. The jobs pay a maximum of $3.50 per hour.

To be eligible a graduate student must demonstrate need as defined in the federal requirements, not be a research or teaching assistant.

Students may contact their department's administrative officer or Mr. Langdale (Rm. 5-119, Ext. 3-4974) for more information.

Summer Programs Being Scheduled

Special Summer programs for 1974 are being scheduled, the Office of the Summer Session has announced.

Deadline for proposals of one- and two-week programs is Nov. 6.

Interested faculty should contact the Office of the Summer Session, ext. 3-2101, for information.

MIT to Dedicate $18.5 Million Fairchild Complex

(Continued from page 1)

trical Engineering and the Research Laboratory for Electronics reflects Mr. Fairchild's contributions to industry, research and education."

In addition to the dedication ceremony at 3pm Friday, two other events have been arranged in connection with the formal opening of the Sherman Fairchild complex.

At 8pm Thursday, Oct. 4, in Kresge Auditorium, the six men who served as presidential science adviser in the Eisenhower, Kennedy, Johnson and Nixon administrations will participate in a symposium on "High Technology in a Livable World."

Open to the entire MIT community, the symposium is expected to attract a capacity audience. For that reason arrangements have been made to televise the symposium on closed circuit. Television monitors will be placed in the Kresge Auditorium foyer and in Lobdell Dining Hall in the adjacent Student Center.

The MIT student radio station, WTBS-FM, at 88.1 on the dial will broadcast the symposium live.

In addition, WGBH-TV, Channel 2, will videotape the two-hour symposium. The station has announced it plans to broadcast the program at 4pm Sunday, Oct. 7.

Symposium participants will be James R. Killian Jr., honorary chairman of the MIT Corporation; Dr. George B. Kistiakowsky, professor emeritus of Chemistry at Harvard and visiting scholar at MIT's Center for International Studies; Dr. Donald F. Hornig, president of Brown University; Dr. Lee A. Du Bridge, former president of California Institute of Technology and former head of MIT's Radiation Laboratory; Dr. Edward E. David Jr., director and executive vice president of Gould, Inc., and Dr. Wiesner.

The other event of importance is a speech to be delivered Friday at the MIT Corporation Luncheon, Sala de Puerto Rico, in the Student Center, by H. Guyford Stever, director of the National Science Foundation. Howard W. Johnson, chairman of the MIT Corporation, will preside at the luncheon.

Julius A. Stratton, MIT president emeritus, will deliver the main address at the 3pm dedication ceremonies, to be held on the Sherman Fairchild complex plaza, weather permitting. The alternative location is Kresge Auditorium.

The building will be formally presented to the Institute by Walter Burke, president of the Fairchild Foundation. Dr. Wiesner will accept on behalf of MIT.

Tours of the building—located at 50 Vassar St.—will be conducted from 9:30 to 11am and from 3:45 to 6pm.

The Department of Electrical Engineering, headed by Professor Louis D. Smullin, has 100 faculty members, 150 research assistants, 90 teaching assistants, 450 graduate students and 710 undergraduate students and 100 support personnel.

The department began planning the move to the Sherman Fairchild complex in January, put the plan into operation in May, and has essentially completed the move on schedule at a cost of $180,000.

RLE, headed by Professor Henry J. Zimmermann, draws research staff from 11 academic departments—including science, engineering and social science departments.

About 100 faculty members, 300 graduate students, between 50 and 100 undergraduates and 100 support personnel are connected with RLE.

Organized in 1946, RLE is the outgrowth of the famed MIT Radiation Laboratory where MIT scientists and engineers designed and developed radar during World War II.

When the war ended, the federally funded Radiation Laboratory was closed. MIT scientists—impressed with the lab's successful interdisciplinary team approaches to technical problems—restructured and reorganized its Division of Basic Research into what became RLE in 1946.

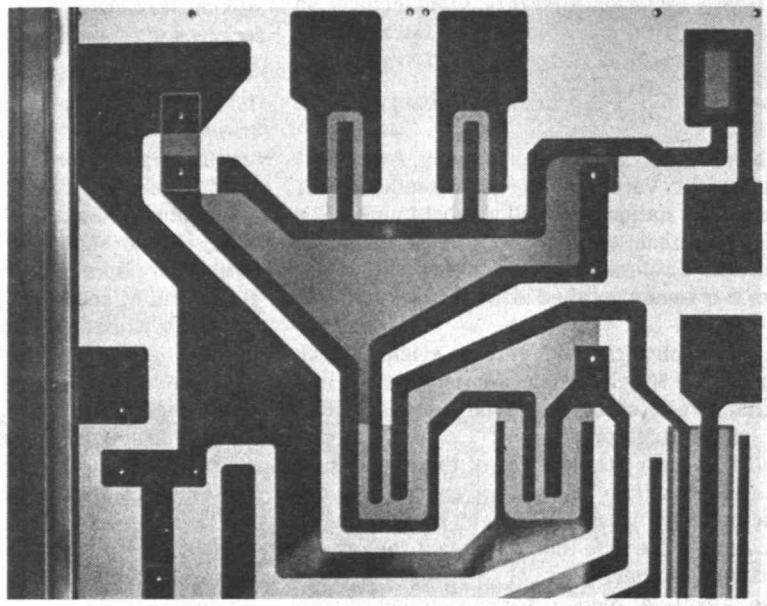
Writing on the occasion of its 20th anniversary, Julius A. Stratton, MIT president emeritus, said of the RLE:

"The founding of the new electronics laboratory in 1946 represented a major new departure in the organization of academic research at MIT and was destined to influence the development of interdepartmental centers at the Institute over the next two decades.

"These centers have been designed to supplement rather than to replace the traditional departmental structure. They take account of the fact that the newly emerging fields of science commonly cut across the conventional disciplinary lines.

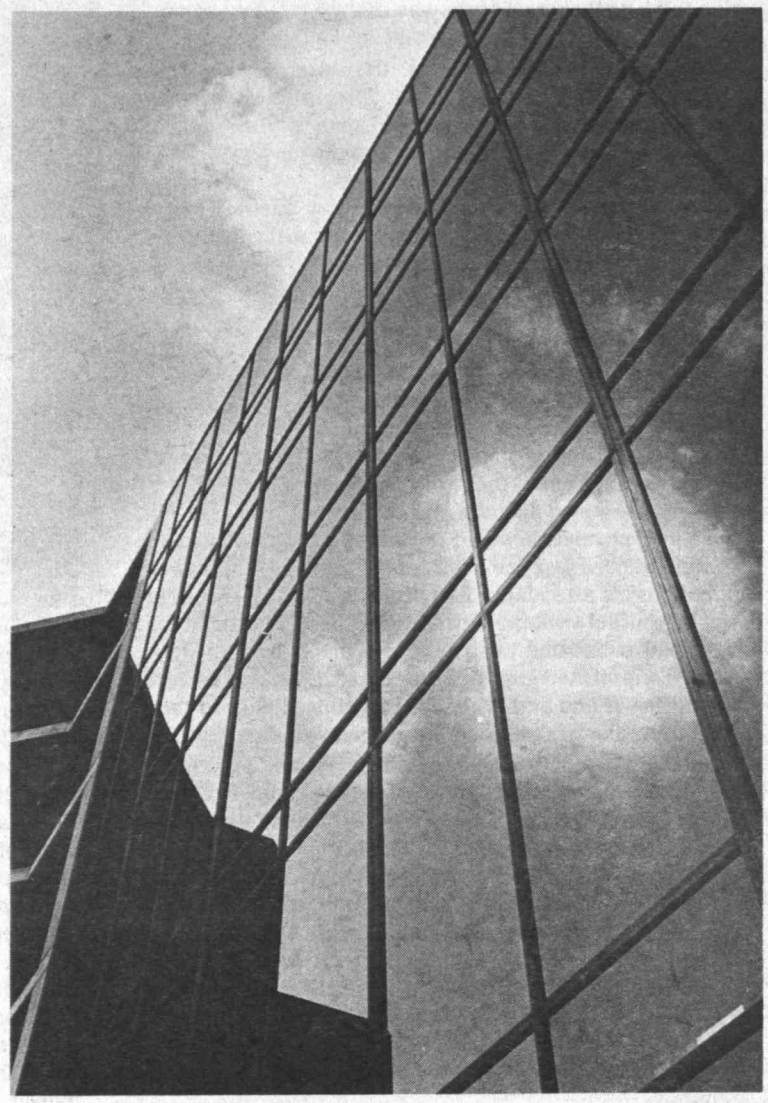
"And they afford a common meeting ground for science and engineering, for the pure and applied aspects of basic research, to the advantage of both.

"Perhaps more than any other development in recent years they have contributed to the special intellectual character and environment of MIT."

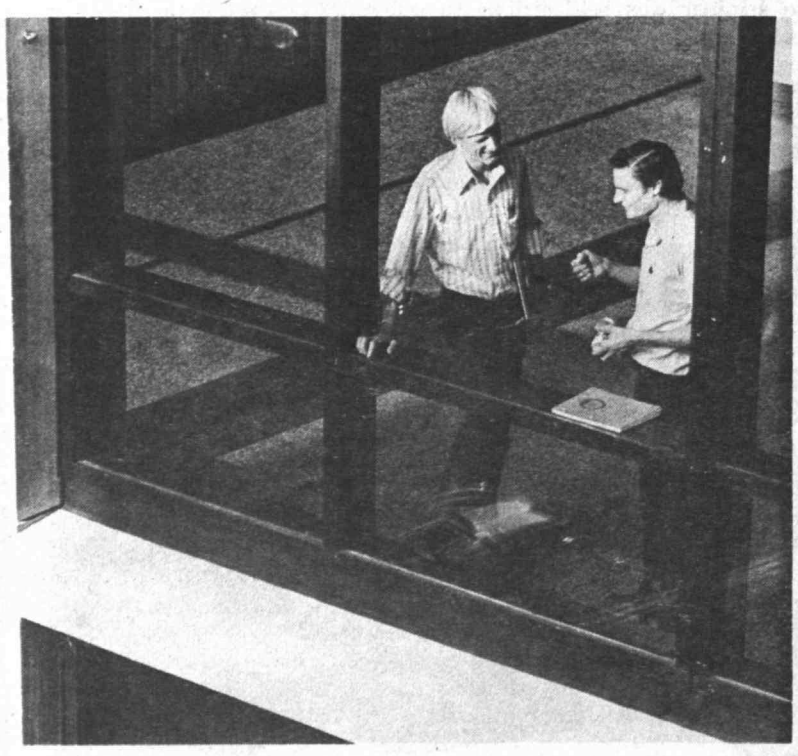


Elevator graphics

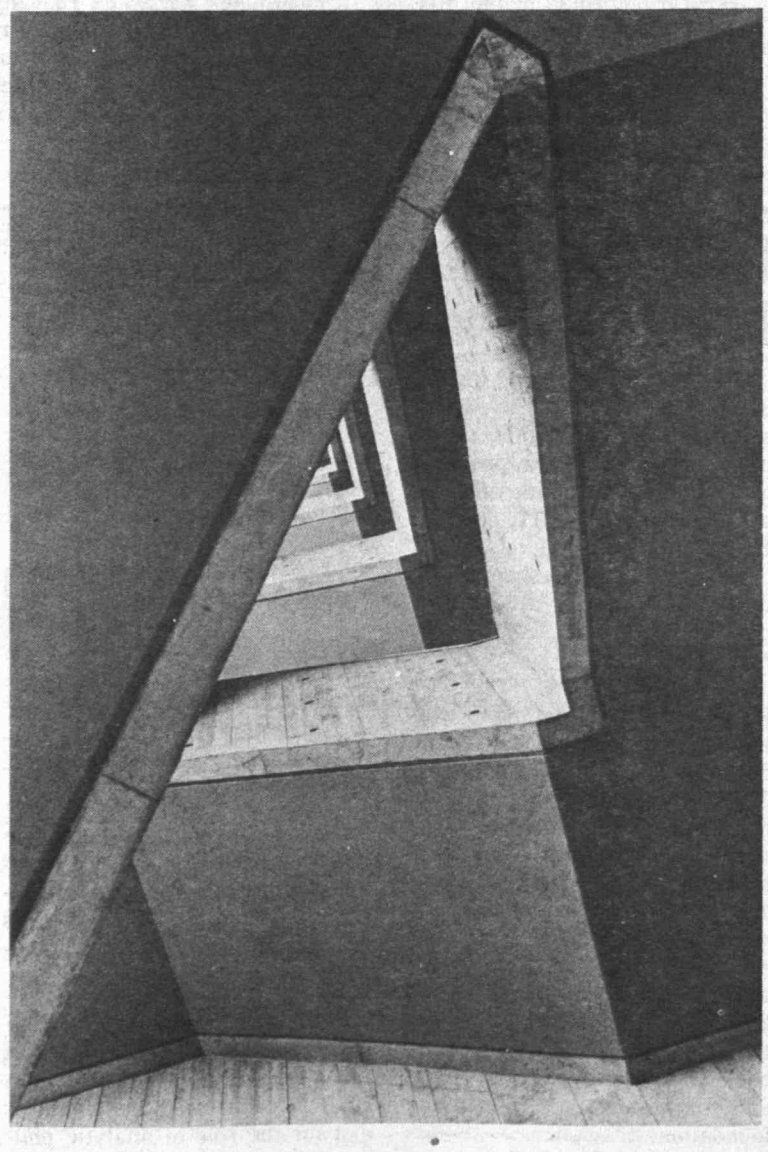
—Photos by Margo Foote



Clouds and glass



Conversation in a corridor



Stairwell design

Schedule of Fairchild Dedication Events

Here is a schedule of events planned in connection with the dedication of the Sherman Fairchild Electrical Engineering and Electronics Complex.

Thursday, Oct. 4, 8pm, Kresge Auditorium. Former presidential science advisers' symposium. The MIT community is invited and arrangements have been made to televise the symposium. Closed circuit monitors will be placed in Kresge Auditorium foyer and in Lobdell Dining Hall.

Friday, Oct. 5, 12:30pm, Sala de Puerto Rico. MIT Corporation luncheon.

Friday, Oct. 5, 3pm. Dedication ceremony on the Sherman Fairchild Complex plaza, 50 Vassar St., weather permitting. Alternative site, Kresge Auditorium.

Tours of the complex will be conducted from 9:30 to 11:30am and from 3:45 to 6pm.

Icy Arctic Winds Tatter MIT Flag

An MIT banner, now frayed, faded and missing a bit of punctuation, flew frigidly this summer in a most unlikely location—Fletcher's Ice Island T-3 in the Arctic Ocean.

The banner was hoisted by Carl A. Wales, a sophomore in ocean engineering, who spent nearly three months on the three-by-four mile floating ice island where Columbia University's Lamont Geological Observatory does research under a contract with the Office of Naval Research.

In addition to being an MIT man, Wales is a sailor—a sonar technician first class for the US Navy, attending the Institute under a special program for enlisted men. The Navy assigned him to the Fletcher Island project for the summer.

He joined the Navy in 1966, after being graduated from Phillips Academy in Andover, Mass.

Late in June, Wales decided the Arctic world needed to know of MIT's presence on Fletcher's Ice Island. He wrote to Robert M. Byers, director of the Institute's news office, and asked that someone send him a flag. It turned out, however, that the Institute has only one flag—hand sewn in 1961—which is used only at commencement and stored carefully at other times.

So instead of a flag, Wales was sent a banner. Along with the banner went a typical newsman's request: Get somebody to take your picture with the banner. Last week Carles Wales walked into the *Tech Talk* office with the photos and the banner and talked about what it was like to float around the Arctic on an island of ice.

"From mid-July on I was up every three hours around the clock to make observations—weather, gravity, magnetic and bottom depth. The lowest the temperature got while I was there was 15 degrees. The worst chill factor we experienced was 30 below. By the end of the tour I was working comfortably in shirtsleeves in a chill factor of zero.

"The island's a block of glacial ice, kidney shaped, approximately three miles wide and four miles long, roughly 100 feet thick, which broke off the ice shelf adjacent to Yelverton Bay on the northwest coast of Ellsmere Island which is in Canada's Northwest Territory. The island was first sighted in 1947 and was manned by Air Force personnel in 1952 until it was abandoned after running aground off of Barrow, Alaska. The island was remanned by US scientists in 1962 and has been operated continuously since then by the Naval Arctic Research Laboratory.

"Planes can't land on the island in the summer because the ice is too soft, but we got mail supplies and movies every three weeks by parachute."

Besides movies, the only other things to watch were some seals, a few birds—and a flapping red and white MIT banner.

MIT student Carl Wales—also a US Navy enlisted man—and the MIT banner he flew last summer while doing research on Fletcher's Ice Island in the Arctic Circle. Below, some signs he put up.

Astronauts—With Time to Spare—Perform MIT Crystal Experiment Ahead of Schedule

(Continued from page 1)

indium antimonide grown by the two men and their associates in the electronics and materials group were carried into earth orbit aboard the Skylab space station.

The experiment designed by Professors Gatos and Witt—in which the crystals were melted and regrown under zero-gravity conditions—took the astronauts about six hours to perform. Its purpose was to demonstrate that materials which must be prepared from the melt—such as metals, semi-conductors and others—will be free of the usual non-uniformity caused by the earth's gravity when the crystals are produced in the weightless environment of space.

The experiment originally had been assigned to the third Skylab crew.

However, the Skylab 2 astronauts, in the words of Professor Gatos, "ran out of things to do" and decided to go ahead with the crystal experiment.

The three crystals grown at MIT—five inches long and one-half inch in diameter and encapsulated in quartz ampoules—were to be heated to about 600 degrees centigrade. Then the molten material, two-thirds of the original crystal, was to be regrown in a furnace specially built for space conditions by Westinghouse to MIT specifications.

Temperature data was telemetered to the Manned Spacecraft Center in Houston during the experiment, and the furnace "performed as planned."

The crystals, brought back to earth by the Skylab 2 astronauts on September 24, are expected to contain a physical record of growth under both gravity and non-gravity conditions.

Crystal growth is fundamental to the semiconductors, transistors and other solid-state devices on which the modern electronics industry is based, but the growth process itself is poorly understood. If all has gone well in the space experiment, the "after" part of each crystal is expected to be clearly superior to the "before" section.

The crystals, still enclosed in their quartz ampoules, are being flown to the Huntsville, Ala., space center, to be X-rayed and then opened.

Professor Witt plans to be in Huntsville tomorrow (Thursday) to observe this procedure. Then he will fly back to Boston, carrying the crystal samples back to MIT ("It's a lot more certain than the mails," he explained.).

The analysis of the crystals at MIT will be "complete," Dr. Gatos said, including chemical, electrical and structural measurements.

Professor Gatos, in an interview last week with the Associated Press, said that "the ultimate impact of controlling the chemical and structural composition of materials is beyond the most far-out science fiction type of imagination."

MIT flag (right) flies at Schaefer Stadium, Foxboro, as ROTC color guard takes to the field for ceremonies preceding National Football League game between the New England Patriots and Buffalo Bills. The color guard, in white ceremonial uniforms, is drawn from the Institute's Army, Navy and Air Force units and will appear at all Patriots' home games this season. Members of the color guard for the Buffalo game, from the left, were: Robert Walter, Air Force; Craig S. Hammes, Army; Andrew C. Ross, Army; Jeffrey C. Mitchell, Navy; Dean E. Calcagni, Army, and Richard L. Jamison, Navy.

25 Miles a Day

Commuting Cyclist Designs Safety Devices

Headlines reading "Gas Shortage Feared," make mechanical engineer Stephen P. Loutrel smile. Gas station shutdowns bother him not in the least. Dr. Loutrel, an assistant professor of mechanical engineering doesn't need gasoline, because he commutes by muscle power, bicycling 25 miles per day from Lexington to Cambridge and back.

Professor Loutrel has combined his interest in cycling—which he contends is a transportation wave of the future—with his profession. He is currently conducting several research projects to make the bicycle a safer and more efficient method for commuting. For instance, commuters who see a flashing white light proceeding along the side of the road at dusk may be seeing one of his developments—a bicycle lighting system that practically guarantees notice by motorists. Besides a sealed beam headlight on the front, and an auto taillight on the rear, Professor Loutrel has installed a high-intensity xenon strobe light on top of the rear fender. Because the strobe light uses little electricity it can be run for about 24 hours on the rechargeable lead-acid motorcycle battery used for power. The high intensity flash is of sufficiently short duration so that, while being highly visible, it does not blind motorists. Add headgear, a repair kit, saddlebags, and a loud freon horn, and the ten-speed bike becomes the ideal commuting machine.

Professor Loutrel and his students also hope to develop ways to seal the bicycle chain and bearings against the weather. This is no trivial problem, because of the necessity of allowing room for mechanical movement and supporting members, and still providing a tight seal.

Professor Loutrel has commuted more than 4000 miles since he bought his latest bike two years ago. Though the bicycle is an extremely efficient means of transportation, surpassing any other, Professor Loutrel contends that it could be made more trouble-free. Mechanical wear on the chain and sprocket significantly reduces the efficiency after about 1500 miles and those parts must be replaced. Compared to the automobile's repair schedule, which allows thousands of miles between repairs, the bicycle's needs improvement.

The bicyclist, of course, has to contend with automobile exhaust fumes, lack of bicycle paths, frequently rude bus drivers and motorists, and bad weather.

But these drawbacks must be weighed against the advantages. For instance, traveling by bicycle is considerably faster than traveling by car in the congested central city. Also, bicycle riding is an excellent form of exercise.

Since bicycling takes only one-fifth as much energy as walking, Professor Loutrel's long daily commute is the equivalent of walking about five miles.

From his experience in bicycle commuting, Professor Loutrel believes that his food costs have not gone up appreciably because of the additional body energy required.

Nutritionists say that the energy required for bicycle commuting is negligible compared to the overall energy required for body maintenance, so bicyclists would not noticeably increase food intakes.

Considering the possible shortage of oil this winter, perhaps commuting on a tankful of bacon and eggs is not such a bad idea.

Plant Sale

The annual Technology Matron's plant sale will be held Thursday, October 11, beginning at 9:15am on the steps of the Student Center.

THE INSTITUTE CALENDAR

October 10 through October 19

Events of Special Interest

The End of Objectivity: The Two Philosophies*
Dr. Gian-Carlo Rota, applied mathematics and natural philosophy; **Dr. Victor Weisskopf**, institute professor of physics. Technology and Culture Seminar. First of three sessions. Thurs, Oct 11, 5:15pm, Rm 9-150. Buffet supper 6:30pm, Stu Ctr Mezzanine Lge. Fee $1. Open discussion, 7-9pm.

Touch the Earth*
An acoustic west country band from Cornwall, England, who perform in the tradition of wandering Celtic minstrel bands will give a concert in the Lobby of Bldg 7, Wed, Oct 3, as part of the Noon-Hour Concert Series.

Technology Matron's Plant Sale**
Thurs, Oct 11, 9:15am, steps of Stu Ctr.

Seminars and Lectures

Wednesday, October 3

101 Years of Boltzmann Equation: Grounds for Impeachment*
Prof. S. Yip, nuclear engineering. Nuclear Engineering Doctoral Seminar. 2pm, Rm 24-307.

Myth and Knowing*
Prof. Jerome Lettvin, biology, electrical engineering, RLE. Concourse Forum. 3-5pm, Bush Rm (10-105).

Finite Element Synthesis Methods
Shi-Tien Yang, nuclear engineering. Nuclear Engineering Doctoral Seminar. 3pm, Rm NW12-222.

Dynamic Range & Signal-To-Noise Ratio Considerations in Digital Representation of High Quality Audio Signals*
F.F. Lee, electrical engineering. Computer Information Processing Group Seminar. 3-4pm, Rm 36-428.

Gas-Cooled Fast Breeder Reactors Thermal-Hydraulic Investigations
T. Eaton, nuclear engineering. Nuclear Engineering Doctoral Seminar. 4pm, Rm NW12-222.

Thursday, October 4

Physics – Short Talks and Discussions
G. Holton, Harvard University; **H. Callen**, University of Pennsylvania; **C. Whitney**, MIT **J. Luttinger**, Columbia University; **R. Cohen**, Boston University. 1:15-4pm, Humanities Seminar Rm, 14E-303.

Solution of Second (Burnett's) Approximation for Mixtures of Gases*
Dr. Jury D. Nagornykh, research fellow, aero/astro. Aero/Astro Seminar. 3pm, Rm 33-206.

Statistical Thermodynamics a Century Ago
M. Klein, Yale University. Physics Colloquium. 4:30pm, Rm 26-100. Coffee, 4pm, Rm 26-110.

Friday, October 5

Laser Studies of Energy Flow in Polyatomic Molecules*
Prof Geroge Flynn, chemistry, Columbia University. 11am, Rm 26-414. Coffee, 10:30am.

Methodology and Policy Development for Transportation Planning in Paris*
Prof Pierre Merlin, Directeur Institut D'Urbanisme de L'Academie de Paris. Center for Transportation Studies Luncheon/Seminar Series. 12n, Stu Ctr Mezzanine Lge. Buffet lunch. Fee $2.

The Effect of Gibbs Adsorption on Marangoni Instability*
J.R. Ross, grad stu. Chemical Engineering Seminar. 2pm, Rm 10-105.

The Marangoni Effect on a Seive Tray*
M. Bautista, grad stu. Chemical Engineering Seminar. 3pm, Rm 10-105.

Jet Instabilities and Noise*
Hisayuki Handa, grad stu. Mechanical Engineering Doctoral Thesis Presentation. 3pm, Rm 31-261.

Oceanography – Its Different Aspects*
Films. Ocean Engineering Tankard Seminar. 4pm, Rm 5-314. Refreshments.

Plasma Heating and Mircrowave Production with Intense Pulsed Electron Beams**
Dr. D. A. Hammer, Naval Research Lab and University of Maryland. RLE, Plasma Dynamics Seminar. 4pm, Rm 36-261. Freshmen encouraged to attend.

Small Scale Industries in India*
Sponsored by Sangam. **Prof J. Garg**, formerly of Purdue University, will relate his experience on returning to India to set up small scale industries. 6pm, Sala de Puerto Rico.

Tuesday, October 9

An Intense 14MeV Neutron Generator*
Alan Forbes, nuclear engineering. Nuclear Engineering Doctoral Seminar. 12n, Rm 38-166.

Mechanical and Thermo Properties of Collagen, and Their Biological Significance*
Bernard J. Rigby, CSIRO wool research laboratories, Sydney, Australia. 2pm, Rm 3-343.

Self Tuning Regulators*
Karl J. Astrom, prof of automatic control, Lund Institute of Technology, Sweden. Electrical Engineering, Decision and Control Seminar. 4pm, Rm 37-212.

Underwater Acoustic Imaging*
Dr. George A. Gilmour, manager, Advanced Technology/Development, Oceanic Division, Westinghouse. Ocean Engineering Seminar. 4pm, Rm 3-446. Coffee, 3:30pm.

Poetry Reading*
Jay Wright, noted Black poet. Department of Humanities. 7:30pm, Rm 14E-304. Refreshments.

Wednesday, October 10

Myth and Knowing*
Prof Jerome Lettvin, biology, electrical engineering, RLE. Concourse Forum. 3-5pm, Bush Room (10-105).

Discretization of the Diffusion-Controller Equation System with Fuel Depletion*
R. Chin, nuclear engineering. Nuclear Engineering Doctoral Seminar. 3pm, Rm NW12-222.

Uranium Enrichment by Mass Diffusion*
C. Forsberg, nuclear engineering. Nuclear Engineering Doctoral Seminar. 4pm, Rm NW12-222.

On the Optimal Time to Pull the Goalie: A Poisson Model Applied to a Common Strategy Used in Hockey*
Prof Donald Morrison, grad school of business, Columbia University. 4pm, Rm 24-121. Coffee, Rm 24-219.

Thursday, October 11

Solution of Boltzmann Equation for the Simple Relaxation Process*
Dr. Jury D. Nagornykh, research fellow, aero/astro. Aero/Astro Seminar. 3pm, Rm 33-206.

Simulation of Multicorrelated Random Processes Using the FFT Algorithm*
Dr. L. E. Wittig, Bold, Beranek & Newman. Interdepartmental Acoustics Seminar. 4pm, Rm 5-134. Coffee, 3:30pm, Rm 1-114.

Substorms: Flares in the Earth's Magnetosphere*
Prof. Vytenis M. Vasyliunas, MIT. Physics Colloquium. 4:30pm, Rm 26-100. Refreshments, 4pm, Rm 26-110.

Friday, October 12

Effect on Conformation of Macromolecules on Drag Reduction*
H. Banijamali grad stu. Chemical Engineering Seminar. 2pm, Rm 10-105.

Hydroxylated Styrene Butadiene Styrene Block Copolymers as Potential Bio-Materials*
M. Sefton, grad stu. Chemical Engineering Seminar. 3pm, Rm 10-105.

Crack Tip Plasticity and Fracture Criteria
James R. Rice, engineering, Brown University. 3pm, Rm 3-133. Coffee, 4pm, Rm 1-114.

An Introduction to Metastability*
Prof Simon C Moss, physics, University of Houston, Texas. Material Science Colloquium. 4pm, Rm 9-150. Coffee, 3:30pm.

Antibiotics as Animal Growth Promotants**
Dr. William E. Brown, Squibb Institute for Medical Research, Princeton, NJ. Microbiology & Biochemical Engineering Seminar. 4pm, Rm 16-134. To arrange consultation, A.L. Demain, x3-1711.

Community Meetings

U.S. Culture and Family Life
First meeting of discussion group, open to foreign students, staff, faculty wives, women students, and visitors. Wed, Oct 10, 3:30-5pm, 3rd fl Medical Dept (use rear elevator). Information, call Mrs. Rodrigues (social worker), x3-4911 or Mrs. Schwartz (sociologist), x3-2916.

Women's Forum
Open meeting and discussion. Tues, Oct 9, 12n, Bush Rm (10-105).

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

Student Committee on Educational Policy
Meeting on year round operations. Speaker: Vice President Kenneth Wadleigh. Wed, Oct 3, 7:30pm, Stu Ctr Rm 400.

Grievance Committee
Organization meeting. Sun, Oct 7, 3pm, Stu Ctr Rm 401.

Academic Projects
Staff meeting. Probable topics: education lectures; degrees, grading, units & requirements. Wed, Oct 10, 7:30pm, Stu Ctr Rm 400.

MIT Community Players*
Meeting: The "Cranberry Puppeteers" will perform a feminist version of *The Three Little Pigs*. Everyone welcome. Refreshments. Tues, Oct 9, 7:30pm, Stu Ctr Mezzanine Lge.

Introduction to Fortran**
Non-credit course, Information Processing Center. Oct 1, 2, 3, 5, 9, 11, & 12, 9:30-11:30am, Rm 39-530. Open to community with knowledge of fundamental programming concepts. Register, Lynne Penney, Rm 39-427, x3-6320. Fee: $5.

Course Evaluation**
Sponsored by TCA & SCEP. Come help out. Info, Robert, 494-8889 vgs, or lve msg at TCA, Stu Ctr Rm 450, x3-4885.

MIT Club Notes and Meetings

Auto Club
Meeting. Wed, Oct 3, 7:30pm, Stu Ctr Mezzanine Lge.

Bridge Club
ACBL Duplicate Bridge. Thurs, 6pm, Stu Ctr Rm 407. IMP-scored team games (similar to rubber bridge scoring). Smaller IMP team games, Fri, 9:30pm, & Sat, 2pm, Stu Ctr Rm 407. Club Tournaments, Thurs, Oct 11. Jeff, x3-5285 or 864-5571.

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

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

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

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

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

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

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

MIT Karate Club**
Lunch-hour beginning classes, 12n-1pm. Tues, Thurs, Walker 3rd fl; Wed, Fri, Dupont T-Club Lge. Come twice a week. John Miller, x3-1588.

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

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

Pi Tau Sigma***
Speaker at first meeting of year: **James H. Williams**, prof of mechanical engineering. Wed, Oct 3, 5pm, Rm 1-114 (Miller Rm). Members in MIT and other schools.

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

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

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

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

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

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

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

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

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

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

Wellesley Events

Augustan Policy and Literature
Sir Ronald Syme. Greek and Latin Dept Lecture. Wed, Oct 3, 7:30pm, Pope Rm.

Dance Concert
Viola Farber and Company. Fri, Oct 12, 8pm, Alumnae Hall.

Social Events

Hellenic Student Association*
Party. Fri, Oct 12, 8pm, Stu Ctr West Lge.

Pot Luck Coffeehouse**
Live entertainment, cider, coffee, donuts. Fri & Sat, 8:30pm-12m, Stu Ctr Mezzanine Lge. Performers & others interested in helping out call Doug, x8788 Dorm. Free.

24-Hour Coffee House*
The MIT 24-Hour Coffee House has re-opened. Inexpensive food, candy, and non-alcoholic drinks are sold. Relax, play games, and read. Open: 24 hours daily, Stu Ctr Center Lge.

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

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

Movies

Five Easy Pieces
LSC. Fri, Oct 5, 7pm, 9:30pm, Rm 26-100. Admission 50 cents, ID's required.

Our Daily Bread (King Vidor)
Film Society. Fri, Oct 5, 7:30pm, 9:30pm, Rm 6-120. Donation $1.

The Illustrated Man
Midnite Movie Series. Fri, Oct 5, 12m, Sala. Free, ID's required.

The Heartbreak Kid
LSC. Sat, Oct 6, 7pm, 9:30pm, Rm 26-100. Admission 50 cents, ID's required.

Adam's Rib
LSC. Sun, Oct 7, 8pm, Rm 10-250. Admission 50 cents.

Last Duel & I'm Crazy About You*
Chinese Students Club. Mandarin movies with English subtitles. Sun, Oct 7, 2pm, 4pm, Kresge. Admission, $2 adults, $1 children & members.

Bullitt*
Pakistani Students Association. Starring Steve McQueen. Mon, Oct 8, 7pm, 9:30pm, Rm 10-250. Donation $1, all proceeds to aid flood victims in Pakistan.

The Discreet Charm of the Bourgeoisie
LSC. Fri, Oct 12, 7pm, 9:30pm, Kresge. Admission 50 cents, ID's required.

Capricious Summer (Jiri Menzel)
Film Society. Fri, Oct 12, 7:30pm, 9:30pm, Rm 6-120. Donation $1.

The Time Machine
Midnite Movie Series. Fri, Oct 12, 12m, Sala. Free, ID's required.

Music

Auditions – Zamir Chorale of Boston*
Professional Hebrew chorus, students & working people. Arrange auditions by calling x8564 Dorm or 489-2386. Tenors especially welcome.

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

Theater and Shows

MIT Community Players*
Henrik Ibsen's *A Doll's House*, directed by Lee Barton. Thurs-Sat, Oct 4-6, 8pm, Kresge Little Theater. Tickets: $2.50, $2 MIT students. At door or Bldg 10, 12n-2pm.

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

Lightworks*
Committee on Visual Arts presents a collaborative experimental exhibition by MIT students under the direction of Robert Preusser, Visual Design. Mon-Sat, 10am-4pm, through Oct 5, Hayden Gallery. Free.

Elephant Skull*
An exhibition of sculpture and numerous etchings by Henry Moore, presented by the Committee on Visual Arts. Mon-Sat, 10am-4pm, through Oct 12, Hayden Gallery. Free.

Creative Photography Gallery*
Prints from the Prospect Gallery. Mon, Oct 1-Sat, Oct 13, W31-310. Hours: 9am-10pm, Mon-Fri; 12n-6pm, Sat-Sun.

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

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

Athletics

MIT Wheelmen Bike Race 2*
Sat, Oct 7, leaving 8am. Course will be posted on Wheelman bulletin board, main corridor. Series of 6 races, winners receive trophies. Info, Harry, x3-2384 or Brad, x3-6646.

JV/F Soccer*
BU. Thurs, Oct 4, 3pm, Briggs Field. **Trinity.** Sat, Oct 6, 2pm, Briggs Field.

V Baseball*
St. Anselm's. Fri, Oct 5, 4pm, Briggs Field.

Water Polo*
MIT Tournament. Fri, Oct 5, 4pm, Sat, Oct 6, 10am, Alumni Pool. **Brown.** Wed, Oct 10, 7:30pm, Alumni Pool.

Women's V Sailing*
Learning Regatta. Sat, Oct 6, 12:30pm. Charles River Lower Basin.

V Golf*
Boston College, Bentley. Wed, Oct 10, 12:30pm, Chrystal Springs Country Club, Haverhill.

Auto Club*
Rally, Sat, Oct 6, 8am, begins Chelmsford. **Autocross**, Sat, Oct 6, 7pm-5am, Bryar. **Race**, Oct 7, 11am, Bryar. Admission $3 race only, $5 all 3. Info, David Ziegelheim, x8510 Dorm.

Religious Services and Activities

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

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

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

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

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

Hillel Holiday Services*
Yom Kippur: Fri, Oct 5, Mincha, 4pm, Kosher Kitchen, Kol Nidre, 6:10pm, Kresge; Sat, Oct 6, 8:30am, Yizkor, 11:55am, Mincha, 4:15pm, Ne'elah, 5:45pm, all Kresge. Meal after all services. To order, Herbie Levine, x8403 Dorm.

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

Protestant Worship Services*
Sun, 11am, Chapel.

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

United Christian Fellowship*
Christians for dinner and sharing. Thurs, dinner, 5pm, Walker, followed by singing, sharing, praying 6pm, Rm 14E-307.

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

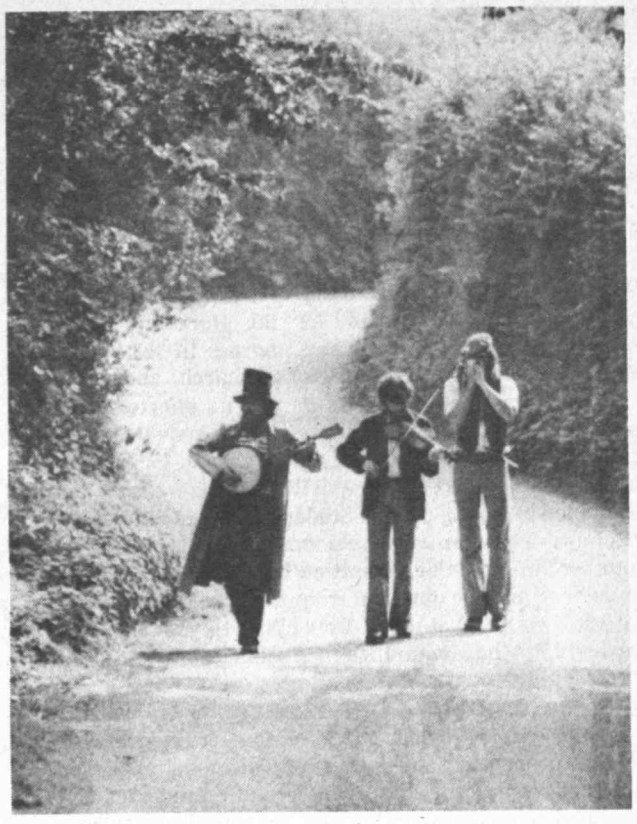
Announcements

Voter Registration**
Sponsored by Undergraduate Association. Wed, Oct 10 & Mon, Oct 15, Stu Ctr West Lge. Time to be announced.

Upward Bound Program
Volunteers needed to tutor Cambridge High School students in evenings at MIT. Martha or Marshall, x3-5125.

Preprofessional Interviews
Lewis & Clark Law School. Ms. Anne Kendrick. Wed, Oct 3, 9am-12n. Make appointment Rm 26-244. **Duke Med School.** Wed, Oct 3. Make appointment Rm 26-244. **NYU Med School.** David Scotch, associate dean. Thurs, Oct 4, 12n, Rm 4-163.

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



Touch The Earth, an acoustic west country band (shown above) from Cornwall, England, who perform in the tradition of the wandering Celtic minstrel bands, will regale with a noon-hour concert in the Lobby of Building 7, today, Wednesday, Oct. 3.

Dining Service

Wednesday, October 3
Lunch: Escalloped ham & noodles au gratin
Dinner: Stuffed cabbage w/tomato sauce

Thursday, October 4
Lunch: Grilled liver w/onions
Dinner: Baked scrod fillet w/cheese crumbs

Friday, October 5
Lunch: Burgundy meatballs over noodles
Dinner: Canadian bacon w/fruit sauce

Tuesday, October 9
Lunch: Hot beef sandwich
Dinner: Roast leg of lamb w/mint jelly

Placement Interviews

The following companies will be interviewing candidates for placement Wed, Oct 10 to Fri, Oct 12. Those interested may sign up for interviews Mon-Fri, 9am-4pm, Career Planning and Placement Office, E19-455, x3-4733.

Wednesday, October 10
University of Pennsylvania, Wharton Graduate Division.

Thursday, October 11
Gulf Energy & Environmental Systems, Gulf Research & Development Company, Gulf United Nuclear Fuel Corporation (all divisions of Gulf Oil Corp); Metcalf & Eddy, Inc.

Friday, October 12
American Electric Power Service Corporation, University of Chicago Graduate School of Business, Gulf Energy & Environmental Systems, Gulf United Nuclear Fuel Corporation.

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

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

Send notices for October 10 through October 19 to the Calendar Editor, Room 5-111, Ext. 3-3279, before noon, Friday, October 5.

Foreign Study Opportunities

REMINDER OF DEADLINES
FULBRIGHT AND MARSHALL SCHOLARSHIPS DEADLINES ARE OCTOBER 9, 1973. Apply to the Foreign Study Office, Room 10-303, Ext. 3-5243.

POSTDOCTORAL
RHODES FELLOWSHIPS FOR WOMEN

St. Anne's College, University of Oxford through the Rhodes Trustees is able to invite—from women graduates who are citizens of the Commonwealth or the US—applications for a Rhodes Visiting Fellowship tenable at the College for two years beginning in October, 1974, or January, 1975. Preference will be given, other things being equal, to applicants who have not previously studied for a substantial length of time at a university in the UK. It is intended that the Fellows should engage in academic work of postdoctoral standard, although she need not necessarily have obtained a doctorate. She will be required to undertake research in a subject which can profitably be studied at Oxford, and may also be asked to undertake a limited amount of teaching. She will have full residence in College, free of charge, and be a member of the Senior Common Room. The stipend will be approximately $4,026 and expenses will be reimbursed.

Application forms may be obtained from the Principal, St. Anne's College, Oxford, England, and should reach her as soon as possible and at the latest by December 31, 1973. Candidates should enclose six copies of a statement of qualifications and of a brief outline of the research which they propose to undertake. They should give the names of two or three persons prepared to act as references.

For further information see the Foreign Study Office, Room 10-303, Ext. 3-5243.

—

ROYAL NORWEGIAN COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH

Postdoctoral Fellowships for young scientists wishing to undertake research work in Norwegian institutes. Candidates should be under 35 years of age and have qualifications corresponding at least to a British or an American PhD in science and engineering. The program covers all fields of applied science and technology within the sphere of the Council. Agriculture and medicine are excluded.

Fellowships will be granted for a full year of research and applications for renewal for a second year will be considered. English may be used in all research teams. The annual stipend is approximately $6,256. Additional money is also granted to married Fellows accompanied by their spouses and dependents. Stipends will be tax-exempt in Norway. Travel grants to cover part of the transportation costs may be applied for from the Council.

Application forms may be obtained from the Royal Norwegian Council for Scientific and Industrial Research, Gaustadelleen 30, Oslo 3, Norway. Applications for the 1974/75 program should reach the Council no later than January 1, 1974.

For further information see the Foreign Study Office, Room 10-303, Ext. 3-5243.

New UROP Listings

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

YOUTHGRANTS IN THE HUMANITIES

The National Endowment for the Humanities is a federal agency established by Congress in 1965 to encourage and support educational, research, and public activity in the humanities. As part of its efforts to promote appreciation and use of humanistic knowledge, the Endowment has established *Youthgrants in the Humanities* for support of humanistic projects initiated and conducted by young people. Students interested in applying for a *Youthgrant* should be aware proposals for Summer 1974 must be submitted by November 15, 1973. Guidelines may be obtained from departmental cocordinators, the UROP office or by writing the National Endowment for the Humanities in Washington, D.C., 20506.

—

CIVIL ENGINEERING DEPARTMENT

Environmental Science and Engineering—Development of conceptual and mathematical model of biogeochemical, ecological, and hydrodynamic processes controlling dissolved oxygen levels in an aquatic ecosystem. Would involve directed research in areas of marine biology, chemical oceanography, theoretical ecology, general systems science, sanitary engineering, etc. Project may involve occasional trips to Woods Hole. Contact Ms. Lissy Quinlan, Parsons Laboratory for Water Resources and Hydrodynamics, 48-320, x3-1691.

—

REHABILITATION ENGINEERING CENTER

The Harvard-MIT Rehabilitation Center is a government-sponsored program to support research into neuromuscular and sensory disabilities and aids for the handicapped. Potential project areas for undergraduates are: (1) design and construction of a piezoelectric trandsucer to convert electrical pulses to mechanical vibrations for the disabled; and (2) design and construction of a tactile display for the blind using a printed circuit electrode matrix and employing tactile stimulation. Contact Dr. Peter Lawrence, x3-5333, 31-063.

—

NEW ENGLAND AQUARIUM Boston

The Research Department is involved in fields relating to marine biology and marine chemistry. Three areas have been suggested for undergraduates: (1) Evaluation of present methods for analysis of trace metals in the environment and research on possible improvements; (2) a study of the fate of trace metals ejected from sewer outfalls into the environment; (3) in the area of marine biology and biochemistry topics might include (a) nutrient-limitation growth studies, or (b) definition of environmental parameters producing "red-tide" phase of phytoplankton.

—

BOSTON UNIVERSITY MEDICAL CENTER Boston

An opportunity is available for an undergraduate interested in investigating the synthesis, release, uptake and metabolism of catecholamines and prostaglandin in rat lungs. Research techniques include nerve stimulation, thin layer chromatography, fluorescent assays and bio-assays. Specific projects involve (1) uptake and metabolism of catecholamines in rat lungs: influence of steroids and (2) release of prostaglandins and metabolites from isolated, perfused lungs.

—

NATURAL RESOURCES DEFENSE COUNCIL New York City

NDRC, a leading public interest environmental law firm, has begun a massive project to follow up on the Federal Water Pollution Control Act Amendments of 1972. Basically, a complex law was enacted and NRDC is currently sorting out the tangle of ecology, chemistry, biology, engineering and law to determine if the proposed industrial effluent standards (a) make sense, and (b) are enforced. The council is located in New York City, making communication and transportation challenging. The launching of this project with UROP hinges on finding the right one or two undergraduates who want to begin soon and perhaps be in New York City in January.

—

FOSTER-MILLER ASSOCIATES, INC. Waltham

Prediction of ice forces on structures—This company is interested in developing a simulation program for the prediction of ice forces on ice-bound structures and structures which are impacted by ice floes. The simulation will involve the modelling of various interactive processes, such as bending, buckling, crushing, adfreezing, rubble pileup, etc. The result of the simulation will be a prediction of the force-time history produced by an ice floe or ice field impinging on a harbor or offshore structure as a function of ice thickness, temperature, structure geometry and the rate of motion of the ice. The project will involve familiarity with principles of strength of materials and computer programming.

—

BOLT BERANEK AND NEWMAN, INC. Cambridge

The Physical Sciences Division of BBN has suggested two project areas for undergraduates: (1) Continuous Spectrum Propeller Noise; and Noise Reduction for Engine Cooling Fans on Heavy Trucks.

The Computer Science Division of BBN has identified a project in the areas of "Automatic Programming." BBN is attempting to produce new technology to deal with important unsolved problems. In the case of automatic programming an attempt is being made to produce new technology to improve software productivity. Interested students should be familiar with the work of Winograd, Winston and Hewitt (all of MIT). Knowledge of symbolic programming, first order predicate calculus (including theorem proving systems), program verification and synthesis (Floyd, Manna and Waldinger) and extensible programming languages. The Division has an PDP-10 with a virtual memory operating system (TENEX) which is connected to the ARPANET.

—

BOSTON CHINESE COMMUNITY HEALTH SERVICES Boston

This community center is concerned with the advancement of the health status and quality of life of the Boston Chinese community. The center is staffed mainly with bilingual personnel. Recently, the BCCHS received a federal grant to carry out a health care accessibility study for Boston's Chinese community in conjunction with Tufts University. Several potential UROP projects have been suggested for MIT undergraduates (preferably with fluency in Cantonese): (1) assisting in evaluation survey of community health needs; (2) helping in the design of the evaluation program; (3) data collection and computer analysis and evaluation.

—

CENTER FOR SHORT-LIVED PHENOMENA Cambridge

Affiliated with the Office of Environmental Sciences of the Smithsonian Institution, the Center has identified a number of possible project areas related to the International Environmental Alert Network. This monitoring system collects and disseminates information on certain kinds of environmental events such as earthquakes, volcanic activity, forest fires, animal migrations, etc. One project involves assisting the network manager to develop specific monitoring projects having educational and research value throughout the global scientific community. Strong background in biological or physical science required; computer knowledge useful and knowledge of existing environmental monitoring techniques needed or learned in progress.

—

MASSACHUSETTS GENERAL HOSPITAL Boston

The hematology laboratory at the MGH has suggested a project for an MIT undergraduate aimed at diagnosing Menkes's disease and understanding the basic defect in the disorder (which appears to be impaired copper absorption). Briefly, the experiment methodology would include incubation of normal and abnormal red blood cells in mediums containing radiocopper. At various time intervals individual aliquots will be collected and the total Cu_{64} incorporated will be estimated. These studies should provide a measure of the ability of the pathological cell to concentrate Cu . Background in biochemistry desired.

Graduate Studies

The following brief descriptions of selected graduate fellowships and advanced study opportunities have been received recently by the Graduate School Office. More complete descriptions are available in the Office, Room 3-134.

THE LATIN AMERICAN AND CARIBBEAN LEARNING FELLOWSHIP ON SOCIAL CHANGE

The Learning Fellowship on Social Change is open to doctoral candidates and postdoctoral scholars in the social sciences and professions. They must have a multidisciplinary academic and experiential background with specialization in at least one academic discipline or problem area (e.g. nutrition, housing, regional planning, nonformal education, and so on). Candidates must be able to write and speak a language of the Caribbean or Latin America area. Doctoral candidates must be enrolled in higher education institutions in the United States and have fulfilled all degree requirements other than the dissertation at the time of the award. Fellowships are open to all without regard to citizenship, sex or age.

Stipends for research abroad vary from country to country and include allowances for maintenance. The Fellow, upon completion of his or her field work, spends up to three months as an intern under the auspices of the Inter-American Foundation. Deadline: December 1, 1973

—

THE SOUTHERN FELLOWSHIPS FUND

Series of awards to promote the development of faculty and administrative staffs for colleges and universities located in the United States. The awards for 1973-74 will be: (a) for pre-doctoral fellowships of several kinds; (b) for postdoctoral study and research. Primary emphasis is being placed on providing Black talent, but others who are on the staff of Black colleges or who have commitments to continuing careers in these institutions are eligible to apply. Faculty members of Black colleges, graduate students, and Black students in their senior year who wish to pursue postbaccalaureate degrees that will lead to the MEd, the MBA, the MLS, or the DEd are eligible to apply. Fellowships for the first year of graduate study will carry a stipend of $2800 on a 12-month basis, with supplements; fellowships for the second year, $3100 on a 12-month basis, with supplements. Also tuition and fees supplied.

Application should be made by the individual directly to the Fund. Application and reference forms may be obtained from the Executive Director, Mr. Samuel M. Nabrit, The Southern Fellowships Fund, 795 Peachtree Street, N.E., Suite 484, Atlanta, Georgia 30308. Deadline: December 15, 1973.

NATIONAL SCIENCE FOUNDATION GRADUATE FELLOWSHIPS

The National Science Foundation has reopened competition for Graduate Fellowships with approximately 500 new fellowships to be offered in the Spring of 1974.

The Graduate Fellowships, available to citizens or nationals of the United States, are awarded for full-time study leading to the master's or doctor's degree in science, including the social sciences, mathematics, or engineering. The deadline for Graduate Fellowship applications is November 26.

Graduate Fellows receive stipends of $3,600 for a 12-month tenure, or $300 per month. No dependency allowances.

Fellowship awards to be made in March, 1974, will be for a period of three years, dependent on the student's satisfactory progress and availability of NSF funds. Awards will be made only to students who have completed not more than one year of graduate studies. Awards are not made in clinical, education, or business fields; in history, or social work, or in studies toward medical, dental, law, or joint PhD-professional degrees.

Announcement and application forms are now available in Room 3-134. Application deadline: November 26, 1973.

—

AMERICAN ASSOCIATION OF UNIVERSITY WOMEN GRADUATE FELLOWSHIPS

1) For Women of the United States

Seventy dissertation fellowships for those who will have successfully completed all required course work and examinations for the doctorate except defense of the dissertation by January 2, 1974. The awards are for a period of 12 months beginning July 1, 1974. Stipends: $2500-$5000. Deadline: January 2, 1974. It is recommended that applications be requested by November 15, 1973. Write to AAUW Fellowships Office, 2401 Virginia Avenue NW, Washington, D.C. 20037.

2) For Women of Countries Other Than the United States

Fifty International Fellowships for full-time graduate study or advanced research at approved institutions in the United States. A limited number of AAUW-IFUW awards for advanced research in any country other than the Fellow's own, for women who are members in their own countries of national associations /federations affiliated with the International Federation of University Women. The awards are usually awarded for the academic year (September to June). Stipends vary according to financial need. Deadline: December 1, 1973. It is recommended that applications be requested by October 15, 1973. Write to AAUW Fellowships Office, 2401 Virginia Avenue N.W., Washington, D.C. 20037.

KENT FELLOWSHIPS

The purpose of the program is to give personal encouragement and support to selected persons pursuing graduate studies who seek to become college teachers. Among other eligibility requirements are these:

1. A minimum of one year of full-time graduate study must have been completed at the time of application (September 1973).
2. Foreign nationals who have completed one year of full-time graduate study in the United States and who are living in the United States at the time of application may apply.

The award is for one year, but is normally renewable. Fellowship stipends are based on individual need, but may not exceed: For the academic year: $2025 for a single person; $2200 for a married person, plus dependency allowances for children and required tuition and fees.

Applicants are required to present scores from the Graduate Record Examination Aptitude Tests in Verbal and Quantitative abilities and the Advanced Test if it is offered in the applicant's major field. It is advisable that the applicant either present GRE scores from examinations taken subsequent to October 1968 or take the GRE on either October 27 or December 8. Deadline: December 1, 1973.

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 extension 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, October 5.**

For Sale, Etc.

Matt, dbl, w/spr, $10; sgl box spr, $5. Perry Cohen, x3-4913.

Bikes: 10 spd, m, $70; 3 spd, m, $40. David, x3-6375.

Olivetti typwrtr, port, $45; TV, b&w, port 15", UHF-VHF, $30. Ken, x7014 Linc.

Elec motors: ¼hp, $10; 1/6hp, $6; both exc cond. Call, 782-2373.

Surprise someone w/handmade patchwork quilt from Appalachia for Christmas, $30-$50. Philippa, 492-1992.

TV, port 9", b&w, UHF, $25. Chris, x3-2889.

Bike, child, Columbia Stingray, gd cond, $15. Smith, x5834 Linc.

Down parka, lg, bl, hip 1, 2" loft, gd to -20, top Mt Products line, unused cond, orig $80. Dan, 494-0273.

If have NSF grant & plan to buy HP-35, call Dr. Buyrn, x3-4155.

Great Books by Enc Brit, compl set, 54 vol, exc cond, $100. Gary, 262-2543.

Pr sm Advents, spkrs exc cond, nd money fast, best. Bob, x9366 Dorm.

Badminton rckt, Carlton mdl 3.7, nw, mtl. x3-2818.

FREE sgl bed matt & fr. Amy, x3-2713, 3-4:30.

Maytag apt sz washer, gold, 2 yrs, $90 or best. Call, 326-5151 days.

Snows, 825x14, mtd Pontiac rims, 4 ply, sgl seas, $25; batt, Sears 12V, nrly nw; Fairchild aerial camera, K-25. Kim, x7418 Linc.

Suede jckt, f, dk brn, carcoat lngth, gold silk lining, sz 15-16, worn 4x, exc cond, was $110, now $50. Betty, 182-183-277 Bedford.

Drapes, pr wht, pr olive, nw, permapress, 2 pnls ea 48"w, 84"l (can divide), $6 ea set; elec skillet, w/cvr, hi dome, immerse, orig $30, best; foambk carpet, 12x5, stripe, rich clrs, can cut, orig $40, best. Jeannie, x8-2577 Draper.

Realistic stereo amp, 35w, mdl SAF-24D, $30; Layfayette stereo fm tuner, mdl LT250A, $30. M. Parillo, x8-3391 Draper.

Rectilinear Mini III's, pr, gd cond, $90. P. Greer, 492-4613.

Rear wndw defroster for car, $5. Bob, x3-2576.

Suede coat w/fur trim, worn once, sz 14-16; P coat, sz 12-14; bl quilt all-wthr coat; bl bdsprd; nego. Pat, x8819 Dorm, lve msg.

Boat, 20', fbrgls, w/cush, wtrskis, nrly nw galvanized trlr, $525; hydroplane, $45; 12 cu ft refrig, exc cond, $25. George Wallace, x3-6213.

Steel toe safety shoes, 10C, brn, low boot, gd lking, worn once, $10. Sam, x8-3686 Draper.

Sears Allstate tires, 2, E70x14, rayon, wht, tubeless, w/rims, $25 ea. x8-4505 Draper.

Sony stereo mikes, 4, stereo mixer, yr old, best. Sandy, x3-2036.

TEAC 3300-10 tape deck, nw, orig pking, all solenoid operation, 10½" reel, snd-on-snd, Advent mikes, unused Scotch 207 tape. David, x3-4157 lve msg.

Port reel-to-reel rcrdr, gd for dictation, AC or batt, remote mike, 2 spd, 5" reel, case, xtra tapes, $20 or best. Call, 494-9142.

Dishwasher, minor leaks, yours for taking. Call, 924-0104.

Symphonic stereo sys, Garrard trntbl, tape cassette, amfm, 13x22 spkr, exc cond, yr old, lving cntry, must sell, $150. Call, 494-8395.

Indesit, frnt ld apt sz washer, $50 or best. Val, x3-2701.

Aria class guitar, case, ftstnd, $60 or best. Tony, 247-8764 lve msg.

Wet suits, 2, Parkway, 2pc, ¼", nylon, fits 5'7"-5'10", 132-155lbs, exc cond, $60 ea. Frank, x3-2546.

Baby dressing tbl, exc cond, $20. Joe, x7671 Linc.

Free car to person who makes best offer on (4) 6.50x13 tires, nw, & (2) 6.65x13 stud snows, all mtd, 4 attached to '65 corvair. Daryl, 899-9389.

Bike, Ginet, 10 spd, nw, 23" fr, wide flange hubs, simplex gears, mafal brakes, lugged frame, qk release, pump, nw $139, now $105. Mark, 247-8048 evgs.

Lock & curly cable for bike security, $10. Eliot, x8751 Dorm.

Pool tbl, $1,000, reg size, slate top, selling bec moving, $200. Frank, x3-2808.

Bike, m, 10 spd, yr old, exc cond, $45. Dean, 262-4073 aft 6pm.

Sloop, Chesapeake blt Quadrant, 25', gas inbrd, 4 bunks, galley, coal stove, dacron sails, genoa, sailing, recently hauled, $2,800. Walter, x3-7950.

Stud snows, pr, half worn, 15", fit Volvo, VW, $10. Jim, x3-1926.

Skis, Skitique, w/cubco bndngs, 160 cm; bckl boots; 2 pr n drapes, 72", bge, $8; 2 red bdsprds, nvr used, tw, $10; 12x15 grn rug; etc. Linda, x3-7022.

Sofa, gd cond, $25; sgl bed, $20. Call, 492-5917 evgs.

Frigidaire, 5ft, old but exc cond; frzr inside top, veg drwr bttm. Harriet, 661-1556 evgs.

Flash attach, batt, bulbs, nw, $10; flash shoe, for Nikkormat, nw, $10. Steve, x3-7950.

Snows, stud, 2, Gdyr, belt, suburbanite polyglass, h78-15, w/rims, $25 ea. Judy, x7423 Linc.

Shiny brass dbl bed, tall hd & ftbrds, lg diam brass pipes w/finneal caps, $350. Call, x3-7137.

Hosp bed, adj, $75; VW eng, 2, don't run, $5 ea; danish couch, $5; want 3/8" drill. Lloyd, x3-7518.

TV, Emerson, 19", b&w, auto timer, ask $20. x0164 Dorm.

Tennis rckt, Bancroft, gd cond, $4. Ken, x8649 Dorm.

View camera, Planbel Universal 3000, w/case, acces, 5x7, 9x12 cm, 2¼x2¼, 35mm, w/lens, Schneider/Compur 135mm, $350 or best. Gene, 876-5038.

Telescope, Bushnell zoom, 9-30 pwr, 40mm obj, w/tripod, $30. Luuk, x3-5547.

Sgl bed, matt, box spr, yr old, $30. Dominique, x3-1636.

SB-301 amateur r rcvr, w/CW xtal filter, $180 or best. Jean Ward, x3-3161 lve msg.

Juliette amfm rcvr, 8-trk tape plyr, amp, gd cond, $50; tapes & rcrds, best; Minolta 16 camera w/b&w film, $7; Wilson tennis rckt, exc cond, $10; Dormeyer hand mixer, $5; Panasonic port csst plyr & tapes, $5; desk lamp, nw, $15; Realtone amfm/sw port radio, exc cond, $15; nego. Terri, x8984 Dorm.

Hting oil tank, 275 gal, cln, w/all piping, $4 in Newton. Bob, x3-2593.

Fisher ALU skis, 205 cm, 3 yrs, w/marker bndgs, $20; Henke ski boots, f, sz 6, 2 yrs, $12. x3-3959.

Bike, 3 spd, 3 wks old, fndrs, rfctr, rear carrier, $35 or best. Call, 731-4846 evgs.

Stereo, port amfm, phono, $60. Kim, x7418 Linc.

Refrig, gas stoves, oil stove, K tbl w/chrs, misc furn. x8-1345 Draper.

Foam matt, 2, tw, w/spr, $40. x3-2720.

Hairdryer, hood, $13. Wilf, x3-3392.

Oscilloscope, 303A Dumont, old, wks prtly, $20 nego. Barbara, x3-6047.

TV, b&w, $40; bamboo crtns, 3/$15; phono, $20; ski boots, m, sz 10, $20; Northland skis, w/Cubcos, $50; sofa gd cond, $35; easy chr, $25. Rich, x8-4186 Draper.

TV, RCA 7159, port 9", AC or 12v DC, w/car cord, nds 9WP4 pix tube, gd buy, $20. x3-7041.

Airplane ticket, Bos-London-Oslo, one way, exp Oct20. x3-7116.

Beat up stroller, $4; 2 beat up tricycles, $2 ea; collaps playpen, $10; toilet st w/adj footpiece, $2. Tony, x3-5783.

Phillips 202 trntbl w/Stanton 681 crtrdg, $120; AKG hdphones w/ext, $22; Versalog sl rule, $20; Sunset lite mtr, $8. John, 547-3431.

Sofa, land, BR furn, playpen, misc K & other equip, incl meat grinder, elec carv knige, lg set wine glasses, loc prices. Lynn, x3-2132.

Triumpth acces: 2 stud snows, Pirelli, 185-SR-15, $60; tonneau cvr, $20; wrkshp manuals, $12; or best. Tyler, 492-4550 evgs.

Couch, 4 yrs, 80", soft patn grn, best. Ann, x3-2168.

Tires, 2, blkwall, 735-15, reas; child furn & crib, blonde finish, reas. John, x182-183-201 Bedford.

Tires, 2, stud snows, 600x12, ww, gd cond, $15/pr. Schwartz, x7461 Linc.

Barberry bushes, free for digging up. Wm Ward, x261 Linc.

Cleveland trumpet, gd cond, $75 or best. Andy, x3-4677.

Textbk, 23.173, *German Reading, Spectrum*, 2 copies, $7.50 ea. x3-1916.

Stud snows, 2, for VW, 5.60x15, 1½ seas, lo miles, v gd cond, $30 or best. Chu, x3-1916.

Philco, 11", b&w TV, nrly nw, $60. Danny, x3-2223.

Refrig, 4 cuft, nrly nw, brn formica tbl top, $50; broiler, $10. 864-3793.

Vehicles

'63 Chevy Impala, 96K, V8, n snows, $150. Vicky, x8-2579 Draper.

'64 VW van, nds lots work, $100 or best. Edward, x3-2270.

'64 Plymouth Belvedere, 4dr, V8, p st & br, r, fact ac, runs v well, nds tires, $200. x3-5064.

'65 Ford Galaxie, 8cyl, 2dr, hdtp, p st & br, gd tires, mtd snows, fall stckr, $250. Ben, x8-2572 Draper.

'65 Plymouth, 2dr, nds strtr motor, 50K, $50. Arlee, x3-2063.

'65 Volvo, B-18 eng, 27 mpg, $400. Tim, x7501 Linc.

'66 Fairlane 500XL, copper Ford, 2dr, ac, p st, snows, $525 or best; also chest of drwrs, $20. Lou Alvarez, 776-6944 evgs.

'66 Ford Cntry Sq, 9 pass, all equip, ac, $450 or best. Joe, x8-1234 Draper.

'67 Ford wgn, 56K, ac, p st. Ehud, x3-2517.

'67 Mercury Montego, 70K, 2dr, convert, gd cond, $350 or best. Call, 494-9342.

'67 VW fstbk, gd eng, body nds work, $125. Call, 259-9441 evgs.

'68 Fiat 124 sprt cp, std, red, n clutch, valve job, 4 disk br, mags, 6 radials, 2 snows, r w/4 spkrs, exc cond, $950 nego. Call, 261-5577.

'68 Falcon, dr bl, wgn, w/stkr, gd run cond, 20 mpg, auto, $725. Don, x3 4755.

'68 Chevelle, 40K, 307 eng, auto, ac, p st & br, $1,000. John, x3-2553.

'68 Intntl Travel-all, 6cyl, std, tr hitch, locking hubs, $1,200 or best. x8-3526 Draper.

'69 Austin America, 22K, auto, n exh, tuned, n tires, snows, r, exc cond, $600. Jain, x3-5348.

'69 Ford LTD, 54K, 4dr, ac, tuned, n shocks, v comf, exc cond, $1,400 or best. Tsai, x3-1916.

'69 Chevy Camaro, 396 eng, all opts inside, 4 n tires, blk vinyl top. George, x3-4944.

'70 Austin America, 43K, std, n snows, $500. Michael, x3-6035.

'70 Mustang Boss 302, nw eng, xtras, $2,200 or best. Call, 776-7253.

'65 Apache Silver Eagle tent tr, slps 4, alum strg box, awning, poles, 3rd whl, $200. George, x3-5926.

Housing

Back Bay, sub 11/1 w/opt, BR, lg LR, K, B, hall, 1st fl, owner-occup bldg, Comm Ave n grdn, n T, shop, charm, hrdwd fl, lg wndws, incl h, util, pking, $192/mo. Call, 262-3583.

Belmont, prof or stu spec: 6rm, 3BR apt, exc loc, 2nd fl, lg yd, gar (3 car), up to 6/1/74, $290. Tasos, G.R., x8-4980 Draper.

Camb, 3rm apt, 10 min MIT, pking, gd ngbrhd, $150. Mike, x3-2077.

Jam Pl, exc loc, 2 fam, 3BR ea, $38,500. x3-2136.

Wtrtwn, nw home, 3BR, LR, DR, fam pref, no pets, avail 11/1, $275 + util. Call, 926-9692.

Glen, NH, Wht Mts, foilage time, secl chalet. Dave, x7821 Linc.

Vt, Weston, 3BR hse, fully equip, ideal foilage seekers, also avail hunt seas, $30/day wknd, $20/day wkdy. x477 Linc.

Vt, ski lodge, 5BR, 2LR, slps 15, on lk n Jay Peak, all util, plowed, great view, $200/wk or $2,000/seas. Susan, x3-4118.

Animals

Kittens, ½ siamese, 7 wks, free. Call, 864-3566.

Kittens, 7 wks old, free. x3-2920.

Irish setter pups, AKC, healthy. x8-2843 Draper.

Kitten, m, gr&wht, 10 wks. Said, x3-6231.

Kitten, m, 9 wks, free. Judy, x3-6101.

Kitten, beaut, org&wht, free. x8-4201 Draper.

Dachshund, mother & son, AKC, lving state, both for $100. Call 663-8182.

Lost and Found

Found: cig case, Sun, Sept 23, nr McC Hse. x9804 Dorm.

Lost: sm Eng-Jap dictionary. Ueno, x3-4409.

Wanted

Part-time babysitting, days, Camb. Lynda, 547-6329.

Case for Leica IIIc or equiv. Greg, x3-7826.

Refrig, gd cond. Jawaid, x0113 Dorm.

Rmmate, for rm in Tang Hall, $108. Call, 494-9147.

2 yr olds for co-op play grp, 2-3 hr morn, Arl area. x3-1418.

Upright piano. Tadayuki, x3-3688.

Rmmate, 1 or 2, share South End twnhse, own BR, wd fl, 2 frpl, K w/wash & dry, lg LR, $80-$90. Peter, x3-1913.

Humidifier, w/humidistat, gd cond, reas. Sue, x3-3270.

Scalpers: wl pay $20 ea for 2 Liza Minelli tickets. Priscilla, x7865 Linc.

Banjo tchr for 13 yr old girl, also banjo. Joe, x277 Linc.

Asst w/sec skills, m or f, for MIT religious counsellors, pt-time, type 50wpm. Rev Parvey, x3-2325.

Members, f, for ski lodge, mi Glen Ellen & Sugarbush. x8-3367 Draper.

Old Briggs & Stratton lawn mower eng or parts. Earl, x8-1566 Draper.

Student flute. x3-6811.

Dog lover to walk dog around MIT, wl discuss rates. x3-6640.

Dy ride, wkdy morn, from Pleasant St, Lex, to MIT. Laura, x3-6150.

Bike, m, gd cond, not fancy, lt wt, w/fnder. x3-3124.

Snows for VW beetle, gd cond, pref stud. Joan, x8-3494 Draper.

People to donate sm amt blood once a month, $2/donation. Bola, x3-7301.

Bike, 3 spd, 26-28". x9203 Dorm evgs.

Piano for stroke patient, nds therapy in left hand, wl transport. Joan, x3-3368.

Rmmate, own rm comf apt, 2 min H Sq, $25/wk. Mitchell, x3-5253.

Bike, m, 3, 5 or 10 spd, used but working. Charles, x8717 Dorm.

Miscellaneous

Piano & singing lessons, exp Eur-trained tchr-perf, all inquires welcome. 492-2030.

French lessons, conversation, grammar, translations. Anita, 868-2099 evgs.

Repairs on all foreign & dmstc cars, body & fnder work. Nancy, x3-5322.

Wl give loving care to chldrn in my Estgte apt. x3-5305.

Typing, term papers, manu, etc, IBM selectric. Linda, x3-7022.

Wstgte wife wl babysit wkdys. Call, 494-9098.

Translations done, tech & non, Jap-Eng or Eng-Jap. Call, 547-8643.

Typing, fast and accurate, pick up & deliv. Carole or Marie, 284-5388.

Like to read? Go to museums? Ice skate? Share these activities w/kid who nds you. Volunteer to be a friend & tutor. Tutoring Plus, 547-7670.

General thesis typing. Nadine, x3-7843.

Parking

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

Wl swap lot 48 for West. Robert, x3-2447.

Wl swap Albany for East. x3-2102.

Wl swap Albany for East. Ed, x3-7238.

Positions Available

While all jobs will continue to be posted in Tech Talk, *during the peak employment season, Personnel interviewers will refer any qualified applicants on Secretary III and IV openings as soon as possible after their receipt in Personnel. Employees at the Institute should continue to make their interests known to their Personnel Officers.*

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 Liebsny	*3-1595*
(secretary – Dixie Chin)	

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

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

73-1002-R	Tech Asst-Acad Staff
73-1013-R	Staff Nurse Exempt
73-512-R	DSR Staff
73-752-A	DSR Staff
73-870-R	DSR Staff
73-917-R	Computer Operator IV
73-780-R	Secretary IV
73-882-R	Secretary IV Part-Time
73-632-R	Secretary IV cancelled
73-804-R	Secretary III-IV
73-683-R	Secretary III
73-960-R	Secretary III
73-581-R	Secretary III
73-950-R	Secretary III
73-964-A	Tech Asst V
73-958-A	Vet Asst IV
73-949-R	Sr Clerk IV Temp
73-1009-R	Secretary III
73-906-R	Accounting Clerk III
73-970-R	Clerk II
73-885-R	Libr Gen Asst III P-T
73-913-R	Nurse Aide III
73-982-R	Libr Gen Asst III
74-977-R	Ed Asst IV Part-Time
73-944-A	Secretary IV
73-940-R	Secretary III
73-887-R	Counter Person
73-714-A	Tech Doc Lib (cnclld)
73-835-R	Sr. Libr Asst IV
73-957-R	Senior Clerk III
73-886-R	Cook's Helper
73-823-R	Secretary III P-T
73-941-R	Secretary III
73-849-R	DSR Staff (cnclld)
73-799-R	DSR Staff
73-789-R	Secretary III
73-974-R	Acc'ting Clerk III
73-1011-R	Sr. Clerk III
73-973-R	Secretary IV

The following positions are on HOLD pending final decisions:

73-801-A	DSR Staff
73-698-R	Secretary IV
73-935-R	Secretary III
73-867-R	Documentation Editor V
73-999-A	Clerk III Part-Time
73-956-R	Secretary III

(Continued on page 10)

(Continued from page 9)

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

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

DSR Research Staff Engineer – Temporary in Mechanical Engineering will design and develop a high priority medical technique for heart attack victims. Work will consist of development of interfacing, control and timing circuits; aid in the system evaluation once system is complete. BS(EE) with computer hardware emphasis; experience with mini-computer hardware; interest in developing a detailed circuit and following it to completion required. Temporary 10/73 to 7/74. 73-897-A(9/19).

DSR Staff member will plan, manage, and execute high-quality research projects having a strongly experimental orientation. Familiarity and experience with low-speed flight and wind tunnel testing methods and advanced piloting aviation type aircraft; Ph.D. in Aerodynamics and five years applicable research and development experience required. 73-488-A(6/20).

Biochemist – DSR Staff member will participate in lipoprotein studies, and will supervise the activities of several technicians in a clinical research setting. Ph.D. or M.D. in Biochemistry required, as well as experience with lipoprotein and supervising. 74-515-R.

DSR Staff member at NEROC Haystack Observatory will guide and participate in the development of electronic instrumentation and recording equipment for very long baseline interferometer experiments. Develop needed computer software; assist in the design and conduct experiments; analyze and interpret the data from observations. Strong background in EE and physics, Ph.D. preferred. Research experience in radio astronomy, and specifically in interferometric techniques is required. High level of analytical capability and the ability to utilize large-scale computers is needed. 73-912-R(9/12).

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

Systems Analyst – DSR Staff at the Cambridge Project will adapt Time Series processor programs for use with the Consistent System on Multics. Knowledge of calculus, econometrics, statistics, and linear algebra; extensive PL/1 programming experience on Time Sharing Systems; familiarity with TSP–CSP required. Position is temporary until 6/74. 73-845-R(8/29)

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

Administrative Staff – Assistant Director in an administrative office dealing in resource development will handle specific tasks of educational fundraising; extensive writing of letters, memoranda, statements on priorities, some proposals and informational studies. Must have a minimum of three years active, consecutive experience in fund-raising, preferably in a university environment. Effective writing skill, ability to communicate verbally, professionalism and career motivation important. Exposure to data processing systems useful, BA required; advanced degrees welcome. 73-479-R(9/5).

Editor – DSR Administrative Staff will be an Assistant to the MIT Sea Grant Program Executive Officer. Assemble information and write the Marine Information Transmitter Newsletter; prepare and edit newsreleases, annual reports, proposals, and other publications. Function as an Advisory Service Representative, to organize and conduct meetings and symposia; select, edit, disseminate publications on marine resource information, working in the Reading and Reference Center; maintain liaison with National Sea Grant Office. 73-1017-R(9/26).

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

Placement Counselor – Administrative Staff Part-Time will coordinate and develop the Family Day Care program of child care in the home. Interview participants, help with licensing, keep records, manage the budget for the program; arrange workshops, discussion groups, lectures. Interviewing skill, knowledge about problems of children and parents, ability to work independently important. Half-time position. 73-1015-R(9/26)

DSR Staff at the Center for Cancer Research will work with biochemist assays, protein fractionation, animal cells, radioisotopes. Will help to maintain supplies and equipment in the laboratory. B.A. degree in Chemistry or Biochemistry and minimum 2-3 years experience required. 73-1055-A (10/3).

Administrative Staff in the Registrar's Office. Schedule students, classrooms, classes, and final exams, supervise an office group, work with the computer system that assists in scheduling. College graduate preferred; knowledge of computer programming, facility to deal with faculty effectively; patience and ability to handle detail important. Familiarity with MIT particularly helpful. 73-1047-R(10/3).

Technical Librarian – Administrative Staff will design and implement procedures for organizing and maintaining an Industrial Special Library within the Office of technical journals, internally prepared documentation. Will also edit and re-write material for a Programmers User's Guide. Knowledge of methods for development and maintenance of a Special Library required; minimal knowledge of data processing concepts and terminology desired. 73-953-A (9/19).

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

DSR Staff at the Aeroelastic and Structures Research Laboratory will be Project Engineer at a large subsonic wind tunnel. Plan, prepare, run and report production and research wind tunnel experiments. Related in the study of the aerodynamics of buildings and aircraft. B.S. degree in Aeronautical Engineering or equivalent experience required. 73-1004-A(9/26)

Administrative Staff in the Provost's Office will work with faculty responsible for a variety of fieldwork activities and will assist in the development of fieldwork placements. Prepare budgets, handle accounts, initiate and maintain communications, coordinate the evaluation of the fieldwork experience. Graduate work or equivalent experience and familiarity with MIT administrative and academic operations are preferable. Person must be able to work and think independently. Program has extremely limited clerical support, therefore candidate must be willing to do a large part of the support work. Temporary position: Sept. 1973-August 1974. 73-963-A (9/19).

Infirmary Staff Nurse– Part-Time Exempt in the Medical Department; Emergency Nurse with opportunity to learn Nurse Practitioner functions in off hours of the Clinic. Hours: Sat and Sun and holidays rotating 8-4p.m. or 4-12. Ideal for Nurse attending school. 73-1021-R(9/26).

DSR Staff member at Project MAC will do research on the implementation of new ideas about English language grammar and semantics. The implementation will be done in a LISP environment. Familiarity with LISP Computer program; ability to learn theories of English language; skills in system building required. 73-916-R(9/12).

Technical Assistant V or Exempt in the Center for Cancer Research will supervise the animal room, feed, water, house small animals, bleed and collect sera, transplant tumors. A conscientious individual with good manual dexterity required; ability to work with animals and maintain careful records important. 40 hour work week. 73-1007-A(9/26).

Architect/Programmers – Administrative Staff in the Planning Office will work on the development of architectural programs for Institute buildings. Research and conduct preprogramming investigation of existing spaces and develop design Criteria and Standards for new facilities. Degree in Architecture; background in research methods; experience in design and general architectual procedures required. 73-879-R(9/15).

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

Administrative Staff – Associate in the Analytical Studies and Planning Group which provides staff support to the senior officers and to the Academic and administrative programs, plans, and organization. The ASPG is a part of the Office of the President and the Chancellor and reports to the Vice President C.B. Simonides. Candidates for this position should have an education background equivalent to graduate study, and/or working experience in areas such as management, program planning, analysis and evaluation. Systems analysis and computational background and skills would be especially helpful. Superior communication and writing skills are essential. This position offers very useful career preparation for senior responsibility in universities and other complex organizations. 73-461-R(5/30).

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

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

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

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

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

Jr. Programmer V – Part-time in Earth and Planetary Science will run mathematical programs in the lab of a professor of Marine Geology. Understanding of mathematical analysis techniques and running a digitizer; strong college math background required. 15 – 20 hr. work week. 73-1036-R(10/3).

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

Industrial Hygienist – Academic Staff will work in the Environmental Medical Service to study and control occupational disease and other environmental factors such as noise, heat, pressure and toxic materials that may be physically or chemically hazardous to employee health. Will work closely with physicians, depts, supervisors. BS in Chemical Engineering is required. 73-336-A(4/29).

Technical Assistant – Academic Staff in the Biology Department will conduct research in Bacteriology and Enzymology. M.S. degree and two years research experience preferred; Biochemistry and Bacteriology courses required. 73-943-R(9/19)

Computer Operators IV will operate IBM Model 135 and all peripheral equipment associated with it, including disk drives, tape units, card reader/punch, printers. Must have a good knowledge of DOS job control, multiprogramming experience and be capable of understanding operating instructions. 4pm – 12:30am shift. 73-92-R(8/29)/midnight to 8am shift.

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

Secretary IV in Resource Planning will provide secretarial support and help coordinate procedures in a newly reorganize operation. Good typing and organizational skills required. Ability to interact effectively with a variety of people important. 73-1049-A(10/3).

Secretary IV in Academic Department will handle general secretarial duties for one staff member. Type reports and manuscripts using specialized terminology from handwritten copy and dictaphone; may also involve some editing. Previous secretarial experience required. 73-498(10/3).

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

Secretary IV in the Electronic Systems Laboratory will provide general secretarial support for faculty and research group. Good typing needed for technical research reports, manuscripts and administrative form. Good knowledge of office practice, accounting procedures required. Ability to work independently in a very busy office is important. 73-1048-R(10/3).

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

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

Secretary IV in the Patent Section of the Office of Sponsored Programs will handle all office procedures for an attorney. Answer routine correspondence on own or from oral instructions. Maintain patent applications and case files; prepare documents for filing with patent office; transcribe dictation involving technical and legal terminology. Excellent, rapid typing and good shorthand are required for typing long patent applications, occasionally under pressure. Previous experience desirable. 73-819-R(8/22).

Secretary IV will perform secretarial duties to the Director of the Artificial Intelligence Lab. Take and transcribe technical dictation; type manuscripts on a typewriter and/or computer terminal; edit with the computer manuscripts for inclusion in reports and proposals; coordinate the work of other secretaries in the section; answer routine correspondence. Accurate, proficient typing skills required. Previous experience desired. 73-808-R(8/22).

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

Secretary IV to a professor and several faculty members in the new Division for Study and Research in Education will type classroom materials, reports, proposals; handle all general secretarial duties. Good typing and dictaphone skills important; ability to establish priorities required. 73-959-A(9/19).

Secretary IV to a physician in the Medical Department will be responsible for secretarial support to the Gyn clinic. Schedule appointments, transpondence and reports. Excellent typing skills; ability to transcribe medical terminology required. Maturity, tact and organizational skills important. 73-971-R(9/26).

Secretary IV to two professors in the Lab for Nuclear Science will handle all general secretarial dutes for several small projects. Good shorthand or ability to take dictation and highly skilled typing required. Initiative and organizational abilities important. 73-297-R(9/26).

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

Secretary IV in the Office of the Dean of the School of Architecture and Planning will perform general secretarial duties, maintain budget records, set up luncheon meetings, open houses. Excellent typing, dictaphone and statistical skills needed. Previous bookkeeping experience. Knowledge of MIT helpful. 73-981-R(9/26).

Secretary IV at the new Center for Cancer Research will type manuscripts and handle all general secretarial duties for several people. Ability to edit and correct grammar important; medical secretarial experience preferred; ability to work independently desired. 73-1006-A.

Secretary IV Part-Time Temporary in Humanities will provide support for two new programs in the School of Humanities and Social Science. Compile and make arrangements for publication of the Technology Studies Bulletin once or twice a year maintain files and records. Accurate typing and dictaphone skills; ability to work with a minimum of supervision. 20 hour work week; temporary til 5/74. 73-1022-R(9/26).

Secretary IV to the Institute Secretary for Foundations will be responsible for budget accounting, file maintenance; research in reference materials. Maintain communications and smooth relations with top level offices of the Institute. Excellent secretarial skills, ability to organize and to use discretion required. Knowledge of MIT desirable. 73-976-R (9/26).

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

Secretary III-IV Part Time in Biology will type manuscripts, letters; supervise grant accounts and handle bookkeeping. Previous secretarial experience required; ability to transcribe from tapes desired; shorthand preferred. 9-5, 3 day week. 73-942-R(9/19).

Secretary III in the Artificial Intelligence Laboratory will provide secretarial support for two professors. Type manuscripts, letters technical reports; coordinate travel arrangements. A mature, flexible individual with technical typing skills is required. 73-938-R(9/19).

Secretary III to Director and five faculty mambers of the Flight Transportation Laboratory, Aeronautics and Astronautics will handle all general secretarial duties, maintain petty cash records and inventory of office supplies. Previous office experience desired; good typing required. 73-933-R(9/19).

Secretary III in Nutrition will perform general office duties for three faculty members. Good typing, shorthand and dictaphone skills; some knowledge of medical, biological and/or chemical terminology helpful. 73-1044-R(10/3).

Secretary III to three professors in the Research Laboratory of Electronics will take and transcribe dictation, type technical and other material. Act as receptionist for visitors to the laboratory. Good office skills; shorthand desirable; some previous experience important. 73-1052-R(10/3).

Secretary III in the humanities Library will handle general secretarial duties for the library; maintain payroll records; participate in interlibrary borrowing operation; assist with some bibliographic searching. Speed and accuracy in typing required; ability to work with detail important. Library experience helpful. 73-1051-R(10/3).

Secretary IV in Mathematics will handle general secretarial duties for a group of professors and instructors. Type mathematical papers, oversee the department Reading Room, make travel arrangements, maintain files and records. Shorthand, experience or the

Training Section to Offer General Education Program

The Training Section of the Office of Personnel Development has announced the start of a General Educational Development (GED) Program for MIT employees.

GED is an eight-month course covering English spelling, punctuation, grammar, and style, interpretation of literary material, interpretation of readings in social studies, interpretation of readings in the natural sciences, and general mathematical knowledge and problem solving. This course is geared for employees who have at least eighth grade skills in all of these areas.

The course may be used as preparation for the High School Equivalency Examination (GED). Students are encouraged to apply for testing and follow through with the five-test series in order to apply for the Massachusetts State High School Equivalency Certificate.

Employees who are not interested in pursuing the High School Equivalency Certificate but wish to improve or refresh their knowledge in any of these areas are also welcome to participate in the classes.

Registration begins today, Wednesday, Oct. 3. Registration forms are available from the Training Section receptionist in E19-734 or by calling Ext. 3-1912.

Classes will begin Monday, Oct. 15, and will be held on Monday, Wednesday and Fridays at 10am for one hour.

ability to learn technical typing required. Organizational ability will be important for working for several busy people. 73-742-R(8/8).

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

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

Secretary III in the Medical Department will transcribe clinic notes and case histories; assist with secretarial duties in a variety of areas; provide support during vacations, sickness, and lunch breaks. Accurate typing essential; previous transcribing experience and a knowledge of Medical terminology required. 37½ hour work week; 8:30-5:00 73-1012-R(9/26).

Secretary III to a professor and one faculty member in the Sloan School of Management organization studies group will handle all general secretarial duties; keep class records. Good typing skills important. 73-1000-R(9/26).

Administrative Assistant V in the Dean for Student Affairs Office will be responsible for coordinating room assignments; assisting students with housing-related problems; independently handle many questions; answer correspondence on own; perform secretarial duties for one Dean. Ability to work independently and under pressure important; good typing and dictaphone skills required. Knowledge of Institute procedures and resources preferred. 73-1033-R(10/3).

Administrative Assistant V to Administrative Officer in Civil Engineering will advise and direct secretarial personnel, prepare confidential material, monitor and maintain budget records, maintain personnel files; assist with payroll procedures. Good typing, shorthand and administrative skills required. Knowledge of MIT extremely helpful. 73-1019-R(9/20).

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

Senior Clerk IV in the Office of Personnel Relations will provide comprehensive clerical and statistical support to the Wage and Salary Section. Collect data, make computations, prepare salary survey return, record and process unemployment claims, assist with other clerical assignments. Individual must have a flair for working with figures; initiative, ability to work with detail important. Good typing skills required. 73-1035-R(10/3).

Technical Typist III in the Office of Administrative Information Systems will type technical memoranda, data processing control documents and manuals. Maintain documentation library, including filing, organization and maintenance of programmer reference library. Good typing skills, experience in a data processing environment desirable. 73-684-R(7/25).

Senior Keypunch Operator III in the office of Administrative Information Systems will operate the IBM 029 keypunch machine. Punch into computer inputs cards formated and unformated documents. Minimum 2 years experience operating IBM 029 or comparable equipment. 73-1039-R(10/3).

Senior Library Assistant IV – Part-time in the Serials Department of the Libraries. Prepare and edit data for publication of the MIT Serials and Journal guide; assist with serials cataloging process; input and edit data directly on the console utilizing computer programs. Library experience essential; aptitude for computer application, accurate typing required. 20 hour wourk week. 9am-1pm, M – F. 73-1041-R(10/3) .

Technical Statistical Typist III for the School of Management and the Economics Department will use IBM magnetic keyboard typewriter for technical (Mathematical) manuscript typing. Excellent typing skills; ability to work independently and maintain records and files required. 73-993-R(9/26).

Senior Clerk III at the MIT Press will handle complete production of 40-50 titles including estimating, scheduling, composition, printing and binding. 1-2 years experience in book production desired. Accuracy in typing and work with figures important. 73-1008-R(9/26).

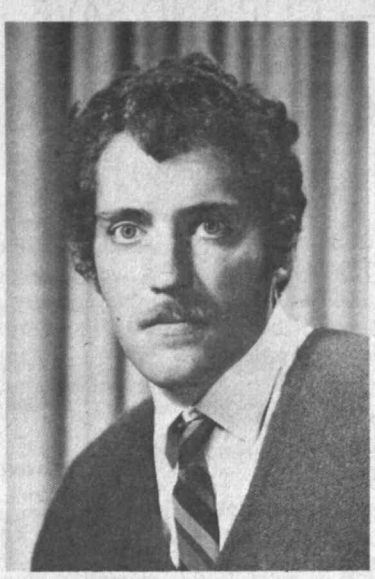
Clerk Typist II in the Office of Laboratory Supplies will type purchase orders; price requisitions, process invoices and handle other general duties. Adding machine or calculator experience; ability to operate a No. 32 NCR bookkeeping machine required. 73-997-R(9/26).

Tea Hostess/Host I – Part-Time – Temporary in Earth and Planetary Science will make and serve tea, coffee, cookies for daily tea 'hour' for faculty, staff and students. Responsible for keeping kitchen clean and supplies on hand. A courteous, neat, personable individual desired. This job runs for the academic year only. 1-2pm to 5pm. 15-20 hours /week. 73-989-R(9/26).

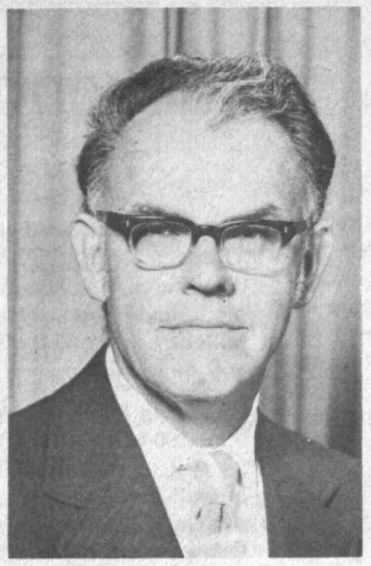
Waitresses/Waiters (Part-Time) at the Faculty Club will set up silver & china on dining room tables. Take member orders: serve food and beverages. Clear, clean and reset tables. Experience, but not necessary. Shifts: M-R 11am-3pm (5 jobs); M-F 5pm-9pm (1 job). All positions may require weekend work 73919, 73921.

Driver-Utility – Temporary in the Research Laboratory of Electronics will drive, pickup and deliver items, transport people and deliver mail. Handle and move material as required. Clean and maintain work area and equipment. A basic knowledge of material and equipment handling, rigging carpentry, painting and use of handtools desirable. High School graduate, unrestricted Mass driver's license class 1 or 2, 3 years commercial driving experience required. 40 hour work week. 8:00-4:30. 73-930-R(9/26).

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. 8am-5pm. 73-948-A(9/26).



Professor Devanney



Professor Harleman

Dr. Shoupp

Westinghouse Scientist Sea Grant Lecturer

(Continued from page 1)

The Sea Grant Program was begun at MIT in 1968 when the Institute was awarded the first grant under the national program, resulting in the publication of five major textbooks in ocean engineering.

Since then, MIT Sea Grant has sponsored and coordinated ocean-related research in various disciplines at the Institute and served a variety of projects related to coastal-zone development and ocean utilization.

Dr. Shoupp, who received the PhD in physics from the University of Illinois in 1938, joined Westinghouse later that year. He became vice president for research in 1962 and was named senior vice president earlier this year. He has authored more than 60 formal publications in reactor engineering, nuclear physics, electronics and research management and is the holder of many patents. His areas of professional specialization include atomic power, electronics, nuclear physics, space propulsion, oceanography and the environment.

Dr. Devanney, who received the ScD in operations research from MIT in 1967, is a member of the Operations Research Society of America, Chi Epsilon, Sigma Xi and the Marine Technology Society. He was project leader for the MIT Sea Grant Georges Bank Petroleum Study, the findings of which comprised a major publication in February.

Dr. Harleman, director of the Ralph M. Parsons Laboratory for Water Resources and Hydrodynamics in MIT's Department of Civil Engineering, was visiting professor at California Institute of Technology in 1962-63 and senior visitor in the Department of Applied Mathematics and Theoretical Physics at the University of Cambridge in 1968-69.

He received a Guggenheim Fellowship in 1968-69 and was the recipient of the American Society of Civil Engineers' Karl Hilgard Prize in 1971 and J. C. Stevens Award in 1973.

Obituary

William Wilson Wurster, 77, Architect

William Wilson Wurster, a noted architect and dean of MIT's School of Architecture from 1944 to 1950, died September 19 at the age of 77.

His appointment as dean in 1944 is seen as having been a turning point in the field of architecture and planning in the United States.

In her history of MIT's School of Architecture and Planning, *1861-1961: A Hundred Year Chronicle*, Caroline Shillaber noted that Mr. Wurster's appointment was a signal that changes were about to take place in the field.

The long-lived dominance of the Fench École des Beaux Arts was fading rapidly, and the newer Bauhaus was still viewed with distrust as another European importation.

"The effects of architectural styles emerging in this country as a result of new technologies" were beginning to be felt, she wrote.

Dean Wurster made important administrative and personnel innovations which introduced a much more realistic approach to architectural professional training as well as a fresher vision of technology and the arts as they relate to the professions of architecture and planning. He pioneered for the recognition of city planning as a separate but allied profession to architecture, having its own body of competence, and in this as in so many other areas, he was more prophetic than other postwar spokesmen.

The division of City Planning, headed by Frederick J. Adams, became the Department of City and Regional Planning, giving it a status co-equal with the Department of Architecture, headed by Lawrence B. Anderson. Institute Professor Gyorgy Kepes, Professors Richard Filipowski, Kevin Lynch, Robert Newman and John T. Howard and Professor Lloyd Rodwin, Head of the Department of Urban Studies and Planning, are among the members of MIT's faculty who were appointed during Mr. Wurster's deanship.

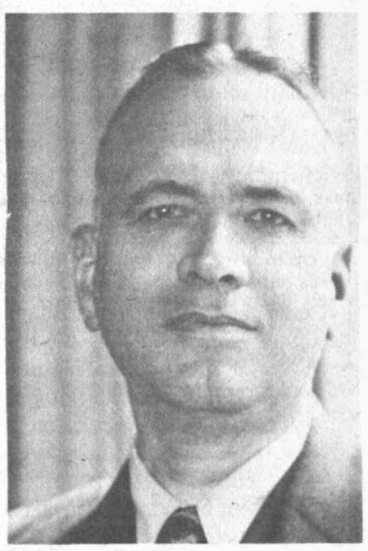
Dean Wurster asserted leadership in campus physical development. He initiated temporary student housing for married veterans enrolled at MIT and obtained the appointment of five faculty members to design 100 Memorial Drive. He not only helped persuade Alvar Aalto to come to MIT as a teacher, but championed his design for Baker House.

Born in Stockton, Calif., in 1895, Mr. Wurster's career in architecture began at the age of 15 when he became an office boy in the firm of a Stockton architect, E.B. Brown. Mr. Wurster received the AB degree from the University of California in 1919, and continued to work in various California offices except for a short period for European travel and office experience in New York.

By 1926, he had established his own practice in San Francisco which he continued until 1943, when he became a fellow at the Harvard Graduate School of Design, where he studied city planning. In 1944, he accepted an appointment as dean of architecture at MIT.

In 1945, Mr. Wurster formed an architectural partnership with Theodore C. Bernardi and Donn Emmons. The firm, Wurster, Bernardi & Emmons, ultimately expanded to almost 50 members with a practice ranging from individual residences to multimillion dollar housing projects and institutional and commercial complexes. Among these are: Ghirardelli Square, the Golden Gateway Complex, and the Bank of America Headquarters, all in San Francisco, and the Center for Advanced Study in the Behavioral Sciences in Palo Alto.

In 1950, Dean Wurster left MIT to return to his native California and become dean of the University's School of Architecture at Berkeley. In 1959, he reorganized and became dean of the renamed College of Environmental Design, a long cherished project which had seen its beginnings in his administration at MIT. In 1963, he became dean emeritus.



William W. Wurster
1944 photo from MIT Historical Collections

Mr. Wurster was consultant and advisor to many public and private organizations. He was chairman of the Architects Advisory Committee of the National Housing Agency and chairman of the National Capitol Park and Planning Commission from 1949 to 1950. In addition, he was a Fellow of the American Institute of Architects (AIA), whose Gold Medal he received in 1969. Much earlier, Mr. Wurster had castigated the profession for its unreadiness to accept new aesthetic ideas and even more sharply accused it of failure to assume social responsibility. At one AIA convention in the 1940's a number of young members had proposed him for president under the slogan "It could be Wurster," but general acclaim by his peers came only a quarter of a century later.

Mr. Wurster was married in 1940 to Catherine Bauer, already a nationally known public housing and planning expert. Until her death in 1964, Catherine Bauer Wurster served with distinction as a professor of planning.

CLIP AND SAVE

Independent Activities Period

January 7-30, 1974

The Independent Activities Period (IAP) provides students with three and one-half weeks to do what they want. There are no requirements to remain on campus for any or all of IAP; however, lots happens on campus and most students spend most of IAP at MIT or in the Boston area. You can work on research, take seminars and lectures specially designed for this period or design some yourself, take courses for credit or not for credit, find a paying job, go skiing, take walks, do nothing at all.

IAP Activities

You can expect that about 500 activities will have been organized by students, teachers, staff, and combinations of these by the time IAP starts. Some will be like academic work, some not; last year, 6.01 was, Auto Repair wasn't; a field trip to Central America to study volcanoes was, bridge classes were not.

To Offer an Activity

You can offer an activity yourself if you want, or you may try persuading someone else to. Each department, center, and lab has an IAP Coordinator who can help match the interests of students and professors, and who can help with space, mimeographing, staples, etc.

If you want participants to be able to get academic credit for your offering, you should always work through a coordinator; if not, you can probably handle the mechanics yourself. These include setting up a time and place for at least the first meeting and writing up a description of your offering for the IAP Guides, the only generally distributed publicity for IAP activities.

Arranging for a place to meet requires finding out who is in charge of the room or space you want and when it is free. In most cases, reservations for places, including lobbies and other open spaces, can be made through the Schedules Office (Room E19-338, Ext. 3-4788), which keeps track of the size and availability of most Institute rooms. However, certain rooms have to be reserved through the department, center, or lab that controls them.

The deadline for listing activities in the first Guide to IAP is October 31, and for the final Guide, November 30. These are the only official publications that will come out with IAP activity descriptions. To list an activity, you should fill out one of the forms that will be available on bulletin boards and through coordinators by October 5 and send it to Joan Friebely (Room 5-133, Ext. 3-2697), who assembles the Guides. For last-minute and next-to-last-minute announcements, the IAP bulletin board and the *Tech Talk* calendar will be available.

Financing for Some IAP Activities

$10,000 will be disbursed to help groups as well as individual IAP projects. The awards committee tends to support participant-initiated efforts and first-year offerings in contrast to tried and established IAP programs. Requests for money to help meet special needs, if persuasively argued, have a good chance of being awarded at least in part; requests for travel expenses will not be honored, no matter how worthwhile the purpose, because funds are so limited.

Applications for funds are welcome any time before November 1 in Chuck Barringer's office (Room 1-206, Ext. 3-3294) so that most awards can be made before Thanksgiving. Because timing is critical, award decisions will be final. When the money is gone, it's just gone.

Credit and Grade Limitations

In general, subjects taken during IAP are graded pass, if graded at all. If you want credit for an IAP subject, check with the instructor in charge and be sure to complete a Request for Subject Credit card (available in departmental headquarters and at the Registrar's Office). After signing the card, the instructor keeps one copy and turns one in to the Registrar's Office. (Instructors should be sure to let their department headquarters know which students will be receiving credit for IAP work.) This is the only way to assure no hassles in getting the credit recorded on your record.

For the first time this year, exceptions will be made for regular subjects taken in intensive form, and letter grades can be received for these.

The maximum credit for IAP subjects is a total of six units. The exception to this allows for up to 12 credits, provided all the credit is for work in one subject and the Chairman of the department involved has approved.

Tuition

Special students paying full tuition have IAP privileges at no extra cost. Special students not paying full tuition should consult Mrs. Bond (Room E19-335, Ext. 3-4781) in the Registrar's Office if they want credit.

Student Exchanges

Swapping places with students from other colleges and universities is possible without additional tuition to either school, but the arrangements, travel expenses, and added living expenses, if any, are up to the individuals. Some information on other schools with January intersessions is available in the Foreign Study Advisor's office, (Room 10-303, Ext. 3-5243) which also has on file a few inquiries from students at other schools interested in swapping places. If you want to go elsewhere, check in at this office. It may save you money.

Veterans' Benefits

Students with Veteran's Benefits have been certified for the full academic year (September 10, 1973, through May 23, 1974), including IAP. To be sure of getting your benefits without interruption, submit a Request for Subject Credit form to the Registrar's Office as early as possible. Six thesis units (Special Problems) or three lecture-recitation units will be considered full time for the IAP. If you have questions about benefits, contact Mrs. Bond (Room E19-335, Ext. 3-7481).

Room and Board

The tuition and room and board you have already paid the Institute for the first term covers your stay during IAP. If you are signed up for Commons during the first and second semesters, getting the same during IAP will cost $47. Costs in fraternities vary with the house.

Organization

Regulations governing IAP are established by the Faculty and supervised by an IAP Policy Committee made up of faculty, students and staff appointed by the President. A separate group is responsible for coordinating plans for the 500 or so activities that take place during IAP. This is the IAP Planning Committee, made up of one faculty member from each department and each interdepartmental laboratory or center, who serve as their unit's IAP Coordinator. They are listed below.

Mr. Joel Orlen (Room 3-234, Ext. 3-1973) is responsible for IAP administration. Call his office for general information on IAP, and he may be able to help those whose interests have no obvious match to a department.

IAP Coordinators

Advanced Engineering Study—Paul E. Brown, Rm. 9-221, x3-6161.
Advanced Visual Studies—Paul Earls, Rm. W11, x3-6849; Friedrich St. Florian, Rm. W11, x3-4478.
Aeronautics and Astronautics—Eugene Covert, Rm. 33-215, x3-6159.
Architecture—Richard Leacock, Rm. E21-010, x3-1606.
Arteriosclerosis Center—P.K. George, Rm. E18-473, x3-6303.
Artificial Intelligence Laboratory—Ira P. Goldstein, Rm. NE 43-819, x3-5879.
Athletics—Edward A. Crocker, Rm. W32-133, x3-4916.
Biology—Joel Huberman, Rm. 56-639, x3-4722.
Center for Policy Alternatives—Alan Harger, Rm. 39-545, x3-1663.
Center for Space Research—Alan Lazarus, Rm. 37-691, x3-4284.
Chemical Engineering—L.B. Evans, Rm. 12-135, x3-4561.
Chemistry—C. Gardner Swain, Rm. 18-207, x3-1830.
Civil Engineering—John M. Biggs, Rm. 1-253, x3-7124.
Earth and Planetary Sciences—William Pinson, Rm. 54-1118, x3-2819.
Economics—Robert F. Engle, Rm. E52-357, x3-3648.
Education Division—Ira P. Goldstein, Rm. 20C-109A, x3-7369.
Electrical Engineering—Abraham Bers, Rm. 38-260, x3-4195.
Environmental Studies—Louis Menand, Rm. 3-234, x3-7753.
Foreign Literatures and Linguistics—G.E. Nelson, Rm. 14N-221, x3-4777.
Health Sciences and Technology—H. Frederick Bowman, Rm. 16-522, x3-7426.
Humanities—Theodore Wood, Rm. 14N-415, x3-4456.
Information Processing Services—Joseph R. Steinberg, Rm. 39-427, x3-7184.
Libraries—James Kyed, Rm. 10-400, x3-7741.
Lincoln Laboratory—Joseph Mindel, A-163, 181-225.
Mathematics—Josef Dodziuk, Rm. 2-169, x3-4394.
Mechanical Engineering—Ain A. Sonin, Rm. 3-256, x3-2247.
Metallurgy and Materials Science—Tom King, Rm. 8-106A, x3-3307.
Meteorology—Ronald Prinn, Rm. 54-1422, x3-2452.
MIT Press—Muriel Cooper, Rm. E32, x3-5640.
National Magnet Laboratory—Daniel R. Cohn, Rm. NW14-4111, x3-5524.
Nuclear Engineering—Michael W. Golay, Rm. NW13-222, x3-5824.
Nutrition and Food Science—Jim Flink, Rm. 16-114B, x3-6735; George Wolf, Rm. 56-235, x3-6781.
Ocean Engineering—Morton Abkowitz, Rm. 5-319, x3-4334.
Operations Research Center—Martha Yee, Rm. 24-215, x3-3601.
Philosophy—George Boolos, Rm. 14N-326, x3-4248.
Physics—A.P. French, Rm. 6-113, x3-4801.
Political Science—Edwin Diamond, Rm. E53-411, x3-3371; William Giffith, Rm. E53-463, x3-3137.
Pre-professional Office—Susan Houpt, Rm. 10-186, x3-4158.
Psychology—Daniel Carrier, Rm. E10-008, x3-5749.
Research Laboratory for Electronics—Robert Kyhl, Rm. 26-351, x3-2561.
Sloan School of Management—Daniel Nyhart, Rm. 10-219, x3-1582.
Spectroscopy Laboratory—Michael Feld, Rm. 6-011, x3-7700.
Teaching Interns Program—Louis Menand, Rm. 3-234, x3-7753.
Transportation Studies—Nawal K. Taneja, Rm. 9-465, x3-7504.
Urban Studies and Planning—Thomas E. Nutt, Rm. 7-335, x3-5648.
Urban Systems Laboratory—C.L. Miller, Rm. E40-133, x3-1941.
Undergraduate Research Opportunities Program—Rm. 20B-141, x3-5049.
Women's Forum—Michelle Lamarre, Rm. 3-234, x3-7753.

French Scientist Aigrain to Hold New Luce Professorship

(Continued from page 1)

technological advances have had on natural systems.

The announcement added that the professorship—which, unlike traditionally endowed professorships, is funded for an initial five-year period—was intended to "bridge the gap between two traditionally separate academic areas: science and engineering on one hand and the social sciences, in particular public policy, on the other."

In its annual report, the foundation said:

"The Massachusetts Institute of Technology has already earned a reputation as one of the nation's leaders in environmental studies. In addition to a wide range of departmental offerings on environmental issues, both the undergraduate Interdisciplinary Environmental Project Laboratory and the new Workshop in Environmental Studies provide constructive opportunities for the growing student interest in this field.

"Beyond the specifics of the environmental area, however, MIT's Department of Political Science has been particularly noted for its work in public policy and science. In fact, policy studies in the field of environment have recently become a major departmental interest."

The foundation has established 11 professorships at private colleges and universities since 1969. The program's goal, according to the foundation, "is to stimulate greater academic flexibility within these institutions by encouraging widely disparate academic disciplines to address a particular subject in an entirely fresh way."

Dr. Aigrain, whose home is in Paris, was born in Poitiers, France, in September, 1924.

After secondary studies in France, he entered the French Naval Academy in 1942 and graduated in 1944. In that year, he came to the United States as a naval officer to study towards a master of science degree in electrical engineering at Carnegie Institute of Technology, Pittsburgh. He then received the Buhl fellowship to study towards a PhD in electrical engineering, which he obtained in 1948.

After his return to France, he was at the Physics Laboratory of the École Normal Superieure, where he started work in semiconductor physics and devices. He obtained a doctor of science degree from the University of Paris in 1950, became "Assistant" at the College de France in 1951 and worked with the French Atomic Energy Commission from 1951 to 1952.

In 1952, he was made "Maître de Conférence" (associate professor) at the University of Lille and in 1954 at the University of Paris. He was made full professor at the Sorbonne in 1958.

A member of the Fench Government Advisory Committee on Science and Technology from 1958 to 1962, and a vice-president of that committee in 1958 and 1961, he was appointed scientific director of the French Defense Research Agency.

In 1965, he became Director of Higher Education in the Ministry of Education and in 1968 he was named the French government's General Delegate for Research and Technology.

Professor Aigrain was the holder of the Henry Speciael chair of the Université Libre de Bruxelles (Belgium) in 1955.

He is a member of many learned societies. He was Secretary-General of the French Physical Society 1959-61. He is a fellow of the Institute of Electrical and Electronics Engineers and a foreign honorary member of the American Academy of Arts and Sciences.

Professor Aigrain is married to the former Francine Bogard, who received a bachelor's degree from Radcliffe in 1944, and has three sons, Philippe, 24; Yves, 21; and Jacques, 19.

Arts Council Moves

The Council for the Arts at MIT has moved to Room 20D-220. The Council's extension is 3-4003.

Pakistan Benefit Movie Scheduled

The Association of Pakistani Students will present the movie, "Bullit," on Monday, Oct. 8, in Room 10-250 at 7pm and 9:30pm for the benefit of the Pakistan flood relief drive. Admission is $1.

The association recently conducted a week-long drive for funds, food, clothing and medicine to aid the 15 million people left homeless in Pakistan by the floods that began in mid-August.

HSSP Registration

Registration for the MIT High School Studies Program (HSSP) will be held 9:00am on two consecutive Saturdays—October 6 and 13—at 77 Mass. Ave. in Cambridge.

ABC Films to Be Shown

"What About Tomorrow?," a series of six color films on the implications of science and technology for humanity, produced by the ABC television network in cooperation with MIT, will be shown continuously from 11am to 2pm Wednesday, Oct. 3, in Bush Room, 10-105.