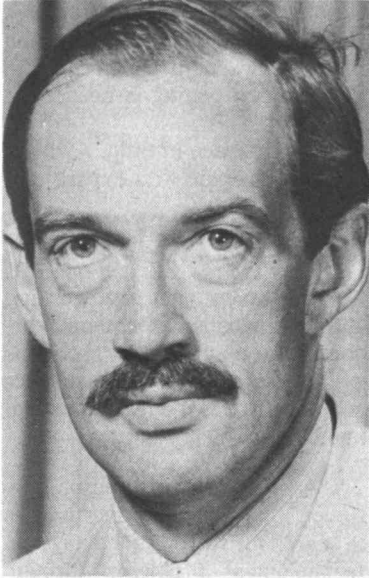


## Prof. Hartley Rogers, Jr. Named Associate Provost



Professor Hartley Rogers, Jr.

### MIT-Tufts Team Gives Computer MD Judgment

A computer has been programmed with the clinical judgment which the physician uses in making complex life or death decisions, according to reports by an investigative team of physicians and computer scientists from the Tufts-New England Medical Center and MIT.

Dr. William B. Schwartz, chief of medicine at the medical center and spokesman for the group, emphasizes that until now computers were not considered to have such reasoning capability.

However, it now has been shown by the Tufts-MIT team that computer programs can be written which balance the risks and benefits of a given treatment, and which will also consider the patient's attitude toward a surgical procedure or some other form of clinical treatment, he said. In this way the computer has been "educated" to closely mimic the behavior of an experienced physician.

The complex problem of computers and clinical judgment is the subject of two papers recently published in the American Journal of Medicine.

The authors in addition to Dr. Schwartz are Dr. G. Anthony Gorry, associate professor of electrical engineering at MIT; Dr. James P. Kassirer, associate physician-in-chief at NEMCH; and Dr. Alvin Essign, who is formerly a member of the Renal Service at NEMCH.

(Dr. Gorry was associate professor in the MIT Sloan School of Management until last July 1 when he transferred to the Department of Electrical Engineering and Project MAC. Much of the work on the clinical computer program was done while he was at the Sloan School and has been continuing at Project MAC.)

One of the papers, *Decision Analysis as the Basis for Computer-Aided Management of Acute Renal Failure*, discusses in detail 18 simulated cases of acute kidney

(Continued on page 3)

Provost Walter A. Rosenblith has announced the appointment of Professor Hartley Rogers, Jr., as Associate Provost, beginning on February 1, 1974. Professor Rogers will assist Dr. Rosenblith in the general duties of the Provost.

As a member of the faculty, Professor Rogers has had an active interest in academic policy and has been a leader in the development of the Institute's undergraduate educational program. In making the announcement Dr. Rosenblith said, "It is my hope that Professor Rogers' appointment will enable the Provost's Office to provide better support to the continuing consideration and development of educational programs at the Institute." As Associate Provost Professor Rogers will be a member of the Academic and Faculty Councils and will work closely with the Institute's Senior officers and the academic leadership of schools, departments and interdepartmental activities.

"Professor Rogers has provided outstanding faculty service and leadership at MIT during the past decade," Dr. Rosenblith said. From 1962 to 1964, he served as a member of the Committee on Curriculum Content Planning, chaired by Professor Jerrold Zacharias, and helped to write its report. In the light of this report, the Faculty established the General Institute Requirements for the undergraduate

(Continued on page 3)

### Mileage Rate Up

Effective Jan. 14, the reimbursement rate for the use of private autos on MIT business will be 12 cents a mile. The old rate was 10 cents a mile.

Comptroller Philip Keohan said the rate was increased to help offset the rising cost of operating a car. The rate also will apply to the use of private planes on MIT business.

### Samuelson at Nobel Meeting:

## No 'Iron Law' of Economics Causes War

There is no "iron law" of economics that drives men into war or that guarantees peace, Dr. Paul A. Samuelson, Institute Professor and Professor of Economics, said last week in an address at the 10th annual Nobel Conference at Gustavus Adolphus College in St. Peter, Minn.

Dr. Samuelson, Nobel Laureate in Economics in 1970, spoke as a member of a panel discussing "The Quest for Peace."

The college presented him the honorary degree of Doctor of Laws.

In his remarks, Dr. Samuelson examined what he called a "sweeping indictment" of economics, an indictment that asserts "the strong thesis that the prime cause of war is capitalism."

"This is not a new thesis," he



GROUNDSMEN Joseph Callahan, left, and Pat O'Toole try to keep ahead of the snow at the Student Center. —Photo by Margo Foote

## MIT Receives \$1 Million From Japan's Mitsui Group

The 30 companies of the Mitsui Group of Japan—one of the world's leading industrial enterprises—has made a gift of \$1 million to MIT for the establishment of a permanent Mitsui Professorship in Problems of Contemporary Technology.

Hideo Edo, president of Mitsui Real Estate Co., Ltd., Goro Koyama, president of the Mitsui Bank, Ltd., and Yoshio Ikeda, president of Mitsui and Co., Ltd., speaking on behalf of The Mitsui Group presidents, and Howard W. Johnson, chairman of the MIT Corporation, in a joint statement, said one objective of the Mitsui Professorship, first of its kind to be established at MIT, will be to promote friendship and goodwill between the United States and Japan.

"It is a common desire and expectation," they said, "of MIT and

the 30 companies of the Mitsui Group that this professorship will contribute to the development of contemporary technology and, thereby, in the years to come, serve as a bridge to promote friendship between the United States and Japan."

The Mitsui Group is one of Japan's largest and oldest industrial groups. Its activities date back some 300 years. Among its interests are manufacturing in-

(Continued on page 2)

said. "All this century it has been advanced in one form or another."

"Objective and informed analysis finds that in the Age after Keynes, the modern mixed economy does not have to depend for its continued prosperity and full employment on military expenditure abroad or an development of investment markets in the Third World.

However, the "surviving germ of truth" in the older theories of imperialism—"as the oil boycott and energy crisis make only too clear"—lies in the fact that advanced countries do depend economically on raw materials to be found in other countries.

In dealing with the spirit of nationalism abroad the security of contracting and of property that businessmen take for granted at home are anything but assured, he

went on.

"As a result we must expect some loss of economic welfare. But this is not an economic loss that government ought to prevent by the use of power or force. That way lies a certain threat to peace. Economics must be a good servant, not a bullying master.

"This is a lesson fraught with significance for the cause of peace. But it is not a lesson to be learned by economists alone. Its lesson applies to the man of business, the heads of state, and the people at large who represent the civilization men of peace are fighting for."

"My final message is that peace is in our hands, but we shall have to work for it. No iron law of economics drives us into war, or guarantees for us the peace."

## Cold Cuts Into Efforts To Save Oil

The season's first prolonged stretch of wintry weather last week dealt a setback to MIT's fuel conservation program, but officials remained hopeful.

"We have been losing ground rapidly for the first time because of the weather and our reduced oil allocations," said William R. Dickson, director of the Department of the Physical Plant.

"Every day last week, we consumed more oil than we have been able to get on a daily basis and have had to dip into our reserves," he said.

Dickson said, however, that the situation was "not a disaster."

"We are not out of the woods yet," he said, "but with the continued help of everyone and with the oil reserves we have, we think we can make it through January and February."

### Would Cause Harships

The combination of fuel conservation measures and relatively mild weather had enabled the Institute to make significant reductions in fuel use up to last week, Dickson said.

He said consumption had been running about 30 to 40% behind that of a year ago, and he estimated December usage at 63% of normal.

This also meant, he said, that the Institute did not have to draw on its 380,000 gallons of reserve fuel.

Dickson said his department had considered eliminating all hot water on the campus except for dormitories and a few research activities, but decided not to put the program into effect at this time because of the hardships it would cause.

### Shut Off Fan

"But we are holding it in reserve as something we can do if necessary," he said. "We estimate it would save up to 6% on our fuel consumption."

Dickson also disclosed that his department has made arrangements to lease a System 7 computer from IBM to assist in the fuel conservation program.

He said the small, desk-sized computer will monitor electrical demand and consumption and be programmed—when consumption approaches a pre-determined limit—to shut off certain equipment automatically.

"It might shut off a fan in one building for a half hour, say," Dickson said, "and then turn that back on and turn off another somewhere else."

### Expected Early July

In this way, he said, it will be possible to limit the maximum demand.

The computer also will be capable of starting and stopping certain equipment for energy conservation purposes, something that is now being done manually at a high cost in man hours.

Close to 100 pieces of mechanical equipment, mainly fans and pumps, will be controlled by the computer, he said.

(Continued on page 8)



# Time Cover Story on Brain Reports on Research at MIT

The Jan. 14 issue of *Time* magazine features a cover story on brain research which includes accounts of the work of three MIT scientists.

They are Dr. Hans-Lukas Teuber, professor and head of MIT's Department of Psychology; Dr. Walle J.H. Nauta, Institute professor and professor of neuroanatomy in the Department of Psychology; and Dr. Francis O. Schmitt, Institute Professor Emeritus, professor of biology emeritus, and chairman of MIT's Neurosciences Research program.

Professor Schmitt, termed "one of the nation's leading brain researchers" in the article is quoted on the ultimate use of brain research.

"If man could discover why he is unique, he might not destroy himself," Professor Schmitt said. "He might respect himself more than he now does . . .

"Most of our evolution has been

somatic. We've changed our shape. But if we could really understand ourselves and by extension each other, we could evolve socially as well. Armies aren't the key to man's survival. Governments are not enough. Only self-knowledge will help man survive."

Professor Schmitt also is the subject of a special inset in the *Time* article (see below).

Professor Teuber is featured for his work on the way the brain perceives, processes and stores information.

Professor Nauta is included for his work on special staining techniques to trace the brain's neuronal pathways.

Professor Teuber told *Time*: "The way we perceive patterns, whether through sight, touch or other senses is intimately linked to the way we pattern our skilled movements, and both perception and movement inevitably involves problems of memory."

## F.O. Schmitt Tells *Time*: Understanding Brain Key To Understanding Man

(Under the headline, "Impresario of the Brain," *Time* magazine, as a part of its cover story on neurosciences research this week, published the following inset article on Dr. Francis O. Schmitt, Institute Professor Emeritus, professor emeritus of biology in the Department of Biology and chairman of MIT's Neurosciences Research Program. Copyright 1974 by *Time*, Inc.)

"To understand man, we have to understand the brain."

If man succeeds in reaching this goal, most neuroscientists today agree that much of the credit will belong to the author of that statement, Dr. Francis Otto Schmitt, a professor at the Massachusetts Institute of Technology. Although he is a skilled researcher in molecular biology, Schmitt is best known in his profession as a scientific impresario. He is the founder, chairman and most enthusiastic member of the MIT-sponsored Neurosciences Research Program. It is from the work of this group that a comprehensive theory of brain function could well emerge.

Founded in 1962, the N.R.P. represents Schmitt's attempt to get science's "wets" (chemists) and "drys" (physicists) together to work on the mystery of the brain. The organization is a loose federation of scientists who are themselves connected with such prestigious institutions as the University of California, Germany's Max Planck Institutes and the National Institutes of Health. These researchers constitute the faculty of an "invisible university." Meeting regularly to discuss specific topics and staying in constant communication by letter and telephone, they hope to accomplish together what none could succeed in doing alone. Five of the N.R.P.'s 36 associates have won Nobel Prizes for their work in chemistry, medicine or physiology. But merely being Nobel laureates entitles them to no special consideration in what the scientific community acknowledges is a tough outfit. A couple of Nobelists were transferred to consultant status when they became too busy to participate in N.R.P.'s demanding schedule of meetings.

The dean of this unique college is as impressive as the faculty. Born in St. Louis in 1903, Schmitt

studied medicine at Washington University, published two papers in *Science* before his 20th birthday and received his doctorate in physiology\* before going abroad for two years of study in England and Germany. He returned to Washington U., where he remained on the faculty until moving to MIT in 1941.

Schmitt pioneered the use of X-ray diffraction and polarization optics to explore the inner workings of cells, and studied molecular biology before the term was invented. Head of the team that was first in the US to use an electron microscope for studying biological tissues, he is also well known for his work on collagen, the clear protein material that fills the spaces between cells. His research, which led to an understanding of how the collagen molecule is constructed, won him the coveted Lasker Award in 1956.

A bulky (6 ft., 200 lbs.) man with a prognathous jaw and bold forehead, Schmitt is an exceptionally articulate spokesman for his profession, promoting it in informal conversations and speeches that are remarkably free from technical jargon. "I believe the brain is knowable," he says. He is also an enthusiastic pianist and frequently entertains his friends by playing duets with his wife Barbara, a former concert pianist. Schmitt has a Teutonic dedication to hard work, moves at constant flank speed and, according to a colleague, has a tendency to "take every red traffic light as a personal affront." Asked at a recent 70th-birthday dinner if he planned to retire, Schmitt did not hesitate: "Not in the conventional sense of the word," he answered. "There are two meanings of this word, and to me, retire means to put new tires on the old chassis and get going again."

\*He has since been awarded an honorary MD by the University of Goteborg.

### TECH TALK

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## MIT Will Run Food Operations

Effective July 1, MIT will take over operation of the campus Dining Services—at Walker, Lobdell and MacGregor—from Stouffer, H.E. Brammer, director of Housing and Food Services has announced.

The decision not to renew the contract with Stouffer's came after an eight-month food service study, including an evaluation by an outside consultant, he said.

"We believe we can be more flexible by operating our own dining halls," he said. "We will also be able to respond more quickly to service preferences of the MIT community."

There will be no difference in food operations, Brammer said, since the personnel who now prepare and serve food are all MIT employees. The seven Stouffer employees now responsible for day-to-day operation will be relocated.

## Mitsui Makes \$1 Million Grant to MIT

(Continued from page 1)

dustries, mining, trade and commerce, banking, and other various aspects of economic activities. There has been a long-standing tie between MIT and Mitsui in that the late Dr. Takuma Dan, an important figure in the leadership of the Mitsui Group, was a graduate of MIT (Class of 1878) and after his graduation continued to maintain close contact with his alma mater.

Mr. Johnson said the Mitsui Professorship "provides an opportunity for the two great industrial nations of the Pacific basin, Japan and the United States, to cooperate in solving serious technological problems of deep concern to both."

MIT, which has been moving strongly to mobilize an effective

## Viral Life Cycle Target of Study

A study of the life cycle of the mouse leukemia virus is being undertaken by an MIT biologist with an \$80,000 grant from the American Cancer Society.

Dr. Robert Weinberg, an assistant professor of biology, plans to study how the virus functions at the various stages of its life cycle, and to isolate and study the new viral genetic material formed after the virus infects living cells. This infection process affects the metabolism and growth of the infected cell.

Scientists strongly suspect that certain viruses cause cancers in humans, and the study of the mouse leukemia virus, says Dr. Weinberg, will give greater insight into how viruses may transform normal human cells into cancerous ones.

coalition of faculty interests in the whole field of contemporary technology, views the new professorship as "a means of encompassing the critical issues arising in all industrial countries from the advance of technology," Mr. Johnson said.

The gift—which will be provided over a period of five years—will support a distinguished senior faculty member who will have a profound interest in finding solutions to the problems confronting both Japanese and American industry, Mr. Johnson said.

The MIT-Mitsui relationship was undertaken, Mr. Johnson said, in the belief that the professorship would become a "beacon light for scholars, industrialists and government officials of

## Time Clocks, Foremen Moved

New time clocks for hourly employees and new offices for day, evening and night building services foremen have been installed in the basement of Bldg. 10.

The move from Bldg. 3 was carried out to alleviate congestion at the former location, according to Theodore M. Doan, Jr., manager of building services for Physical Plant.

In addition, he said, Physical Plant general foreman Edward G. Nixon's office has been moved to Room 20C-032.

Doan said daytime problems requiring building services personnel should be referred to George Pesaturo, Jr., building services supervisor, x3-3927. Evening and night calls should be directed to x3-3949 or, if paging is needed, to x3-1500.

Vacated space in Bldg. 3 will be used for Graphic Arts expansion.

both countries who are working with the industrial, technical, economic and management problems which so deeply concern both countries in this modern industrial age."

The Institute, Mr. Johnson continued, "has unique opportunities to search for ways to solve present technological problems through research, and to train a new generation of young men and women from around the world who will be equipped to deal with the complex and interactive nature of technological problems of the future."

"The Mitsui Professorship in Problems of Contemporary Technology will provide precisely the leadership that is urgently needed to carry out this goal."

## 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. 3-5949 or 3-4849. Undergraduates are also urged to check with the UROP bulletin board in the main corridor of the Institute.

### Physics Department

Several new experiments are being planned using a single mode continuous wave tuneable dye laser (tuneable from red to green) pumped by an argon ion laser. Some of the experiments will involve (1) two photo spectroscopy; (2) molecular spectroscopy of simple molecules; and (3) collisions with velocity selected excited state atoms. These experiments can be understood by students with an 8.04 background, but others are welcome to participate. Opportunities exist also for students to carry out experiments of their own design or to join with a group. Contact Professor Dave Pritchard in 13-2037 or 13-2110.

### Center For Astrophysics Cambridge

The High Energy Astrophysics Division at the Center for Astrophysics is interested in undertaking a theoretical study of the performance of a new type of telescope for gamma ray astronomy. The project would involve computer calculations (Fortran) that may be appropriate for an advanced physics undergraduate with programming experience. The telescope has great potential in future experiments and, should the computer study be promising, a telescope will be constructed. The telescope is to be used on balloons and satellites for the purpose of obtaining locations of sources of gamma ray bursts. Contact the Physics UROP Coordinators for further information.

### Urban Systems Laboratory

A major collaborative effort by an interdisciplinary, intercollegiate team is presently getting underway to evaluate pharmaceutical services for residents of a Boston Model Cities sub-area and to develop a practicing model to provide a more effective and affordable medication delivery and compliance system for the community.

Opportunities exist for undergraduates to participate in:

—Evaluation of existing pharmacy services in both private and public sectors;

—Evaluation of alternative approaches to improve existing services;

—Determination of the drug deficiency of registrants at the Roxbury Comprehensive Community Health Center;

—Study of the drug compliance record of RCCHS registrants.

Student participants should plan on spending about 10 hours a week in increments of three hours minimum. Much of the activity will be centered at the health center in Roxbury. Wages or credit are possibilities. Interested students should contact Jim King, Ext. 3-4523, Room E40-107.

### Harvard Medical School Boston

A laboratory at Harvard Medical School is involved in the development of an innovative electron probe microanalyzer capable of localizing any element heavier than boron with a spatial resolution of less than one micron and sensitivity of less than 10<sup>-15</sup> grams. Thus, the instrument is capable of chemical localization and quantitation on a subcellular scale, as well as complete elemental analysis of liquid samples of 10<sup>-10</sup> liters or less. Specific potential projects suggested include: (1) design and construction of a controlled temperature refrigerated stage for the electron probe; (2) design and construction of an automated system for driving the electron probe spectrometer motors; (3) experimental and theoretical study of the effect of beam bombardment on the biological sample analyzed with the electron probe; and (4) experimental study of the freezing rate of a simple model and of biological material in different quenching medium.

### Special Research Grants — Class of 1970

As its class gift to the Institute, the Class of 1970 has created a fund to support socially oriented research projects undertaken by undergraduates. Funds will be awarded to cover research expense by a board including representatives of the Class of 1970 and UROP on the basis of merit of proposals submitted by undergraduate students. Proposals are encouraged that (1) demonstrate substantial student initiative in choice of subject matter and formulation of problems; and (2) address a socially significant real-life problem through science and technology and/or the humanities. Basic modes and policies of UROP will apply concerning credits, materials and supplies support, on- and off-campus supervision, and style, unless

better counter proposals come forward. To stretch the gift and to enable reaching as many students as possible, the board tends to discourage requests for personal support. The Class of 1970 Review Board will meet to decide on proposals as they are received. Proposals are welcome anytime from individuals or groups of students.

## Other Opportunities

Research Participation Program in Science/1974—Roswell Park Memorial Institute, Buffalo, N.Y.

The Research Participation Program in Science combines actual laboratory research experience under senior staff supervision with lectures, seminars and scientific films. Basic research is conducted in biology (genetics, microbiology, gnotobiotics, hematology, immunology, physiology, endocrinology), chemistry (immunochemistry, biochemistry, organic chemistry), physics (radiation physics, biophysics, crystallography) and biostatistics. Objectives of the program are (1) to expose the participant to an atmosphere of intensive research where he is in constant contact with scientists and continually challenged by them (2) to help him develop his own scientific creativity and (3) to aid in planning his career. Joint support for the program is provided by the National Science Foundation and the New York State Department of Health. Preference is given to college students who are juniors at the time of application. Others may apply but, if selected, may not receive financial support. Support for out-of-town students is a maximum of \$80/week; students living within 50 miles of Buffalo, maximum \$60/week. The program lasts 10 weeks. Additional information is available from the Preprofessional Advising and Education Office in Room 10-186, Ext. 3-4158.

## Graduate Studies

Graduate Study  
NIH Postdoctoral Program

The Graduate School Office has received notification that the application deadline for the National Institutes of Health (NIH) Postdoctoral Individual Research Fellowship Program, announced in last week's *Tech Talk*, has been extended to Feb. 1. Applications are available in the Graduate School Office, Room 3-136.



# Associate Provost Appointed

(Continued from page 1)

ate degree in their present form. In 1968, Professor Rogers served as chairman of the Panel on the November Events and the MIT Community. The report of this Panel became a basic document in judicial process at the Institute. In 1971, Professor Rogers chaired the Special Task Force on Education appointed as an outgrowth of the work and recommendations of the MIT Commission on Education chaired by Professor Kenneth N. Hoffman. The Task Force report has had a major influence on recent development of educational policy at the Institute. As Chairman of the Faculty from 1971 to 1973, Professor Rogers provided extraordinary and creative leadership in a variety of academic and educational policy areas.

Professor Rogers is a distinguished mathematician and mathematical logician. Within logic, he helped to found the current area of recursion theory. His book, *Theory of Recursive Functions and Effective Computability*, is a central and standard reference in this field. His published papers include work in logic, computability, and probability, as well as a number of expository papers (for which he has received the Lester R. Ford award of the Mathematical Association of America.) From 1965 to 1968 he participated in the African Mathematics Program directed by Professor W. Ted Martin, and served as co-chairman, with Professor Abbiw Jackson of Ghana, of working groups which prepared and wrote texts for the final three years of secondary school. Professor Rogers has served as Vice President of the Association for Symbolic Logic and as senior editor of the *Journal of Symbolic Logic*. He has been a Guggenheim Fellow and an NSF Senior Postdoctoral Fellow. He is currently senior editor of the *Annals of Mathematical Logic* and an associate editor of the *Journal of Computer and System Sciences*.

Professor Rogers received his undergraduate degree in English from Yale University. He subsequently worked in physics and mathematics at Cambridge University (as a Henry Fellow), at Yale, and at Princeton where he received his PhD in mathematics. He came to MIT in 1955 after three years as a Benjamin Peirce Instructor in mathematics at Harvard. He was appointed full professor in 1964.

Professor Rogers lives in Winchester. His wife, the former Adrienne Thorine Ellefson, is a physician and holds the position of Senior Research Scientist in the Department of Nutrition and Food Science at MIT. They have three children, Hartley, Campbell, and Caroline.

## Seven Recent Appointments to Faculty Are Listed

Six new assistant professors have been appointed or promoted to the faculty of MIT and one has been promoted from assistant to associate professor.

The promotions and appointments were made during recent meetings of the executive committee of the MIT Corporation. They include:

Dr. Michael J. Fischer of Waltham—promoted from assistant professor in the Department of Mathematics to associate professor in the Department of Electrical Engineering for three years, effective July 1, 1973. He received the BS degree in mathematics from the University of Michigan in 1963 and the MA and PhD degrees in applied mathematics from Har-

## Close Dancing Is Back



A recent newspaper advertisement asked, "Remember when people held each other while they danced?" Whether or not MIT students can recall such goings-on, many apparently are willing to give the old-fashioned way a try. They have enrolled in unexpectedly large numbers in an IAP class on "Couples Dancing," held at Burton House, to learn such steps as the fox trot, jitterbug, lindy, tango and waltz. "I expected perhaps 20 or 30 people," said instructor Harry B. Brauser, who teaches folk dancing in the Department of Athletics, "but 107 registered." Brauser said dance trends run in cycles and that close dancing is coming back. "They're coming to it from rock, in which you don't really have to relate to another person," he said.

—Photo by Margo Foote

## Jerry and Maggie Lettvin Are Moving to Bexley

Bexley Hall, an undergraduate residence at MIT, is about to get a new faculty resident couple, plus an unofficial grandmother.

Professor Jerry Lettvin and Maggie Lettvin, his wife—he of the MIT Departments of Electrical Engineering and Biology, and she of "Maggie and the Beautiful Machine"—will become the faculty resident family of Bexley Hall, effective Feb. 1. Joining them there will be Maggie's mother, Mrs. Katherine Brady.

Announcement of the appointment was made by Dr. Carola Eisenberg, dean for student affairs.

"The Lettvins have a long history of warm and informal relationships with students," Dean Eisenberg said, "which will make them a valuable addition to the faculty resident program."

The Lettvins will be succeeding Professor and Mrs. Prescott A. Smith who retired as faculty residents last June. The Lettvin's appointment is for two years. They expect to move in mid-February.

"We have wanted to be faculty residents for some time," Professor Lettvin said. "We enjoy being with students more than with our contemporaries and hope the judgement and observations we have accumulated in 20 years at MIT will be helpful to the house residents."

Professor Lettvin became widely recognized as a result of his 1967 nationally televised debate with Dr. Timothy Leary on the use of hallucinogenic drugs. Professor Lettvin argues that the danger in the use of such drugs lay in their ability to suspend the judgment of

some individuals for prolonged periods.

A native of Chicago, Professor Lettvin received the BS degree in 1942 and the MD degree in 1943 from the University of Illinois. He was an intern at Boston City Hospital for a year and from 1944 to 1946 served in the US Army as head of neuropsychiatry at the 237th General Hospital in the European Theater.

Professor Lettvin came to MIT in 1951 after serving for several years as senior psychiatrist at the Manteno, Ill., State Hospital. From 1959-61 he was a visiting associate professor of biology, and from 1961-64 associate professor. In 1964-65 he was a research associate and in 1965 was appointed professor in the Departments of Biology and Electrical Engineering. His major research has been in the field of neurophysiology.

Maggie Lettvin is the star of "Maggie and the Beautiful Machine," a weekly exercise program on WGBH-TV, Ch. 2, carried by the Public Broadcasting Service network, and author of the book by the same name. She also conducts daily exercise classes at MIT.

vard University in 1965 and 1968 respectively.

Dr. Michael M. Hammer of Cambridge—appointed assistant professor in the Department of Electrical Engineering for three years, effective July 1, 1973. He received the SB in 1968, the SM in 1970 and the PhD in 1973, all in mathematics, from MIT.

Peter Herman of Cambridge—promoted from instructor to assistant professor of literature in the Department of Humanities for three years, effective July 1, 1973. Professor Herman, a graduate of Harvard College, is a doctoral candidate in comparative literature at Harvard University.

Dr. John G. Kassakian of Newtonville—appointed assistant pro-

fessor in the Department of Electrical Engineering for three years, effective July 1, 1973. He received the SB in 1965, the SM and EE in 1967, and the ScD in 1973, all in electrical engineering from MIT.

Miles Morgan of Cambridge—promoted from instructor to assistant professor in the Department of Philosophy for one year, effective July 1, 1973. He received the BA degree in government from Harvard College in 1965 and is completing requirements for the PhD in government at Harvard University.

Dr. Thomas E. Nutt of Roxbury—appointed assistant professor of planning in the Department of Urban Studies and Planning for

## Affirmative Action Plan To be Updated Next Month

MIT—which was the first major university in the east to have its Affirmative Action Plan for equal opportunity accepted by the federal government—expects to file an update to the plan by Feb. 1.

James J. Culliton, director of the Office of Personnel Services, said the new filing will include revisions both to the university's overall plan and to the plans for individual departments.

MIT's plan was found "acceptable and in substantial compliance" by the Office of Civil Rights of the US Department of Health, Education and Welfare last July. The plan was drafted to comply with federal regulations governing equality of opportunity in employment and in student admissions.

MIT included 87 separate department affirmative action programs in its overall plan. The HEW office said the Institute was the "first school of higher education in Region 1 (New England) to develop a completely departmentalized program," an approach that has since become a model for the nation.

At that time, however, John G. Bynoe, regional director of HEW's Office of Civil Rights, and his staff called attention to a number of areas where the MIT plan could be strengthened by clarification, amplification and documentation.

Since then, a group of senior members of the Institute's administrative staff—headed by John M. Wynne, MIT's Equal Employment Opportunity Office, Vice President Constantine B. Simonides, and Mr. Wynne's Assistant for Equal Em-

ployment Opportunity, Miss Patricia Garrison—have held meetings with almost 80 representatives of MIT departments.

The participants at the meetings included Mary P. Rowe, Special Assistant to the President and Chancellor for Women and Work; Personnel and Employment Officers, and members of the Analytical Studies and Planning Group.

"We felt it was important to spend time with the departments," Culliton said, "to discuss their individual plans, to help them revise them where necessary and to provide a forum for the departments to raise issues and questions they had concerning the affirmative action program and its implementation."

## Computer Diagnosis

(Continued from page 1)

failure and compares the decisions which would be made by kidney disease experts with those made by the computer.

"Using data bases derived from expert opinion," the authors write, "the program performed notably well when challenged by a series of hypothetical acute kidney failure problems; in almost all instances the diagnostic or management decision was the same as that of two experts. Specifically, the Phase I program, which deals with low risk, routine tests, diagnosed all 33 test cases correctly at the 0.95 probability level after utilizing only one-third to one-half of the questions available. The Phase 2 program, which deals with tests and treatment involving significant risks, made choices which agreed with the experts in 14 of 18 cases, and in each instance in which disagreements occurred, the first choice made by the program was a reasonable alternative to that made by the clinicians."

The group set forth three key advantages in a computer-based system:

1) Because of storage capabilities, it would greatly reduce the burden in a physician's memory now imposed by "a huge and burgeoning number of important medical facts."

2) Consistent performance—computers don't get tired, and their performance isn't affected by personal (to the physician) factors.

3) Ready separation of probabilities of success or failure of a treatment from value judgments.

In the first of the two papers, *Decision Analysis and Clinical Judgment*, the group is critical of the current direction medical education is taking:

"Although decision-making is the preeminent function of the physician, medical education has paid remarkably little attention to the nature of the decision-making process. Medical school and postgraduate training emphasizes, instead, the acquisition of specific factual data and an understanding of patho-physiologic mechanism... (the) medical curriculum must be judged not merely by the technical skills imparted, nor by the interests of the facts in their own right, but also by the ability of the physician to combine diverse data to reach appropriate decisions concerning management. Yet nowhere is the student or graduate student exposed to a systematic exposition of procedures for good decision-making. Rather, it is generally believed that with experience the physician will somehow acquire the precious attribute of 'clinical judgment.'"

## Technology Wives Set Up Job Bank

The Technology Wives Organization (TWO) is setting up a job bank to find employment for student wives who want or need to work but are having difficulty finding jobs.

TWO is seeking all kinds of jobs—domestic, business, temporary, part-time and full-time. Some of the wives are foreign and have language limitations and/or visa restrictions on employment.

Anyone having a job to offer may call Kathy Ervin, 648-5286.

## Credit Union Meets

The MIT Employees Federal Credit Union annual meeting will be held Wednesday, Jan. 23, at 5:30pm in the Bush Room (Rm 10-105). All members are invited.

## Snow Know

To find out if the Institute is operating normally in bad weather, dial 253-SNOW. MIT snow closings are also announced on radio station WHDH, 850KC.



# THE INSTITUTE CALENDAR

January 16  
through  
January 25

## Seminars and Lectures

### Wednesday, January 16

**Use of Lasers and Optics for Measurements of Properties of Thermonuclear Plasmas** – Dr. Ward Halverson, National Magnet Lab. Physics Seminar. 10-11:30am, Rm NW14-2209.

**Biochemical Individuality (Discussion Group)** – Maria Linder, nutrition & food science. Nutrition & Food Science Seminar (223). 10am, Rm 16-134.

**Nature of the Interior of the Moon** – Sean C. Solomon, earth & planetary sciences. Earth & Planetary Sciences Lecture (74). 11am, Rm 54-425.

**The Influence of the Indian Intellectual Tradition on the Modern Social Situation in that Country\*** – David B. Zilberman, former research scholar, Institute of Social Studies of the Academy of Science of Moscow. CIS Seminar. 12:30-2pm, E53-482.

**Are There Jobs in Economics?** – E. Cary Brown, Head of Department of Economics. Economics Lecture (77). 2pm, Rm E52-394.

**"Silly Putty" and Foolish Fluids\*** – Edward W. Merrill, Carbon P. Dubbs Professor of Chemical Engineering. Chemical Engineering Special Polymer Lecture Series. 3pm, Rm 12-102.

**Light Emitting Diode Research at GE** – Jack Kingsley, General Electric Corp. Science in Industry Seminar (258). 3:30pm, Rm 9-150.

**The Contribution of Progressive Myopia to the Rise of Impressionism: Visual Problems in the History of Art\*** – Cary Lu, WGBH. Joint Biology and Psychology Seminar. 3:30pm, Rm 26-100.

**Everything You Always Wanted to Know About Cosmology in Two Painless Lectures** – Kenneth Brecher, physics. Physics Potpourri (259). 3:30pm, Rm 37-212.

**Technology, Society and Values in MIT Education\*\*** – Ronald Laura, Oxford University, Thomas Nutt, urban planning. Technology Studies Colloquium. 4pm, Rm 14N-313.

**Systems Science and Control Engineering** – Research Opportunities in Electrical Engineering Seminar. 4:30pm, Rm 10-105. Refreshments, 4pm.

**Physical Planning for Development in the Middle East** – Abbad Al-Radi, SPURS Fellow, will lead a discussion with slides. Program on the Third World: Seminar on Foreign Students and Participation in Development (345). 7pm, International Student Lge, 2nd fl, Walker Memorial.

**Patent Problems for Chemical Research\*** – Iver Cooper, student. Electrical Engineering Seminar. 8pm, MacGregor Dining Room.

**Israel and Africa\*** – Hanan Aynor, former Israeli ambassador to Senegal & Ethiopia, author of *Notes From Africa*. Israeli-American Forum Series of Lectures & Discussions on Israel, Middle East & American Jewry. 8:30pm, Stu Ctr Mezzanine Lge.

### Thursday, January 17

**Solar Energy** – Dr. John Goodenough, Lincoln Lab. Physics Seminar. 10-11:30am, Rm NW14-2209.

**Development of New Enterprises** – Larry Hoagland, Scientific Energy Systems. IAP Innovation Seminar Series. 12n-1pm, Rm 3-270.

**How the Press Covers the White House\*** – Robert Maynard, associate editor, *Washington Post*. CIS Seminar. 2-3pm, Rm E53-482. Informal discussion, coffee.

**For All Freshmen – The Concourse Program** will discuss interdisciplinary educational opportunities for the spring semester. Bring ideas and questions. 2pm, Rm 14E-311.

**Optimization Problems in Transportation Networks** – Amedeo Odoni, aero/astro; **The Implementation of Mathematical Programming Algorithms** – Jeremy Shapiro, management. Operations Research Center Seminar Series. 2:30pm, Rm 23-121. Refreshments.

**Quantum Detection of Coherent Signals\*** – Dr. H.P. Yuen, RLE, electrical engineering. Communication Theory Seminar. 3pm, Rm 26-217.

**Canadian Electoral Politics: Impeach the Prime Minister** – Walter Dean Burnham, Political Science; Sandy Borins, economics, Harvard. Political Science Seminar (261g). 3-5pm, Rm 1-190.

**What Price Health?** – Thomas H. Ballantine M.D., director, Commonwealth Institute of Medicine. Film and lecture. Innovations in Medicine (266). 10am-12n, Rm 16-134.

**The Bible as a Source of Ethical Teaching** – Rev. Arnold Hogan, SJ, will discuss "The Moral Teachings of Christ." Ethics: Sources and Applications Lecture (343a). 10:30am-12n, Rm 134.

**What is the Philosophy of Religion?** – Boruch Brody, philosophy. Philosophy Lecture (241). 2pm, Rm 4-231.

**The Energy Crisis and the State of the Economy** – Paul A. Samuelson, Institute Professor of Economics. Lester C. Thurow,

economics, and Paul W. MacAvoy, Alfred P. Sloan School of Management. Economics Lecture (77). 2pm, Rm E52-394.

**Technology Applied to Medicine: New Careers for Engineers** – Laurence R. Young, aero/astro, chairman of Harvard-MIT Committee on Biomedical Engineering. Health Careers and Currents in Medicine Seminar (124). 3-4:30pm, Rm 9-150.

**Prospective Thesis Topics in Solid Earth Geophysics** – Sean C. Solomon, earth & planetary sciences. Earth & Planetary Sciences Lecture (74). 3pm, Rm 54-425.

**Everything You Always Wanted to Know About Cosmology in Two Painless Lectures** – Kenneth Brecher, physics. Physics Potpourri (259). 3:30pm, Rm 37-212.

**Communication and Probabilistic Systems** – Research Opportunities in Electrical Engineering Seminar. 4:30pm, Rm 10-105. Refreshments, 4pm.

### Friday, January 18

**Photovoltaic Solar Cells** – Dr. Ivars Melngalis, Lincoln Lab. **Materials & Techniques for Solar Energy Conversion** – Dr. Harry Gatos, electrical engineering, associate director, Center for Materials Science and Engineering. Physics Seminar. 10-11:30am, Rm NW14-2209.

**Ocean Dynamics Experiments** – Carl I. Wunsch, earth & planetary sciences. Earth & Planetary Sciences Lecture (74). 11am, Rm 54-425.

**Readings\*\*** – Tillie Olsen, writer-in-residence. 12n-1pm, Rm 5-234.

**New England Geology and Continental Drift** – Richard S. Naylor, earth & planetary sciences. Earth & Planetary Sciences Lecture (74). 3pm, Rm 54-425.

**Where Surface Tension Reigns\*** – Edward W. Merrill, Carbon P. Dubbs Professor of Chemical Engineering. Chemical Engineering Special Polymer Lecture Series. 3pm, Rm 12-102.

**The Challenge of Semiconductor Electronics** – Dennis Buss, Texas Instruments. Science in Industry Seminar (258). 3:30pm, Rm 9-150.

**Eclipsing Binary Stars** – Hale Bradt, physics. Physics Potpourri (259). 3:30pm, Rm 37-212.

**Electronics, Computers and Systems** – Research Opportunities in Electrical Engineering Seminar. 4:30pm, Rm 10-105. Refreshments, 4pm.

**Laboratory Synthesis of Genetic Material** – Har G. Khorana, Alfred P. Sloan Professor of Chemistry. Chemistry Seminar (48). 4:30pm, Rm 18-290.

### Monday, January 21

**Research Workshop on Equal Employment Opportunity\*\*\*** – Invitational Conference. Registration 8:30am for two-day conference, Kresge Little Theater.

**Mineral Spectroscopy: Shedding New Light on the Composition of the Earth's Interior and Planetary Surfaces** – Roger G. Burns, earth & planetary sciences. Earth & Planetary Sciences Lecture (74). 11am, Rm 54-425.

**Prospective Thesis Topics in Physical Oceanography** – Carl I. Wunsch, earth & planetary sciences. Earth & Planetary Sciences Lecture (74). 3pm, Rm 54-425.

**Special Biological Fluids: Part I – Why Does Blood Flow?** – Edward W. Merrill, Carbon P. Dubbs Professor of Chemical Engineering. Chemical Engineering Special Polymer Lecture Series. 3pm, Rm 12-102.

**Men and Women: A Discussion of Some Life Styles** – Ellen Goodman, *Boston Globe*, Neimann Fellow, Harvard, Association of Women Students Seminar. 3-5pm, Stu Ctr Mezzanine Lge.

**Industrial Research and the Energy Crisis** – William Shoupp, Westinghouse Corp. Science in Industry Seminar (258). 3:30pm, Rm 9-150.

**Soft X-Rays and Supernova Remnants** – Saul Rappaport, physics. Physics Potpourri (259). 3:30pm, Rm 37-212.

**Objectivity and Decision: Philosophical Problems in Purposive Action\*** – Ronald S. Laura, Ph.D., candidate in philosophy, Oxford University, Brasenose College. Respondents: Prof. Judith T. Thomson, philosophy, Frank T. Keefe, director, City Development Authority, Lowell, Mass. Urban Studies and Planning, Technology and Culture Seminar. 5:15pm, Rm 1-190. 6:45pm buffet, Stu Ctr, West Lge. 7:30-9pm, open discussion.

**Disciplined Free Schools: The Waldorf Approach\*** – Dr. L. Francis Edmunds, founder and head of Emerson College, England. MIT and Waldorf School Association of Massachusetts. 8pm, Stu Ctr Mezzanine Lge. Info, 491-7630.

### Tuesday, January 22

**Abortion\*** – Mildred Jefferson, M.D., Boston University Medical School. Ethics: Sources & Applications Seminar (343a). 10:30am, Rm 1-190.

**Ethical Issues Raised by our Political System – Part I** – As seen by community groups from the greater Boston area. Ethics: Sources and Applications Seminar (343a). 10:30am-12n, Rm 1-134.

**The Geochemistry of the Rocks on the Ocean Floor** – Frederick A. Frey, earth & planetary sciences. Earth & Planetary Sciences Lecture (74). 11am, Rm 54-425.

**Development of New Enterprises** – Alex D'Arbeloff, Teradyne. IAP Innovation Seminar Series. 12n-1pm, Rm 3-270.

**What is Analytic Philosophy?** – Richard Cartwright, chairman, philosophy. Philosophy Lecture (241). 2pm, Rm 4-231.

**Boxstep – A Strategy for Large Scale Mathematical Programming** – Roy Marsten, management; **A System of Promotional Models: An Audience Participation Management Game** – Gary Lilien, management. Operations Research Center Seminar Series. 2:30pm, Rm 24-121. Refreshments.

**Scientific Basis of Population Control** – Don W. Fawcett, M.D., Harvard Medical School. Health Careers and Currents in Medicine Seminar (124). 3-4:30pm, Rm 9-150.

**To Be a Canadian: How Are We Different From Americans?** – Canadian students. Political Science Seminar (261g). 3-5pm, Rm 1-190.

**The Marriage of X-Ray and Optical Astronomy** – Dr. Jeffrey McClintock, Center for Space Research. Physics Potpourri (259). 3:30pm, Rm 37-212.

**Studying, Teaching, Living in a Foreign Country: Germany** – Panel and discussion. Foreign Study Office (122). 4pm, Rm 10-280. Refreshments.

**Molecular Approaches to Learning and Memory – A Progress Report\*** – Dr. William Byrne, University of Tennessee Medical School. Biology Colloquium. 4:30pm, Rm 6-120. Coffee, 4pm, Rm 56-520.

**The Imaginary and the Real: Models and Theories in Science as Modes of Action** – Marx Wartofsky, chairman, philosophy, Boston University. Respondents: Jerome Y. Lettvin, biology, electrical engineering; Barbara Herman, philosophy. Philosophy, Architecture, Physics, Technology & Culture Seminar. 5:15pm, Rm 1-190. 6:45pm buffet, Stu Ctr Mezzanine Lge. 7:30-9pm respondents and open discussion.

### Wednesday, January 23

**Prospective Thesis Topics in Sedimentology and Sediment Movement** – John B. Southard, earth & planetary sciences. Earth & Planetary Sciences Lecture (74). 11am, Rm 54-425.

**Prospective Thesis Topics in Geochemistry** – Frederick A. Frey, earth & planetary sciences. Earth & Planetary Sciences Lecture (74). 3pm, Rm 54-425.

**Special Biological Fluids: Part II – Some Special Effects** – Edward W. Merrill, Carbon P. Dubbs Professor of Chemical Engineering. Chemical Engineering Special Polymer Lecture Series. 3pm, Rm 12-102.

**Role of the ATCC in Biotechnology and Bioanalysis\*** – Dr. Richard Donovick, director, American Type Culture Collection, Rockville, Md. Nutrition & Food Science, Microbiology & Biochemical Engineering Seminar. 3pm, Rm 16-310.

**Magnetic Bubbles** – Derreck Scovil, Bell Labs. Science in Industry Seminar (258). 3:30pm, Rm 9-150.

**Infrared Observations of Very Young Stars** – Susan Kleinmann, physics. Physics Potpourri (259). 3:30pm, Rm 37-212.

**Excitation of the Chandler Wobble: Progress & Controversy\*** – Dr. Michael Chinnery, Lincoln Lab. Earth & Planetary Sciences Seminar. 4pm, Rm 54-100. Tea, 3:30pm, Rm 54-923.

**By-Product Use in Sugarcane Agriculture for Developing Countries** – Syed Masood Ahmed will lead discussion. Program on the Third World: Seminar on Foreign Students and Participation in Development (345). 7pm, International Student Lge, 2nd fl, Walker Memorial.

### Thursday, January 24

**Cancer is the Next Frontier** – Dr. David Baltimore, American Cancer Society Professor of Microbiology; Dr. Ronald McCaffrey, research associate. Innovations in Medicine Seminar (266). Film of same title will be shown. 10am, Rm 16-134.

**Ethical Issues Raised by Our Political System – Part II** – Rev. Tony Mullaney, Packard Manse Commune. Ethics: Sources and Applications Seminar (343a). 10:30am-12n, Rm 1-134.

**Exploration of Distant Planetary Surfaces (Without Leaving Earth)** – Gordon Pettengill, earth & planetary sciences. Earth & Planetary Sciences Lecture (74). 11am, Rm 54-425.

**Development of New Enterprises** – Warren M. Rohsenow & J.P. Barger, Dynatech. IAP Innovation Seminar Series. 12n-1pm, Rm 3-270.

**Coal Gasification as a Means of Providing Clean Fuel to Electric Power Cycles\*** – James H. Porter, chemical engineering. Chemical Engineering Seminar. 1pm, Rm 12-102.

**Some Unsolved Problems in Optimization** – Thomas Magnanti, management; **Synchronization of Traffic Signals** – John Little, director, Operations Research Center. Operations Research Center Seminar Series. 2:30pm, Rm 24-121. Refreshments.

**Employment Opportunities Arising From the Energy Crisis\*\*** – Peter Griffith, mechanical engineering. ASME-MIT Student Section Seminar. 3pm, Rm 3-133. Refreshments.

**Quebec: Separate But Equal?** – Rosemary Rogers, political science; William Griffith & Martin Jankowski, political science; Francois Martin, MIT; Al Hero, World Peace Foundation. Political Science Seminar (261g). 3-5pm, Rm 1-190.

**Current Research in Computer Science and Medicine** – G. Anthony Gorry, Jr., electrical engineering. Health Careers and Currents in Medicine Seminar (124). 3-4:30pm, Rm 9-150.

**Astronomical Masers** – Bernard Burke, physics. Physics Potpourri (259). 3:30pm, Rm 37-212.

### Friday, January 25

**Prospective Thesis Topics in the Properties of Geophysical Materials** – M. Gene Simmons, earth & planetary sciences. Earth & Planetary Sciences Lecture (74). 11am, Rm 54-425.

**Readings\*\*** – Tillie Olsen, writer-in-residence. 12n-1pm, Rm 5-234.

**Prospective Thesis Topics in Planetary Physics** – Gordon Pettengill, earth & planetary sciences. Earth & Planetary Sciences Lecture (74). 3pm, Rm 54-425.

**Breathe In!** – Edward W. Merrill, Carbon P. Dubbs Professor of Chemical Engineering. Chemical Engineering Special Polymer Lecture Series. 3pm, Rm 12-102.

**Research Needs in the Automotive Industry in the Next Decade** – Dale Compton, Ford. Science in Industry Seminar (258). 3:30pm, Rm 9-150.



## Community Meetings

**Open Forum on the Role of the Arts at MIT (348)** — William Porter, chairman, Dean of the School of Architecture and Planning. Wed, Jan 16, 2-4pm, Rm E14-109.

**Legal Aid (266c)** — Susan H. Houpt, preprofessional advising. Video tape of a segment of "America 73," produced by NPACT. Discussion will follow. Mon, Jan 21, 10am, Rm 9-150.

**Women's Forum\*** — Panel discussion on the past, present and future of the Administrative Development Program, with female program participants. Mon, Jan 21, 12n, Rm 10-105.

**Career Conference Planning Meeting** — SCEP. Mon, Jan 21, 7pm, Stu Ctr Rm 401.

**Action on Smoking and Health** — Dutch-treat supper meeting Thurs, Jan 24, 6-8pm. Call David Wilson, x3-5121 days, 876-6326 evgs, by Tues, Jan 22, to make reservations and confirm location. Supporters welcome while there is room.

**Open Forum on the Role of the Arts at MIT (348)** — Harold Hanham, chairman, Dean of the School of Humanities and Social Science. Wed, Jan 23, 2-4pm, Rm E14-109.

**Hillel Social Service Project\*** — Training sessions for social service project for the elderly will be held Thurs, Jan 24. Social programs will be held Georgetown Community Center on Thurs, Jan 17 & at Mattapan Community Center Sun, Jan 20. Contact Hillel, x3-2982, for further information.

**Student Committee on Educational Policy (325)** — Wed, 7:30pm, Stu Ctr Rm 353.

## MIT Club Notes and Meetings

**Association of Student Activities** — Meeting to discuss policies on organization, recognition and space allocation. Sun, Jan 20, 2pm, Stu Ctr Rm 407. All members of MIT Student activities welcome.

**Bridge Club\*** — ACBL Duplicate Bridge. Matchpoint pairs Thurs, 7-10:30pm; beginners Fri, 10pm-12; small IMP-scored team of 4 events (advance registration required) Fri, 8pm & Sat, 2pm; Sectional rated open pairs, 8:15pm, Tues Jan 22 & 7pm, Thurs Jan 31; all Stu Ctr Rm 407. Jeff, x3-5285 or 864-5571.

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

**Strategic Games Society\*** — Offers opponents and discounts on merchandise to members plus gaming and periodical library. Sat, 1pm-1am, Walker Rm 318. Info, Kevin Slimak, x0389 Dorm.

**MIT/DL Bridge\*\*** — Tues, 6pm, Stu Ctr Rm 491.

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

**MIT Student Homophile League\*** — Meeting Sun, Jan 20, 4pm, Rm 14N-307. Hotline: 494-8227.

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

## Movies

**Mark Twain** — Background for his Works and Mark Twain's America — Humanities Film Festival. Wed, Jan 16, 12:10pm, Rm 14-0615. Coffee, bring lunch.

**Seeking New Laws** — Feynman Film Series. Physics (243a). Wed, Jan 16, 1pm, Rm 26-100.

**Kids in Cities (285)** — Urban Studies and Planning Film Series. Wed, Jan 16, 2pm, Bldg E21.

**Films for a New Age: The Ultimate Mystery** — IAP 153a Film. Wed, Jan 16, 2pm, Rm 6-120.

**Fixed Points** — Math Films (163). Wed, Jan 16, 4pm, Rm 2-190.

**All Quiet on the Western Front** — World War I: Film and History Series (143). Wed, Jan 16, 7-10pm, Rm 10-250.

**Kids in Cities (285)** — Urban Studies and Planning Film Series. Thurs, Jan 17, 2pm, Bldg E21.

**Andros Reef and Carbonate Sedimentation** — Earth Sciences Theatre (63a). Thurs, Jan 17, 4pm, 8pm, Rm 54-100.

**Hydroelectric: Clean Power?** — Film Series on the Energy Crisis (153). Thurs, Jan 17, 5pm, Rm 10-400.

**How to Make a Woman\*\*** — Women's Forum. Thurs, Jan 17, 7:30pm, Rm 10-250.

**Hydroelectric: Clean Power?** — Film Series on the Energy Crisis (153). Fri, Jan 18, 12n, Rm 10-400.

**How to Make a Woman\*\*** — Women's Forum. Fri, Jan 18, 12n, Rm 10-250. Admission 25 cents.

**Kids in Cities (285)** — Urban Studies and Planning Film Series. Fri, Jan 18, 2pm, Bldg E21.

**Controversy over the Moon, Solar Prominences, The Solar System and The Depths of Space** — Earth Sciences Theatre (63a). Fri, Jan 18, 4pm, 8pm, Rm 54-100.

**Great Bank Robbery** — LSC. With Lone Ranger Serial. Fri, Jan 18, 7:30pm, 10pm, Rm 10-250. Admission 50 cents, ID required.

**Ansoo Ban Gaye Phool\*** — SANGAM film with English subtitles. Sun, Jan 20, 3:30pm, Rm 26-100. Admission 50 cents with ID.

**The Kakeya Problem** — Math Films (163). Mon, Jan 21, 4pm, Rm 2-190.

**Plate Tectonics, Evidence from Ancient Life, Earthquakes and Geology and Man** — Earth Sciences Theatre (63a). Mon, Jan 21, 4pm, 8pm, Rm 54-100.

**Nuclear Power: Fission** — Film Series on the Energy Crisis (153). Mon, Jan 21, 5pm, Rm 10-400.

**Nuclear Power: Fission** — Film Series on the Energy Crisis (153) — Tues, Jan 22, 12n, Rm 10-400.

**The Days of Dylan Thomas and A Child's Christmas in Wales** — Humanities Film Festival (154). Wed, Jan 23, 12:10pm, Rm 14-0615. Coffee, bring lunch.

**The Drifting Continents and Legacies of the Ice Age** — Earth Sciences Theatre (63a). Wed, Jan 23, 2pm, 8pm, Rm 54-100.

**Predicting at Random** — Math Films (163). Wed, Jan 23, 4pm Rm 2-190.

**Sergeant York** — World War I: Film and History Series (143). Wed, Jan 23, 7-10pm, Rm 10-250.

**Nuclear Power: Fusion** — Film Series on the Energy Crisis (153) — Thurs, Jan 24, 5pm, Rm 10-400.

**Nuclear Power: Fusion** — Film Series on the Energy Crisis (153) — Fri, Jan 25, 12n, Rm 10-400.

**Cromwell** — LSC. With Lone Ranger Serial. Fri, Jan 25, 7:30pm, 10pm, Rm 10-250. Admission 50 cents, ID required.

## Announcements

**February Degree Recipients** — Post cards must be returned to E19-335 no later than Fri, Jan 25, 1974 to indicate whether diploma is to be mailed, picked up or if June attendance is planned.

**MIT Opera Workshop** — Directed by John Cook, is recruiting for the upcoming production of "Orpheus and Euridice," an Italian opera composed by Christoph W. Gluck. The Workshop needs a large chorus, soloists, dancers, production crew, set & costume designers, and someone proficient in Italian to help with revisions. If interested, call John Cook, x3-6962, or leave message at x3-3210.

**Day Care Space Available** — Technology Children's Center has an opening in the day care center for a child, 3-5, needing full-day care. Financial assistance available. Information, call Child Care Office, x3-1592.

## Theatre

**Works-in-Progress\*** — Boston playwright Vince Canzoneri presents a form of drama where the acting is simultaneously video-taped and projected — a mix of TV projections, live actors, dancers, slides, tapes. "Mediated" vs "immediate" experience is explored. Thurs, Jan 17, 8:30pm, Kresge Little Theatre. Admission \$1.

## Dance

**Yoga Classes\*** — Sponsored by Matrons. Beginning classes: Mon, Jan 21, 7:05pm, Rm 10-340; Intermediate: Fri, Jan 18, 5:30pm, Rm 10-340.

**MIT Dance Workshop\*\*** — Classes in contemporary dance. Applications available at TCA office, 4th fl Stu Ctr.

## Exhibitions

**The Diaghilev Era\*** — Watercolors of costumes and stage designs, organized by the International Exhibitions Foundation, Washington, DC and sponsored by the Committee on the Visual Arts. Sat, Jan 19-Sat, Feb 16, 10am-4pm, closed Sun, Hayden Gallery.

**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** — Persian music instruments.

## Athletics

**Friday, January 18** — V Basketball. Norwich, 8:15pm, Rockwell Cage.

**Saturday, January 19** — JV/F Wrestling. Harvard, 2pm, duPont Wrestling Room. V Wrestling. Maine, Harvard, 3:30pm, duPont Wrestling Room.

**Tuesday, January 22** — JV/F, V Wrestling. Amherst, 7:30pm, duPont Wrestling Room. W Swimming. Jackson, 6:30pm, Alumni Pool.

**Friday, January 25** — Indoor Track. Coast Guard, 6pm, Rockwell Cage.

## Religious Services and Activities

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

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

**Hillel\*: Services** — Mon-Fri, 8am, Rm 7-102; Fri, Traditional 4:15pm, Kosher Kitchen, Non-Traditional 7:45pm, Chapel; Sat, 9am, Chapel. **Classes** — many interesting classes offered, for full schedule call Hillel office x3-2982. **Shabbos Meal** — enjoy a traditional Fri evening meal at Kosher Kitchen, must order by Tues each week. Info and 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. Sunday school for children 3 years and up, during service in Stu Ctr Mezzanine Lge.

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

**United Christian Fellowship\*** — Meet for dinner Thurs, 5pm, Walker; singing, sharing, praying meeting, 6pm, Rm 6-321.

**Westgate Bible Study\*** — Covering the gospel of Mark. Wed, 8pm, Westgate apt 1202. Info, 494-8778.

## Music

**Concert\*** — Daniel Lee, violin, Yeou-Cheng Ma, viola, Suzanne Epstein, cello; perform Mozart's Divertimento for String Trio, K.563. Thurs, Jan 17, 5:30pm, Rm 14E-109. Free.

**Evening With the Dulcimer\*** — Virgil Hughes, Denver, Colorado. Lecture-demonstration of the dulcimer and other folk instruments. Sun, Jan 20, 8pm, 14E-109.

**Concert By Erdely Duo\*** — Violinist, Stephen Erdely of the music faculty, and his wife Beatrice, noted pianist, will give their first Boston performance, featuring classical and contemporary sonatas. Sponsored by the MIT Music Section. Fri, Jan 25, 8pm, Kresge Auditorium. Free.

## Additional IAP Information

The following are changes, corrections and additions to the information which appeared in the Final Guide to IAP. The bold numbers correspond to the numerical listings in the Guide.

**Career Development Workshop (340)\*\*** — Wed, Jan 16, 5-7pm, Rm 10-280. Call Carolyn Scheer to register, x3-6511.

**NASIC Demonstrations (158)** — Demonstration using ERIC, data base covering education, linguistics and information science, will be held Fri, Jan 18, 2:30pm, Rotch Library (not Mon, Jan 21). Call x3-7746 to sign up.

**Workshop on Secretary/Supervisor Relations (336)** — Meetings Jan 22, 24 & 29, 12n-1pm, Rm 10-105. Note: second change.

Send notices for January 23 through February 1 to the Calendar Editor, Room 5-111, Ext. 3-3279, before noon Friday, January 18.

## 'Celebrations' Show To Open March 2

"Celebrations," a major photography exhibition assembled by Minor White, professor of photography and head of the MIT Creative Photography Laboratory, will open on Saturday, March 2, 1974, in Hayden Gallery.

The exhibition, which is sponsored by the MIT Committee on the Visual Arts, will have a press preview Friday, March 1, at 3pm and a public preview 8-10pm the same day. Professor White will be present on both occasions. The show will close on March 30, 1974.

All of the photographs selected for the show—75 original prints by 69 photographers—celebrate and portray "the celebrations of life, its rites and mystery."

## Dulcimer Talk Set

Virgil Hughes will give a lecture-demonstration on the dulcimer and other folk instruments, 8pm, Sunday, Jan. 20 in the Music Library, 14E-109.

## Robert Coles at MIT

An award-winning author, Dr. Robert M. Coles, will be the first visiting scholar this spring in the Technology and Culture Seminar at MIT.

Dr. Coles' work includes *Children of Crisis*, for which he won several awards in 1968 and *Erik H. Erikson: The Growth of His Work*. He is research psychiatrist to the Harvard University Health Services.

At MIT Dr. Coles will give four lectures and participate in two faculty seminars during the last part of March and the first part of April. He has also been invited to participate in a number of classes.

## Liepmann on Radio

MIT's emeritus professor of music Klaus Liepmann is host of a weekly radio program, "Notes on Music," on WGBH-FM Fridays at 1pm and again Saturdays at 10:30pm.

The program features rarely heard masterpieces and lesser known works. Frequently tapes used include works sung by the MIT Choral Society and Glee Club while they were under Professor Liepmann's direction.

## Wurster Exhibit Set

Selected works of the late William Wilson Wurster, dean of the MIT School of Architecture and Planning from 1944-1950, will be displayed in a photographic exhibit at MIT Feb. 4 to Feb. 22.

Mr. Wurster, whose residential work of the 1930s and 1940s was the keystone of what became known as the San Francisco "Bay Region" style of architecture, was the 1969 recipient of the American Institute of Architects' Gold Medal.

He was dean of the College of Architecture, University of California at Berkeley, 1950-59, and Dean of the College of Environmental Design at Berkeley, 1959-1963.

## Photos Recall "Heroines and Coquettes"

"Heroines and Coquettes," a photography exhibition featuring women of the theater from 1875 to 1925, will be on display in the Hayden Corridor Gallery from Saturday, Jan. 19, through Saturday, Feb. 16.

The show will be the first public exhibition of the photographs, which are on loan from the Harvard Theatre Collection of The Houghton Library at Harvard University. The exhibition is sponsored by the MIT Committee on the Visual Arts.

Most of the photographs are small studies of little-known American and European actresses, singers and dancers in the elaborate attire of their time. Ranging from whimsical to serious, the photographs include both candid pictures and formal, posed portraits. Primary consideration in the choice of photographs for the exhibition was the impact and intrinsic beauty of each photograph rather than the relative fame of the subject.



# CLASSIFIED ADS

Ads are limited to one per person per issue and may not be repeated in successive issues. All ads must be accompanied by full name and Institute extension. Only Institute extensions may be listed. Members of the community who have no extensions may submit ads by coming in person to the Tech Talk office, Room 5-111, and presenting Institute identification. Ads may be telephoned to Ext. 3-3270 or mailed to room 5-105. Please submit all ads before noon, Friday, January 18.

## For Sale, Etc.

Cream cheese, (2) 3 lb blocks, cold-packed, w/ last mos in refig, cheap. Hillel, x3-2982.

Lady Aspen yel parka, sz m, \$25; b&w tv, \$10. David, x8-3677 Draper.

Grn tweed rug, 9x12, \$20. Herb, x3-7787.

F gray leath coat, hand-embr Turkey, nw, sz 5, \$75; m, full-lgth brn leath coat, sz 42L, \$100. Donna, x3-4271.

BSO ticket, Sat, Jan 26, 8:30pm, 2nd balc side, Michael Tilson Thomas conduct, paid \$6, \$4 or best. Larry, x3-7921, day or evgs.

Child cross cntry skis, 140 cm, cable bndgs, 100 cm bamboo poles, all \$15. Call, 862-1935.

Pr stud snows, G70x15, wh ball, balanced on Chevy whls. Larry, x3-4749.

Tape decks, 2: TAC 1230; Sony TC 280; best. x9245 Dorm.

BR set, 4 pc: 2 twin beds, dbl dresser w/mirror, chest drwr, mpl finish w/formica tops, \$150 or best. Art, x8-4406 Draper.

Rieker ski boots, 8 1/2 N, lace, dbl boot w/tree, \$15. Helen, x8-3501 Draper.

Minolta 35mm camera, himatic 75, w/Rokkor lens, case, used 2x, exc cond, \$60. Susan, x3-1671.

Wd chest drwr, (2), 5 & 9 drwr, \$25/ea. Elizabeth, x3-2061.

Chest drwr: nat finish, \$35; blue, \$20; brick & brd bksc, \$5; blue desk & chr, \$15; 36"x48" DR wall hanging, \$10. Sue, x3-2575.

Deluxe qn waterbed frame, nw thermostat controlled heater, best offer. x3-2533.

Chest & dresser, 5 drwr; bed w/box spr, matt; tbl; armchr; etc. Call, 643-4272.

B nw 12" b&w TV, \$40. Abdalla, x3-7563, evgs, lve msg.

Bias tires, 5, 6.15x13, nvr used. x3-6055.

Hseplants, beaut prpl coleus, kalanchoe, strawberry begonia, etc, 50 cents Peter, Wed-Fri, 11am-1pm, Rm 13-3078.

Lg 2 dr refig; desk; 2 sgl beds. Rose, 489-2899.

Early Amer rock mpl rnd tbl, 42x72, w/2 cptn chrs, 4 mates, \$475 or best. x3-7062.

Luggage rack for VW sqbk, best. Roger, x3-6948.

Ivory brooches, hand-carved Hong Kong, \$5, \$8. Deborah, x3-6925.

Ital fashions, f (5'2", 110 lbs), dresses, coats, swtrs, shoes sz 6, mans coat, all exc cond, conserv prices. x3-5877.

Brewmatic 2 brnr coffee maker, cost \$100, used 3 mos, \$50, see Rm 6-019, Steve, x3-3674.

Burglar alarm for home or apt. Call, 522-1506.

Flying club membership, w/ accept 1st reas offer. Chuck, x3-7510.

Refrig, exc cond, \$60; army desk, \$50; K dining set, \$20; coffee tbl; bksc; 2 chrs; sew mach; elec fan; nego; '65 Ply Baracuda, gd run cond, \$200 or best. Hilda, x3-6710.

Down ski jckt, EMS, pale bl, sz x-sm, hrdly worn, perf cond, ask \$35. x3-1752.

Tennis net, gd cond, wire cable, \$40. Alice, x3-4897.

Sears xtra firm bx spr & matt, dbl, b nw \$60/ea; long dresses, sz 10 & 16, \$8/ea. x8-4095 Draper.

Wd skis, 190 cm, gd cond, w/mtd Cubcor bndgs, warm dbl boots sz 10-11, poles, all for \$40; fbrgl's Yamahas, 195 cm, \$25; 2 pr 205 cm skis, \$15. Doug, 494-9008.

Sgl bed, gd frame & matt, \$20 or best. Ed Franks, 267-3130, aft 7.

Apt sz washer, 2 yrs, nds some repair, best. Val, x3-2701.

Refrig, GE, gold, 14 cu ft, exc cond, \$200; dbl matt w/pad, \$25; formica coffee & end tbls, \$20; grn rug, 12x12, \$25. Kathy, x3-4841.

TV, 8" port, \$25, Eico fm tuner, \$15, phono, nds repair on tubes, \$5; grn drapes w/rod, \$12; radio, \$6. Irv, 868-8953, evgs.

Lamp, \$10; chr, \$10; dbl bed matt, \$40; all nw. Call, 494-9220, aft 6.

Lg church pipe organ. Gary, x3-6710.

Phys Rev Letters, '69-'73, \$25 or best. x3-7500.

Marantz 2245 rcrvr, 4 mos, perf cond, \$400. John, x8-2876 Draper.

RCA 16" b&w TV, '72, w/stand, \$55; Lear-Jet port 8 trk tape deck, \$40. Jackie, x7720 Linc.

Snows, 2, 5.50x12, \$10/pr. x3-6261.

Reblit eng. '67 VW, exc cond, best. Hussein, x3-7795.

Best for used items; 2 pr m hockey skis; sgl bed w/wd frame, hdbrd; boys Schwinn bike; elec can opener. x3-7037.

Sherwood S 7100 rcrvr; AR trntbl; AR 4X spjrs; Vivitar zoom lens, 85-205 mm, w/Pentax mount. x9362 Dorm.

Hockey skts, m, CCM, sz 10, yr old, sharp, \$15 or best. x0234 Dorm.

Sm dark wd desk, 1 drwr, 2 shlv, exc cond, \$25 + free revolv chr. Carol, x3-7793.

Coats, sz 14-16: leath w/fur trim; brn wool hood midi; navy P-coat; bl quilt all-weather; best. Pat, x8790 Dorm, kp try.

Tires: 2 snows, 3 reg, 5:50x13, fit Fiat 850, used but gd, \$40/all, nego. Bruce, x3-6188.

Harmon Kardon 630 rcrvr, 7 mos, perf cond, best. Bob, x9366 Dorm, aft 6.

Pr snows, H78-14, 1/2" tread; car jack, \$20. George, x7448 Linc.

Hedstrom baby carriage/carbed, \$25; carbed w/safety clamps, \$8; both lk nw. Call, x689 Linc.

SB-301 rcrvr w/CW crystal filter. Jean Ward, x3-3161, lve msg.

Beg skiers: 180 cm wd skis & poles, gd cond, ask \$40. Joan, 494-8143, kp try.

Snows, Delta C78-14, mtd, Chevelle, 2 seas old, \$30. x3-5094.

Snows, 7.75x14, retreads, used 2 K, \$12/pr. Nathan, 734-7484.

## Vehicles

'62 Olds 88, nw batt & muff, 72 K, mds some work, \$200 or best. x196-383 EDC.

'65 Bel Air, exc run cond, nw radiator, batt (24 mo grnty), avail 1/27, \$400 or best. Call, 494-8965.

'65 Ford LTD wgn, 16.4 mpg at 50 mph, no dents or rust, best. Tom, x8-3987 Draper.

'65 Ford Falcon sta wgn, snows, nw brakes, radiator, muff, \$200. x3-2676.

'66 Mustang conv, V8, auto, p st & br, r, 74 K, v gd cond, \$450 or best. Paul, x3-4710.

'66 Chevelle, 2 dr conv, 396, balanced Rochester quadrojet, 4 spd Munsy trans, Hurst shift, zoom clutch, 4:11 rear, nds some body work, gd mileage, +350 or best. Shirley, x664 Linc.

'67 Chevy Imp, wht, 53 K, exc run cond, dependable, nw batt, tires, br, \$450. Call, 494-8129.

'67 Ford Gal, nw motor & trans, v gd cond, \$500 or best. Call, 494-8306, evgs.

'67 Rover 2000 TC, red, gd run cond, \$500. Bob, x3-1855.

'69 Chevy Chevelle, 2 dr conv, sm 8 cyl, amfm, std, exc mileage, \$1,300. x3-4257.

'69 Pontiac Cat, 4 dr, p st & br, no rust, v gd cond, \$450; '67 Dodge sta wgn, 6 cyl, hi mileage, 18 mpg, no rust, \$400; also drum set, 4 pc + xtras, stool, gd cond, \$80. Call, 332-4179, evgs.

'70 Mustang Boss 302, exc cond, w/xtras. Call, 776-7253.

'71 Vega, std htchbck, v gd cond, 24 K, 25-28 mpg, amfm optional, \$1,450. Call, 266-8133.

'72 Ford Pinto sed, red, 1 1/2 yrs, only 13 K, gd on gas, auto, r, stud snows, perf cond, lving cntry, \$1,900. x3-4233.

## Housing

Belmont, 5 1/2 rm duplex, nr T, frpl, garage, avail 3/1, \$235. x3-6413.

Bos, Back Bay, 2 v lg & cln BR apt, furn for 3, sep K & B, 15 min MIT, v quiet dist, avail now, \$235. Paul, x3-4186.

Bos, S End, rm w/fac fam, gd walk, easy bus to MIT, piano, library, other amenities, some K priv, \$20/wk. Call, 266-4194, evgs.

Bri, 2 BR apt, v nice, eat-in-K, mod B, \$210. Lee, x3-4195.

Bkline, stu w/sep K, gd closet space, yr lse, avail 2/1, \$129. Mary, x3-3855.

Burl, Beac Village, sub 1/15-9/1, lg sunny mod stu, shag carpet, ac, d&d, pool, 20 min MIT, \$200. Nancy, x3-3621.

Camb, Westgate, 2 BR, furn, sub 1/30-3/30, best. x3/30, best. x3-2105, lve msg.

Camb, stu w/full K & B, residential, nr T, avail 2/1, reas rent. Call, 662-7876, aft 6.

Camb, 2 BR, sub, 15 min walk MIT & Stop & Shop, furn, avail 2/1, \$240 incl h. Call, 491-8882.

Somerville, Northgate, BR, LR, K, sub Feb-Aug, ww, parking, dw, \$220. Yuji, 628-0869.

Somerville, 50 Craigie St, 2 BR, wk-in closet, ww, d7d, MIT community only, \$250 incl h. Eduardo, 776-3794.

Watertown, 5 rm, 1st fl, adults, sec dept, \$225 + util. Call, 924-7124, aft 6.

Watertown, sub, 2 BR, LR, K, B, avail 2/1, \$195. Inge, x3-6746.

Watertown, 3 BR duplex, avail 2/1, \$240 & util. x3-5804.

## Lost and Found

Lost: brn knit scarf w/grn & yel stripe, Lobdell, Jan 7 or 8. Melinda, x3-6256.

Lost: Graphoplex slide rule & glasses case. Pellen, x3-3770.

## Animals

Young m tabby cat, playful, cute, free. x3-7282.

## Wanted

Rmmate, f, own rm, 4 BR Camb apt, share lg K, furn LR, 10 min walk Cent & H Sq, nr T, avail 1/15, \$67 + util. Call 547-0292.

MIT undergrads for 1/2 hr lang experiment in psych dept, \$1.60/session. Sarah, x3-5763.

Rmmate, m, share cln 5 rm apt nr Cent Sq w/2 grad stu, \$67 + elec. Bob, x3-3588.

Rmmate, Cent Sq, own spac rm, 15 min walk MIT, avail now, \$100 incl h. Bob Freed, x3-3229.

Housing for Brazilian M.D. attending Advanced Study Program, Feb-May. Susan, x3-7617.

Rmmate, share 3 BR Camb apt w/2, (1 exc cook), own rm, \$80 incl util. Call, 492-5258.

Dependable person to baby sit 2 chldrn 11:30am-3pm (pref 4pm) Mon-Fri, Waltham, own transp, \$2/hr. Call, 891-5707, aft 5.

Ride, Cleveland Crcl-MIT, Mon-Fri, 9-5. Asako, x3-5996.

Ride or riders, going out Rt 9 to Wellesley or beyond in morn, Rt 16 area pref, 9-5, Mon-Thurs. Brad Schrader, x3-1639.

Rmmate, f, share furn Beac Hill apt w/2 f grad stu, safe street, nr T, downtown, Camb, own rm, \$87. Call, 227-3621, evgs.

Stu to get & install used motor in existing potter's wheel, payment nego. Erika, x3-2728.

Hockey skts, boy sz 3 1/2. Michelle x3-7753.

Rmmate(s), pleasant, qt Wellesley hse, v rent, nr Wellesley Col bus. Dennis, x3-5338.

Carpool or ride, Wellesley-MIT, daily. Ann, x3-2168.

Beranek acoustics. Jeff, x8237 Dorm.

Stereo equip: spkrs, hdphones, trntbl. Mark, 868-4890, lve msg.

Ride, Acton Rt 2A to LL, w/ pay. Mickie, x7283 Linc.

## Miscellaneous

Certified piano tuning & repairing. Call, 321-7448.

Undergrad & grad theses, by exp typist, flex, competitive rates, reserve place bef spring rush & rates. Chris, x3-4974.

Exp typist, non tech, 100 wpm. Ginny, x196-234 EDC.

Choice leadership positions avail on grad stu council. Toni, x3-2195.

Eng tutoring for foreign stu & visitors, exp, hrs flex. x3-2575.

## Positions Available

*This list includes all non-academic jobs currently available on the MIT campus. Duplicate lists are posted each Tuesday preceding Tech Talk publication date on the Women's Kiosk in Building 7, outside the Office of Minority Affairs, 4-144, and in the Personnel Office E19-239, on the day of Tech Talk publication. Personnel interviewers will refer any qualified applicants on all biweekly jobs Grades I-IV as soon as possible after their receipt in Personnel. Employees at the Institute should continue to contact their Personnel Officers to apply for positions for which they feel they qualify.*

Virginia Bishop	3-1591
Mike Parr	3-4266
Philip Knight	3-4267
<i>(secretary - Joy Dukowitz)</i>	
Sally Hansen	3-4275
Jack Newcomb	3-4269
Evelyn Perez	3-2928
<i>(secretary - Mary Ann Foti)</i>	
Dick Higham	3-4278
Pat Williams	3-1594
Claudia Liebsny	3-1595
<i>(secretary - Dixie Chin)</i>	

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

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

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73-1306-R	Secretary IV
73-1290-R	Sr. Clk. III
73-1194-R	Secretary IV
73-578-R	Secretary IV
73-1336-R	Acct. Rep V
73-515-R	DSR Staff CXL
73-1286-R	Key'p'ch Oprtr III
73-1283-R	DSR Staff
73-1365-R	Secretary III P.T.
73-1183-A	DSR Staff
73-1313-A	Secretary III
73-1305-R	Acc't Clk. III
73-1354-R	DSR Staff Temp.
73-1345-A	Secretary III P.T.

The following positions are on HOLD pending final decision:

73-1261-A	Elec. Tech. B
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*Director of Cell Culture Facility - DSR Staff will have total responsibility for the smooth operation of the new facility and will be in charge of appointing and supervising the technical staff and support personnel. Managerial skills, previous experience in large scale cell and virus production required. Ability to design and enforce safety procedures for the operation of the Center important. 73-1367-A (1/9).*

*DSR Staff - Junior Electronics Engineer in the Center for Space Research will design, test and checkout scientific experiments for space satellites; assist in system design; test and integrate the developed experiment in the spacecraft and participate with prelaunch support. Emphasis is placed on low noise, low level analog circuitry but thorough familiarity with digital electronics and logic design of the experiment is required. B.S. degree in EE with experience in the design, development and testing of solid state low level analog systems; familiarity with modern semiconductors in space applications and modern signal detection theory and applications required. 73-1241-A (11/28).*

*Project Administrator - Administrative Staff in the Office of Sponsored Programs will provide interim administrative services to new research activities. Initial assignments will involve energy research programs. Experience in an academic department or research lab working directly with faculty on sponsored programs essential; technical background and interest in energy problems preferred. Experience in MIT financial and business administration valuable. 74-36-R (1/16).*

*DSR Research Staff at the Center for Cancer Research will work with mouse leukemia viruses, including sterile passaging of cells and general tissue culture techniques, with a variety of biochemical extraction and purification techniques. B.S. in Biology or Chemistry desirable. 73-1344-A (1/9).*

*Assistant to the Accounts Payable Supervisor (Exempt) in the Accounts Payable Section of the Comptroller's Accounting Office will process post-doctorate, grad awards and rent accounts; assist in the processing of foreign invoices, stop payments, and change order areas; responsible for past due transactions and correspondence with vendors and departments. Accounting degree is desired; accounting course work plus 2-5 years work experience acceptable. Good accounting and communication skills important. 73-1358-R (1/9).*

*DSR Staff Researcher in Health Sciences and Technology will carry on a program of membrane research that is supported by the National Heart and Lung Institute of NIH. Candidate must have the ability to creatively propose new experiments utilizing cation-specific antibodies; skill in handling the preparation of materials for Raman spectroscopy; skill in using a dye laser and Raman spectrometer; competency in the interdisciplinary field of biological physics. Recent Ph.D. required. 74-12-A (1/9).*

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

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

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

*DSR Staff - Systems Programmer at Project MAC will perform system analysis and system programming on a research version of the Multics operating system. SM or EE degree required; 2-3 years programming experience in the Supervisor of some advanced operating system required. Ability to contribute to research and work with students important. 73-1234-A (10/24).*

*Project Manager - Administrative Staff in the Office of Administrative Information Systems will develop major systems; perform feasibility studies; prepare budgets; work with clients in the evolution of each new development project. Applicants should have a strong background in the management area of administrative data processing. 73-1327-A (12/19).*

*Administrative Staff - INSITE System Programmer in the Planning Office will provide maintenance for the space inventory systems (INSITE) for MIT and other institutions using the system. Develop the system and instruct consortium members in its use. Degree in a technical field (computer science, math); experience with IBM hardware, knowledge of FORTRAN, Assembly Language and Job Control Language is essential. Ability to instruct others and coordinate programming efforts is important. 73-1259-R (12/5).*

*Systems Analyst - Administrative Staff in the Office of Administrative Information System will develop, under direct supervision, solutions to business problems; prepare, design, and program specifications for new programs and for modifications to existing systems. Applicants should have business and administrative experience, analytical ability and familiarity with computers. 73-1315-R (12/19).*

*DSR Staff Programmer in the Laboratory for Nuclear Science will do all the design and programming for the laboratory management information and accounting system and work with the systems group on other special projects on the IBM 360-65. BS degree with background in Math and EE required. Minimum one year assembly language and PL/1 programming experience required. Familiarity with management information systems and MIT account methods preferred. 73-1339-R (1/9).*



**Applications Programmer Trainee (Exempt)** for the Office of Administrative Information Systems will learn the program language, department standards for programming and documentation. Review specifications with trainer; develop program flow-charts; code computer instructions; aid in debugging process. Operational experience is very helpful. 74-2-A (1/9).

**Programming Analyst** for the MIT Information Processing Center must have experience and thorough knowledge of large-scale, time-sharing computer systems. PL/1 and FORTRAN Language, documentation and communication skills are necessary qualifications. The User Services Group requires an individual who understands and is responsive to the needs of the Center's users.

**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 short courses. 73-1294-R (12/12).

**DSR Staff Programmer** in the Research Laboratory of Electronics will be responsible for the implementation of a multi tasking picture processing system, integrating existing software modules into the final system, and for total system documentation. Will also write diagnostic software and assist in the diagnosis of computer failures. Bachelor's degree in EE or Computer Science (Master's preferred). Two years experience in programming small computers in Assembly Language and Fortran; PDP-11 and to programming and digital hardware experience required. 73-1349-A (1/9).

**Computer Operator IV** will operate IBM Model 135 and all peripheral equipment associated with it, including disk drives, tape units, card reader/punch, printers. Must have a good knowledge of DOS job control, multi-programming experience and capable of understanding operating instructions. 4-12pm shift. 73-1221-R (1/21).

**Senior Keypunch Operator III** for the Alumni Association will operate IBM 029 keypunch and 059 verifier units. Punch into and verify computer input cards from previously formatted documents relating to the conversion of manual alumni records to a data processing system. Some experience on the IBM 029 and IBM 059 or comparable equipment preferred. 74-32-A (1/16).

**Keypunch Operator II** in the Medical Department will provide support to information processing of patients contacts. One year experience of IBM 129 keypuncher and verifier preferred. Ability to work independently important. 74-29-A (1/16).

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

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

**DSR Staff** at the Center for Space Research will carry a major responsibility for the analysis of data from the MIT X-ray observatory on the Third Small Astronomy Satellite. The work will include the pre-launch, post-launch organization of operation and data management; development of the data system; analyze and publish results. Ph.D. in Physics required. Extensive experience with computer programming for data and analysis on a systems level. Knowledge of astronomy and astrophysics absolutely essential. 73-1310-R (12/19).

**DSR Staff Research** for the Harvard-MIT Program in Health Sciences and Technology will perform research combining principles of physics and a working familiarity with current membrane research. Expertise in the area of the formation of arteriosclerotic plaques required. Ability to design experiments using a resonance Raman spectrometer important. Project funded for one year. 73-1353-R (1/9).

**Infirmiry Nurse - (Exempt Staff)** will do bedside nursing at the Infirmiry. Assist surgeons in the operating room, administer first aid and emergency treatment. Individual must be a Mass. Registered Nurse with minimum one year nursing experience. 40 hour work week; 11pm-7am; weekend rotation. 73-1348-R (1/9).

**Night Manager - Exempt** will be responsible for overseeing the operations of the Wallace Observatory

(Earth and Planetary Science) and assisting observers, primarily at night. Train new observers in the operation of the telescopes, the computer control system and the auxiliary instruments. Familiarity with optical observatory operations and astronomy is highly desirable; experience and facility in handling mechanical and optical instruments, some electronic experience preferred. Ability to make decisions and assume responsibilities important. 3-11pm, 5 day/week. 73-1357-A (1/16).

**Nurse Practitioner - Exempt** will evaluate and treat assigned patients for minor illnesses; screen patients for clinic physicians and surgeons; handle immunizations and assist with emergency care. Candidate must be a graduate nurse with previous work experience, preferably two years. Ability to handle emergency situations and to deal effectively with patients of diverse backgrounds and age groups required. 8-5 Mon-Fri (occasionally weekends and evenings). 74-34 (1/16).

**Salesperson (Exempt)** for the MIT Press will provide sales coverage for domestic wholesale, retail trade accounts; will attend trade, professional, and academic exhibits; solicit new business. Extensive travel involved. Minimum 5 years book publishing and trade sales experience required. 74-10-R (1/9).

**DSR Staff** in the Center for Space Research will analyze and interpret plasma data from satellite-borne plasma experiments. Recent Ph.D. in space plasma physics or related area required. Candidate should have had direct experience with the analysis and interpretation of experimental results related to the interplanetary plasma. 73-1184-A (11/14).

**Senior Secretary V** in the MIT Chairman's Office will organize busy office; handle many office routines and inquiries requiring independent disposition; maintain extensive filing system; monitor office accounts. Excellent typing, shorthand, and dictaphone skills required. Ability to maintain communications and smooth relations with top level offices of the Institute and with the Greater Boston Community essential. Willingness to assume responsibility, to work independently and under pressure important. 37½ hour work week. 73-1335-R (12/19).

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

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

**Secretary IV** in Metallurgy will perform general secretarial duties for two professors. Type class material, correspondence from machine records and files; coordinate busy office schedules; handle petty cash fund. Good typing and shorthand skills required; ability to set priorities; familiarity with technical terminology and computer helpful. 73-1220-R (11/21).

**Secretary IV** to three psychiatrists in the Medical department will handle all secretarial duties; transcribe patient case histories; maintain accurate records. Will also assist with other secretarial projects. Excellent typing skill, maturity, ability to deal with patients important. 37½ hour work week. 73-1267-R (12/5).

**Secretary IV** in the Development Office will handle general office duties including a large amount of typing; will plan and layout typed material; maintain confidential files. Excellent typing skills needed for IBM Magnetic Card II typewriter. Ability to proofread important, editorial skills helpful. Maturity, tact, strong organizational skills required. 73-1253-R (12/5).

**Secretary IV** in the Development Office will handle general office duties including a large amount of typing; will plan and layout typed material; maintain confidential files. Excellent typing skills needed for IBM Magnetic Card II typewriter. Ability to proofread important, editorial skills helpful. Maturity, tact, strong organizational skills required. 73-1253-R (12/5).

**Secretary IV** will handle secretarial

duties for the associate director and group of associates of the Joint Center for Urban Studies. Transcribe from tapes; handle reception duties; maintain filing system for a study of a national housing allowance. Excellent typing needed for manuscripts and reports (some technical); previous secretarial training or experience preferred. Job will start 1/14/74. 73-1288-R (12/12).

**Secretary IV** for the Undergraduate Association, Dean for Student Affairs Office will type correspondence and minutes of meetings; maintain files and records; schedule booths for the lobby of Building 10; monitor checking account. Good skills and knowledge of office procedures preferred; ability to work with several people and the desire to help students important. This position is for 10 months per year; office not open during July and August. 73-1285-R (12/12).

**Secretary IV** to two Biology professors will handle all general office duties; type technical material from dictaphone; process invoices independently perform office functions. Strong typing and dictaphone skills required; some accounting and organizational ability preferred. Previous experience essential. 73-1308-R (12/19).

**Secretary IV** in Aerospace Studies (Air Force ROTC) Department will perform general office duties including file maintenance and correspondence. Will administer and maintain specialized Air Force medical files. Good typing required, ability to meet people and answer telephone inquiries essential. 30-35 hour work week. 73-1312-R (12/19).

**Secretary IV** to a professor in Metallurgy will handle general office functions; take dictation for letters; type correspondence, class materials; assist in preparation of reports; assemble statements of expenditures. Excellent typing and shorthand skills required; previous experience preferred. 73-1316-R (12/19).

**Secretary IV** in the Laboratory for Nuclear Science will handle all general secretarial duties for an active high energy physics group. Excellent typing needed for memos, reports, correspondence, papers (some technical). Shorthand skills desirable but not essential. Ability to work independently; good organizational skills important. 73-1340-R (1/9).

**Secretary III or IV** in the Summer Sessions Office will handle general secretarial duties; type letters and memos from hand-written material or dictaphone; process office bills and invoices; assist with registration processes. Excellent typing skills; poise and maturity needed in working with and assisting people. 73-1343-R (1/9).

**Secretary IV** for a professor in Earth and Planetary Sciences will handle all secretarial functions; perform some administrative chores, some library research and editing. Excellent typing (some technical); shorthand preferred. Editorial and organizational skills important. 74-8-R (1/9).

**Secretary IV** to the Head and Associate Head of the Physics Department. Perform general secretarial duties in the headquarters office; answer questions from students and visitors; type a great deal of correspondence. Excellent typing and shorthand required. 74-5-R (1/9).

**Secretary IV** in Biology will handle general secretarial duties for two labs. Type technical manuscripts for publication; maintain student files; monitor office accounts and supplies. Accurate typing required; ability to work independently important; background of high school Biology is helpful. 74-7-R (1/9).

**Secretary IV** to two professors in the Lab for Nuclear Science will handle all general secretarial duties for several small projects. Good shorthand or the ability to take dictation desirable; highly skilled typing required. Initiative and organizational abilities important. 73-1374-R (1/9).

**Secretary IV** to a group of Nuclear Engineering professors will handle all general secretarial duties; type technical reports and journal articles; maintain student records. Good typing and dictaphone skills required; ability to work independently with good judgment important. 73-1364-R (1/9).

**Secretary IV** in the Center for Policy Alternatives will work for the Principle Investigator and Project Manager involved in the study of the drought area of Africa. Handle all general office duties; take and transcribe dictation; coordinate office work load. Excellent typing and shorthand; previous secretarial experience essential. MIT experience and knowledge of French helpful. 73-1361-A (1/9).

**Secretary IV** in the Research Laboratory of Electronics will provide secretarial support for a faculty member and research staff. Type technical manuscripts, set up material from rough data and verify footnotes and references; maintain busy calendar; independently handle other procedures.

Excellent typing skills required; technical typing experience preferred. 73-1346-R (1/9).

**Secretary III-IV** for the Institute Secretary will handle general office duties organize appointment calendar and itineraries; maintain files. Good typing and dictaphone skills required; light shorthand skills helpful. 73-1326-R (12/19).

**Secretary IV** will handle all secretarial duties for the Institute Secretary. Plan travel schedules, make arrangements; assist in gathering and collating information on Corporations. Previous experience; excellent typing and shorthand skills required. Ability to organize and work independently important. 74-1-R (1/9).

**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 days/week. 74-6-R (1/9).

**Secretary III-IV** in Electrical Engineering will handle general secretarial duties for a professor and his support staff. Type class materials, proposals, technical reports. Technical typing, shorthand or dictaphone skills required. Ability to work independently important. 74-24 (1/16).

**Secretary III** to the Faculty Travel-Conference Coordinator of the Industrial Liaison Office will assist with the plans and coordination of faculty travel to large industrial concerns and conferences. Develop itineraries, type correspondence, maintain financial records. Excellent typing skills required; knowledge of travel procedures, agencies; ability to schedule large meetings preferred. 74-21-A (1/16).

**Secretary III** to two Professors and senior lecturer in the Sloan School of Management will type correspondence manuscripts and class material; perform other general secretarial duties. Good typing skills required; ability to work with several people important. 74-37-R (1/16).

**Secretary III** in Electrical Engineering will assist with general secretarial duties in the Headquarters Office. Good typing and general office skills needed for correspondence and record maintenance. 74-17 (1/16).

**Secretary III** in the Office of Sponsored Programs will type correspondence; maintain records of grants and contracts; answer routine inquiries from project supervisors; perform other general duties. Good typing required; shorthand desirable; ability to organize work and work independently. 74-14 (1/16).

**Secretary III** for one staff member of the MIT Associate Program will be responsible for dictation, transcription, travel arrangements, file maintenance. Shorthand and excellent typing are essential; knowledge of office procedures, previous experience important. 74-25-R (1/16).

**Secretary III** to the Superintendent for Construction and Engineering (Physical Plant) will handle general inquiry telephone calls concerning construction activities; schedule meetings; maintain files; type correspondence and reports. Good typing and shorthand skills essential. Ability to work with individuals from inside and outside the MIT community important. 74-20-R (1/16).

**Secretary III** to the Vice President of Administration and Personnel and the Administrative Assistant in that Office will handle heavy load of typing, transcribe from dictating equipment maintain active calendar, serve as office receptionist, maintain files and answer phones. Good language skills, ability to take accurate messages are essential. Knowledge of Institute policy and resources is desirable to provide assistance to a large number of callers and visitors. Will use IBM Executive typewriter. 73-1271-R (12/5).

**Secretary III** to three professors in Ocean Engineering will type correspondence, proposals, reports; maintain files and accounts; make travel arrangements and schedule appointments. Good technical typing skills required; some accounting knowledge helpful; previous experience preferred. 73-1333-R (12/19).

**Secretary III** in the Office of Sponsored Programs will handle general secretarial duties for a contract administrator. Maintain contract and grant records; prepare and route proposals through various processes. Good typing skills required; shorthand helpful; ability to organize and work independently, previous office experience important. 73-1359-R (1/9).

**Secretary III** in the Development Office will handle all general secretarial duties for the Assistant Director. Excellent typing needed for letters, reports, memos; shorthand helpful; general editorial skills useful. Organizational ability and good judgment important. 73-1351-A (1/9).

**Secretary III** to two staff members in the Alumni Association will type newsletter, general correspondence; assist in the maintenance of Biographic records and general office work. Good typing skills required; ability to establish priorities and good judgment important. 73-1328-R (12/19).

**Secretary III** in the Financial Aid Office will type correspondence tables, help organize application process for students; assist with reception and general office duties. Excellent typing skills required. 73-1318-R (12/19).

**Jr. Programmer V** in the Arteriosclerosis Center will assist in design, development, and evaluation of a Medical Data Management System. Candidate must have a sincere interest in working in a medical environment and have the ability to collaborate with medical personnel. Previous data management experience, knowledge of PL/1 and familiarity with 360/370 OS desirable. 73-1182-A (11/14).

**Administrative Assistant V** will assist the department Administrative Officer with fiscal responsibilities, supervision of payroll. Help train new secretaries serve as liaison with Institute administrative personnel and people outside MIT. Candidate must have strong organizational skills, a sense of priorities; interest in working with figures and accounts; patience to handle details and to work under pressure. 74-9-R (1/9).

**Senior Library Assistant IV** in the Rotch Library will process new books and special collections; catalog pamphlet collections in Art, Architecture, and Urban Studies. Previous library experience or training, particularly in technical processing and cataloging required. Good typing and ability to work with details essential. 74-28-R (1/16).

**Library General Assistant III** in the Humanities Library will do bibliographic checking in the catalog; type book orders; process new monographs; maintain order files; assist at Information Desk. Accuracy in detail and typing required. Ability to organize; college background and library experience preferred. 74-26-R (1/16).

**Library General Assistant III** in the Barker Engineering Library will type the library Bulletin, reference correspondence, handle billing for lost and overdue books; maintain files and assist with filing for card catalog. Strong typing needed; ability to work independently; flexibility and organizational skills important. 73-1329-R (12/19).

**Senior Clerk IV (Documentation)** in Aeronautics and Astronautics will design and implement procedures for documentation of records of the MIT Innovation Center. Prepare and maintain a filing system for patents and innovative ideas; set up and supervise a small reading room for the center; order and file technical literature; assist in preparation of documents for publication including rewriting and editing. Educational background in library science, writing and organization required. 73-1362-A (1/9).

**Senior Clerk IV** will assist the manager of Self Study Subject Distribution (Center for Advanced Engineering Study). Control and distribute video tapes of academic courses produced in the Center; create and maintain an inventory system; provide customer services of a technical and non-technical nature. Ability to work independently important. Candidate must be dependable and well-organized. 73-1325-A (12/19).

**Technical Typist III** in the Chemical Engineering Department will type large volumes of reports, manuscripts, proposals from rough drafts using a magnetic tape typewriter. Excellent skills; ability to handle typing of equations and chemical symbols; good skills in punctuation and paragraphing required. Ability to work independently important. 73-1238-R (11/28).

**Senior Clerk III-IV** will work with 1200 undergraduate records in the Registrar's Office. Will be responsible for data entry of grades; answer phone queries. Previous office experience helpful; accurate typing skills, ability to work with details important. 73-1287-R (12/12).

**Senior Clerk III** will take and process orders at Graphics. Price and schedule xerox work, handle requisition details. Knowledge of reproduction processes helpful. 74-3-R (1/9).

**Senior Clerk III** in the Laboratory for Nuclear Science will maintain filing and complicated cataloging system; organize and process materials for a reading room. Accurate typing skills useful; initiative; good judgment and ability to work independently required. 73-1352-R (1/9).

**Senior Clerk III** in Medical will handle reception duties for the Specialty Clinic. Answer phones, schedule appointments, handle a variety of clerical duties. Knowledgeably to assist patients is required. 37½ hour work week/8:30-5:00. 74-33 (1/16).

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# LIS Offers Nine Courses

Applications are due Wednesday, Jan. 30, for the spring term at the Lowell Institute School, the night school program operated at the Massachusetts Institute of Technology for more than 70 years.

Nine low-cost courses will be offered in evening classes at MIT beginning the week of Feb. 11.

The courses are designed primarily for technician-level students and place heavy emphasis on practical exercises, shop and laboratory work.

Spring term courses will include: principles of metal joining; machine tool fundamentals; di-

mensioning and tolerancing for engineering drawings; technical typing; high speed strobe photography; digital electronics; wave optics and laser applications; color television systems, and FORTRAN programming.

Tuition is \$25 per credit hour and some courses also have laboratory fees. Generous scholarship aid is available for students not eligible for employer-funded tuition assistance plans.

## Training Classes

Registration for three programs for MIT employees—the Clerical Skills Training Program, the General Educational Development Program and the English as a Second Language Program—begins today (Wednesday), the Training Section of the Office of Personnel Development has announced.

The courses are described in the recently-distributed booklet, "Training and Education Programs for MIT Employees," which can be obtained at the Training Section in Bldg. E19-734 or by calling x3-1912.

The new classes begin Feb. 4. Shorthand II begins on Feb. 19.

## Erdely Rehearsals

The MIT community is invited to two open rehearsals for the Friday, Jan. 25 concert by the Erdely Duo, which will be held 1-3pm, Tuesday, Jan. 22 and Thursday, Jan. 24 in Kresge.

Violinist Stephen Erdely, assistant professor of music and his wife, Beatrice, a noted pianist, will be rehearsing for their concert on Friday, Jan. 25, at 8pm in Kresge.

# AEC Cites Early Results of Safety Study

An Atomic Energy Commission official says the preliminary results of a reactor safety study—conducted under the direction of a professor of nuclear engineering from MIT serving as a consultant to the AEC—suggests the probability is that there will never be a major accident in a nuclear power plant, according to an Associated Press dispatch from Washington, D.C.

The preliminary conclusion was given to Associated Press science writer Frank Carey from the AP's Washington bureau during separate interviews with AEC Chairman Dr. Dixy Lee Ray and Dr. Herbert Kouts, the AEC's director of reactor safety research.

"The odds on a major catastrophe at a nuclear plant were given in the study as 'once in one billion to once in 10 billion years' for a given reactor," the AP said.

The AEC study on reactor safety, underway for two years, is being conducted by more than 40 scientists, engineers and mathematicians from the AEC and from subcontractor organizations. Dr. Norman C. Rasmussen, MIT Professor of nuclear engineering working under a direct consultant arrangement with the AEC, is the director of the study and the only MIT person participating.

The study itself will not be completed until late spring or early summer. The AP's Carey said he was interviewing Dr. Ray last week in Washington for another story when she mentioned the preliminary results of the safety study and suggested Carey talk also with Dr. Kouts.

The AP transmitted the story early Monday for afternoon newspapers of Monday, Jan. 14.

According to the AP story: "Kouts said that the study's figures show that 'even with the 1,000 reactors expected to be operating by the year 2000, it would be 1,000 to 10,000 years before any reactor might be expected to have an accident.'

# Stage Designers In Exhibition

"Diaghilev and Russian Stage Designers," an exhibition of watercolors by Russian artists for the famed opera and Ballets Russes productions by Serge Diaghilev, will be in Hayden Gallery, Saturday, Jan. 19, through Saturday, Feb. 16, 1974.

Included in the exhibition are more than 100 illustrations of costumes and stage and scene designs by 35 Russian artists.

Although the collection of works for the exhibition does not include some of those for Diaghilev's most successful productions, it serves to highlight the special contributions of Russian artists to modern theatrical decor.

The exhibition recaptures in part the unique spirit of the Diaghilev era from 1909-1929. During these years Diaghilev integrated trends in modern music, dance and art, creating spectacular and original productions such as "Petrouchka," "Le Renard" and "The Sleeping Beauty."

Artists represented in the exhibition include Leon S. Bakst, Alexandre N. Benois, Mihail F. Larionov and Natalie S. Gontcharova—a group closely associated with Diaghilev as well as with Liubov S. Popova, Vladimir E. Tatlin and Aleksandr A. Vesnin, who worked independently of him.

The exhibition, which is organized by and circulated under the auspices of the International Exhibitions Foundation in Washington, D.C., comes entirely from the collection of Mr. and Mrs. Nikita D. Lobanov-Rostovsky in New York City.

# Resource Planning Makes Changes in Assignments



Mrs. Barnes, Mrs. DeMaio, and Ms. Bowden.

Three changes in the staff of the Resource Planning office have been announced by Nelson C. Lees, director.

Joyce Bowden has been appointed a staff writer, whose chief assignment is to work closely with the Resource Development staff in researching and preparing statements and proposals. She has recently been engaged in developing materials on planned giving in association with the Institute Estate Secretary and the Alumni Fund.

Jurate J. Barnes has been named coordinator of resource EDP systems, a position in which she will have responsibility for the operation of computer systems in resource planning, including management, maintenance and changes. Mrs. Barnes, who was an exempt employee in the Comptroller's Accounting Office, has been promoted to staff in her new post.

Barbara V. DeMaio, who has been responsible for acknowledge-

ments to donors, has taken on expanded responsibilities for a new donor relations section, which includes gift acknowledgements, stewardship reports, and a planned program to cultivate key prospects and donors. Mrs. DeMaio has been promoted from bi-weekly to exempt and will continue with the title of administrative assistant to the director of resource planning.

## Alumni Plan Miami Seminar

MIT Provost Walter A. Rosenblith, Dr. Irving M. London, director of the Harvard-MIT Program in Health Sciences and Technology, and Dr. William F. Pounds, dean of the Alfred P. Sloan School of Management at MIT, will participate in a health care seminar Saturday, Jan. 19, at the University of Miami, Fla.

The seminar, the first of several to be sponsored by MIT alumni clubs across the country, is being presented jointly by the Alumni Association, the Harvard-MIT Joint Program in Health Sciences and Technology and the University of Miami.

The MIT Club of South Florida is the host.

Dr. Rosenblith, a distinguished scientist in the study of sensory communications and brain functions, will discuss "The University and the Health Professions."

Dr. London will discuss "The Harvard-MIT Program in Health Science and Technology."

Dr. Pounds, dean of the Sloan School since 1966, will discuss "Management and the Delivery of Health Care."

Other seminar speakers will be Dr. Jacob Kline, MIT '42, director of the biomedical engineering program at the University of Miami, and Dr. Emanuel M. Papper, vice president for medical affairs and dean of the University of Miami School of Medicine.

"The risk (of a catastrophic accident) turns out to be considerably less than for almost any other thing to which humans are exposed. We are so anxious for the public to know we do finally have information on this (reactor safety) subject. The only information that seems to be getting out up to now . . . consists of the charges against us.

"Up to now, we've not been able to say anything very definite on the subject. We have said that we are not sure, and that while we think the probability (of a catastrophic accident) is very low, we have had to be very conservative (cautious) . . ."

"Now, at last, on the basis of this very careful study over the last two years . . . we can put the situation into a quantitative thing . . ."

# Cold Wave Causes Setback

(Continued from page 1)

Dickson said he hoped to have the computer by the first of July. Before it can be put into operation, he said, wiring has to be run to all the equipment that will be controlled by it.

## One Step Forward

Once in full operation, he said, the savings from the system could pay for annual rental of the computer in 10 days or so.

Last week's stormy weather, which caused the Institute to close early on Wednesday, placed other demands on the Department of the Physical Plant.

Laurence W. Pickard, manager of the grounds, said the storm was particularly difficult to cope with because the precipitation—snow and then freezing rain—was nearly continuous from Wednesday through Friday.

"It seemed as though we took one step forward and 10 backward," he said.

Pickard said a crew of about 45 men—movers, truck drivers, groundsmen and gardeners—used

about 40 pieces of mechanical equipment and 20 tons of sand to battle the storm on campus. In addition, outside contractors helped clear outlying parking lots.

"We started Wednesday morning and knocked off Wednesday night at 9," he said, "and then came back Thursday at 5 in the morning. We stayed with it until 9 Thursday night and started in again at 5 Friday morning."

## Salt In Garages

"The problem was," Pickard said, "that everything we did in the morning was undone at night."

This was particularly true on Friday, he said, when the crews spread sand during the morning only to have it glazed over again during the afternoon.

Pickard said that the groundsmen rely on sand and ice-melting pellets in most areas to avoid salt damage to landscaping and concrete. He said the pellets contain urea, which is actually a fertilizer and, therefore, is beneficial to plant life.

Salt is used mainly in the parking garages, Pickard said.

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**Senior Clerk III** for the Institute Information Center will direct people to various locations throughout the Institute; answer telephone calls for student/faculty addresses and telephone numbers; perform various typing assignments. Candidate must be pleasant, polite, and eager to help people. 73-1366-R (1/9).

**Senior Clerk III** to the Work Control Coordinator, Physical Plant will receive and dispatch service requests; assist with scheduling; monitor requisitions; perform other clerical duties. Ability to learn details of procedures; good office skills required. 74-16 (1/16).

**Technical Typist III - Part-time** for a professor in Metallurgy and Materials Science will type technical reports and manuscripts; occasionally do library research; perform other clerical duties. Technical typing experience required. 15 hour work week. 74-30-A (1/16).

**Technical Statistical Typist III** in the Comptroller's Accounting Office will type a variety of Institute reports including Financial and Treasurer's reports; Professorship, NIH and Research Grant reports, etc; as well as other reports and typing that comes in from various departments. Will operate a 24 inch typewriter; work with A.B. Dick Masters; use the adding machine. Excellent typing skills and a minimum of one year statistical typing necessary. 73-1356-R (1/9).

**Technical Typist III** in the Research Lab of Electronics will type manuscripts and reports from rough data. Responsible for punctuation and paragraphing, may involve some editing for preparation for publishing. Excellent skills, minimum of one year experience. 73-1266-R (12/5).

**Clerk II Part-time/Temporary** in the department of economics will transfer numbers from tables to computer coding sheets to be key-punched for an urban economics research project on housing. Some knowledge of economics and how to use the library required. Accuracy with details and numbers important. 20 hour work week; temp through 6/74. 73-1360-R (1/9).

**Clerk II Part-time** in the Medical Department Dental Clinic will process all dental bills; assist in answering phones and scheduling appointments; occasionally perform other billing projects. Accurate typing skill required; previous office experience preferred. 20 hour work week. 9-1. 73-1342-R (1/9).

**General Cook** at the Faculty Club must be able to read, understand and follow recipes for all types of food preparation. Make sauces, cook meats, vegetables, prepare salad ingredients. Prepare menu items for luncheons and some items for dinner. General knowledge of all types of food preparation; good experience in first class club or restaurant required. Ability to read and understand English important; will generally prepare American-type food. 6am-2pm. 73-1228-R (11/24).

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

**Machinist A** in the Laboratory for Nuclear Science will set up work; operate machine tools; work from blue prints; specifications, verbal instructions, or sketches. Make tools, dies, and fixtures as may be required. May direct and train machinists of a lower grade. Minimum of five years of applicable machinist experience required. 73-1347-A (1/9).

**Technician B** in the Environmental Medical Service will perform general radiation protection technician duties at the MIT reactor. Repair and calibrate instruments conduct radiation surveys and sample preparation, decontamination and lab clean-up. Package radioactive waste and assist in construction of shields. Training and experience in electronics and radiation protection required. Afternoon shift. 40 hour work week. 73-1227-A (12/15).