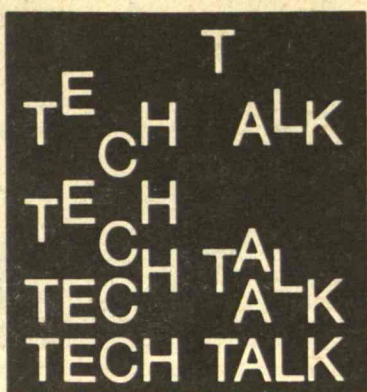


SEASON'S GREETINGS



Massachusetts
Institute
of Technology

December 17, 1975
Volume 20
Number 20

Sloan Listed Third By Business Deans

By ROBERT C. DI IORIO
Staff Writer

The nation's business school deans, asked to rate graduate business programs on the basis of academic quality, have moved MIT's Sloan School of Management up to third place, after Stanford and Chicago.

The annual survey, conducted by MBA magazine, also asked the deans to rank the employment value of an institution's MBA degree. MBA graduates and students also were surveyed.

Water Bill To Escalate

MIT's payments to the City of Cambridge are expected to rise by more than \$150,000 next year as a result of an increase in the price of water.

A bill is pending before the Cambridge City Council which would increase the price of water by 18 cents—from 26 to 44 cents—per hundred cubic feet (ccf).

MIT used 851,870 ccf of water during 1975, for a water bill total of \$223,670, according to Thomas E. Shepherd, Jr., Physical Plant superintendent of utilities. With the anticipated price increase, the same amount of water would cost \$352,822.

The water increase exacerbates an already serious problem with utility costs, Mr. Shepherd said. The escalating prices of fuel and electricity have played a major part in an expected deficit of \$3.4 million in this year's \$247 million budget.

The water bill payment to Cambridge is in addition to \$370,000 MIT has paid to Cambridge in lieu of taxes on educational property. MIT also pays more than \$2 million in taxes on other properties the Institute owns in Cambridge.

The deans placed Stanford first, Chicago second, Sloan School third, Harvard fourth and Carnegie fifth in the academic quality ranking. Harvard and Stanford were tied for first in the employment value rating by the deans, Wharton was third, Sloan fourth and Chicago fifth.

"... The most decisive move was that of the Sloan School," said the article in the December issue of MBA which reported the survey results and compared them to a survey a year ago.

"It was one of only two schools—UCLA was the other—to move up in the rankings of both survey groups and on both questions.

"Among deans, Sloan had ranked fifth on both questions last year; this year it ranked fourth for employment value and third academically. MBAs moved Sloan from sixth to fourth academically and seventh to fifth for the value of its degree in the marketplace."

(Pamela W. Turner, director of recruitment and placement at the Sloan School, said the mean starting

(Continued on page 8)

No Paper

Tech Talk will not be published Dec. 24 and 31, because of the holidays. Regular publication will resume Wednesday, Jan. 7, 1976. Deadline for submission of classified ads and listings for the Institute Calendar and Institute Notices is noon Wednesday, Dec. 31.

No Information

The MIT Information Center (Rm. 7-111) will close at noon Wednesday, Dec. 24, and reopen Friday, Dec. 26, at 10am.

The Center will also close at 5pm Wednesday, Dec. 31 and reopen Friday, Jan. 2, at 10am.

David Baltimore Receives Prize at Nobel Ceremony



Professor David Baltimore accepts the Nobel Prize in Medicine and Physiology from King Carl XVI Gustaf of Sweden. See story, other photos on page 5.

Scientific American Features Articles by Four from MIT

Four articles by MIT researchers have appeared in the two most recent issues of *Scientific American*.

In "High-Gradient Magnetic Separation," which appeared in the November issue, staff researchers at the Francis Bitter National Magnet Laboratory discuss the use of magnetic fields to remove very weakly magnetic particles from mixtures.

Authors Dr. Henry Kolm, Dr. John

Oberteuffer (who left the laboratory in 1974) and David Kelland explain that the technique could be useful in extracting minerals from low-grade ore, and in purifying water.

Also in the November issue, Dr. M. Nafi Toksoz, professor of geophysics in the Department of Earth and Planetary Sciences, and director of the George R. Wallace, Jr. Geo-

(Continued on page 8)

Cable TV To Debut At IAP

By PATRICIA M. MARONI
Staff Writer

MIT's first cable television system next month will begin broadcast operations to approximately 20 on-campus receivers, marking a significant first step in video technology for the Institute.

The initial programming period, coinciding with Independent Activities Period (Jan. 5-28) will be largely experimental, according to Myron Tribus, director of the Center for Advanced Engineering Study, which will act as custodian of the system.

A major reason for making the Center the "head" of the two-mile long cable is that a fully equipped color TV studio is housed there along with other video hardware used in the production of MIT's self-study courses.

The MIT cable will carry two channels to accommodate student interests and general Institute information. Channel 8, operating from 8am to 6pm, Monday through Friday, will broadcast general interest programs, such as interviews with faculty members, discussions of employee benefits, newscasts and replays of cultural programs sponsored by MIT. Channel 10, operating 24 hours a day, will focus on student life, with daily problem-solving ses-

(Continued on page 8)

Faculty to Meet

A regular meeting of the faculty will be held Wednesday (Dec. 17) at 3:15pm in Rm. 10-250. Items on the agenda include a report on campus cable television, a report on the status of the Energy Laboratory, and a resolution on the death of Institute Professor Norman Levinson.

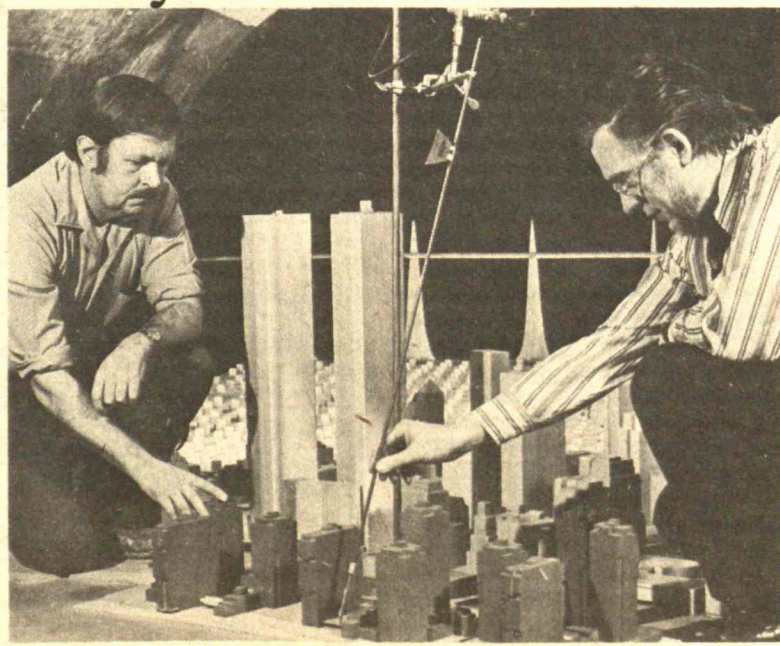
New York Skyline Recreated for Wind Tunnel Tests

A replica of Battery Park City, a new town-in-town in New York's lower Manhattan, can be found these days in MIT's Wright Brothers Wind Tunnel.

The model—built on a scale of 1:600 (1 inch equals 50 feet)—is dominated, as lower Manhattan is, by the twin towers of the World Trade Center. The model includes Battery Park City's proposed first 5,800 apartments, lower Manhattan and the Hudson River. Battery Park City will be constructed on approximately 100 acres of hydraulically-filled land in the river between the outer edge of the old piers and the West Side Highway.

The purpose of the wind tunnel tests is to simulate winds in Battery Park City at pedestrian levels as induced by the tall buildings of lower Manhattan, by the buildings of the apartment complex itself and by the open water on the Hudson River edge of the project.

The model is being used to obtain test data which, when applied to the final construction plans, should materially contribute to the comfort of the tenants and visitors of Battery



In the MIT Wright Brothers Wind Tunnel, Frank H. Durgin, right, adjusts hot wire anemometer—used to measure pedestrian-level wind-velocities in the replica of Battery Park City apartment complex, foreground. Lower Manhattan model, dominated by World Trade Center Towers, is in the background. With Durgin is Earle J. Wassmuth, who prepared the models for wind-tunnel testing.

—Photo by Calvin Campbell

Park City.

The research, under the supervision of Dr. Eugene E. Covert, professor of aeronautics and astronautics at MIT, was contracted by the consulting architects for the project, Harrison and Abramovitz of New York City, at the insistence of the Battery Park City Authority, the agency empowered to deal with city, state and private interests to build the apartment complex.

"They wanted to avoid creating windy areas that would affect pedestrian comfort, so we studied the ground winds in areas of heavy pedestrian traffic near the proposed buildings," said Frank H. Durgin, associate director of the Wright Brothers wind tunnel.

Architects and builders haven't always been aware of the possible ground-level wind effects of their buildings, particularly high rise buildings. Some buildings create high-velocity winds at their bases strong enough to knock over pedestrians. The ground environment problem has been so severe and persistent in some cases that major alterations around entrances have

been necessary to make the buildings usable.

"The Authority and its consulting engineers were aware of their environmental difficulties and wanted to do something about them," Durgin said. "It is an indication of the growing recognition of the problem. Wind analysis at pedestrian levels is becoming a multi-disciplinary field of science where architects, structural engineers and aeronautical engineers are working as a team to achieve the best results possible."

The wind tunnel model, which is made up of more than 125 buildings laid out on a miniature street plan of lower Manhattan, was prepared by Earle J. Wassmuth, a pattern maker with the Department of Aeronautics and Astronautics. He spent 250 hours preparing the replica, which was the most detailed of any models he has made. He worked with maps of New York City and with documents that gave building heights in lower Manhattan, as well as with aerial and other photo-

(Continued on page 8)

Three Study Exhibitions Open at CAVS

Three exhibitions are on view in MIT's Center for Advanced Visual Studies—part of a series of study

exhibitions scheduled by the Center for the 1975-76 academic year. The current exhibitions are Dan

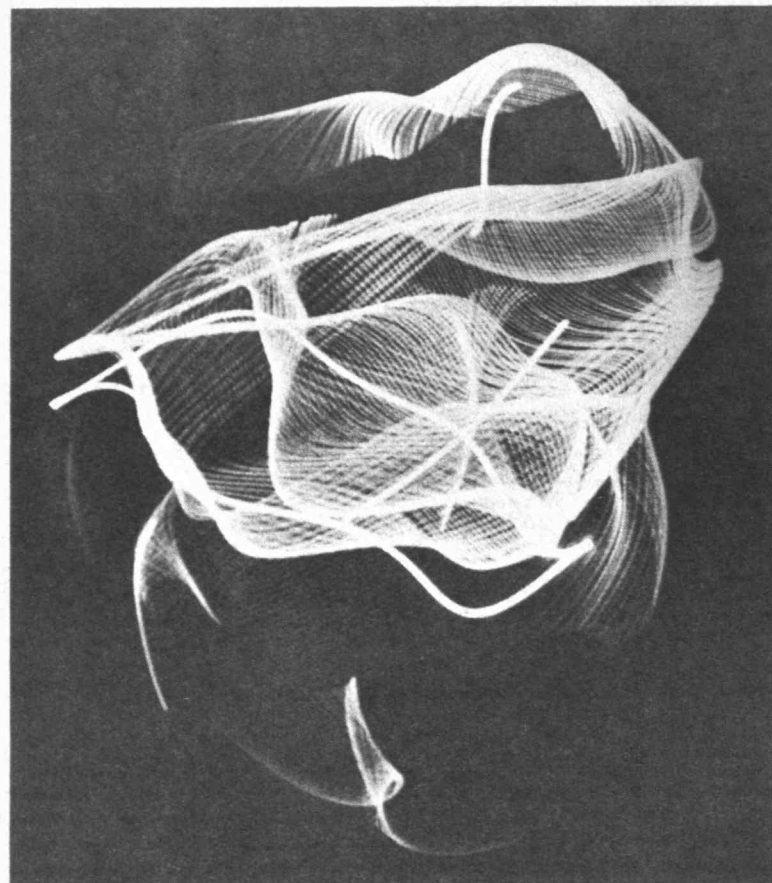
Dailey's "Vases and Lamps," Jose Yturralde's "Structures," and Paul Earls' "Sounds." They will remain on view through Jan. 7, 1976.

"Consistent with the direction of the Center, each exhibition is intended as a statement to examine new or re-worked themes and techniques particularly as they relate to the interface between the arts and technology," according to Otto Piene, director of the Center. Contributors will include Fellows of the Center and invited artists.

Dan Dailey is an instructor in the Glass Department and chairman of the Craft Department of the Massachusetts College of Art. He is a Fellow at CAVS and is currently teaching an MIT subject, "Glass, Gas and Electricity," in association with Professor Piene, Alejandro Sina, and Pam VanDiver. He was guest designer at Fabbrica Venini in Murano, Italy, while working there on a Fulbright grant.

Paul Earls, a composer and Fellow of the Center, has devoted the last five years to collaborative work with visual artists and in music-art systems. He has produced compositions for varied media, including music for CITYRING, a city-wide work for 24 bands and church and hand bells. CITYRING opened Boston's Bicentennial celebrations last April.

Jose Yturralde is a Fellow working at the Center on a grant from the Juan March Foundation. He is a



A laser projection by Paul Earls.

—Photo by Nishan Bichajian

Nevelson Visit Applauded



At the sculpture site adjacent to the new chemical engineering building are, left to right, artist Louise Nevelson, Professor Wayne Andersen and President Jerome B. Wiesner.

Hearty applause from an overflow audience in Room 9-150 saluted artist Louise Nevelson last Wednesday, Dec. 10, at the conclusion of ceremonies marking the installation of

multi-media painter and sculptor who has done research at the computer center of the University of Madrid. His exhibitions have included a one-man show in 1973 at the Museum of Modern Art, Madrid, Spain. His works at the Center are his silk-screened structures.

The exhibition areas of the Center are open to the public from 9am-5pm weekdays. Elizabeth Goldring, Fellow of the Center, coordinated the exhibitions.

her sculpture, *Transparent Horizon*, on the MIT campus.

The early-evening event was held as a conversation among Professor Wayne Andersen, Nevelson and the audience, which heard Professor Andersen explain Nevelson's place in 20th century American sculpture and which then posed questions to the artist about her work.

Earlier in the day, a brief ceremony was held at the site of the sculpture at the northeast end of the quadrangle between East Campus Houses and adjacent to the new chemical engineering building. Speakers at the ceremony included Professor Andersen, Howard W. Johnson, chairman of the Corporation, President Jerome B. Wiesner, Nevelson, Professor Raymond F. Baddour, head of the Department of Chemical Engineering, and I.M. Pei, architect of the chemical engineering building.

not issuing a new UROP Directory for spring 1976. This money is available for funding students' research proposals for IAP and spring term. The 1975/1976 UROP Directory is current for spring term. Also, check the UROP bulletin board, *Tech Talk* or the UROP Office, for the most recent available projects both on and off campus.

Center for Advanced Visual Studies

One or two undergraduates are invited to assist with the experimentation and fabrication of steam fountains in a laboratory on campus. Students should have knowledge of basic plumbing skills, understanding of steam pressures, temperatures, and fluid dynamics. Some experience in computer programming is helpful. Specific projects: 1.) Experimentation of source/sink arrangement in which steam is placed with hot air. 2.) Design of fins to be placed inside vertical cylinder through which steam will pass. 3.) Building of a working model of steam fountain for presentation purposes. 4.) Designing computer programming with which steam emission will be controlled. Contact Professor Eugene Larrabee, Rm. 33-303, x3-2271.

Department of Nutrition

The effects of marginal malnutrition over many generations on maternal behavior and early pup development in the rat. Currently being studied is a uniquely developed group of animals who have been malnourished for nearly 20 generations. The current interest is in determining the type and means of rehabilitation necessary for these animals to recover. This project would be of interest to students in nutrition and psychology. No prior experience is required, but some fundamental coursework in nutrition and psychology would be useful. The project will begin during IAP and continue into the second semester. Contact Debbie McCoy, Rm. 56-125, x3-1712.

Organic Chemistry

The project deals with the synthesis, chemical characterization and measurement of biological activities of peptides and their derivatives. Research involves specific peptides which bind to selected sites on surface of proteins or on the surface of transfer RNA molecules. The student will work in conjunction with an experienced peptide chemist. Contact Professor Alexander Rich, x3-4715 or Dr. M. Gorecki, x3-4710.

Boston University

Medical Center Boston, Ma. A bio-engineering facility at BUMC is conducting infant physiological monitoring for research into the causes of sudden infant death and the development of the central nervous system in the newborn. They are developing safe, non-invasive instrumentation for reliably monitoring physiological parameters such as heart rate, breathing, and sleep state as well as computer techniques for the reduction of instrumentation tape and strip and chart (scanned) recordings on a variety of general and special purpose computer systems, PDP-15, PDP-8, Univac 1020, etc. Student engineers with skills in instrumentation, mechanics, digital hardware and programming are requested.

Children's Hospital

Boston, Ma. Formulating and practically using computer programs on a PDP 1110 computer to analyze angular measurements from motion picture films of gait, force plate data from foot reaction forces, and simultaneous readings of EMG signals. Programs for computer data gathering and analysis from these three modes of monitoring normal and pathological gaits are currently being written. Development of an analytical model of normal gait. A mathematical model and computer program will be devised for normal gait.

Boston Biomedical Research Institute

Boston, Ma. The Department of Muscle Research at

BBRI is carrying out an investigation to elucidate the mechanisms of muscle contraction and the cause of several diseases (hypertrophy, myotonia and muscular dystrophy) in which muscle tissue is defective. Several suggested research opportunities include enzymatic studies on muscle proteins and membrane systems of the muscle cell, electron microscopy of protein aggregates and mechanical measurement of single muscle fibers.

Conservation Law Foundation

Boston, Ma. A private legal organization involved in researching the legal and technical issues of environmental protection and regulation would like to involve students in the preparation of court cases for litigation. Students with technical expertise would work on projects on highway design, ecological impact of off-shore drilling, effect of drinking water regulation and energy facility siting.

Cambridge Collaborative

Cambridge, Ma. Cambridge Collaborative is studying new applications of continuum mechanics to the measurement of pulmonary function in infants and adults. The aim is to develop new non-invasive measures of pulmonary function which will yield information that has been inaccessible with conventional techniques. Opportunities are available for undergraduates to study fluid flow and propagation in the upper airways, respiratory mechanics, and physiology, mechanical design of devices to couple external instrumentation to the airways of adults and infants, data acquisition and processing systems, and development of a clinical protocol for data acquisition from infants.

Mass. Attorney General's Office

Boston, Ma. Students with backgrounds in economics and statistics will work in the research and preparation of expert testimony on the request of the small loans industry to raise the maximum allowable rates for loans of under \$3000 made to consumers. Pay or credit available. Contact Professor Martha Weinberg, Rm. E53-425, x3-5261 or the UROP Office.

Education Development Center

EDC would like to involve a mathematics student in a project developing modular materials for an introductory college level mathematics course. Credit or Work Study funding available.

Other Opportunities

Summer Research Opportunities at Argonne National Laboratory

Undergraduate Research Participation Programs are available at Argonne National Laboratory in biochemistry, biology, chemistry, computer science, engineering, environmental science, mathematics, and physics for students graduating in '76 and '77. The summer program is from June 14 to August 20. The program provides an opportunity to experience a research environment under the supervision of a professional scientific investigator engaged in research of interest to the Energy Research and Development Administration. After a few weeks of assistance the student is expected to exercise initiative in carrying out the research project. Each student is required to write a report at the end of the program. There is a \$1,250 stipend and a travel allowance. Applications must be sent by February 13, 1976. For further information contact the Preprofessional Advisory and Education Office, Rm. 10-186, x3-4158.

Graduate Studies

The following brief descriptions of selected graduate fellowships have been received re-

cently by the Graduate School Office. For more complete information, contact the office, Rm. 3-136.

Howard Pyle Safety Research Fellowship

The National Safety Council is again sponsoring the Howard Pyle Safety Research Fellowship for 1976-77. The fellowship is designed to provide financial support to graduate students who wish to pursue a doctorate and subsequent career in safety research. Tuition and fees (maximum \$4,000), a stipend of \$2,500 and a total allowance of \$450 for dependent children are provided. The fellowship is renewable up to three years.

Foreign Studies

Goethe Institute Scholarships—Summer 1976

The German Academic Exchange Service is offering scholarships for German language courses at one of the Goethe Institutes in Germany during the summer of 1976. The scholarship provides DM 2500 for the two-month language course to cover tuition, room, partial board and some additional costs. They are available to US citizens between 19 and 32 years of age who are currently enrolled in a US university. Applicants may not be German majors, may not have previously studied in a German-speaking country, and must have completed at least two years of college before the beginning date of the grant. One year of college German or its equivalent is required. Application forms are available in the Graduate School Office, Rm. 3-136, and must be returned to the Graduate School Office by Monday, Jan. 12.

Research Fellowships in the Netherlands

The Delft University of Technology, the Twente University of Technology, and the Eindhoven University of Technology are offering research fellowships to young foreign graduate students and scientific workers who hold the master's degree in science or engineering and who have had at least one additional year of experience in research. The fellowships will be granted for a period of 12 months (Sept. 1976-Sept. 1977). Knowledge of the Dutch language is not required. Deadline for applications is Jan. 15, 1976. Contact the Graduate School Office, Rm. 3-136, for further information.

MIT Club Notes

MIT Figure Skating Club**—A chance for figure skaters who feel confident at skating forwards and who can at least make an attempt to skate backwards to meet as a group. Sun, weather permitting, 11:30am-1pm, skating rink. Free, need athletic card & skates.

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

Religious Activities

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

Celebration of Holy Communion**—MIT Lutheran & Episcopal Ministry, Wed, 5:05pm, Chapel. Supper following, 312 Memorial Dr.

Christian Worship Service**—Sun, 10:45am, Chapel. Refreshments following service.

Hillel*—Traditional services Fri, 4pm, K kosher Kitchen & Sat, 9am, Chapel.

Echoes

50 Years Ago

Professor "Tubby" Rogers of the Department of English gave a lecture to freshmen on the subject of "Christmas and Charles Dickens."

Professor James F. Norris of the Department of Chemistry was re-elected President of the American Chemical Society.

Lt. Commander Richard Byrd told of his experiences in the arctic and showed several motion pictures of areas of the world never seen before by civilized man.

40 Years Ago

The Chief of the Technical Laboratory of the FBI delivered a lecture on "The Scientist and Crime." He likened crime detection to scientific research, and discussed the technological advances such as the lie detector used by the Bureau.

The Aeronautical Engineering Society purchased a new glider which was a rebuilt model that had flown from Miami to Cuba.

25 Years Ago

President James R. Killian announced the establishment of a School of Humanities and Social Studies and appointed John E. Burchard as Dean of the new school.

A student petition was posted in Hayden Library proposing that the courtyard be utilized as an ice skating rink during the winter months.

Prepared by Ethel I. Newell, MIT Historical Collections, x3-4444.

TECH TALK

Volume 20, Number 20
December 17, 1975

Tech Talk is published 45 times a year by the News Office, Massachusetts Institute of Technology. Director: Robert M. Byers; Assistant Directors: Charles H. Ball, Barbara Burke, Robert C. Di Iorio, Patricia M. Maroni, Joanne Miller, William T. Struble, and Calvin D. Campbell, photojournalist; Reporters: Sally M. Hamilton, Ellen N. Hoffman; Institute Calendar, Institute Notices, Classified Ads: Susan E. Walker.

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INSTITUTE NOTICES

Grade Reports

First term grade reports will be mailed to term addresses Tuesday, Jan. 6, 1976. Students should report corrections in addresses to the Registrar's Office, Rm. E19-335, no later than Monday, Dec. 29. Telephone requests will not be accepted.

Announcements

February Degree Recipients—Cards enclosed with Feb degree notice must be returned to Rm E19-344 no later than Fri, Jan 23 to indicate whether diplomas are to be mailed, called for in person, or if attendance at Commencement, May 28, 1976 is planned.

Basic Pistol Marksmanship Course—Thurs, Jan 8, 6:30pm, duPont Pistol Range. Fee: \$20, covers everything. Open to first 20 members of community to register. Registration: Tom McLennan, x3-3296 or Andy Platias, x8-1417 Draper.

Day Care—Immediate opening in the Technology Children's Day Care Program for child 3-5 years old. Information, Child Care Office, x3-1592, Rm 4-144.

R/O Coordinator—The Freshman Advisory Council is looking for a creative, innovative, responsible undergraduate to serve as 1976 R/O Coordinator. Salary \$1,000. Proposals due by 1/12/76 at FAC, Rm 7-103.

MIT Furniture Exchange—Open Tues & Thurs, 10am-2pm, 25 Windsor St, to buy and sell. Tax free donations gladly accepted.

IAP Notices

How and Why Wings Fly (5)—Will meet M, W, F for 3 weeks, beginning Jan 12, 11am-12n, in Rm 31-269.

Innovation Projects—Will meet M, W, F, Jan 14-23, 1-2pm, Rm 37-252.

New UROP Listings

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

Attention: UROP has saved \$6,000 in printing costs by

Three Appointed to Faculty In Electrical Engineering

Three visiting associate professors have been appointed in the Department of Electrical Engineering and Computer Science, effective Sept. 1, 1975. They are:

Francesco L. Bacchialoni, appointed for this academic year to work in the MIT Electronic Systems Laboratory with Professor Michael Athans, professor of electrical engineering and director of the lab. Professor Bacchialoni received the Doctor of Engineering degree from the University of Genova in 1946 and has spent 21 years in the field of engineering, including one year at Penn State University and seven years at Lincoln Laboratory. In 1968 he was appointed associate professor of electrical engineering at the University of Lowell in Lowell, Mass., from which he is currently on leave.

Chi-Hau Chen, appointed for four and one-half months. Dr. Chen, on leave as professor of electrical engineering at Southeastern Massachusetts University in North Dartmouth, Mass., is working with Professor Murray Eden in the field of statistical pattern recognition. He received the bachelor's degree from

National Taiwan University in 1959, the SM degree from the University of Tennessee in 1962 and the PhD degree from Purdue in 1965. He is the author of *Statistical Pattern Recognition* (1973) and more than 50 technical papers in the field of electrical engineering.

Zenon W. Pylyshyn, appointed for four and one-half months to work on a new program in the Artificial Intelligence Laboratory. Dr. Pylyshyn is on a partial leave from his position of associate professor of psychology and computer science in the Department of Psychology at the University of Western Ontario. He received the Bachelor of Engineering degree from McGill University in 1959, the MSc in electrical engineering and the PhD in experimental psychology from the University of Saskatchewan in 1961 and 1963, respectively.

Dr. Pylyshyn's research spans several fields and he is well known in the area of cognitive psychology. The author of more than 20 technical papers, he is editor and contributor of *Perspectives on the Computer Revolution* (1970).

Conference to Probe Growth Management, Land Use

Professor Lawrence Susskind of the Department of Urban Studies and Planning at MIT has been awarded a grant of \$220,000 by the Massachusetts Foundation for Humanities and Public Policy to sponsor a workshop on Growth Management and Land Use Policy for Massachusetts.

The workshop, designed for local leaders who play a key role in shaping land use decisions, will be held at MIT on January 19.

Professor Susskind, who is project director, said video recordings of the proceedings would be made available to the public for follow-up regional discussions.

MIT participants will include students and faculty members from the Department of Urban Studies and Planning, the School of Humanities, and the Center for Advanced Engineering Studies. They will prepare discussion materials and brief videotapes analyzing the historical, philosophical, legal and economic aspects of land use control.

Some of the topics to be debated are: individual property rights ver-

sus government land use control; the assignment of regulatory power to different levels of government; and the growth versus no-growth conflict between economic expansion and environmental preservation.

The day-long workshop will combine a series of small group workshops, gaming sessions and videotaped interviews with leading humanists in the field.

Rieger Visits

Charles J. Rieger III, assistant professor of computer science at the University of Maryland since 1974, has been appointed visiting assistant professor in the Department of Electrical Engineering and Computer Science for the fall term.

Professor Rieger received the BS from Purdue in 1970 and the PhD from Stanford in 1974. He was a teaching assistant in the computer science department at Purdue from 1967-68 and a research assistant in the computer science department at Stanford from 1972-73.



C-A-RUNCH goes the concrete under the powerful hand of Ron McNair, a graduate student in physics who doubles as instructor of Cambridge's St. Paul AME Church Karate Club. Mr. McNair (black belt), will join with his assistant instructors, Jon and David Feld (brown belts), 11-year-old twins, and their father, Professor Michael Feld (purple belt), to present this week's physics colloquium, "The Physics of Karate," at 4:15pm Thursday (Dec. 18), in Rm. 26-100. "Karate," Professor Feld says, "embodies a number of physical laws in addition to demonstrating the beauty of body motions." —Photo by Charles E. Miller

Three Named Visiting Professors

Three scholars from the fields of materials science, meteorology and economics have been appointed visiting professors at MIT. They are:

William C. Giessen, a research affiliate in the Department of Materials Science and Engineering, who is now on sabbatical from Northeastern University.

Paolo Sylos-Labini, professor of economics at the University of Rome.

And Yoshimitsu Ogura, professor of meteorology and director of the Laboratory for Atmospheric Research at the University of Illinois.

Professor Giessen, who has been on the staff of MIT since 1959, recently chaired the Second International Conference on Rapidly Quenched Metals at MIT with Professor Nicholas J. Grant of the Center for Materials Science and Engineering. He has been a member of the faculty at Northeastern University since 1973 and last year was associate director of the Institute for Chemical Analysis. Since 1968 he has held the rank of research affiliate at MIT.

Dr. Giessen, an alumnus of the University of Goettingen (ScD '58), has conducted research into hydrogen absorption in metallic glasses, internal friction of metastable alloys, magnetic susceptibility of metallic glasses, and the structure of metastable actinide alloys. In 1973 he was presented with the Outstanding Educators of America Award.

Professor Labini, regarded as one of Italy's leading economists, holds the Doctor Degree in law from the University of Rome (1942). After a term on the teaching staff of economics at the University of Rome from 1944-55, Dr. Labini was a research student at the University of Chicago, Harvard University, and the University of Cambridge, England.

He has been an associate professor at the University of Sassari in Sardinia (1955-57), and a full professor of economics at the University of Catania (1957-60), and the University of Bologna (1960-62). Since 1962 he has been professor of economics in the Department of Statistics at the University of Rome. During his stay here Dr. Sylos-Labini has also held a visiting professorship at Harvard.

Professor Yoshimitsu Ogura was previously a research scientist at MIT (1958-64) before his appointment as director of the Ocean Research Institute at the University of Tokyo in 1965. He received the BS in 1944 and the PhD in 1952 from the University of Tokyo. From 1954-57 he was a research associate at Johns Hopkins University.

Some of his most recent writings have been on the interaction between subcloud and cloud layers in tropical regions, the pressure perturbation and numerical modeling of clouds, and the simulation of the life cycle of a thunder cell.

He has been director of the Laboratory for Atmospheric Research at the University of Illinois since 1969.

Eliminating Nitrites in Meat Could Increase Botulism Risk

Eliminating nitrites from processed meats would not eliminate them from our environment and could increase the risk of botulism outbreaks, according to scientists at MIT.

Dr. Gerald N. Wogan, professor of toxicology, and Dr. Steven Tannenbaum, professor of food chemistry, both in MIT's Department of Nutrition and Food Science, say that nitrites, which are converted to nitrites in the body, are found in abundance in many vegetables and even in water supplies. One of the most significant sources of human exposure to nitrite is saliva, they say. Normal bacteria and other microorganisms in the mouth change nitrate into nitrite.

Since almost all foods contain some nitrate, it is a common part of human blood and is continuously concentrated from the blood by the salivary glands and recycled into saliva. Humans constantly are exposed to a steady, but low concentration (6-15 parts/million) of nitrite in saliva which represents the largest portion of our total daily intake of the substance.

Dr. Wogan and Dr. Tannenbaum discussed the complexities of the nitrite issue and the potential hazard of forming carcinogenic N-nitroso compounds in a recent article in the journal, *Toxicology and Applied Pharmacology*. Their research is funded by the National Institute of Environmental Health Sciences, the National Cancer Institute and the American Meat Institute.

"We are dealing here with a generic problem that exemplifies the most difficult aspects of foodborne environmental chemical hazards," they reported.

Exposure to the compounds, they said, is probably long-term and low-level, making it "particularly difficult to establish cause and effect relationships."

Although more than 100 N-nitroso compounds have been studied for carcinogenicity, and about 75 to 80 percent have been found to cause cancer in animals, they said that so far there is no firm evidence that these compounds are a cause of cancer in man.

Yet, Drs. Wogan and Tannenbaum reported, "there is no published report of any animal species that is resistant to carcinogenesis by one or more of these compounds and no reason to believe, therefore, that man should not be susceptible."

Recent studies in Dr. Tannenbaum's laboratory and similar studies in Holland and Germany, have shown that certain foods containing higher than average amounts of nitrate can lead to much higher levels of salivary nitrite than previously

thought. For example, certain vegetables are known to accumulate nitrates under a variety of agronomic conditions, and both vegetables and vegetable juices may contain hundreds of thousands of ppm of nitrate. When these foods are eaten the salivary nitrite concentration may increase to hundreds of ppm, many times higher than that permitted in any food product. At the same time, the few investigations done on this problem by cancer epidemiologists indicate that consumption of fresh vegetables may be protective against stomach cancer. The overall problem of cause and effect may therefore be seen as extremely complicated and probably involving a multiplicity of factors in man's environment.

Since nitrite cannot be eliminated, one might, for example, be tempted to try to eliminate the compounds that react with nitrite to form potentially carcinogenic substances.

But these compounds are not only too widespread in nature to be eliminated from one's diet—some of them may even be essential. MIT workers have found evidence that nitrofollic acid, produced by nitrite acting on the vitamin folic acid, may induce cancer in animals.

Yet folic acid itself is an essential dietary compound, and appears to play an important role in the body's cell mediated immunity—the defense system responsible for resistance to tumors.

Researchers in many countries are now trying to evaluate the hazards of nitroso compounds, both through studies on animals and through studies of how cancer incidence varies from place to place.

Professor Tannenbaum and Professor Michael C. Archer, also of the MIT Department of Nutrition and Food Science, are participating in a study of a mountainous rural part of Colombia with a high incidence of stomach cancer. The study was originated by Dr. Pelayo Correa of Louisiana State University and Dr. Carlos Cuervo of the Universidad del Valle of Colombia, both pathologists, and Dr. William Haenszel of the National Cancer Institute, an epidemiologist.

The study led to the hypothesis, published in a recent issue of the journal *Lancet* that a major form of stomach cancer is caused by nitroso compounds, in a series of mutations

begun in childhood. Local drinking water contains high levels of nitrate, which after being converted to nitrite, could act on other commonly found substances to produce nitroso compounds. The researchers speculate that the local diet which contains hard grains like corn and local berries may contribute to the process by breaking down the protective mucous barrier of the stomach.

Other researchers have speculated that nitroso compounds are implicated in the high level of esophageal cancer in parts of Africa.

But much more research will be necessary, they said, to prove or disprove these hypotheses, to evaluate the hazard to the general public of long-term exposure to low levels of nitrite, nitrate and nitroso compounds, and to decide what can be done to reduce that hazard without creating new ones.



In one of his first official acts as new treasurer of the MIT Corporation, Glenn P. Strehle, left, signed the declaration of trust establishing the William Barton Rogers Pooled Income Fund. Looking on were General James B. Lampert, vice president for resource development, center, and Chancellor Paul E. Gray. The Fund—named for MIT's founder and first president—is a plan by which donors may reserve income interest on the principal of gifts. Income is distributed to donors on a pro rata basis. The Fund is part of MIT's new Life Income Plans Program and has already attracted several donors. Further information on this Fund is available from Institute Secretaries D. Hugh Darden or Allan S. Bufferd, Rm. 10-282, x3-3827.

Report Issued

The large Report of the President and the Chancellor for 1974-75 has been published. Copies are available in the Information Center, Rm. 7-111.

THE INSTITUTE CALENDAR

December 17
through
January 7

Editor's Note: Anyone connected with MIT - students, employees and faculty - are encouraged to participate in IAP activities. Some courses, in fact, are particularly designed for "lay-people." The number in parentheses in many Calendar entries refer to the IAP courses number, in case additional information is needed.

Events of Special Interest

How We Know How Information is Transferred from Genes (DNA) into Functions (Proteins) - David Botstein, genetics. Molecular Biology for the Non-Scientist (23). Mon, Jan 5, 1pm, Rm 56-401.

Physics for Everyone (289) - Mon, Jan 5: Our Sun: Test Ground for the Laws of Physics - Stanislaw Olbert, physics. Tues, Jan 6: The New Astronomy - Bernard Burke, physics. Both 12n, Rm 6-120.

The Solar System: Sun and Planets - William H. Pinson, geology. Earth & Planetary Sciences Lecture Series for Non-Science Personnel. Wed, Jan 7, 12n, Rm 54-611.

Seminars and Lectures

Wednesday, December 17

Complete Blood Replacement with Artificial Substitute* - Dr. Robert Geyer, nutrition, Harvard School of Public Health. Nutrition & Food Science Seminar. 9am, Rm E18-408.

Thursday, December 18

Coulomb Gas in 2 + Epsilon Dimensions* - C. Deutsch, Universite Paris-Sud, Orsay. Plasma Theory Seminar. 11am, Rm 36-161.

Identification of Interpersonal Relationships in Hierarchical Groups and What To Do About Them - Roy Walters & Robert Rivach, Roy Walter Associates. OSG Colloquium. 12:30pm, Rm E52-542. Bring lunch.

Physics of Karate - Micheal Feld, physics. Physics Seminar. 4:15pm, Rm 26-100.

Friday, December 19

Dissipative Trapped Electron Instability in Tokamak - W. Manheimer, Naval Research Laboratory. Plasma Dynamics Seminar. 4pm, Rm 36-261.

Monday, January 5

Overview of Energy Issues as Seen From January, 1976 - David C. White, Ford Professor of Engineering, director of Energy Laboratory. Energy Laboratory: Seminar Series (137). 10am, Rm 39-500.

The Use of Sonar in Geology and Archaeology - Harold E. Edgerton, Institute Professor and Professor of Electrical Measurement, Emeritus. The Uses of Sonar and Underwater Photography Seminar (90a). 12n, Rm 4-402.

Space Shuttle for Scientific Research - J. F. McCarthy, Jr, aero/astro. Highlights in Aeronautics and Astronautics Seminar (4). 2pm, Rm 33-206.

Topics in Model Theory - Eugene Kleinberg, mathematics. Annual IAP Logic Week Lectures (215). 3pm, Rm 2-390.

Two-Photon Spectroscopy and the Doppler Effect - David Pritchard, physics. Lectures on Physics (285). 3:30pm, Rm 6-120.

Tuesday, January 6

Current Problems in Understanding Saturn's Rings - Gordon Pettingill, planetary physics. Earth & Planetary Sciences Lecture Series (63). 4pm, Rm 54-425.

Scientific Research on the TM Technique - Understanding Transcendental Meditation (426). 10:30am, Rm 4-270.

Algebraic Curves - Arthur Mattuck, Class of 1922 Professor of Mathematics, chairman, Undergraduate Mathematics Committee. IAP Math Club Lecture (225a). 2pm, Rm 3-370.

Is There an Airship in Your Future? - J. F. Vittek, aero/astro. Highlights in Aeronautics and Astronautics Seminar (4). 2pm, Rm 33-216.

A Writer's Work and Life: Correspondences and Divergences - Krystyna Pomorska, Russian. Russian Literature Lecture Series (103). 3pm, Rm 14N-225.

Enormous Atoms - Daniel Kleppner, physics. Lectures on Physics (285). 3:30pm, Rm 6-120.

The Role for Federal R&D on Alternative Automotive Power Systems* - Lawrence H. Linden, G. Mechanical Engineering Doctoral Thesis Presentation. 4pm, Rm 3-343.

Wednesday, January 7

Synthetic Fuels: Economics and Technology - Martin Zimmerman, Sloan School; Ogden Hammond, DSR staff. Energy Laboratory: Seminar Series (137). 10am, Rm 39-500.

Photoelectrochemical Cells: Theory and Practice - Mark S. Wrighton, chemistry. - Chemistry Seminar (37). 10am, Rm 4-231.

Free Trip to UROP: A Student Symposium (202a) - UROP student guides describing the joys of undergraduate research. 1-5pm, Rm 9-150.

Topics From Artificial Intelligence - Seymour Papert, mathematics; Cecil and Ida Green Professor of Education; co-director, Artificial Intelligence Laboratory. IAP Math Club Lecture (215a). 2pm, Rm 3-370.

How Universal is Economic Theory? - Michael Manove, Boston University; Evsey Domar, Ford International Professor of Economics. Current Economic Issues (70). 2pm, Rm E53-394.

Transportation Vehicles: A Comparative Morphology - E. E. Covert, aero/astro. Highlights in Aeronautics and Astronautics Seminar (4). 2pm, Rm 33-206.

Topics in Recursion Theory - Philip Lavori, mathematics. Annual IAP Logic Week Lectures (215). 3pm, Rm 2-390.

Chemical Bonding in Amorphous Semiconductors - Marc Kastner, physics. Lectures in Physics (285). 3:30pm, Rm 6-120.

Perspectives of the Founders' Philosophies - Julius A. Stratton, '23, President of the Corporation, Emeritus. Historical Collections "They Were There" Seminar (423). With photos and/or films of the period. 2nd fl, Bldg N42. Pre-register.

Remote Sensing of the Compositions of Planetary Surfaces - Thomas McCord, planetary physics, director of George R. Wallace, Jr. Astrophysical Observatory. Earth & Planetary Sciences Lecture Series (63). 4pm, Rm 54-425.

Community Meetings

MIT Women's Forum** - Meetings Mon, 12n, Rm 10-105 (Tues in case of holiday.) **Mon, Dec 29** - Open meeting. **Mon, Jan 5** - Judith Thompson, philosophy, will speak on Women and Philosophy.

Boston Bicentennial for Foreigners (92) - Sponsored by Wives Discussion Group & Medical Department. Wed, Jan 7; **The Revolution**, an exhibit explaining events leading up to the Revolution, 2nd fl, Quincy Market. Bus leaves Ashdown 1:15pm, sign up Rm 11-203. Fee: \$1.

Social Events

Singles Christmas Party* - Sponsored by Over 30's Singles Club. Wed, Dec 17, 5:30-8pm, Rm 10-105. Admission \$2.

24 Hour Coffeehouse* - Will close Fri, Dec 19, 5pm and re-open Mon, Jan 5, 8am. Enjoy relaxing conversation, piano playing, inexpensive food, candy & drinks. Open 24 hours per day, 7 days per week, Stu Ctr 2nd fl lge.

Movies

Powers of Ten; Galileo: the Challenge of Reason; Galaxies and the Universe; The Crab Nebula - Earth & Planetary Sciences Film Theatre (62). Mon, Jan 5, 2pm, Rm 1-190.

How to Make a Woman - Sex Roles: Film Series and Discussion (417). Mon, Jan 5, 7pm, Rm 14-0615.

Tech at Mid-Century - Historical Collections Pictures of the Past (409). Tues, Jan 6, 12n & 1pm, Rm 6-120.

The Violent Universe - Earth & Planetary Sciences Film Theatre (62). Tues, Jan 6, 2pm, Rm 1-190.

Pepe le Moko - French Film Series. Tues, Jan 6, 7:30pm. Stu Ctr Mezzanine Lge.

Walkabout - Barker Library Film/Food Fest (157b). Wed, Jan 7, 12n, Rm 10-500. Lunch for sale.

Close up of Mars; Mare Tranquillitatis; Volcano Surtsy; The Sun - Earth & Planetary Sciences Film Theatre (62). Wed, Jan 7, 2pm, Rm 1-190.

Walkabout - Barker Library Film/Food Fest (137b). Wed, Jan 7, 5pm, Rm 10-500. Wine & cheese for sale.

Men's Lives - Sex Roles: Film Series & Discussion (417). Wed, Jan 7, 8pm, Rm 14-0615.

Music

Christmas Concert - The Fine Arts Chorale - Wed, Dec 17, 8:30pm, Kresge Auditorium. Program: Joseph Messner's Mass in B flat; Allan Bush's The Winter Journey and Nancy Plummer Faxon's The Christmas Fantasy. Tickets \$3 (\$2 students). Reservations: 335-2134.

Chamber Music Society Concerts* - Wed, 5:15pm, music library, Bldg 14E.

Theatre and Shows

MIT Community Players - Auditions for Shakespeare's Hamlet. Thru Dec 17, 7:30-9:30pm, Stu Ctr.

Moves for Children - Dance plays by Toby Armour inspired by Lewis Carroll, Edward Lear and Genesis I. Presented by the New England Dinosaur, Dec 19-23, Kresge Little Theatre. Performances: Fri, Dec 19, 7pm; Sat, Dec 20, 3pm; Sun, Dec 21, 3pm & 7pm; Mon & Tues, Dec 22 & 23, 3pm. Free to MIT community Mon, Dec 22. Tickets: \$1.50 children, \$2.50 adults. Reservation x3-4720 or 491-3133. Group rates available.

Exhibitions

December Faculty Club Exhibit* - Paintings and drawings by Idahlia Stanley. Dec, Faculty Club Lge & Exhibition Area.

MIT Historical Collections* - Permanent Exhibition Mon-Fri, 9am-5pm, Bldg N52, 2nd floor. **Bicentennial Exhibits:** Katharine Dexter McCormick, '04; Vannevar Bush '16; and Karl Taylor Compton, in Bldg 4 corridor.

Schumann at Work on a Song* - Music Library exhibit of manuscript facsimiles & pictures. Daily, Bldg 14E.

Creative Photography Lab Exhibit* - Works by Melissa Shook on exhibit beginning Fri, Nov 21, thru Dec. Hours: 10am-10pm.

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.

Athletics

Children's Skating Classes - For children of faculty, staff, employees. Sat morns, Dec 13-Jan 31. Athletic card required, \$15 fee payable at registration. Beginners class 10-11am, advanced (approx 1 year experience) 11am-12n. Last minute weather cancellations, x3-1000, aft 9am.

Home Schedule* - Tuesday, January 6 - V Basketball. Haverford, 7pm, Rockwell Cage.

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

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

Send notices for January 7 through Jan 18 to the Calendar Editor, Room 5-111, Ext. 3-3279, before noon Wednesday, December 31.



Dancers from New England Dinosaur, a company that will premiere three new children's works beginning Friday (Dec. 19) in the Little Theatre under the auspices of the MIT Dramashop. A

performance at 3pm Monday (Dec. 22) is open to the MIT community free of charge. The program is made possible by a grant from the Massachusetts Council on the Arts and Humanities.

Record Number Seeks Early Admission Action

A record crop of 550 applicants is being considered this week for admission to the Class of 1980.

The number—almost double that of a year ago—is attributable in a major way to acceptance of November achievement test scores, according to Peter H. Richardson, director of admissions.

"Before this year, applicants were required to take achievement tests in July in order to be considered for early action," he said. "This year, by deferring decisions for about two weeks, we were able to accommodate the November scores, which make it much easier for applicants to request early action."

The number of young women seeking early action has tripled this year, while the number of young men has almost doubled. Also encouraging, according to Mr. Richardson, is the number of minorities requesting early action.

"The number—approximately 20—though small, is nevertheless a significant increase over last year," Mr. Richardson said. He also noted that as of December 12 there were two-and-a-half times the number of completed final applications from minority students that were in a year ago at this time.

"However," he said, "precise comparisons cannot be made because exact information on minority applications for previous years is not available. For the first time this year the application form contains an optional question on ethnic background."

"As applicants provide this information," he said, "we are able to gather hard numbers for the first time. In the future they will be a good gauge to whether or not our affirmative action recruiting efforts are effective."

Letters of admission will go into the mail at the end of this week. Mr. Richardson said that past experience shows that about half of those requesting early admission—or approximately 300 this year—are admitted in December. Those not admitted now will be considered again in the regular admissions roundup in March.

MIT, unlike most universities, does not require an early commitment from those admitted in December. They may wait to respond until the normal response date of May 1.

"We want admitted students to have the maximum amount of time to consider what college will be best for them," Mr. Richardson said.

New Project Needs Old Recordings

MIT Historical Collections is searching for old records.

but those including MIT songs through the years.

Not just any old records, mind you,

"We have 15-20 recordings from the 1939-1968 period," Warren Seaman, director of Historical Collections, said, "but we're hoping to find others, particularly earlier ones."

Calendar Sale

Full-sized 1976 wall calendars with 12 original graphics suitable for framing are now being sold by *Sojourner*, the MIT women's newspaper.

The aim of the record search is to produce a new record. One side of the new record would be a re-recording of a selection of songs from earlier records. The other side will feature the Logarithms singing a variety of traditional and modern MIT songs.

Boston-area women artists, including three MIT employees, Mimi Dewart, Judith Helprin and Karen Prendergast. The calendar was composed by the *Sojourner* staff.

Sojourner depends upon fund-raising items like the calendar, advertising and subscriptions for its operating budget.

"Surely included will be 'Take Me Back to Tech,' the 'Stein Song' and 'Arise Ye Sons,' chauvinist though it is," Mr. Seaman said.

The calendar, which costs \$3.50, will be on sale in the lobby of Building 10 or may be ordered by phoning Allison Platt, x3-5856 or Martha Taylor, x3-4161.

Those who find MIT records in old filing cabinets or storage closets are urged to call Historical Collections, x3-4444.

Employment Q & A

By DONNA TAYLOR
Office of Personnel Relations

Q: An article appeared in the October 1 Tech Talk defining the new Parental Leave policy. Related to this policy, how is disability due to pregnancy and childbirth determined? Is there some standard disability period surrounding the normal birth of a child?

A: Disability because of pregnancy or childbirth is intended to be treated as any other disability—that is, the individual is expected to return to work when she is able to do so. We recognize that time cannot be calculated precisely and may vary from one person to another. Hence, the advice and determination of the individual's physician and certification as to when she is physically able to return to work is normally controlling.

Q: If a woman has accumulated three weeks of sick leave and is disabled following childbirth for eight weeks, how many weeks pay will she receive when she returns to work? How much will she receive if she terminates?

A: In your example, the woman would be paid for three weeks of regular sick leave, plus payment according to the extended sick leave plan for the remaining five weeks, provided she is disabled and unable to return to work.

If she terminates, she will receive no sick leave payments as the Parental Leave policy states that "sick leave payments for disabilities arising from childbirth are conditional upon return to work."

We realize that there has been some confusion in the implementation of this policy including payment procedures. The policy was developed and approved to treat disabilities of pregnancy and childbirth like any health or temporary disability under regular MIT sick leave practice.

The Personnel Office is developing procedural guidelines clarifying the policy and these guidelines will be furnished to departments shortly.

Q: What is MIT's present policy on personal work? Is the onus on the secretary to explain to her supervisor that to do his/her personal work during office hours is improper, or are supervisors instructed by the Personnel Office that they should not make such requests in the first place?

A: MIT's policy on personal work is that supervisors may not require employees to work on their personal or non-professional affairs, nor may employees be required to perform personal services except when inherent in the nature of the position and defined in the position description. The policy, as stated above, has been widely distributed to both supervisors and employees through *Tech Talk* and is included in the 1975 edition of *Policies and Procedures* (Sect. 3.21, "Responsibilities of Supervisors"). However, if an employee is asked to do work of a personal nature by a supervisor, and prefers not to do it, it would be appropriate to bring the policy to his/her attention.



The eleven winners of the 1975 Nobel prizes in science and literature take time out from official celebrations to pose for a group picture. Left to right are Tjalling Koopmans, Leonid Kantorovich, Aage Bohr, Eugenio Mon-

tale, Renato Dulbecco, Vladimir Prelog, Ben Mottelson, Howard Temin, John Cornforth, David Baltimore and James Rainwater.

Baltimore Receives Nobel Prize

Dr. David Baltimore, American Cancer Society Professor of Microbiology at MIT, and head of the tumor virology group at the MIT Center for Cancer Research, received the Nobel Prize in Medicine and Physiology Wednesday (Dec. 10) in Stockholm.

Dr. Baltimore, who is on sabbatical this year at The Rockefeller University in New York City, shared the prize and \$143,000 cash award with Dr. Howard M. Temin of the University of Wisconsin and Dr. Renato Dulbecco of the Imperial Cancer Research Fund in London.

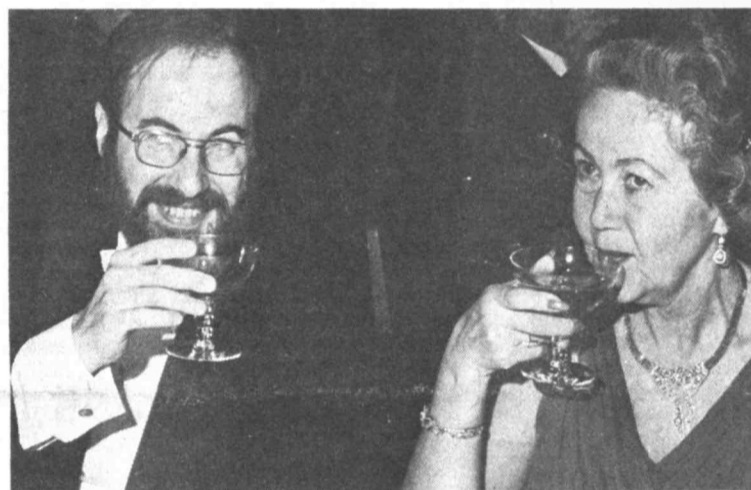
The three were honored for "their discoveries concerning the interaction between tumor viruses and the genetic material of the cell."

One of Dr. Baltimore's best-known achievements is his 1970 discovery of reverse transcriptase, an enzyme which enables viruses with RNA rather than DNA to insert virus genetic information into the host cell's genes. The enzyme was discovered independently by Dr. Baltimore and by Dr. Temin.

Eleven laureates were presented with Nobel prizes by King Carl XVI Gustaf at the Stockholm ceremony, which was also attended by 70 winners from previous years. The Nobel Peace Prize, awarded to Soviet physicist Andrei D. Sakharov, was presented to his wife at a ceremony in Oslo.



Absorbed in his task, Dr. David Baltimore adjusts the tie of co-winner and friend Dr. Howard Temin as the two get ready for the Nobel prize ceremony in Stockholm.



A beaming David Baltimore celebrates his Nobel Prize. With him is Mrs. Hersele Vogt, wife of the Norwegian ambassador to Sweden.

The Tech Elects Officers for Volume 96

New editorial officers for the twice-weekly student newspaper, *The Tech*, for the year beginning with the start of the second term in February have been announced.

They will be in charge of Volume 96 which runs through January, 1977. *The Tech*, established in 1881, is one of the oldest continuously published college newspapers in the US.

New chairperson is Julia A. Malakie of West Newton, Mass., a junior in economics, while editor-in-chief will be Glenn Brownstein of Hackensack, N.J., a junior in man-

agement.

Mark J. Munkacsy of Cherry Hill, N.J., a sophomore in physics, was elected managing editor for the year. John M. Sallay of Cincinnati, O., a sophomore in economics, was elected to a second term as business manager.

News editors will be Margaret L. Brandeau of Camp Hill, Pa., a junior in mathematics, and Gerald M. Radack of Silver Spring, Md., a sophomore in mathematics. Three were elected night editors: David H. Thompson of St. Louis, Mo., a sopho-

more in electrical engineering; Rebecca L. Waring of New York City, a freshman; and Lynn T. Yamada of Fort Lee, N.J., a sophomore in ocean engineering.

Sports editor will be David A. Dobos of Columbus, O., a junior in economics. Photography editors re-elected were Thomas F. Klimowicz of Hazlett, N.J., a junior in materials science and engineering, and David A. Schaller of Oxon Hill, Md., a sophomore in mechanical engineering.

Joel I. Mandelbaum of Howard Beach, N.Y., was elected advertising manager. He is a sophomore in chemical engineering and management and has been serving as acting advertising manager.

Two seniors from this year's staff will continue on the board of *The Tech*. Michael D. McNamee of Frankton, Ind., a senior in political science who has been editor-in-chief for the past year, will continue to serve as features editor. John Hanzel of Chicago, Ill., a senior in management, who has been chairperson for the past year will be a contributing editor.

Weisskopf Named

Dr. Victor F. Weisskopf, Institute Professor Emeritus and Professor of Physics Emeritus at MIT, is one of seven scientists just appointed to the Pontifical Academy of Sciences by Pope Paul VI.

Dr. Weisskopf and Dr. George E. Palade, a biology professor at Yale University, were the two Americans appointed among the seven.

The Pontifical Academy of Sciences was founded in 1603 and is considered one of the world's most prestigious scientific bodies.

Accident Research Project Seeks Investigators, Victims

The MIT Department of Mechanical Engineering's newly formed accident research group is now seeking part-time investigators and accident victims to help determine whether it is advisable for the Consumer Product Safety Commission to impose a number of new regulations to increase the safety of power mowers, bicycles and architectural glass.

The research group, headed by David Gordon Wilson, MIT professor of mechanical engineering, will develop a cost-benefit analysis approach to find out if the safety gained from adding the proposed features in power mowers, bicycles and architectural glass (panels, doors and windows) is worth the added costs to the consumer.

The study, funded by the Consumer Product Safety Commission, will help to end the dispute between the CPSC and the Outdoor Power Equipment Institute—which claims that the advantages gained by adding the features do not outweigh the disadvantages of the increased costs. The manufacturers claim that

the proposed safety features affecting the mowers, for example, would mean a 30 to 74 percent increase in retail prices.

The present research project calls for the investigation of 100 accidents in each of the three categories. The researchers will need approximately five to ten part-time investigators to help with the project during the next four months. Any member of the MIT community can apply for the paying positions.

People who have been injured in accidents involving power mowers, bicycles or architectural glass also are being sought. A small packet of information describing the project will be mailed to the accident victims, who will be asked to answer a questionnaire. Researchers will take measures to safeguard the individuals' privacy.

Both accident victims who would like to help with the project and people interested in becoming investigators should contact Shiden Derekshani, a research assistant for the project, at x3-5095.

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 address and Institute extension. Only Institute extensions may be listed. Members of the community who have no extensions may submit ads my 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 5-111. Please submit all ads before noon, Wednesday, December 31. They will be printed on a first come, first served basis as space permits.

For Sale, Etc.

Adding mach, Smith Corona elec, \$20. Lee, 262-5090.

Sgl BSO tckt, 1/3, Mahler Sym, orch seat, \$9, x3-6901.

Pacer citizen band transceiver, 8 chnl, 12V or 110 V, \$35 or best. Rick, x5845 Linc.

Gd gifts: dressy blk wnter coat, sz 10, lk nw, \$25; 45" draw drapes, 4 pr, \$12. Larry, x3-4749.

Old De Haviland dessert srvc, 12 cake plates w/tray, \$110; sev other sm Lemoge dishes, odd prices; framed prints, signed Wallace Nutting & Sawyers, var sz & pr. Call, 625-4117, aft 3pm.

Mahog DR tbl, 6 chrs, buffet & server, exc cond. x3-2801.

Motobecane Le Champion, 24", all Reynolds, Campy tippo hubs, Sountour derailleurs, Stronglight cranks, Weinman side pulls, \$225; 24" Witcomb WO 1 frameset, all Reynolds, 38" whlbase, headset, Campy BB, \$115. Jim, x3-3565.

DASA port microfiche reader, was \$90, gd cond, ask \$55. Bart Johnson, x3-6849.

Free v lg Frigidaire refrig, U move it. Liz, x8-1522 Draper.

Pr Gdyr snows, sz 6.00x12, fit Toyota, nvr used, \$25. Jim, x3-2732.

Tckt to Nutcracker, Dec 21, \$8. x3-7130.

Super 8 movie camera, yr old, let go for \$65. x8-3844 Draper.

Leica lenses: 35mm f2.0 Summicron for M3, \$180; 50mm f2.0 SF RF Summicron, collaps, \$75; Nikonos II undrwrtr camera, \$150. RS Taylor, x3-5142.

Antique oak comb bkcase w/curved glass door, drop lid desk, carved ornamentation, best. Chris, x3-1768.

Acco Press printout binders; shelving for printout, cards; magnet computer tapes, racks; bk shlv; packing boxes; notebk cvrs & misc office supplies. Call, 547-3336.

Mercury 195 cm mtl skis, spring bndgs, poles, leath f sz boots, \$40 nego. x3-7787.

Pr H70x15 Delta snows, exc cond. Call, 484-1804.

Vivitar E-34 enlarger for 35mm & 2 1/4" negs, 2 lenses, less than yr old, exc cond, pd \$110, ask \$75; '71 Honda CL350, exc cond, \$450. Tony, x3-1826.

Scott postage stamp catalogs, vol 1,2,3 for yrs '72 & '73, lk nw cond, \$8 & \$12. Call, 453-7239.

Remi 190 cm fbrglas skis, \$15. Mark, x3-2991.

Fbrglas skis; gas camp stove; AC; transmitter; spruce wood. x5-7354 Dorm, kp try.

Oil paintings, water colors, nudes, mthr & child studies, seascapes, delicate & dramatic abstracts, framed & un, artist nds \$, 1/2 proven gallery prices. x8-1216 Draper.

Dbl bed, \$15; solid wd door, 44" W, makes exc tbl or desk, \$15. Call, 494-9248, evgs.

Konica C35 w/case, almost nw, \$50 or best. x3-2851.

Guild elec & acoustic guitar, \$350; w/free amp & rhymaster. Tom, 625-4244, aft 6pm.

Twn beds, 2; 83" LR couch. x3-1783.

M sz 6 Nordia ski boots, exc cond, used 2x last seas, too sm, orig \$90, \$35. x8-4561 Draper.

Ital suede synthetic fur lined coat, v gd cond. Al, x3-7619.

M hcky skates, sz 12, worn twice, \$10. Call, 498-4931.

Full sz matt & box spr, \$25; 4'x8" braided rug, \$5; 4 drwr Steelmaster file cab, \$60. Call, 494-8185, evgs.

Snows for Vega, A78x13, used 1 seas, x3-1630.

Asst toys, g playstove, \$9; fold booster chr, \$4.50; g dance costumes, sz 6, 8, 10, \$12/ea. x8-4095 Draper.

Last minute Christmas shopping? Amer Indian jewelry, turq, slvr, liquid slvr, pukka shells, etc. Arlene, x3-6779.

Mtd snows for BMW 2002, \$25/ea or best. Frailey, x3-4974.

One nice ww snow, H70x14, \$5; 2 Ford Frine 14" rims, \$2/ea. Ray, x7573 Linc.

Child skis; Asnes 120 cm, bndgs & poles, skis take ordinary boots, suitable 5-7 yrs old, \$15. x3-3641.

Realistic TR-6 CB radio, mini 6B, 6 chnl incl 8-11, 13, 19, 23, \$80. Nancy, x5348 Linc.

Admiral 12.2 cu ft refrig, exc cond, \$110; dresser & desk, \$15/ea, asst tbls & bkcases. x3-3467.

Hair dryer, almost nw, Max Hatter by Gillette, \$10. Call, 492-6691.

Pr tckts BSO 1/6, Michael Tilson Thomas conducting Mahler's Sym no. 9, \$13. Judith, x196-278 EDC.

Skis, Head 360 195 cm, Marker step in bndgs, \$50; 2 pr ski boots: f 6 Reiker m 8 1/2 Henke, both bekl, \$15/ea; all gd cond. Call, 628-9866.

Starrett tempered stl rule, chrome clad, 6' L; nw frpl set, scr & andirons, brass; baby dressing tbl. Al, x8-1419 Draper.

Pr 6 1/2 N Henke leath bekl ski boots, exc cond, \$18. Marcia, x3-4441.

Guitar, jumbo folk, Epiphone, exc cond, must sell, \$65 or best, \$15 for wd case. Call, 547-4375, evgs.

Stylish dyed rabbit coat, f sz 10, \$70; practical lg 9 drwr oak desk, \$125 or best. Chuck, x3-6032.

Remington man port typwrtr, gd cond, \$45 or best. Bob Grappel, x7045 Linc.

Wd colonial dollhse, 34" L, \$100; colonial 5 drwr cherry chest, beaut, \$40; kids lg dbl easel, wd, v gd cond, \$15; solid mpl toy chest, '40, or wd, bootbox, nds work, \$6; 2 kids lamps, \$9 pr. Gerry, x8-1288 Draper.

Gdyr 40 K stl belted radials, 4, less 1 K, orig \$245, \$160 set. Dick, x3-5568.

Opaque glass & chrome tbl lamp, \$15; child xylophone, Creative Playthings, age 6+, unused, \$7. x3-3696.

Bowling game tbl, 6' L, auto reset, gd cond, on display lobby 224 Albany St, Draper. Lena, x8-4602 Draper.

Rims for '70 & earlier VW transporter, 5x14", w/ fit early beetles w/lg diam 5 bolt pattern, \$5/ea. Bill, x3-7230.

National NCX-200 rcvr, pls, extras, reas. Randy, x3-7082.

Sgl bed, \$18; desk, 26x48, \$25; antiques dresser, 5 drwr, big, \$25; tufted sofa, 7', gd shape, \$30; end tbls, \$6; LR chrs, \$15; rugs, lamps, mirrors, lg town. Call, 661-7225 (Camb).

Rm humidifier, \$15; Salton yogurt maker, missing 1 jar, \$7; K&E Leroy lettering set, \$12. wd carving mallet, \$5. Carol, x3-1332.

Nw hiking books, Fabiano blu, sz 8, \$25. Mary, x3-4903.

Wd storm wndws: (4) 31" W x 58" L; (2) 20" W x 69" L; (3) 34" W x 70" L; \$3/wndw. x3-7138.

Honeywell Tilt-a-Mite flash unit, exc cond, \$10. Stu, x3-1418.

Persian stu lvg cntry, must sell: Persian carpet, beaut oriental design, ghom qual, about 300 knots/sq in, 140x200cm, \$1,200; glass coffee tbl, 36x36x10", \$25. Sia, x3-3911.

Pr belted snows, seas old, H78x15, \$30/pr; KLH 52 amfm stereo rcvr, immac cond, mere \$199; Rem Monarch typwrtr, gd cond, \$20. Call, 267-7797.

Hseplants, some unusual, mostly cheap; pr G78x14 snows, fbrglas belted. Steve, x3-5959.

Vehicles

'63 Cadillac sed, 4 dr, all power, fac AC, gd tires, batt, radio, etc, exc value, \$300. x3-2567.

'64 Mercedes 220S, all nw eng w/20 K, 2 nw tires, nw exh, runs well, nds front fndrs, best. x8-1415 Draper.

'64 VW bug, selling parts, radio, fenders, seats, transaxle, hood & rear lid, etc. x8-3379 Draper.

'65 Chevy Bel Air, exc run cond, gd tires, v cln, \$250. Bill, x8-1870 Draper.

'66 Rambler Am, 6 cyl, standard, 20mpg, \$400. Sue, x5797 Linc.

'66 Mustang, fall sticker, \$150. Nichole Lamotte, x8-1348 Draper.

'67 Olds, AC, all power, \$495. Ken, x3-4426.

'68 BMW 1600, crumpled body, sound eng, no rust, 87 K, has a soul, offers nr \$600. Bill, x3-7575.

'68 Olds Cutlass, 4 dr, p st & br, 69 K, gd cond, ask \$900. x659 Linc.

'68 Olds Delta 88, yel, all power, gd cond, \$700. x3-5958.

'69 VW sqbk, \$700. x8-2815 Draper.

Handyman's spec: '69 Buick Spec Wgn, auto, radio, pwr dr lock, tilted str whl, v cln car, \$900. x3-4257.

'71 Ply Fury III, 4 dr hdtp, about 50 K, real gd cond, auto, avail aft 12/20, \$1,200. Clara, x3-4733.

'71 Chevy Vega Htchbk, 4 spd, \$950 or best. Steve, x3-4157.

'72 Volvo 145A wgn, 35 K, outstanding cond, all maintenance rcrds, nw stl radials, \$3,400 or best bef Xmas. Dave Shpiiberg, 762-4300 x576.

'72 Buick Centurion, 2 dr hdtp, full pwr, AC, amfm stereo, best reas. x3-2772.

'73 VW super beetle, radials. Larry, x3-6187.

'75 Vega Htchbk cpe, exc cond, nw stud snows, rust proofed, auto, real sacrifice. Nancy, x3-6543.

Two Minis, 1 w/reblt radials, Weber carb, spanners; other best used for parts, ask \$1,400 for both. Bob, x3-1344.

'72 Yamaha 350, 9K+, eng ovrlhd 8K, Boge rear shocks, chn & mstr lock, fac manual, \$500; Dunstall exh sys, cstm for Honda 500, less 3 mos, w/ put on yours, \$100. Call, 782-7689.

Housing

Arl, BR apt, sub, AC, disp, pkg, safe & qt nbrhd, \$185 incl ht, hot wtr. Call, 646-0857, evgs.

Belmont, 6 rm apt, 2 blks T, 20 min bike MIT, 5 min H Sq, 3 BR, 2 porches, frpl, 2 car garage, lawn, attic, 1/2 bsmnt, qt nbrhd, eps only, no children or pets, \$235 + util. Call, 484-9082.

Bri, avail 1/1, 2 BR, 5 rm apt nr Western Ave on Wrtwn line, \$195 + util. Bill, x217 Linc.

Blkne rm for rent, f, lg older home in qt nbrhd, virtually priv B, access to T, \$50/mo + 2 nites babysitting for infant, not nec wknds if u pref. Call, 232-7418.

Camb, furn rm, nice & brite, f, full use K, DR & B, Mass Ave btwn H & Cent Sq, \$100 incl util. Gladys, x3-5656.

Camb, nr H Sq, lux 2 BR, mod K, AC, balc, 2B, pkg garage, sub 1/1 w/May opt. Michel, x8-1494 Draper.

Camb, nice sect, qt, cosy apt, BR, LR, K & B, no lse, avail 1st wk Jan, \$200 incl ht & wtr. Paul, x3-2276.

Camb, BR, 9th fl, nw bldg, AC, dw & disp, carpeted, sub avail immed, \$300 incl util. Call, 492-3948, evgs & wknds.

Camb, Mass Ave nr H Sq, BR apt, \$219. Call, 354-1916.

Charlestown, 19th C renovated brick townhse, 6 skylights, roof deck, grdn, breathtaking view, indry, 8 mos. sublease. Call, 242-1074.

Canadian ski hse on Vt brdr, all util incl, slps 16, ski Jay Peak, Estrn Twnships. Christine, x3-2743.

Animals

Nd gd home for neutered m cat, blk w/wht, v affectionate, litter trained, well behaved, indr or out ok, nd home by 12/20, am graduating. x5-9868 Dorm, aft 5 wkdays.

Christmas stocking stuffer, beaut org m kitten, affectionate, litter box trained, free to gd home. Joe, 698-2965.

Collie pups for Xmas, AKC reg. Call, 924-1762.

Irish setter pups, exc bloodlines, reas. Bob D, x3-2701.

Grmn shep pups, 2 m, AKC reg. Joyce, x3-7169.

Lost and Found

Lost: bm corduroy wallet, Lobdell, Sat nite, 12/6. If found call Cheryl, 353-8794.

Found: grn/blk/red plaid scarf, left in Tech Talk office, Rm 5-111, by ad placer.

Wanted

GM carseat for child. Robert, x5358 Linc.

French stu, bilingual Canadian & Amer stu nded for psych exper w/pay. Please lve name & nmbur w/Judy, x3-6047.

Oriental babies nded for study of visual development, MIT psych dept, \$5/session. Jane or Sarah, x3-5775.

Driving from Pgh, PA to MIT in lg car & want help w/expenses? Pls give my loom a ride. Can take apart. Sue, x3-3270.

Alto sax, reas playing cond. Mary, x3-5656 before 1pm.

Refrig & 12 V batt, both working cond. John, x3-4908, 3-7 wkdays.

Upright freezer; also designer coat for sale, dbl breasted oyster wht, sz 16, \$75. Pat, x3-2603.

Used m sz 11 fig skates. Call, 498-4931.

Wl pay someone to care for 2 cats, 10 days, Xmas vac; also ride wanted daily, Beac St, Camb, Star Mkt to MIT & back, 9-5, flex. x3-7720.

Old 4 drwr files, wl take off your hands at no charge. Julie McLellan, x3-4791.

Nd furn Camb, sub, 1-2 rm, Jan-June, nr T. Liza, 492-2090.

Used refig/frzr, must be sm, pref, wht, wl nego pr depending on age & cond; used desk & bkcses, lg, early Amer style. Sheri, x3-4562.

Lg sunny rm w/priv B in Back Bay home avail in exch for 15 hrs hsework, time can be arranged, must like chldrn, f grad stu pref, start 1/1. Lee Williams, x3-5954.

Ride nded to Vt around 12/26, rtn around 1/2. Etta, x3-5656.

Slide photog for copy work. x3-7087.

Roomates

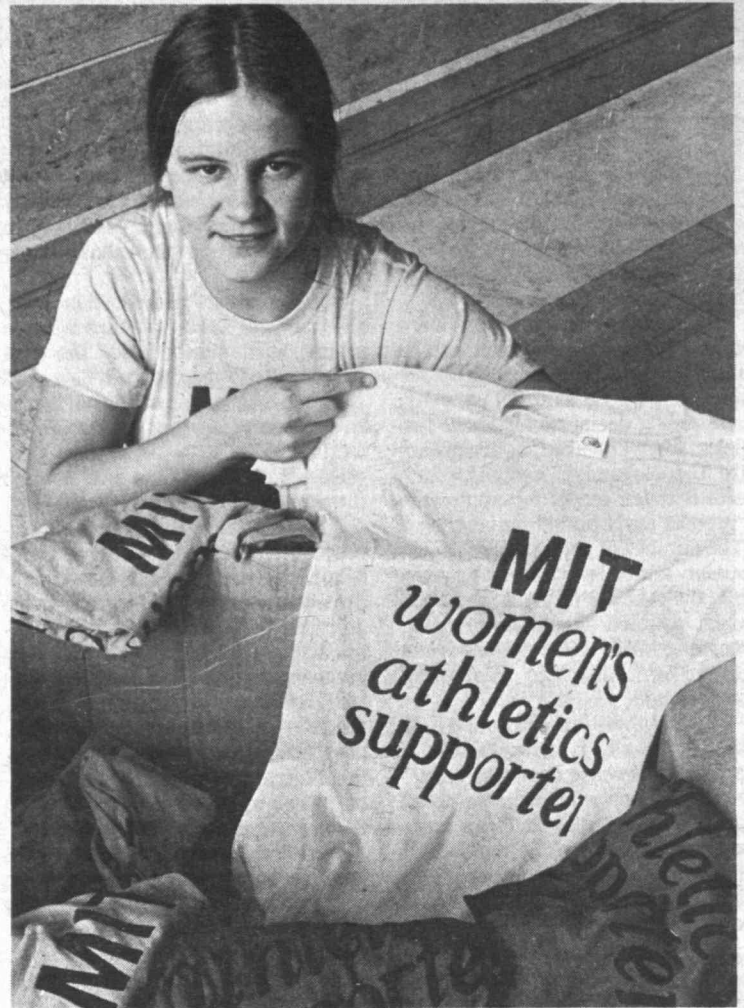
Rmmate for 3 BR lux apt, 5 min MIT, Harv Sq, start anytime til 2/1, \$130. Peter, x3-2627.

M rmmate, early 20's, hsehold of 3 f, m, own lg sunny rm, carpet, 15 min walk H Sq, 3 bus rtes, avail now, \$115 incl util. x3-1907.

Mod AC 2 BR Wrtwn apt, avil 1/15, \$127 incl ht & pkg. Ed, x3-6907.

Rmmate for beaut Cent Sq apt, we are 3 grad stus (2m, f) & pref f, frpls, dishwasher, sunken tub, nwly renovated wd & brk, nw K, val 2/15 (maybe 2/1), \$140 + elec. Call, 661-2023.

Chicago Calling



TRAVEL BY T-SHIRT is what the women's basketball team is hoping for this year when cutbacks have trimmed the travel budgets for all inter-collegiate sports teams. The women have been asked to play in an invitational basketball tournament at the University of Chicago, but have to raise \$1,700 in order to go. So they are capitalizing on the T-shirt fad to raise funds. Above, Lisa Jablonski, a junior in literature from Lowell, Mass., displays one of the silkscreened shirts, available in three colors in small, medium and large. The shirts are \$3.50 and are available as produced in the lobby of Building 10 and W32-109 (DuPont). Also available are buttons with the same novel message for 50¢. Anyone with questions about purchasing the T-shirts or the buttons may call Mary Lou Sayles, x3-4920.

—Photo by Calvin Campbell

Joseph W. Barker Dies, Was Distinguished Alumnus

A memorial service was held at 3pm Sunday (Dec. 14) at Trinity Episcopal Church, New Rochelle, N.Y., for Dr. Joseph Warren Barker, 84, a noted engineering educator and foundation executive in New York City who was an alumnus of MIT and early in his career an associate professor of electrical engineering at MIT.

A second memorial service will be held Friday afternoon, Jan. 16, at Trinity (Wall St.) Church, New York, where Dr. Barker had served as vestryman and churchwarden for many years.

Dr. Barker, who died Wednesday, Dec. 10, at New Rochelle Hospital Medical Center following an extended illness, was dean of engineering at Columbia University from 1930 to 1946, president of the science advancement foundation, Research Corporation, with headquarters in New York from 1945 to 1957, and chairman of the board of directors of Research Corporation from 1947 to

1959. He first joined Research Corporation as a director in 1934 and continued on the board until his retirement last January.

During World War II, Dr. Barker was assistant to the Secretary of the Navy representing the Secretary on the War Manpower Commission and the joint Army-Navy Board.

Born June 17, 1891, at Lawrence, Mass., Dr. Barker was graduated in 1916 from MIT and entered the US Army where he served until 1925. He was associate professor of electrical engineering at MIT from 1925 to 1929 and professor and head of the department of electrical engineering at Lehigh University from 1929 to 1930 when he was named dean at Columbia.

Dr. Barker was active in alumni affairs at MIT serving as an officer of the Hugh Hampton Young Memorial Fund at MIT and as a vice president and class agent for the Class of 1916. He received the Bronze Beaver Award of the MIT Alumni Association in 1966 for service to the Institute.

Survivors include his widow, Mary M. Barker of New Rochelle; a daughter, Mrs. Sidney L. Hall of Brookline, Mass.; a son, Maj. John Barker of Azle, Tex.; and a stepson, Michael C. Mallon of New Rochelle.

Funeral services were held in Georgia Monday. The memorial service at MIT was arranged by friends and was led by Rev. John Crocker, MIT Episcopal chaplain.

Miss Wells was a 1974 graduate of Peachtree High School in suburban Atlanta. She entered MIT as a freshman in September, 1974, and lived in McCormick Hall during her first year. Survivors include her parents, Mr. and Mrs. Chesley H. Wells, two sisters and two brothers.

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POSITIONS AVAILABLE

This list includes all non-academic jobs currently available on the MIT campus. Duplicate lists are posted on the women's kiosk in Building 7, outside the offices of Special Assistants for Women and Work (10-215), and Minority Affairs (10-211), and in the Personnel Office (E19-239). Personnel interviewers will refer any qualified applicants on all biweekly jobs Grades II-IV as soon as possible after their receipt in Personnel. Persons who are not MIT employees should call the Personnel Office on extension 3-4251.

Employees at the Institute should continue to contact their Personnel Officers to apply for positions for which they feel they qualify.

Dick Higham 3-4278
Pat Williams 3-1594
Carolyn Sheer 3-1595
(secretary — Dixie Chin)

Virginia Bishop 3-1591
Mike Parr 3-4266
Ken Hewitt 3-4267
(secretary — Joy Dukowitz)

Sally Hansen 3-4275
Lewis Redding 3-2928
(secretary — Susan Bracht)

Admin. Staff, Documentation Manager. Office of Administrative Information Systems to develop and administer a system of data processing methods, standards and procedures. Will have responsibility to assure complete, fully-documented standards which are current with changes in hardware/software; communicate methods and procedures to Department management and staff; insure security of documentation and integrity of program and production libraries; establish and maintain library of all documentation master files as well as a technical library of related vendor documentation. Bachelor's degree or equivalent combination of education and experience, training in data processing, experience in development of standards and procedures, supervisory, oral and written communication skill required. A75-71 (12/17)

Admin. Staff, Project Planner, in Planning Office: will develop and maintain long-range planning data on Institute population, program and space needs and their financial implications; develop planning criteria, project schedules and budgets; consult with project clients; prepare presentation materials in written and graphic form. Bachelor's degree in Architecture or Planning, or equivalent combination of education and experience, 2-5 years experience in architecture and planning project functions, demonstrated written and graphic communication skill necessary A75-72 (12/17).

Acad. Staff, Asst. Science Librarian to be responsible for selection and collections in Biology, Nutrition and Physiological Psychology; acts as subject specialist on complex reference questions in Life Sciences; handle varied promotional and orientation activities (guide preparation, seminars, etc.). MLS plus an undergraduate degree in biology or chemistry required. Candidate should have a minimum of 3 years professional experience, preferably in reference or collection development. C75-33 (12/17).

Spons. Res. Staff, in Artificial Intelligence Lab to do postdoctoral research to adapt and develop basic artificial intelligence ideas for applied purposes. Initial focus will be in large data base and personal assistant application areas. Strong background in Artificial Intelligence, Ph.D. in computer science required. Positions begin in June, 1976. D75-243, D75-244 (12/17).

Spons. Res. Staff, Executive Officer, Program Management and Technical Coordination for Meteorology Dept. international multi-institutional oceanographic research project. Monitor organization, scheduling of administrative activities, supervision of funding status, briefing of project co-chairmen. Will be responsible for field logistics of multi-ship operation, including field coordination center and management of pilot programs. Extensive sea-going experience and experience with current oceanographic measurement technology and engineering (including mooring and density techniques) required. Recent supervisory experience in oceanographic field programs, proposal writing and budgeting skill also necessary. Applicants must be able to travel frequently. D75-240 (12/10).

Admin. Staff, Project Planner, Planning Office to assess Institute facility needs; prepare long and short range planning studies; research, write, edit information for facilities programs and for participation in Design Review; prepare presentation materials (tables, schedules, graphic illustrations); interview users to determine functional needs; participate with consultants and client team to evaluate design proposals for Design Review. Requires: BA in architecture; minimum 3-4 years architectural and planning project experience. Architectural Registration desirable. A75-68 (12/10).

Admin. Staff Admin. Asst., Information Processing Center to help develop and prepare budget; review expenses; forecast expenditures; prepare periodic cost analyses, operating reports. Will

also perform other related administrative duties. Requires analytical, as well as written and verbal communication skills; ability to work well with people. A75-69 (12/10).

Admin. Asst. (Exempt) in the Center for Policy Alternatives will perform administrative duties relating to accounting, payroll, personnel project administration, space and purchasing matters. Will work closely with Center administrators, project managers, students and academic and research staff personnel. Knowledge of bookkeeping or accounting procedures (preferably MIT experience) important. Good typing skill; must enjoy detailed work and a busy office. 40 hour week. E75-46 (12/17).

Tech. Asst. IV, temporary, part-time, in the Research Laboratory of Electronics to assist in data collection on child language acquisition. Duties will include administering of speech exercises to 2-3 year olds in home and day care center sites, transcription of tapes. Previous experience working with 2-3 year olds, typing skill, required. Part-time on an as needed basis through project completion (several weeks). B75-664 (12/10).

Admin. Asst. V in the Office of Assistant Director, Recruitment and Placement, Sloan School, to assist in organization and maintenance of corporate recruiting efforts: type correspondence, maintain student resume files; interact with business, university and government representatives. College degree, previous office experience, typing and machine dictation skill, ability to organize and act independently required. 40 hr. wk. B75-673 (12/17).

Secretary V to Director, Project MAC (a computer science research lab of 260 people) to take and transcribe shorthand; arrange appointments; handle varied administrative duties. Will also work with other secretaries in providing general support for lab: type; handle payroll responsibilities. Requires: minimum of 5 yrs. commensurate experience; ability to work under pressure; 40 hr/wk. B75-660 (12/10).

Secretary IV to two faculty members in Biology will perform general secretarial duties including composing own correspondence, typing from hand-written draft, machine dictation; monitor research grants; handle personnel related matters; gather and prepare material for proposals; arrange seminars. Excellent typing, experience with dictation equipment, some experience with MIT accounting procedures desirable. Must be able to organize and complete work independently. Position begins in April or May, 1976. B75-665 (12/17).

Secretary IV to two Nutrition and Food Science faculty members working in the fields of food chemistry and physical biochemistry: perform general secretarial duties including manuscript, proposal and course material typing. Excellent typing, organization skill required. Knowledge of medical/biological terminology helpful. B75-666 (12/17).

Secretary IV to 4 faculty members, physics department: type technical reports, manuscripts; arrange travel and appointments; maintain budget records, file. Requires excellent typing skills, 3-5 years experience, ability to work under pressure. Technical typing skill desirable. B75-675 (12/17).

Secretary IV to Director of Center for Advanced Engineering Study project involving development of curriculum materials and teacher training for technical institute of Iran. Handle general secretarial duties (correspondence typing, filing, etc.). May handle additional duties related to preparation of teaching material (edit manuscripts, page layout, preparation of camera-ready copy), and teacher training activities (schedule teaching sessions; assist teachers with travel and other arrangements). Excellent typing, organization skills necessary. Journalistic and/or graphic arts experience desirable. B75-657 (12/10).

Secretary IV to two faculty members in Nutrition and Food Science: type correspondence, papers, proposals from draft and machine dictation; draft responses to routine correspondence; order reprints and supplies; answer phones. Typing, English grammar skills, ability to work under pressure required. Knowledge of biological and/or chemical terminology helpful. B75-658 (12/10).

Secretary IV, temporary, part-time, to Head of Library Collections Development Department: type correspondence; order supplies; maintain files; prepare student and bi-weekly payrolls. Will also handle check-in, claim, and order form process for technical reports. Requires: college degree, organizational and typing skills, ability to work independently; Secretarial and/or library experience desirable. 20 hr/wk, (9-1, M-F), Jan.-June, 1976. B75-659 (12/10).

Secretary IV in Dean for Student Affairs Office will handle general secretarial duties for the Undergraduate Seminar Program, including preparation of materials for publication, accounting procedures; respond to inquiries concerning Seminar Program and Freshman Advisory Council; handle secretarial duties for Assistant to the Dean and other projects as required. Excellent typing, sensitivity in dealing with people, required. B75-663 (12/10).

Secretary III-IV, Office of the President and Chancellor, to provide secretarial support for Analytical Studies and Planning Group: schedule appointments; maintain files, financial records; type. Will also provide general assistance on project (help prepare documents, type some lengthy reports). Requires: excellent typing, proofreading skills, initiative; ability to work under pressure, set priorities. 37½ hrs/wk. Position in-

cludes some overtime. B75-671 (12/17).

Secretary III-IV to 2 Project MAC academic staff members: perform general secretarial duties including technical typing, transcription of machine dictation; schedule meetings; maintain files. Will handle some secretarial duties for other staff. Typing skill, ability to work independently required. B75-674 (12/17).

Accounting Asst. V Center for International Studies, to assist Administrative Officer and serve as back-up in all office procedures: handle account records, travel vouchers, petty cash; post financial transactions; check accounting office statements; prepare financial reports. Requires: thorough knowledge of accounting procedures; ability to work independently. Institute experience desirable. B75-672 (12/17).

Sr. Clerk III, Admissions Office: handle graduate and Special Student applications; answer applicants' inquiries by phone and through correspondence; sort and code graduate mail; communicate with 24 Department secretaries regarding applicant's records. Requires: good typing, ability to do detailed and accurate work. Some college background helpful. B75-669 (12/17).

Sr. Clerk III in Registrar's Office, to work with Undergraduate records: transcribe grades; check computer input and output; enter registration related data into CRT visual input machine; answer telephone inquiries; handle assigned undergraduate departments as well as other related duties within office. Requires: excellent typing skills; accuracy with details. Some college training and office experience desirable. B75-661 (12/10).

Accts. Payable Clerk II-III in Comptroller's Acctg. Office will process invoices: apply discounts; check purchase orders; prepare summary of outstanding commitments. Also, prepare expenditure totals; prepare material for keytape entry. Ability to work with figures and proficiency with adding machine required. B75-667 (12/17).

Second Cook in Food Service to prepare all menu items; train student and other personnel; prepare related forms; maintain clean, sanitary work station. Extensive background in mass food production and creative presentation for banquets, as well as knowledge of portion control and preparation timing required. Supervisory experience helpful. 40 hr/wk. H75-171 (12/10).

The following positions were still available at Tech Talk deadline, the date following each position is the date of the most recent Tech Talk issue in which the position was described.

ADMINISTRATIVE STAFF:
A75-56, Sr. Consult./Trainer, Personnel Development (10/8)
A75-59, Applications Programmer, Off. of Admin. Inf. Syst. (10/22)
A75-60, Systems Analyst, Off. of Admin. Inf. Syst. (10/8)
A75-63, Asst. Director, development Off. (11/5)
A75-64, Area/Coordinator/Systems Analyst, Off. of Admin. Inf. Syst. (11/12)
A75-65, Acquisitions Editor, MIT Press (12/3)
A75-66, Staff Writer, Resource Planning (12/3)
A75-67, Acquisitions Editor, MIT Press (12/10)

BIWEEKLY:
B75-253, Sec. IV, Mech. Eng. (11/19)
B75-273, Sec. IV, Mat. Sc. & Eng. (7/9)
B75-306, Sec. V, Physics (12/10)
B75-427, Comp. Op. IV, Off. of Admin. Inf. Syst. (9/10)
B75-475, Sec. V, Chemistry (11/12)
B75-543, Sec. IV, Chem. Eng. (10/15)
B75-560, Computer Operator III-IV, Lab. for Nuc. Science (10/22)
B75-580, Sr. Clerk III, Admissions (10/29)
B75-585, Sec. III, Mat. Sc. & Eng. (10/29)
B75-593, Sec. IV, Resource Devel. (11/5)
B75-627, Sec. III, Meteorology (11/26)
B75-630, Sec. IV, Lab. for Nuclear Science (11/26)
B75-632, Sr. Acctg. Clk IV, Medical (11/26)
B75-634, Sec. III-IV, Nuclear Eng. (11/26)
B75-38, Sec. IV, Cent. for Internat. Studies (12/3)
B75-644, Sec. IV-V, Provost's Off. (12/3)
B75-645, Sec. IV, Alumni Fund (12/10)
B75-647, Sec. IV, Rotch Library (12/10)
B75-648, Sec. IV, Urban Studies & Pl. (12/10)
B75-650, Sec. III, Lab. of Arch. & Pl (12/10)
B75-654, Comp. Op. IV, Lab. for Nuc. Sc. (12/10)
B75-655, Sec. IV, Medical (12/10)
B75-656, Sec. IV, Energy Lab (12/10)

ACADEMIC STAFF:
C75-29, Assistant Science Librarian, Science Library (11/12)
C75-31, Asst. Humanities Librarian, Science Library (11/19)
C75-32, Asst. Rotch Librarian for Visual Collections, Rotch Lib. (12/10)
SPONS. RES. STAFF:
D75-8, Biophysicist, Nat. Magnet Lab. (6/25)
D75-48, Economist, Energy Lab. (6/25)
D75-107, postdoc res., Lab. for Nuc. Sc. (6/25)
D75-111, Programmer, Artificial Intell. Lab. (6/25)
D75-112, Engineer, Energy Lab (6/25)
D75-120, Systems Programmer, Lab. for Nuc. Sc. (11/26)
D75-125, energy modeling, Energy

Payroll Office Deadlines

The Comptroller's Accounting Office has issued the following schedule for Hourly, Student, Voucher, and Biweekly payrolls for the weeks of Christmas and New Year's. The consecutive holiday weeks make it imperative that each department or laboratory fulfill its responsibility in complying with this schedule. Cooperation is asked so that the Payroll Office may insure accurate and timely payments.

Payroll	Deadline	Comment
Hourly Payroll	Monday, December 22, 1975	
Student Payroll	2:00pm	Time cards, Adjustment Reports, and Distribution Reports must be delivered to the Cashier's Office (10-180) by 11:15am for messenger pick-up service or hand-delivered to the Payroll Office no later than 2:00pm.
Biweekly Payroll		
Voucher Payroll	10:00am	Payroll Vouchers must be hand-delivered to the appropriate office, the Office of Personnel Relations (E19-284) or the Student Employment Office (5-122), no later than 10:00am.
	Monday, December 29, 1975	
Hourly Payroll	2:00p.m.	Same as above.
Student Payroll		
Voucher Payroll	10:00am	Same as above.

Economist to Advise MIT, Harvard on City Matters

Penelope Hedrick Schafer has been appointed the first Economic Advisor to the Presidents of Harvard University and MIT to help those institutions work closely with the City of Cambridge in analyzing and forecasting economic trends in the city.

Presidents Derek C. Bok of Harvard and Jerome B. Wiesner of MIT who issued the joint announcement, said Mrs. Schafer's responsibilities would be to review and assess completed and on-going research on the economy of Cambridge, to identify areas for additional study, and to establish a schedule for the most needed new research. MIT's participation in this joint project is being supported by a special Foundation grant given for the purpose of furthering the Institute's urban relations.

Mrs. Schafer will be associated in this work with the Harvard-MIT Joint Center for Urban Studies at 53 Church St., in Cambridge, where she will maintain an office. The Center, founded in 1959, fosters interdis-

plinary research at the two universities on housing policy, the delivery of public services, and other urban issues that do not fit within conventional departmental boundaries.

In her research on the long-term outlook for Cambridge's economic development Mrs. Schafer will consider many factors. Among them will be (1) the probable success of attracting various types of employers, given recent and projected trends in employment for Cambridge and for the greater Boston region; (2) the impact on Cambridge of various types of economic activity in terms of work force requirements, supporting facilities and activities (both public and private), and the tax base; and (3) the means by which Cambridge can attract those economic activities which are determined to be both reasonable and advantageous to the City.

Cambridge City Manager James L. Sullivan said Mrs. Schafer's appointment was another step in the City's effort to "take a good hard look at the patterns and processes of employment and economic development in Cambridge." He said he welcomed the involvement of MIT and Harvard in lending expertise toward answering the broad economic and social questions raised by current employment and development trends in the City.

Mrs. Schafer, 31, of Belmont, Mass., received the AB degree in economics from Radcliffe in 1966 and expects soon to receive the PhD in urban planning from Harvard. She has been an instructor in city finance and the municipal budgeting process at Harvard since 1972. For the past year she has also worked as a consultant for Meta Systems, Inc., of Cambridge, where she evaluated alternative grant and loan programs to finance construction of local sewage treatment plants.

Previously, Mrs. Schafer had held positions as assistant to the director of urban field service at Harvard and research analyst for the Real Estate Research Corporation of Chicago, where she helped establish a company data retrieval system. In Chicago, she also conducted an important economic base study of the kind that could be especially useful in Cambridge.

Mrs. Schafer is married to Robert Schafer, an associate professor of city and regional planning at Harvard.

Underhill Named

Michael J. Underhill has been promoted from lecturer to assistant professor in the Department of Architecture for the academic year beginning July 1, 1975. Professor Underhill received the B.Arch. from MIT in 1970 and the MCP from Harvard in 1974. He was a teaching assistant at MIT from 1968-1970 and an instructor at the Institute from 1972-73. In 1974 he was a guest lecturer and critic at Bennington College.

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

A75-26	Admin. Staff
B75-603	Secretary IV
B75-640	Secretary IV
B75-621	Secretary III
D75-223	Spons. Res. Staff
B75-590	Secretary III-IV
B75-351	Secretary IV
B75-653	Lib. Gen. Asst. III
D75-181	Spons. Res. Staff
D75-126	Spons. Res. Staff
D75-127	Spons. Res. Staff (cancel'd.)
B75-629	Secretary IV
B75-639	Secretary V

The following positions are on HOLD pending final decision:
H75-163 General Helper
H75-159 Cook's Helper
H75-166, Parking Lot Attendant
167,168



FASCINATION LIGHTS the faces of children watching a magic performance at the annual Research, Development and Technical Employees' annual Christmas party Sunday, Dec. 14, in the Sala de Puerto Rico. Some 350 youngsters attended the party which featured refreshments and gifts in addition to a multitude of balloons.

—Photo by Kevin Campbell

Sloan Listed Third By Business Deans

(Continued from page 1)

salary for June 1975 Sloan Masters was \$19,100, a figure she believes is the highest for any business school's 1975 graduating class. The salary range at Sloan for June 1975 masters graduates was from \$10,000 to \$30,000.)

Rating schools from 10 (excellent) to 1 (poor) the dean's academic survey listed:

1-Stanford, 9.51; 2-Chicago, 8.94; 3-Sloan, 8.73; 4-Harvard, 8.69; 5-Carnegie, 8.56; 6-Wharton, 8.24; 7-Tuck, 8.07; 8-UCLA, 7.40; 9-Columbia, 7.35; 10-Berkeley, 7.33; 11-Purdue, 7.15; 12-Northwestern, 7.05; 13-Cornell, 7.02; 14-Michigan, 6.82; 15-Indiana, 6.39.

The deans' ranking for employment value was: Tie for 1st-Harvard, Stanford, 9.75; 3-Wharton, 8.94; 4-Sloan, 8.89; 5-Chicago, 8.75; 6-Tuck, 8.26; 7-Columbia, 8.09; 8-Carnegie, 8.04; 9-Northwestern, 7.68; 10-UCLA, 7.60; 11-Berkeley, 7.21; 12-Cornell, 7.17; 13-Michigan, 7.15; 14-Purdue, 6.85; 15-Darden, 6.61.

The MBA degree holders and students surveyed ranked schools for academic quality as follows:

1-Stanford, 9.18; 2-Harvard, 9.01; 3-Chicago, 8.39; 4-Sloan, 8.25; 5-Wharton, 8.15; 6-Carnegie, 7.15; 7-Tuck, 7.14; 8-Columbia, 7.05; 9-Michigan, 6.52; 10-Berkeley, 6.41; 11-Northwestern, 6.38; 12-Cornell, 6.10; 13-UCLA, 5.97; 14-NYU, 5.42; 15-Darden, 5.36.

As for employment value, the MBA degree holders and students responded:

1-Harvard, 9.78; 2-Stanford, 9.02; 3-Wharton, 8.51; 4-Chicago, 8.09; 5-Sloan, 7.86; 6-Columbia, 7.38; 7-Tuck, 7.19; 8-Carnegie, 6.71; 9-Michigan, 6.40; 10-Cornell, 6.21; 11-Northwestern, 6.19; 12-Berkeley, 5.89; 13-UCLA, 5.77; 14-NYU, 5.49; 15-Darden, 5.08.

The magazine reported that re-

spondents "tended to give their own alma mater substantially higher ratings than did the survey group as a whole—usually at least a point higher, often much more. Chicago graduates, for example, gave their school an average 9.47 rating compared with an 8.39 rating from their colleagues. . .

"When asked to reflect on their school's value in the job market, however, respondents were apt to make a somewhat more realistic assessment—in general, they found that their school's academic quality was not matched by its job value. . ."

The magazine derived an employment-academic ratio by comparing the ratings. "If a school's ratio is greater than 1 (that is, its employment rating is higher than its academic rating) we can conclude that respondents find the school more or less overrated in the job marketplace. Conversely, if the ratio is less than 1 (that is, its academic rating is higher than its employment rating) it would seem to mean that respondents find the school's academic quality not adequately recognized by potential employers."

Sloan's employment-academic ratio, based on the ranking by the deans is 1.02. Based on the ranking by MBAs it is .95. That compares with Stanford, 1.03 by the deans, .98 by MBAs; Chicago, .98 by the deans, .96 by MBAs, and Harvard, 1.12 by the deans and 1.09 by MBAs.

The Sloan School, founded in 1952 as the School of Industrial Management, is the outgrowth of a pioneering curriculum, first organized at MIT in 1914, which combined management and engineering education.

The gift of Alfred P. Sloan Jr. in 1952 was the landmark in establishing a new level and a broader scope in management education at the Institute.

on polymeric materials.

In "Colicins and the Energetics of Cell Membranes," Dr. Luria describes research into the problem of "active transport"—how certain substances are transported through the cell membrane, at a considerable expense of energy, while other substances "are rigorously excluded."

Dr. Luria and his co-workers have found that when certain colicins (a kind of antibiotic) are added to cells, they can block active transport by draining energy from the cell membrane, which is in an "energized state."

In "The Microstructure of Polymeric Materials," Dr. Uhlmann and Dr. Kolbeck discuss the relation between microstructure of polymers and their properties.

Future advances in the field of synthetic polymers "will result," they explain, "from increased reliance on the ability to vary the microstructure of polymeric materials in order to effect changes in properties."

Cable TV to Make IAP Debut

(Continued from page 1)

sions, an expanded schedule of MITV news, and live coverage of sporting events, concerts, and dramatic events.

At present, 13 on-campus locations have been designated as cable terminals. Programs can be generated from these points and distributed to receivers in laboratory and lecture halls on other parts of the campus. Senior House and East Campus are the only dormitories currently wired with the two-point video connections, but it is planned that all campus residences will eventually be equipped to broadcast and receive cable programs.

John T. Fitch, manager of self-study programs at CAES, said program offerings for the Institute channel were being organized around three major areas: instructional, informational and cultural fare.

All official MIT groups and activities will have free access to use of the cable, which has been designed both to supplement present campus communications and to instruct members of the community in the technology of video.

Cited among the more exciting program proposals already received from faculty members are an audience participation program, "Talk-Back Television," by Professors Roy Kaplow and Thomas Sheridan; a two-dimensional program of animation, "Computer Graphics," by Professor Nicholas Negroponte; and a weekly program on "Campaign '76" by Professor Edwin Diamond, whose news study group on politics and television is compiling a video library.

Dr. Tribus said that persons outside the MIT community, from the Route 128 complex, the Polaroid Corp., and the new Hyatt House Motel on Memorial Drive in Cambridge have also expressed interest in having MIT programs piped into their conference rooms.

The Alfred P. Sloan Foundation of New York provided the original grant of \$620,000 to install the cable and support a program of video research. A second proposal for an additional \$500,000 to purchase portapak camera equipment and fund operating programs is now under study by the Sloan Foundation, Dr. Tribus said.

Approximately \$120,000 of the proposed half million would be used to buy either two color video cameras or a half dozen black and white portapaks, he said. The rest of the money would be used to provide seed money for promising projects and to fund video instruction by members of the humanities department, CAES, the Center for Advanced Visual Studies and any other interested departments.

Wind Tunnel Tests N.Y.C.

(Continued from page 1)

graphs.

Two methods are being used to gather data for the Battery Park City research.

In one, smoke is blown over the model with the wind blowing from a determined direction. As it eddies around the buildings, a visual picture occurs. Movies are taken to show potential problem areas and to record this qualitative analysis.

More important, however, is the actual measurement of wind velocity at specific points in all pedestrian areas and from a number of directions. This is done with heated detectors called hot wire anemometers. The detectors are cooled by the wind generated by the wind tunnel's fan.

"Cooling is a function of wind speed, which tells us the velocity," Durgin explained. "We're not measuring just the average speed, but the gusting, too. The dynamics of the wind are important because it is the gusting that knocks your hat off. The unsteady velocity is our actual data. Where conditions at a particular point are found to be unacceptable, the architects are designing methods to correct the problem before the building construction is so far completed that nothing can be done."

Niti Salloway, program manager at CAES and author of the current funding proposal for the cable, said MIT's new flow of video information should not be confused with the broadcast mode of commercial television.

"Campus users should regard the cable as they do the telephone—a quick and immediate tool for extending themselves and getting closer to other parts of the MIT community. We are not in competition with local television, and we are certainly not bound to begin and end every program on the hour or half-hour.

"In time, other cable users will share with us in the artistry and freshness afforded by an experimental system such as ours."

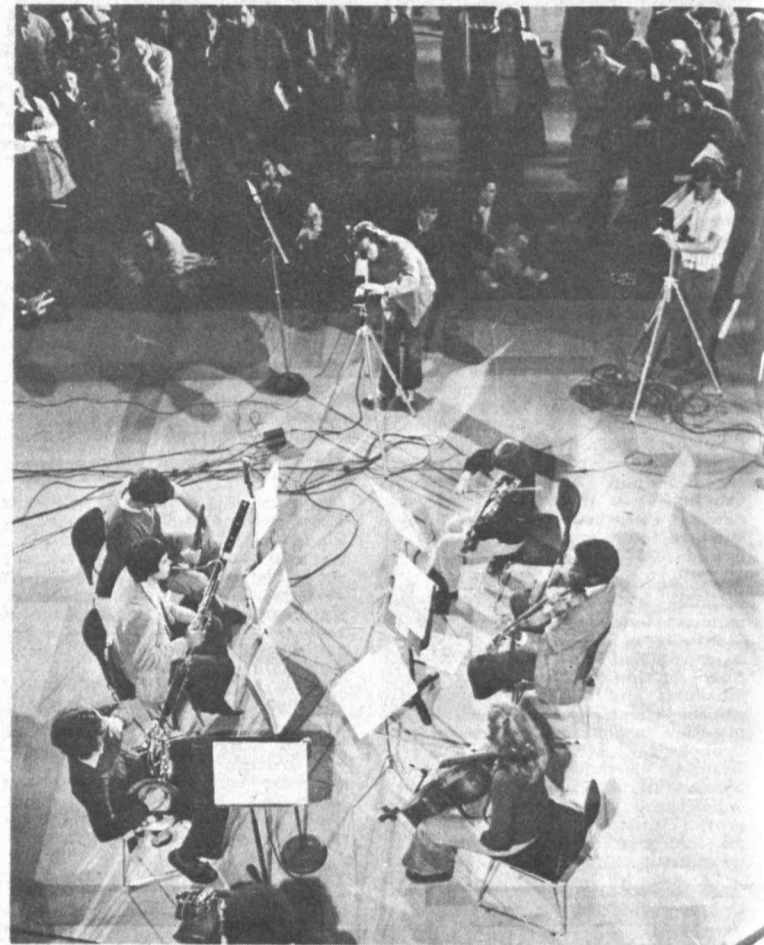
The first planning committee for the MIT cable, headed by Professors Ithiel de Sola Pool of political science, Wilbur B. Davenport Jr. of electrical engineering and CAES and Dr. Tribus, was established last spring by President Jerome B. Wiesner. The scope of the cable project has become so broad, however, that Dr. Wiesner will soon appoint a new governing body composed of students, staff, administration members, and non-academic employees.

The group, to be known as the Advisory Policy Board, will initially handle requests for broadcast time on the cable, Dr. Tribus said.

MIT Student Cablevision, representing the interests of MITV and the TV Development Group, will work with CAES technical assistant Norman D. Lang on the scheduling and production of student-oriented programming. Mr. Lang will also offer an IAP course, "Cable TV at MIT" to encourage community-wide participation in the production of programs and the technique of video filming.

The problem of "filling up the cable" will be met by Channel 8, Ms. Salloway said, by an auto-record device that will broadcast the time, weather, and schedule of upcoming programs in the manner of an electronic bulletin board.

The success of the system, Dr. Tribus emphasized, will depend on faculty and departmental interest, since cable TV is not part of the academic tradition. He added that eventually surveys of the MIT viewing audience would be made to determine peak viewing hours, program preference, and study habits in relation to televised problem solving sessions.



BRANDENBURG FROM BEHIND THE LENS: Technical assistants from MIT's new cable TV system record concert by MIT Chamber Players in Lobby 7 for broadcast during January IAP. Noon-hour events are examples of kinds of programming Channel 8 will offer for Institute-wide viewing. Channel 10 will focus on student news and issues. The system is being administered by the Center for Advanced Engineering Studies.

—Photo by Calvin Campbell

Holiday Food Service Schedule

Student Center		
Friday, Dec. 19	Lobdell - Breakfast Lunch Dinner	7:30 a.m. to 10:00 a.m. 11:00 a.m. to 2:00 p.m. 5:00 p.m. to 7:00 p.m.
	Twenty Chimneys	Closed
Saturday, Dec. 20	Twenty Chimneys Lobdell	8:00 a.m. to 7:00 p.m. Closed
Sunday, Dec. 21	Twenty Chimneys Lobdell	9:00 a.m. to 7:00 p.m. Closed
Monday & Tuesday Dec. 22-23	Lobdell - Breakfast Lunch Dinner	7:30 a.m. to 10:00 a.m. 11:00 a.m. to 2:00 p.m. 5:00 p.m. to 7:00 p.m.
	Twenty Chimneys	Closed
Wednesday, Dec. 24	Twenty Chimneys Lobdell	8:00 a.m. to 2:00 p.m. Closed
Thursday, Dec. 25	Lobdell & Twenty Chimneys	Closed
Friday & Saturday Dec. 26-27	Twenty Chimneys Lobdell	8:00 a.m. to 7:00 p.m. Closed
Sunday, Dec. 28	Twenty Chimneys Lobdell	9:00 a.m. to 7:00 p.m. Closed
Monday, Tuesday, Wednesday Dec. 29-30-31	Lobdell - Breakfast Lunch Dinner	7:30 a.m. to 10:00 a.m. 11:00 a.m. to 2:00 p.m. 5:00 p.m. to 7:00 p.m.
	Twenty Chimneys	Closed
Thursday, Jan. 1	Lobdell & Twenty Chimneys	Closed
Friday, Saturday Jan 2-3	Twenty Chimneys Lobdell	8:00 a.m. to 7:00 p.m. Closed
Sunday, Jan. 4	Twenty Chimneys Lobdell	9:00 a.m. to 7:00 p.m. Closed
Monday, Jan. 5	Lobdell and Twenty Chimneys	Resume Regular Schedule

Walker Food Service will be closed from 6:30 p.m. Thursday, Dec. 18 to Breakfast Jan. 5, 1976.

MacGregor & Baker Dining will be closed from 6:00 p.m. Thursday to Breakfast Jan. 5, 1976.

Last day for all Board Plans is Thursday, December 18, 1975.

15 Meal, 19 Meal and Point Plan for IAP and Spring Term are available in all dining units.