



Dr. Bruce D. Wedlock, left, with Dr. F. Leroy Foster

—Photo by Marc PoKempner

Director-Designate Named For Lowell Institute School

Appointment of Dr. Bruce D. Wedlock as director designate of the Lowell Institute School (LIS) has been announced by Dr. Walter A. Rosenblith, MIT provost, and Dr. Ralph Lowell, trustee of the Lowell Institute.

The present director of the LIS is Dr. F. Leroy Foster, who will retire on June 30, 1973. Dr. Foster has been director of LIS since 1959 and a member of the MIT staff since 1925.

The Lowell Institute School was established in 1903 by A. Lawrence Lowell. For a modest tuition fee, the school provides evening instruction in technical subjects for men and women working in industry. Classes meet at MIT, with many of the teachers drawn from the MIT teaching staff. LIS courses are not at the professional engineering level but rather are designed to expand the vocational capabilities of industrial employees. Besides the regular computer technology course of study, the LIS is also presenting supplemental courses in computer programming and statistics.

More than 4,400 students have graduated from the LIS in the 69 years it was founded.

"In the past few years the number of students at the LIS has steadily declined," Dr. Wedlock said, "primarily because of competition from community colleges and other institutions that offer associate degrees for four years of night-school study." The LIS offers a certificate for successful completion of its programs and supplemental courses.

"Rather than duplicate programs that are available at other institutions, we are planning new areas of study that will take advantage of the position MIT occupies in the forefront of developing technology," Dr. Wedlock said. "We are hoping to develop into a kind of 'graduate school' for people in industry who have associate degrees or equivalent work experience."

Dr. Wedlock cited the growing field of electro-optics, which includes lasers, as a technological area that needs trained technicians. He noted, however, that few schools offer instruction in the latest developments in this and other rapidly developing areas and he suggested LIS as a natural place for such teaching.

Dr. Wedlock also envisions the LIS as a study center for teachers in two-year technical schools. For them, he plans to present summer sessions in developing technologies which will prepare them to introduce these new fields in their own curricula.

The new director will report to the office of the MIT provost through Dr. Louis Menand, assistant to the provost. Dr. Wedlock will also continue as a lecturer in electrical engineering.

Until this year, the director of the LIS reported directly to Dr. Ralph Lowell, sole trustee of the Lowell Institute. Dr. Lowell, who is life member emeritus of the MIT Corporation, has been a moving force behind many educa-

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David C. White to Head New Energy Laboratory

Dr. David C. White, Ford Professor of Engineering in the Department of Electrical Engineering at MIT, has been appointed director of MIT's newly formed Energy Laboratory.

The appointment was announced by Dr. Albert G. Hill, MIT vice president for research, to whom the new laboratory reports.

Dr. Hill also announced the first outside support for the new Energy Laboratory: a grant of \$100,000 from New England Electric System.

"We are greatly heartened by this first industrial response to MIT's new laboratory," Dr. Hill said. "New England Electric's generous grant, coming as it does only weeks after announcement of the Energy Laboratory's formation, augurs well for the partnership between science and industry that is necessary if the future's demand for energy is to be met."

The MIT Energy Laboratory, the formation of which was announced last month, is a major new special laboratory in which interdisciplinary teams of physical scientists, engineers and social scientists will conduct research on the complex problems posed by the nation's looming energy crisis. According to Dr. Hill, the Energy Laboratory, which will help tie together and greatly enlarge the more than \$5 million in energy-related research now underway throughout the university, will be located on or near MIT's main campus in Cambridge, although as its work expands it might require field offices elsewhere.

Dr. Hill said that the new laboratory is being organized as a Special Laboratory, as are MIT's Draper Laboratory and Lincoln Laboratory, which also report to Dr. Hill. He said that MIT hopes the Energy Laboratory would fairly soon reach perhaps a quarter of the size of Draper or Lincoln. (The Draper Laboratory in Cambridge is a world-famous



Dr. David C. White.

center for development of navigation, guidance, and control systems. Lincoln Laboratory at Lexington is equally famous as a center for basic research in electronics, radar, communications and general physics.)

The New England Electric System's grant to the MIT Energy Laboratory is part of the company's continuing program of support for research into new equipment, techniques and methods of supplying electric power. Dr. Harold Lurie, New England Electric's director of research and development, will work with Professor White on some of the Energy Laboratory's programs.

Professor White, who with Professor Edward A. Mason, head of

(Continued on page 6)

Apollo Guidance: 'Beautiful'

HOUSTON, Texas—"Beautiful." "Perfectly nominal." "One of the best platforms we've ever had."

"What a way to finish!"

These were the ways jubilant engineers from the MIT Draper Laboratory, here to help NASA with the Apollo 17 Moon landing, described the performance of the Draper on-board guidance system which put the lunar module Challenger down at its Taurus-Littrow target Monday.

"The system performance in Apollo 17 and in all the missions before has been a tribute to the skill and professional standards of the hundreds of men and women at the Draper Lab who have worked at this project for more than a decade," David G. Hoag, of Medway, Apollo program director for the lab, said. "We have yet to bring the Apollo 17 astronauts back to earth. But it is not premature to believe that historians one day will look back at Apollo and say that man's first ventures away from his own planet were made possible in no small way by Draper people."

The astronauts, in stepping onto the moon, dedicated this last mission in the Apollo series to "the people who made it possible."

Meantime, two MIT-related scientific experiments astronauts Gene Cernan and Harrison (Jack) Schmitt are conducting on the moon were reported proceeding as planned.

During their first excursion onto the moon's surface Monday night, the astronauts made six precision gravity measurements using the traverse gravimeter designed and built for the mission by the Draper Lab.

According to Sheldon W. Buck, of Brookline, one of five Draper engineers here to monitor and assist in lunar gravimeter operations, the MIT device—the heart of which is a thermally protected vibrating string accelerometer—underwent an apparent bias shift of only 11 milligals despite buffeting and temperature cycling during the transfer from Cambridge to Cape Kennedy to the moon. The shift was easily compensated on the moon's surface.

The astronauts made seven readings with the MIT device Monday night and reported variations in local gravity amounting to 6.9 milligals (readings ranged

(Continued on page 3)

Student Killed, 2nd Hurt At Mass Ave Crossing

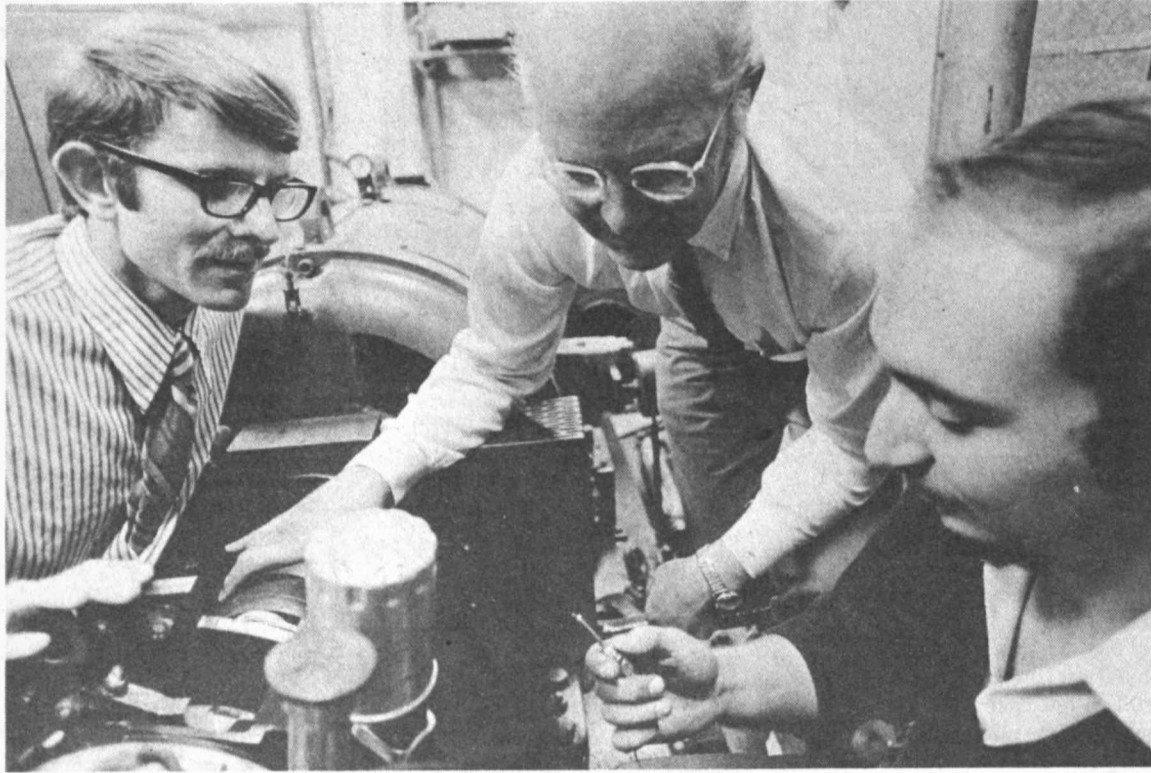
Richard J. Hausman, a junior in metallurgy and materials science, is in serious condition at Cambridge Hospital following an accident Friday night in which his companion, Helene Garnache, a Simmons student, was fatally injured.

The Campus Patrol reported that the accident happened at the 77 Massachusetts Avenue crossing as the young people attempted to cross the street. They were first struck by a car heading for Boston which knocked them back into the path of a car going toward Harvard Square which also struck them.

Mr. Hausman, 18, of Pittsburgh, Pennsylvania, suffered severe fractures of the left leg, dislocation of the neck and a concussion.

Institute administrators urge those using the 77 crosswalk to use caution. During the winter months in particular the street is often slippery and rain or snow makes visibility poor for motorists.

Model Helping Auto Makers Speed Pollution Control Work



Professors Heywood (left) and Keck (center) watch as Guido Danieli, graduate student in mechanical engineering, inserts a thermocouple into one of the test engines.

—Photos by Marc PoKempner

Two American automobile manufacturers—Ford and General Motors—are using a computer model developed at MIT to help speed up their efforts to meet tough 1976 auto pollution standards.

The model is one of several developed in the Sloan Automotive Laboratory that show how pollutants are formed in the internal combustion engine under various operating conditions.

"In the short time that remains before the new standards must be met," says Professor John B. Heywood of the MIT Department of Mechanical Engineering and director of the Sloan Automotive Laboratory, "auto manufacturers will have to do the best they can with the internal combustion engine, although other kinds of engines may be cleaner in the long run. With the computer model, they can change such variables as the shape of the cylinder, spark timing, and compression ratio, to see what effect each has on pollution emissions. Then they can do actual experiments to test those changes that look the most promising."

Professor Heywood and Dr. James C. Keck, Ford Professor of Engineering in mechanical engineering at MIT, first performed experiments to define and quantify the production of automobile engine pollutants. They used a special, single-cylinder engine at the Sloan Automotive Laboratory that allows precise control over operating conditions and exact measurements of all emissions. The MIT engineers also use the engine to test the results from their computer models.

Automobiles are major sources of three pollutants. Carbon monoxide and hydrocarbon emissions are produced when combustion is incomplete—as a result of low operating temperatures and a mixture rich in fuel. Nitric oxide results from combustion at high operating temperatures with lean fuel mixtures.

The motor companies are using the MIT model that describes the production of nitric oxide emissions, which must be reduced 90 percent by 1975.



Michael K. Martin, '73, poses with the Wankel rotary engine, which is opened here to show the simplicity of design that is causing so much interest among automobile manufacturers.

With the MIT model, the automotive researchers can follow changes in temperature and pressure in the cylinder as the fuel burns. The model also shows them which chemical reactions are important. Finally, it reveals how much pollutant is produced for each operating condition.

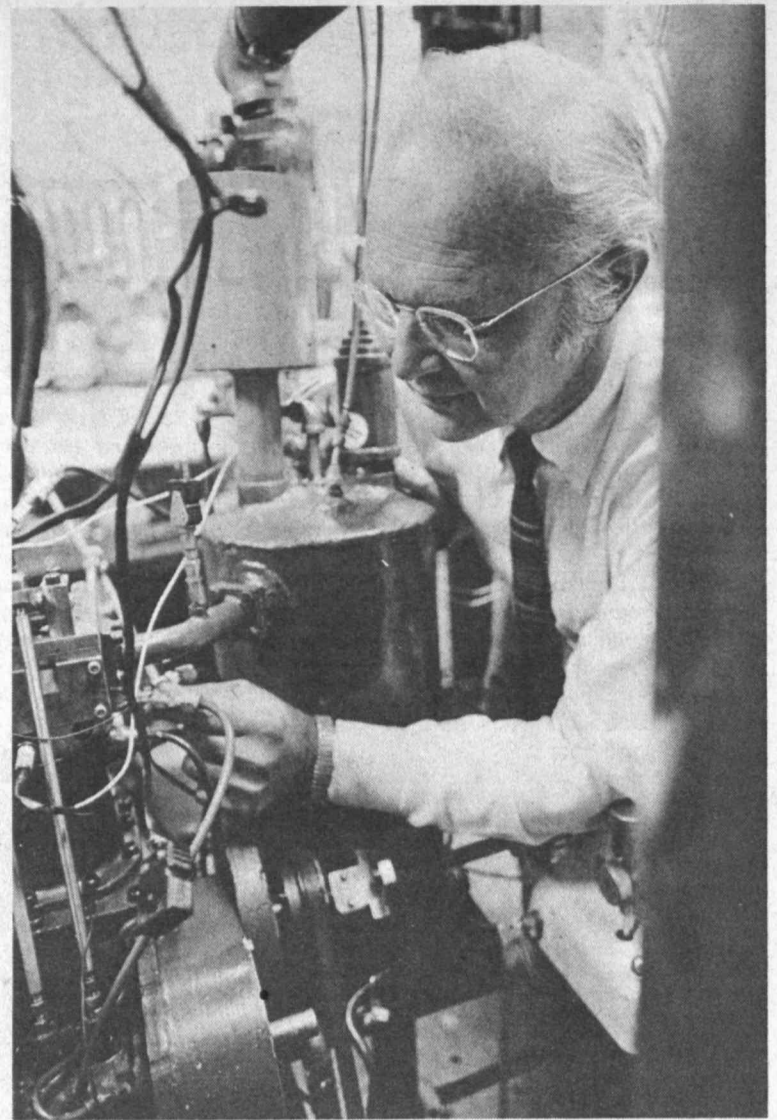
The engineers are conducting additional experiments and perfecting models to help reduce carbon monoxide and hydrocarbon emissions. An important source of these two pollutants is fuel that does not burn because it is too near the cold walls of the cylinder.

There are two means of reducing such emissions. One is to recycle some of the exhaust back to the air supply and mix it with the fuel entering the cylinder. This lowers the operating temperature of the engine, which decreases the

amount of nitric oxide produced, but it has adverse effects on engine performance.

The other method is to try and keep the fuel away from the cold cylinder walls. With this stratified-charge method, the fuel and air would not be mixed before entering the cylinder. Instead, the fuel would be sprayed into the cylinder and ignited before it had a chance to distribute itself evenly. This would allow ignition to take place with most of the fuel near the spark plug and would reduce hydrocarbon and carbon monoxide emissions.

The MIT engineers are also conducting research on alternatives to the spark-ignition internal combustion engine. In one test cell they have a combustor in which they can burn fuels to determine the emissions that would be produced by a turbine engine.



Professor Keck makes a fine adjustment on one of the single cylinder engines being used to help create and test computer models of internal combustion engine emissions.

Another cell contains a test cylinder with a clear window at one end. There the researchers can study the burning of diesel fuels as in an engine cylinder. As the fuel burns, the engineers film it through the window for later analysis.

The engineers are also testing the Wankel rotary engine. "Rotary engines produce more carbon monoxide and hydrocarbons than do conventional engines," says Professor Heywood. "But they also create less nitric oxides, and

no one knows why. We are trying to find the answer in hopes that it could be used in other types of engines or augmented in the Wankel engine."

The automotive work of Professor Heywood and Keck has been supported mainly by National Science Foundation grants, and has recently received funds from Ford and General Motors. The automotive manufacturers are showing an increasing interest in working closely with the MIT team.

Charity Drive Nears End with \$117,000 in Gifts

The Institute's 1972 United Fund/United Black Appeal campaign has reaped \$117,514.78 to date and will officially close on Friday, December 15.

According to Lily T. Hosticka, campaign coordinator, "Donations are still trickling in. Last week we collected another \$5,504."

The trend this year seems to be leaning heavily toward giving by payroll deductions rather than by cash. Last week's figures show that 79 persons gave \$2,688 to the MBUF by payroll deduction, while 80 persons donated \$1,833 in cash. This breaks down to average gifts of \$34.02 for payroll deductions and \$22.91 for cash gifts.

Last week's figures for the United Black Appeal are even more skewed. Average payroll deductions of \$35.47 from 21 gifts totalled \$745. Average cash gifts of \$18.30 from 13 persons totalled \$238.

A cumulative total of 4,526 gifts have been received so far. This represents an average gift of \$25.96 for the combined charity drive. Slightly lower than last year's combined average gift, this number should increase as last minute donations are received.

December 'Science' Features Backer

Professor Stanley Backer of mechanical engineering is the author of a long cover story, "Yarn," in the December issue of *Scientific American*.

The annual campaign closes on Friday, but donations will be accepted after the deadline. Members of the community who have not made a donation should not let the deadline keep them from contributing.

TECH TALK
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Apollo Guidance: 'Beautiful,' Right on Target

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from 162,693.2 mg at the landing site to 162,699.3 mg at the point where a \$25 million-dollar central scientific station was deployed).

More readings over a wider surface area were expected in later excursions Tuesday and Wednesday but some NASA scientists said even the initial variations yielded by the MIT device suggest marked irregularities in the lunar substrata.

"One explanation would be a mantle with hummocks," Dr. G. A. Swann, of the US Geological Survey at Flagstaff, Ariz., said. "Such irregularities would produce irregular gravity readings." The traverse gravimeter is the first piece of hardware made at MIT to reach the moon's surface. The Draper Laboratory designed the guidance system but it was made by industrial contractors.

Also on their first venture out onto the moon's surface, Cernan and Schmitt deployed the solar-powered radio transmitter associated with the Surface Electrical

Properties experiment designed and developed by Professor M. Gene Simmons and his associates at the MIT Center for Space Research. They also laid out the SEP X-shaped wire antenna.

The SEP transmitter was to be turned on during a second excursion Tuesday. A receiver mounted on the moon buggy will record radio waves reflected from various depths in the moon and help scientists chart the structure of the moon at lower levels. The astronauts will bring the SEP recordings back with them from the moon. The SEP equipment was built by the Raytheon Co. at Sudbury, Mass.

Professor Simmons and five others from MIT were at Houston helping astronauts deploy the SEP equipment. Professor Simmons was still using one crutch, the result of a broken leg suffered in a fall while testing the system on an Alaskan glacier.

The astronauts experienced a minor surprise while unfolding solar panels on the SEP trans-

mitter. Coils of wires that unfold at deployment had a tendency to retain their coiled "memory" and the panels did not open flat.

Richard H. Baker, of Bedford, a member of the MIT SEP team, said he expected the wires to relax after a few hours in the moon environment and the solar panels to extend fully. Even if they do not, he said, the power loss would amount only to perhaps 10 percent and would not affect the experiment itself. "We have a power margin of perhaps 30 percent," he said.

The Draper guidance system performance was letter-perfect—"as advertised," the astronauts said—during the landing.

Challenger began its powered descent from lunar orbit to the moon's surface—the final eight minutes before touchdown—at an altitude of 65,000 feet. This was 10,000 feet higher than was written into pre-mission planning and was the result of the precise lunar orbit produced during earlier engine firings.

The orbit actually achieved had its perilune (closest point to the moon—55,000 feet) rotated slightly westward from pre-mission plans.

This meant that powered descent began when Challenger was slightly short of—and, therefore, higher than—the perilune point, instead of right at it.

The higher initiation point actually gave Challenger a greater margin of safety in clearing mountains just in front of its programmed landing point and imposed no problems for the Draper guidance system.

The system simply guided Challenger down at a steeper angle and at a faster rate of descent than would have been the case if powered descent had started at the lower altitude. Rapid braking occurred below 2,000 feet and the landing was made at a gentle descent rate at touchdown of two to three feet per second.

The final landing area was strewn with boulders and craters—more than had been expected from radar mapping of

the site—and astronaut Cernan used his hand controller to avoid them and make the final touchdown.

The touchdown point turned out to be only 250 yards east and 100 yards south of the landing target put into the guidance computer by Draper lab programmers months ago.

Teams of Draper people were on duty at Cambridge and Houston around the clock during Apollo 17 helping NASA and the astronauts with the guidance systems in both the command module and the lunar module.

On duty in NASA's Spacecraft Analysis Room (SPAN) during the landing were Russel A. Larson, of Boxford, and Stephen L. Copps, of Andover.

Kenneth R. Goodwin, Jr., of the lab's permanent group assigned to NASA-Houston, was on duty for the lab in the Mission Evaluation Room (MER).

SPAN backs up ground controllers in the nearby Mission Control Center (MCC) and MER supports SPAN.

Dr. C. Stark Draper, founder and president of the lab and the father of inertial guidance, listened to the landing sequence in the MCC viewing room along with Ralph R. Ragan, of Lincoln, lab deputy director for NASA programs, and Hoag.

Also on hand in Houston to support the guidance system for the mission were Philip G. Felleman, of Sudbury, and George L. Silver, director of the MIT Houston office, working with Larson and Felleman in shifts in the SPAN room. Thomas M. Lawton, George Reasor, and Edwin A. Olsson, all of the Houston office, and Anthony Cook, of Weymouth, were assigned to MER.

Working with Buck to support the traverse gravimeter operations in Houston are Glen Mannon, of Chestnut Hill, Richard Martorana, of Somerville, Robert G. Scott, of Quincy, and William Vachon, of Lexington.

In Houston working with Professor Simmons and Baker to support the SEP experiment are James W. Meyer, of Lincoln, Lawrence H. Bannister, of Dedham, and Gerald LaTorraca, of Jamaica Plain, all of the Center for Space Research, and Leonard B. Johnson, of Hingham, a member of the Draper Laboratory staff which helped in SEP's design and development.

In the Draper Laboratory's Apollo building at 75 Cambridge Parkway, in Cambridge, a huge pool of engineering talent stood by to back up communicator Ken Kido, of North Reading, who was manning special telephone lines to the Mission Control Center in Houston. The Laboratory's nerve center during a mission is in an Apollo building classroom where small teams working around the clock in shifts maintain constant voice contact with the Manned Spacecraft Center.

Bibliography Out

Engineering Librarian Carol Schildhauer's bibliography *Environmental Information Sources: Engineering and Industrial Applications* has recently been published. It was prepared in connection with the June, 1972 Special Libraries Association meeting for a Continuing Education Seminar, "The Environmental and Ecological Literature—Where Does It All Come From?"

TNS Plans New Day Care Center

The Board of Directors of Technology Nursery School, Inc., has announced plans to extend the school's programs to include a day care center.

The new center will be located at Eastgate in the space adjacent to the present nursery school, and will be available to members of the MIT community who need full time, year round care. The center is planned to accommodate approximately 17 children ranging in age from 2½ - 5 years.

In announcing plans for the new program, TNS Board President Helen Pounds, said that the Board is now in the process of hiring staff and readying the space with the expectation that the center can begin operating early in 1973.

Admission to the program will be based on such considerations as the child's and the family's needs and on availability of space. Tuition fees have not yet been determined but will be based on the instructional and educational expenses of the program. Those interested in full details should call the MIT Child Care Coordinator, Margaret Sand, Ext. 3-1592.

The Nursery School's present goal of providing a balanced program which deals effectively with both the educational and social needs of the children will be extended to the new Center. Parent interest and participation will be encouraged; the day care unit, however, will be fully staffed by professional teachers and will not be operated as a parent cooperative.

The Technology Nursery School was organized as a not-for profit corporation started in 1963 to help members of the MIT community meet some of their child care needs. The Eastgate and Westgate programs of the nursery school will continue to operate on a 32-week calendar to provide nursery education for 2½ - 5 year olds with a variety of classes available. There are a limited number of openings from time to time during the year. For information on present openings, call Mrs. Sand, 253-1592.



Dr. Wiesner, left, and Mr. William F. Burt, right, congratulate Institute life guards (holding certificates, left to right) John McRitchie, Al Texiera

and John O'Neill, who carried out a successful rescue of Norman Berube, third from left, following an accident in the pool. —Photo by Margo Foote

MIT Life Guards Praised for Perfect Rescue in Pool

Three members of the MIT life guard staff received the American National Red Cross highest award, the Certificate of Merit, Monday for rescuing a seriously injured man following an accident at MIT's Alumni Pool.

It was the first time in more than 20 years that this award has been presented in Cambridge.

William F. Burt, chairman of the Cambridge Chapter of the Red Cross presented Certificates of Merit, citations and lifesaving pins to Alfred Texiera of (74 Mokema Avenue) Waltham, John O'Neill of (117 Rindge Avenue) Cambridge and Kenneth McRitchie of (69 Walnut Street) Somerville.

The three men were instru-

mental in the rescue of Norman Berube, a technician at MIT, who collided head-on with another swimmer after diving off the high board. The impact of the collision fractured Mr. Berube's neck and also left him temporarily paralyzed from the neck down.

Using a rescue board, which was available at the Pool but had never been needed, the three men succeeded in getting Berube out of the pool while keeping him immobilized. Keeping the victim of a back or neck injury motionless is critically important in preventing additional injury.

The rescue was carried out so skillfully that Mr. Berube recovered completely.

Annual Holiday Convocation to Be Held in Roger's Lobby

Members of the community are invited to attend the annual Christmas Convocation which will be held in the Lobby of Building 7 on Friday, December 15, beginning at 11:45am.

President Jerome B. Wiesner will be on hand to extend holiday greetings to the community and the Brass Choir will present a concert of traditional Christmas music. Other highlights of the Convocation will include resonances by Paul Earls and strobos-

copy by Charles E. Miller.

The Convocation will be followed by wassail and cookies, served by the Technology Matrons.

Holiday Hours

The Information Center, Room 7-111, will be closed all day December 25 and January 1. The Center will be open normal hours, 10am to 9pm on December 24 and 31.

Medical Dept. to Renovate First Floor

Renovation of the Medical Department first floor records room, reception area and examination rooms is scheduled to begin next Monday, December 18.

During the renovation, the first floor entrance to the Medical Department will be closed and the main entrance will be temporarily located on the second floor. Those injured and allergy patients will be treated at the basement level, however.

The billing and insurance operation will be separated from the medical department and will occupy temporary quarters in Room 10-211 and 10-212.

"Increased patient load has put great stress on the first floor facilities," Laurence H. Bishoff, Assistant Director of the Medical Department, explained. "Patient visits have increased to more than 80,000 per year."

The Medical Department reception area will be expanded to include Room 3-121, formerly occupied by an Admissions officer. In addition, increased space for nurses will be gained during the renovation so that each nurse will have a private office in which to see patients.

Mr. Bishoff said that if construction proceeds on schedule the renovated facilities should be available for use when the second term begins in February.

THE INSTITUTE CALENDAR

December 13
through
December 22

Events of Special Interest

Candy Cane Day

Class of 1974's third annual candy cane sale. Wednesday, December 13, all day, Bldg 10 Lobby. Price: 15 cents each.

Christman Convocation

Music by the Brass Choir and greetings from President Jerome B. Wiesner. Refreshments will be served. Friday, December 15, 12n, Building 7 Lobby.

Pottery Sale*

Student Art Association. Wednesday-Friday, December 13-15, 10am to 6pm, Student Center West Lounge.

Seminars and Lectures

Wednesday, December 13

Chemical Reactors as Dynamical Systems*

Prof. Rutherford Aris, chemical engineering, University of Minnesota. Chemical Engineering Seminar. 10am, Lewis Conference Rm, Bldg 12.

Cross-Cultural Perspective on Intellectual Development*

Dr. Jerome Kagan, Dept of Psychology and Social Relations, Harvard University. MIT Education Division Colloquium. 12n, Rm 9-150.

The Prospects of Technological Society**

Prof. Jay W. Forrester, management, and Prof. Arthur Kantrowitz, mechanical engineering. Special Technology, Power and Values Seminar. 1:30pm, Rm 35-225.

The Flavor of SALT: Prospects for Arms Control*

Prof. Jack Ruina, electrical engineering. Concourse Forum. 3pm, Rm 10-105. Coffee, 4pm.

Vitamin A Teratogenesis and Cleft Palate**

Dr. Devendra M. Kochhar, Dept of Anatomy, University of Virginia. Oral Science Seminar. 3-5pm, Rm E18-301.

Reactor Safety Assessment Methods*

Prof. Norman C. Rasmussen, nuclear engineering. Nuclear Engineering and ANS Student Branch Seminar. 3:30pm, Rm NW12-222 (138 Albany St). Coffee, 3pm.

Subcritical Crack Growth in Simple Uniaxial Composites: Applications to Fracture in Drawn Polymers, Etc.*

Prof. A. S. Argon, mechanical engineering. Colloquia on Fracture. 4pm, Rm 1-379.

Internal Tides and Oceanic Tidal Dissipation

Prof. Carl Wunsch, earth and planetary science. Departmental Colloquium. 4pm, Rm 54-100.

Electronic and Ionic Conductivity in Tantalum Oxide*

Dr. Gerhard Klein, P. R. Mallory Labs, Burlington. Metallurgy and Materials Science Seminar. 4pm, Rm 8-280.

Dispatching Fire Engines in New York City*

Prof. Edward Ignall, operations research, Columbia University. Operations Research Center Seminar. 4pm, Rm 24-307. Coffee served.

Thursday, December 14

The Operations of American Airlines*

George Warde, president, American Airlines. Flight Transportation Laboratory Seminar. 4pm, Rm 35-225. Coffee, 3:30pm, Rm 33-411.

Cavitation and Gas Bubble Noise*

Dr. Murray Strasberg, Naval Ship Research and Development Center, Bethesda, Maryland. Interdepartmental Acoustics Seminar. 4pm, Rm 5-134. Coffee, 3:30pm, Rm 1-114.

Indeterminacy, Reference and Truth*

Professor Hartry Field, philosophy, Princeton University. Philosophy Seminar. 4pm, Rm 14E-304.

The Changing Concept of Crystallinity in Polymers*

Professor Donald R. Uhlmann, metallurgy and materials science. Graduate Metallurgy Committee Seminar. 4pm, Rm 6-120.

Some Practical Roles for Microbial Genetics in Antibiotic Fermentation Research

Dr. Richard P. Elander, Smith Kline and French Laboratories. Microbiology and Biochemical Engineering Seminar. 4pm, Rm 4-159.

On the Thermal Mixing of a Salt-Stratified Fluid*

Prof. John Hart, Dept of Astro-Geophysics, University of Colorado. Special Meteorology Dept Seminar. 4pm, Rm 54-311. Coffee, tea, 3:30pm, Rm 54-923.

Nitric Oxide Formation in Burners

Prof. John B. Heywood, mechanical engineering. Thermodynamics Seminar. 4pm, Rm 3-343. Coffee served.

The Mechanics of Sailing Vessels and Sails*

Prof. J. H. Milgram, ocean engineering. Physics Colloquium. 4:30pm, Rm 26-100. Tea, 4pm, Rm 26-110.

Friday, December 15

Progress in Superconducting Materials

Informal interdepartmental symposium. Guest speaker: B. T. Matthias, University of California at La Jolla. MIT participants: J. L. Bostock, physics; T. W. Eagar, metallurgy and materials science; S. Foner, NML; Y. Iwasa, NML, M. L. A. MacVicar, physics; R. H. Meservey, NML; L. J. Neuringer, NML; R. M. Rose, metallurgy and materials science; B. B. Schwartz, physics; P. A. Wolff, physics. 10am-12n and 1:30-3pm, Rm 26-414.

Chemical Engineering 10.991 Seminars*

M. Sefton, "Hydroxylated Styrene-Butadiene-Styrene Block Copolymers as Potential Bio-materials," 2pm; H. Banijamali, "Drag Reduction," 3pm; Rm 10-105.

Morphological Stability of Composite Structures

Dr. Harvey Cline, General Electric Research and Development Center. Special Seminar. 3pm, Rm 8-105.

Superconductivity of Ternary Compounds*

Prof. Bernd T. Matthias, University of California at La Jolla. Materials Science Colloquium. 4pm, Rm 9-150. Refreshments, 3:30pm.

Guiding Center Plasmas and Statistical Hydrodynamics*

Prof. D. Montgomery, University of Iowa. Plasma Dynamics Seminar. 4pm, Rm 26-214.

Tuesday, December 19

Genetic Control of Murine Viral Leukemogenesis

Dr. Frank Lilly, Dept of Genetics, Albert Einstein College of Medicine. Biology Colloquium. 4:30pm, Rm 6-120. Refreshments, 4pm, Rm 56-520.

Community Meetings

Concerts, dance performances, theatrical presentations and scientific demonstrations are scheduled to take place in the Bldg. 7 Lobby almost every day from noon to 2pm, so drop by and see what is happening.

Ring the Lobby*

Series of short concerts of live/electronic/recorded music, arranged by Paul Earls. Sponsored by Lobby 7 Committee. Weekdays through Friday, December 15, 12n, 2pm. 4pm, 5pm, Bldg 7 Lobby.

Women's Forum*

Candidate for the position of Assistant to the President and Chancellor for Women's Affairs will address the Forum. Monday, December 18, 12n, Rm 10-105.

The faculty will hold its regular December meeting on Wednesday, December 20, at 3:15pm in Rm 10-250.

Coop Christmas Concert

Live concert of baroque and renaissance Christmas music for recorder and flute. Thursday, December 21, 12n-2pm, throughout the Tech Coop.

MIT Club Notes and Meetings

Bridge Club*

Duplicate bridge. Every Thursday, 6:45pm, Student Center Rm 473.

Chess Club**

Every Saturday and Sunday, 1:30-5:30pm, Student Center Rm 473 (unless otherwise noted).

Classical Guitar Society**

Classical guitar lessons, group and private. Wednesdays and Thursdays, 5-8pm, Rms 1-132, 1-134, 1-136. Call Vo Ta Han, 494-8353.

Fencing Club*

Every Wednesday, 7:30pm, duPont Gym Fencing Rm.

Glee Club**

Rehearsals. Every Tuesday, Wednesday and Thursday, 5pm, Kresge. For more information call John Chandler at 494-8550.

Hobby Shop**

Open weekdays, 10am-4:30pm, duPont Gym basement. Fees: students \$6/term, community \$10/term. Call X3-4343.

Judo Club**

Every Monday, Wednesday, Friday, 5pm; every Saturday, 1pm. duPont Gym Exercise Rm. Beginners welcome.

Logarithms

Meetings and rehearsals every Wednesday, 7:30pm, and every Sunday, 4pm, Student Center 4th floor. Call dorm X9628 for information.

MIT Club of Boston

Institute Professor Emeritus Gyorgy Kepes will discuss "Interactions of Art and Technology." Thursday, December 14, 12n, Aquarium Restaurant, 100 Atlantic Ave, Boston. Luncheon, \$3.60 at door. For reservations, call Mrs. Crossley, X3-3878.

MIT/DL Duplicate Bridge Club**

Every Tuesday, 6pm, Student Center Rm 407. No game December 19, 26 or January 2.

Outing Club*

Meeting on winter safety. Wednesday, December 13, 8pm, Student Center Rm 473. Regular meetings: Monday, Thursday, 5pm, Student Center Rm 473.

Rugby Club

Rugby practice. Every Tuesday and Thursday, 5pm, Briggs Field.

Russian Table**

Conversational Russian during lunch. Every Thursday, 1pm, Walker Dining Hall.

Science Club***

Annual meeting. Saturday, December 16, 1pm, Student Center Mezzanine Lounge.

Science Fiction Society*

Every Friday, 5pm, Rm 1-236.

Scuba Club

Compressor hours: Tuesday, 9-11am, Friday, 3-5pm, Alumni Pool.

Scuba Club***

Pool session, Wednesday, December 13, 8pm, Alumni Pool.

Soaring Association**

Meeting on third Tuesday of each month, 7:30pm, Student Center West Lounge.

Strategic Games Society*

Saturdays, 1pm, Walker Rm 318. Club offers opponents and discounts on merchandise to members plus gaming periodicals library. Kevin Slimak, dorm X0389.

Student Homophile League*

Meeting and mixer. Every Thursday, 8pm, St. John's Church, 33 Bowdoin St, Boston. For gay help (anonymous) at MIT, call the student gay tutor, 492-7871, anytime.

Student Information Processing Board Meeting*

Every Monday, 7:30pm, Rm 39-200.

Tech Engineering News**

Stop by to work or learn. Every Sunday, 5pm, Student Center Rm 453. For more information, call Dorm X8376.

Tech Model Railroad Club*

Meetings every Saturday, 4pm, Rm 20E-214.

Technique

Staff meetings. Every Saturday, 11am, Student Center Rm 451.

Tiddlywinks Association*

Every Wednesday, 8pm, Student Center Rm 491.

Unicycle Club*

Meetings every Sunday, beginner's session at 1pm, other activities at 2pm, Walker Gym.

Social Events

Friday Afternoon Club**

Music, conversation and all the cold draft Budweiser you can drink. Every Friday, 6pm, the Thirsty Ear in Ashdown basement. Admission: men \$1, women 50 cents. Must be over 21.

Muddy Charles Pub**

Join your friends for music, beer, wine, snacks, conversation at the Muddy Charles Pub, 110 Walker. New hours: Monday-Friday, 11:30am-2pm and 4-7:30pm; Saturday, 7-12pm. Starting January 1, nightly specials will include: Mondays, all wines 25 cents; Tuesdays through Thursdays, free pretzels and chips. Call GSC, X3-2195.

SCC Pot Luck Coffeehouse*

Live entertainment every Friday and Saturday, 8:30pm to 12m. Student Center Mezzanine Lounge. Free coffee, cider, doughnuts. Sponsored by Student Center Committee. Volunteers to perform or otherwise help out, call Paul Mailman, dorm X9626, or Doug Fried, dorm X8767.

Movies

All Quiet on the Western Front

Film Society. Friday, December 15, 7:30pm and 9:30pm, Student Center Rm 407. Tickets: \$1.

SCC: Phantom of the Opera**

Student Center Committee Midnight Movie Series. Friday, December 15, 12m, Sala de Puerto Rico. Free. Must show ID.

Music

Noonhour Concert Series*

A woodwind ensemble program. Thursday, December 14, 12n, Chapel. Free.

Beethoven Birthday Concert*

Presented by pianist John Buttrick, the all Beethoven program will include Sonata Opus 10 No. 3 in D, Sonata Opus 53 in C, Sonata Opus 109 in E, and Bagatelles Opus 126. Saturday, December 16, 8pm, Kresge. Free.

Balkan Folksinging*

Macedonian and Bulgarian singing style, distinctive close harmony. Sponsored by Folk Dance Club. Thursday and Friday, unless posted, 8:30-10pm, Student Center Rm 475.

Theater and Shows

Arthur Miller's "After the Fall"*

Community Players. Wednesday-Saturday, December 13-16, 8pm, Little Theatre. Tickets: \$2.50 for general public; student discount on advanced sales only, \$2 with ID, Bldg 10 Lobby; reservations, X3-4720.

Dance

Balkan Folk Dancing*

Intermediate and advanced. Every Tuesday, 7:30-11pm, Student Center Rm 491.

Folk Dance Club*

International folk dancing. Every Sunday, 7:30-11pm, Sala de Puerto Rico (exceptions to be posted).

Friday Afternoon Dance Break*

International folk dancing, every Friday, 12:30-1:30pm, Bldg 7 Lobby.

Israeli Folk Dancing*

Folk Dance Club. Every Thursday, 7pm for beginners, 7:30pm for Israeli dancing, duPont Gym T-Club Lounge.

Tech Squares*

Western style square dancing. Every Tuesday, 8-11pm, Sala de Puerto Rico. Admission: \$1; first time free.

Turkish Students Association*

Folkdancing. Every Sunday, 4-7pm, Student Center Rm 491.

Exhibitions

Images of the Feminine in the Belle Epoque*

Exhibition of 150 prints of women by Toulouse-Lautrec and other 19th century artists including Gauguin, Munch, Cassatt and Whistler. Hayden Gallery, through January 6. Open Monday-Saturday, 10am-4pm.

Hayden Corridor Gallery*

Exhibition of working drawings and prints of the 19th century steam engines, including locomotives, mining machinery and marine engines. Sponsored by Committee on Visual Arts, through January 3.

Photographs by Terry Lindquist*

Creative Photography Gallery, 120 Mass Ave. On display through January 31. Free, open daily, 10am to 6pm.

The Aborigines of Australia*

Exhibit sponsored by MIT Anthropology Program. Humanities Library, through January 3.

Graphic Notation in Contemporary Music*

Exhibition presented in the Music Library, Rm 14E-109.

Hart Nautical Museum*

Exhibits include "Ocean Engineering Summer Laboratory Projects 1971 and 1972," and "Tugs and Towing." Bldg 5, first floor.

Athletics

Varsity Squash*

Army. Friday, December 15, 7pm, duPont Squash Courts.

Religious Services and Activities

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

Ananda Marga Yoga Society*

Yoga classes, every Thursday, 4pm, Student Center West Lounge. For information call 491-3691.

Campus Crusade for Christ/College Life*

Every Friday: 7pm family time; 8pm Open Book teachings. Rm 1-132.

Chinese Christians Fellowship*

Bible study, hymn singing, praying, sharing. Every Friday, 8-11pm, Student Center Rm 491.

Christian Bible Discussion Group*

Every Thursday, 1pm, Rm 20B-031. Call Prof. Schimmel, X3-6739, or Ralph Burgess, X3-2415.

Christian Science Organization**

Every Tuesday, 7:15pm, Rm 8-314.

Divine Light Mission*

Discourses on the direct experience of Truth given by Guru Maharaj Ji. Every Monday, Wednesday, Friday, 7:30pm, Rm 8-105. Call 369-1603 (Concord).

Hillel Activities*

Services: Monday-Friday, 8am, Rm 7-108; Friday, 8:15am, Chapel; Saturday, 9am, Chapel.

Hebrew table: Monday, 5:30pm, Kosher Kitchen. Talmud, in cooperation with Yavneh, Burton Seminar Rm: beginners, Tuesday, 8pm; advanced, Wednesday 8pm and Sunday 12n. Prayer class: every other Shabbat, 2pm. Jewish philosophy from Middle Ages to present, Monday, 7pm, Rm 5-231.

Meeting for all students interested in Hillel Hebrew classes during IAP, Wednesday, December 13, 3:30pm, Rm 1-203.

Hillel Office, 312 Memorial Drive, Ext. 3-2982.

Islamic Society*

Prayers, every Friday, 12:15pm, Kresge Rehearsal Rm B. Discussions on the Qur'anic interpretations of various aspects of life, every Saturday, 4pm, ISC Lounge, Walker 2nd floor, coffee served.

Latter Day Saints Student Association*

Religious seminars, every Tuesday, 8-9:30am, Student Center West Lounge.

Protestant Worship Service*

Every Sunday, 11am, Chapel.

Roman Catholic Masses*

Weekly masses in the Chapel: Sunday, 9:15am, 12:15pm, 5:15pm; Wednesday, 5:05pm; Friday, 12:05pm.

United Christian Fellowship*

Christians for Dinner. Food and fellowship. Every Wednesday, 5pm, Walker (at the sign of the fish). Followed by singing, praying, sharing meeting, 6pm, Rm 14E-303.

Vedanta Society*

Services, every Friday, 5:15pm, Chapel, followed by discussion hour, 6pm, Ashdown Dining Room.

Westgate I and II Bible Study**

Every Wednesday, 8pm, Westgate I low-rise Apt G-1. Call 494-8405.

Zen Society*

Meditation meetings. Monday through Friday, 8-9am, Chapel. Call 492-4945.

Announcements

Application forms for Harvard-MIT Program in Health Sciences and Technology courses in the second semester are now available in Room 16-512.

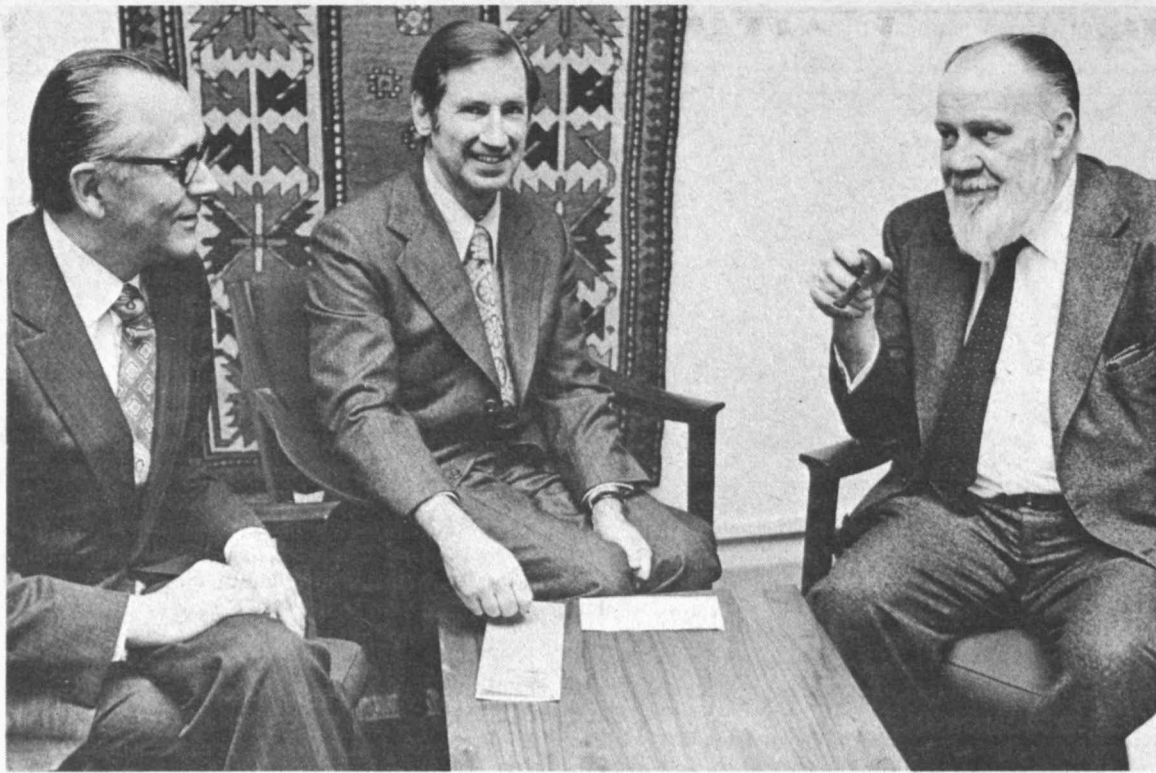
Creative Photography 4.051 Lottery

Lottery for enrollment in the class. To enter, sign up before Friday, December 15, in W31-310. Drawing will be held on December 15.

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 December 20 through January 5, 1973 to the Calendar Editor, Room 5-111, Ext. 3-3279, by noon Friday, December 15.



Dr. Harold Lurie, center, director of research for the New England Electric System, meets with Dr. Alfred

A. H. Keil, left, dean of the School of Engineering and Dr. Albert G. Hill, MIT vice president for research.

—Photo by Marc PoKempner

Energy Lab Gets \$100,000 Grant

(Continued from page 1)

the MIT Department of Nuclear Engineering, generated the prospectus for the Energy Laboratory, is at present engaged in a major computer-based analysis of the growing world-wide crisis in energy consumption and supply.

"The projected energy crisis in the United States is mainly a function of the enormous volume of energy consumed and its exponential growth rate," Professor White said. "At present this country consumes about a third of

the total energy consumed worldwide and if the energy growth rate of the last decade continues our energy consumption would double within approximately 16 years."

"Moreover, the problem is an international one," Professor White said. "Global consumption is already growing faster than that of the United States, and today a six-fold increase in annual energy supply would be required if the rest of the world's energy production and per capita use approached ours."

"The significance of such pro-

Personnel Lists 15 Promotions

The Office of Personnel Relations has announced several promotions, effective in November.

Three people were appointed to the Administrative Staff.

Susan C. Knight was promoted Editorial Manager for Institute Information Services from Exempt.

Claudia B. Liebesny and Patricia M. Williams were both appointed Personnel Representatives in the Office of Personnel Relations from Bi-weekly.

The Personnel department also announced the appointment of three people to Administrative Exempt from Bi-weekly.

Joyce T. Thorne will be Control Supervisor in the Draper Fiscal Office.

John M. O'Rourke has been promoted Work Control Coordinator in Physical Plant.

Wayne Richards has been appointed Programmer in the Office of Administrative Systems.

Other promotions announced were:

Carol Grossman to Senior Secretary in Chemistry.

Jackie Womble to Senior Secretary for Educational Council.

Diane Eisenhower to Administrative Assistant in the Center for Space Research.

Sharon Jackson to Accounting Assistant in the Center for Space Research.

Rasma Skalberg to Accounting Assistant in the Accounting Office.

Margaret O'Meara to Accounting Assistant in the Magnet Laboratory.

Maureen Maloy to Accounting Assistant in the Accounting Office.

Thomas Dreyer to Section Head in the Alumni Office from the Admissions Office.

Howard Tinkham to Technical Assistant in the Audio Visual.

jections is magnified by the finite nature of fossil fuels and their increasing cost as prime sources are depleted. Quite simply, at today's increasing rate of energy consumption, another century of low-cost fossil fuel may not exist."

A primary purpose of the MIT Energy Laboratory, Professor White said, will be to identify and work toward both short-term and long-range energy solutions that will be socially and ecologically acceptable.

"There are a number of short-term projects that, taken together, can certainly alleviate some of our problems," Professor White said. "For example, a group of 14 MIT faculty members in five separate disciplines propose to assess the feasibility of combined gas turbine-steam turbine power plants. We know theoretically that such a combination would result in a total efficiency of about 50 percent compared to the 40 percent efficiency of present steam turbine plants, or about a 25 percent increase in energy per unit of fuel. But the practical means of attaining such a goal have yet to be worked out."

"While it is important to find solutions to tomorrow's energy problems," Professor White continued, "the Energy Laboratory must also seek answers to the problems of the year 2000. This means that alternate energy sources must be found. At present, the only foreseeable candidate is nuclear power, either fusion, if that is technologically possible, or fission, if safe waste disposal methods can be found."

Professor White holds his bachelor, masters and doctoral degrees from Stanford University and came to MIT as assistant professor of electrical engineering in 1952. He was promoted to associate professor in 1954, to full professor in 1958, and became Ford Professor of Engineering in 1962. In 1961, he was an invited lecturer on energy conversion at the University of London, and in that same year received the George Westinghouse Award of the American Society for Engineering Education. Professor White has published extensively in his fields of research: energy systems analysis, electromechanics, direct energy conversion and electric power systems. He has served as a professional consultant to a number of educational institutions as well as to industry.

Professor White lives with his wife and two daughters in New Seabury.

Exchange Seminars to Begin

EXPRO/BASIS, an exchange program bringing together international students and professional members of the greater Boston community, will begin a series of seminars today, December 13, from 3-6pm in the Mezzanine Lounge of the Student Center.

Joseph C. Harsch, chief editorial writer for the *Christian Science Monitor*, will lead a discussion on "International Implications of the American Elections." The program will begin with a reception at 3pm, followed by the seminar discussion at 4pm.

The goal of EXPRO BASIS—the Exchange Program for International Students and Professionals run by the Boston Area Seminar for International Students (BASIS)—is to strengthen the foundations of an international community of scholars through an exchange of ideas and mutual concerns. The program is made possible by a grant from the US Department of State and the National Association for Foreign Student Affairs, in cooperation with the foreign student offices of colleges and universities in the Boston area.

There is no membership fee or other admission cost for EXPRO/BASIS meetings. Foreign students interested in attending should call Dr. Robert B. Knapp, program coordinator, at 353-3565.

Overdue Bills Subject to Fine After Dec. 15th

A \$10 fine will be levied on all student term accounts not paid by December 15, according to James F. Brady, accounting officer.

Students had earlier been notified that \$10 fines would be imposed for late payment of fees on each of three payment dates this term. However, Mr. Brady said, the Institute waived these fines and granted an additional 15-day grace period for payment of term bills. All unpaid fall term fees are now considered past due.

Mr. Brady also said that the Student Accounts Office will be closed on Mondays and Fridays from now on. "This change in operating hours will enable us to devote more time to reviewing student accounts," he explained.

New hours for the Student Accounts Office, Room E19-215, are 9am to 3pm Tuesday through Thursday.

Beethoven Concert to Mark Birthday

MIT will celebrate the 202nd birth date of Ludwig van Beethoven with a concert in Kresge Auditorium at 8pm on Saturday, December 16.

Pianist John Buttrick will play the Sonata Opus 10 Number 3 in D, Sonata Opus 53 in C ("The Waldstein"), Sonata Opus 109 in E and the Bagatelles Opus 126.

A former pupil of Beveridge Webster, Rudolf Serkin and Isidor Philipp, Professor Buttrick has performed annually in Europe since 1961. He came to MIT in 1965 and was appointed chairman of the music faculty and director of music in September, 1972.

The concert is open to the public without charge.

ID Cards Found

Institute identification cards belonging to the following persons have been found on the first floor of the Medical Department, Building 11, and should be claimed as soon as possible:

Joseph Calvetti, Richard Casler, Alan Chinault, Frederick Dopfel, Rosemary Dujisik, Michel Gerassimenko, Eric Herzog, Stanley Kenney, Rosalyn Mamlak, Michael Manning, William C. O'Neill, David Oyer, Steven Resnick, James R. Sloan, Martha Stokes, Elaine Thibault, Raffi Yeghayan.

Obituaries

V. O. Homerberg

Dr. Victor O. Homerberg, 83, professor emeritus of physical metallurgy at MIT, died on Saturday, December 9, in Santa Barbara, Calif.

An authority on alloys of iron and steel, Dr. Homerberg started his career at MIT as a student, receiving the S.B. degree in 1921 and the Sc.D. degree in 1927. Following his graduation, Dr. Homerberg became an instructor in physical metallurgy and was promoted to assistant professor in 1925, associate professor in 1928, and professor in 1939.

Dr. Homerberg retired from the Institute in 1950. He and his wife, Jessie Delisse Golden, moved to Santa Barbara where Dr. Homerberg pursued his hobby of gardening and continued his professional work on a consulting basis.

Dr. Homerberg is survived by his wife.

Ednah Blanchard

Ednah Blanchard, 79, of Hingham, administrative secretary in the Department of Electrical Engineering for 40 years, died on Wednesday, December 6.

Miss Blanchard came to the Institute in 1919 and served under four department heads before retiring in 1959. During her tenure at MIT, Miss Blanchard's knowledge of the Electrical Engineering Department was second only to that of the late Professor Carlton Tucker, who came to MIT in 1918.

Miss Blanchard enjoyed an extensive stamp and bookplate collection and was also an avid sailor. She spent many vacations boating off Cuttyhunk Island.

Miss Blanchard is survived by a brother, Walter P. Blanchard of Quincy. Several of her friends from MIT attended funeral services, held in Hingham on December 8.

Hugo Muench

Dr. Hugo Muench, Visiting Professor of Biostatistics in the Department of Nutrition and Food Science from 1967 to 1969, died at his home in Cambridge on November 16.

Dr. Muench was Professor Emeritus, of Biostatistics, of the Harvard School of Public Health and a consultant at the Lemuel Shattuck Hospital. He was an assistant dean at the Harvard School of Public Health from 1946 to 1954.

Dr. Nevin Scrimshaw, head of the Department of Nutrition and Food Science, said, "It was a privilege for those who took Dr. Muench's course here to have him share his knowledge in a complicated field, which he did with clarity and a gentle, dry sense of humor."

CLASSIFIED ADS

For Sale, Etc.

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

Girl's figure skates 2pr, sz 1 & 3, lk new, \$5/ea. Alphonse, X8-3546 Draper.

Lg, 20" TV, \$150; sm dictating mach, \$25; imp-clock radio, \$10; humidifier, \$7; blender, \$5; elec percolator, \$5. David, 661-9652.

Ampeg B15 amp, Hagstrom base, new strings, \$150. Paul, X3-5671 after 5.

Studded snows, 7.35x14, glass belted, used 2 mo, \$35. Mark, X3-6891.

Utah Celesta 12", 3 way coax spkrs, pr, unmounted, normally \$35 ea, asking \$40/pr or best. Kevin, Dorm X8-265.

Roth viola, lg, gd tone, ideal for beginner \$300. Call 261-1955.

GE antique TV, late '40's, b&w, gd work cond. Ken, X3-6385.

Polyglass snows, 2, F70-14, studded, mtd on Camero rims, \$35; pr Rosemont ski bts, lk new, 8. Ron, X3-1485.

Lady's 5 buckle ski bts, 7 1/2, orig \$90, asking \$25; man's Nordica lace bts, 12, \$15; Heathkit solid state amp, 35 rms/channel, exc cond, cost \$150, best offer. Call 492-4297.

Canon QL 1.9, fully auto, v gd cond, ideal for fam pics, best offer over \$35; Soligor 135mm lens, 2.8, nv used, best offer over \$50, was \$70. Gustavo, X3-5054.

Uniroyal Unimaster snows, 2, wide oval, 8.00x6.5, 10 ply rating, used 1 seas \$20 or best offer. Wayne, X3-2338.

Candle mold, 12", \$2.75; wax, \$.20/lb, any amt. X3-1474.

Tire, 5.60x13; 5.60x13 snow; both less than yr use, \$15/ea, both for \$25. Carle, X3-6659.

Lang standard ski bts, 7, exc cond, used 2 seas, \$35. John, X7111 Linc.

Amer Std, 56" hot water radiator, complete, \$30; misc games & toys; boy's 26" bike, less front tire. X8-1416 Draper.

Rossignol 195 Stratix skis, Marker heel Look toe, \$110; Reiker man's bts, 10 1/2 w, \$30; both used 1/2 seas. X3-4651.

Lang 2000 fountain pen, new \$25 best offer. Dave, X3-4849.

Kneissl Wht Star skis, 210cm, 3 yrs old w/step in bndgs, \$100 firm. Evelyn, X3-1944.

Reiker ski bts, lady's, 6 1/2 m, buckle, Allsop bt tree, exc cond, \$40. Liz, X3-6808.

Dunlop wht wall tire, 6.85x15, for Volvo et al, nvr used. Jerry, X3-6291.

LR 84" sofa & chr set, attractive contemp Medit style, 1 1/2 yrs old, gd cond, \$100. Bhushan, X3-1428.

Woman's wool winter coat, navy w/red trim, nvr worn, sz 6, well made, \$20. Kay, X3-4400.

Slingerland drums, full set, lk new, \$275. X7148 Linc.

Beseler Topcon SLR model C w/35mm, f2.8 Auto Topcor lens, asst filters, lens pouch, gd cond, recent overhaul, \$75 or best. Jeff, 731-0971 eves.

Hockey skates 8, new, Coop purchase, \$20. Dorm X0-249.

Twin matts, 2, & box spr, used, gd for summer home, \$20 or best offer for both. June, X3-6057.

Yellow nylon lace shower curtain, match window curtain & soap dish, \$6. X8-2465 Draper.

Firestone snows, 2, 7.00x13, 4 ply, \$5/pr. Walter Bishop, X3-3105.

Elec calculator, 12 digit, lg nixi-tube display, desk top model, 2 memories, const multiplier, mixed calculations, floating pt quotient, sums of product, \$150, wl haggle. Gary, Dorm X8-416.

Dbl bed, frame, matt, springs, night tbl to match & 1 pr sheets, \$45. Dorm X8-978 after 6.

H70-15 studded snow, 20 mo, on Sears warr, \$15; 6.50x13 snow on Dart rim, used 1 seas, \$10; pr 7.50x14 studded snows, fair, \$10. Stanley, X412 Linc.

Br winter coat, 12 or 14, \$35; pr over the knee brn suede bts, 9, \$20; both new, nv worn. Debbie, X3-4791.

Mallory dbl life distributor, dual pt, wl fit Chrysler products, \$25 or best. Ellis X5705 Linc.

Auto batt & horn, 6v system, VW pre '67 or others. Colin, X3-2007.

Hart 180cm skis, Dover step-in bndgs; ladies 7 Nordica buckle bts; all for \$40. Call 494-8695 after 6.

Embroidered sheepskin & suede maxi-coat, \$75; '66 Mustang convert blk, 6 cyl, auto, 46K; AICO 3200 tuner; AR trntbl Sony 5" TV; Sony clock radio, \$35; 18th cent Ottoman Flintlock pistol; hand painted oriental plates. Ilyas, X3-5239.

Sears port fan, \$8; gld & wht shag rug, 9x12; \$25; gld/brn tweed rug, 15x17, \$40. Mike, X3-6948.

Handcrafted brn lthr vest w/pocket, 40, nv worn, orig \$25, now \$20. Jane, X3-5640.

Twin beds, 2, exc cond. Barbara, X3-6702.

Oak desk, 27"x47", 5 drw, \$12; 3 Kw heater, thermostat, \$5; 3 spd, 20" fan, \$12; Sunbeam mixer, 12 spd, 2 bowls, \$30 or best offer; Heathkit sol st elec keyer, \$35 or best offer. Bob, X452 EDC.

Magnovox console, AM/FM radio phono, nds minor repairs, \$25. X3-6937.

Daoust 25-51 boy's hockey skates, \$7, exc cond. Bill, X8-3546 Draper.

Man's ski bts 10, buckle, \$15. Joe, X3-5629.

GE tbl mod radio, wal cab, \$15. X3-3161 or Dorm X8-485.

Rims, 14". Mary Lou, X3-7104.

Lady's genuine rabbit fur coat, wht w/brn spots, 10-12, worn twice, furrier will store & service, \$160. X3-7024.

Snorkel type coat, L, orig \$24, exc cond, \$15. Al Ritter, Dorm X8-247 or X3-3161 lv msg.

Reiker lady's buckle ski bts, 8, \$20. X3-4271.

Bureaus, 3, 3 drawer; new fishing bag; wall papering tools; parakeet cage & std; 6 v batt chgr; punching bag; fish & turtle tanks 2 used snows, 7.75x14; any reas offer. Bob, X7454 Linc.

Easy chr, wd frame, lk new cushions, \$7.50; snlg bed matt, 39", \$10; bed frame for matt, free. Picardi, 494-8575.

European wd skis, bndgs, poles; bts & bt tree, 10. Berry, X3-2514

Pr Ford 14" rims, \$5. Tony, X3-5703.

Snows, 2, 7.00x14, \$15/pr; National cash register, up to \$9.99, \$30. Adrian Brown, X7461 Linc.

Super RD mountain bts, 10, \$20. Tim Ryan, X3-2961 lv msg.

Snows, 2, 7.75x15, 4 ply nylon, used 3K, \$20. Bent, X3-1552.

Ice skates, boy's hockey, 7, \$10; woman's figure 8, \$12; Army bts, 9, \$3; Corningware coff pots, 6 cup, \$5; 9 cup, \$7. X8-4095 Draper.

Twin bed, gd cond; bed frame. Susan, X3-1525.

Pr studded snows, 6.50x14, v gd cond, \$15. Zeki, X3-3107 or X3-3104.

Yamaha guitar, nylon strings, G-60A, w/case, lk new, \$50; Baez song book, \$3. Roger, X3-6948.

Complete 15 gal aquarium set, filter, pump, heater, fluorescent hood & back drop, all top quality, exc cond, asking \$50. Dennis, X112 Linc.

Crown beau wht stove, exc cond, eye level oven, 36", 2 oven, 2 broil, thermocontrol timer, clock, brush chrome top, storage drawer, 2 yrs old, fits w/cabs, \$275; also piano, 2 bikes. Marian, X3-6153.

Buffalo china for catering, complete service for 125, perf cond, asking \$600; solid maple K set w/formica tbl top, heavy wrought iron legs, 2 captain & 2 side chrs, \$225; duplicator mach, \$20. X3-5251.

Man's Henke plastic buckle ski bts, 9, lk new, \$50. Steve, X8-2036 Draper.

Bayberry grn lavatory sink, w/wht swirl, marble, 30"x22", 1 pc construct w/back splash, nv used, best offer. Frank, X8-2036 Draper.

Emperador 12 string guitar, yr old, beaut ring, bought at \$120, asking \$70 or best offer. Lawrence, Dorm X8-534.

Rossignol Stratoflex skis, br new, 205 cm, \$60. Paul, X5782 Linc.

Antique curved glass front china closet, exc cond, \$50. Ed, X8-3993 Draper.

Lange ski bts, 8 1/2 n, \$40. Janice, X3-4101.

Dynaco 70 w rms amp & prepamp; KLH 18 tuner, \$150 or best offer; 2 AR-3 spkrs, \$150 or best offer. Les, X3-6669.

Hyde skates, girl's 4, \$5; 4 1/2, \$8; boy's 3, \$5; ski bts, 3, \$1; snows, 6.70x15 w/wheels. \$10/pr. Paul Barrett, X3-3933.

Originals designed & fashioned by custom leath worker, woman's gld suede shirt w/blk trim, sm-med, \$85; short brn suede dress, med, \$85; colorful crochet dress, sm-med, \$125; man's lng soft chamois shirt, \$85. Valorie Murdza, X3-7789 3-5pm.

Bicycles: 21" Stingray, 2 21" children's w/hard tires, gd cond, \$10 ea. Dick, X8-3549 Draper.

Snow tires, ww, 8.25x14, studded, first \$10, second free. John, X8-2006 Draper.

Sofa, 96", dk br tweed, gd cond, \$75; easy chr, avocado, gd cond, \$20; or \$80 for both. X191 Linc.

ADC VLM cart, 3 wks old, \$43 list, now \$29; Wilson T-2000 tennis racket, \$24; set satin sheets queen sz, new, \$12. Mike, Dorm X9-507.

Comp tranxvr 6 mtr, Clegg Thor-6, w/access, AC pwr supply, mike, manual, exc cond, \$125; sol st Olds car radio, 12w, pwr, qual spkr, \$10. Bill, X3-6137.

Sofabed, \$20; mesh playpen, \$4. X8-2476 Draper.

Minox C cam w/electronic flash, br new, nvr used, \$180. George, X3-6747.

Yamaha guitar, new, ltl used, exc cond, \$50. X3-5917.

Ital prov 90" sofa, gold & bronze upholstery, exc cond, \$125. Carole, X8-1261 Draper.

Beginner's skis, 66", steel edges, step-in bndgs, poles, \$25; extra poles, \$1/pr; French lace boots, sz 6, \$5; misc bndgs, \$1; girl's skates, sz 5, \$2. Nichols, X314 Linc.

Fischer glass GT skis, 200cm, bndgs, nvr used. Ogre, 247-8602 evs.

Vehicles

'60 TR3, \$100. Call 646-1608.

'62 Falcon, runs well, must sell before 12/31, best offer. Ed, X3-6905.

'64 Buick Special, gd cond, 50K, \$250, nds no major work. Suzanne, X3-2148.

'64 Ply Valiant, auto, p st, new trans & brks, gd body & eng, snows, runs well, \$250. Nigel, X3-5046.

'66 Volvo 122S, gd mech cond, \$750. Ed Kern, X3-5943.

'66 Porche 912, 54K, body & inter exc. Ed, X3-5764.

'66 Dodge Dart, nds body work. Virginia, X3-5235.

'66 Falcon, 75K, AC, new exhaust, gd cond, \$300. Gaston, X3-6750.

'67 Chevella, 6 cyl, auto, 67K, gd mech cond, body fair, tires gd, \$500 or best offer. Greg, X3-5054.

'67 Plymouth wgn, snows, immac mech cond, p-str & brk, \$500 or best. X3-1837.

'67 Olds Cutlass Supreme convert, 4 spd, p-str, \$475 or best. X3-6033.

'67 Cougar, V-8, p st, auto, AM/FM w/reverb, snows, eng recently reworked, body in perfect cond, doesn't burn oil new trans, \$850. Jacob, 391-6583 after 7.

'69 BMW 1600, exc cond, new paint, 2 snows, 2 new radials, sun rf, 8 trk FM stereo, must sell. Call 491-7568 eves.

'70 Fiat 124 sport coupe, exc mech cond, fantastic on gas, low mi, \$1300 or best, lv country. X3-6963.

'70 Renault R10, auto, 38K, R & H, Mich radials, exc eng & body, \$800; '68 Opel Kadett wgn, 4 spd, 45K, R & H, exc cond, \$725; Kwan, X3-4620.

'71 Chevy Nova, auto, 6 cyl, p st, low mi, new snows, exc cond, moving, must sell. Judi, X3-3915.

'72 K2, 750 Honda, orig metal flake, quarr, rack & back rest, exc cond, \$1650. Guy, X5597 Linc.

Klepper-Aerius folding boat w/sail, \$75; port typwr, \$10. Knut, X5831.

Housing

Arl, 7 rm, Dutch Colonial w/lg fenced yard on quiet st, 1 block to stores & bus, 4 BR, 1 1/2 B, mod eat in K, frpl, DR, 2 car gar, owner, occupancy mid Feb. \$39,000. X3-6024.

Arl Center, Jan sublet avail, furn, 3 BR, LR, lg K, \$275, heat & util incl, block to MTA & Papagos. Hans, X3-7823.

Bk Bay, Beac St, nr Harv Br, 3 spac apt w/Victorian decor in residential tw'n hse, for \$300/mo. X477 Linc.

Brkln, Coolidge Corner, 1 BR, LR, K, stove, refrig, \$185/mo incl heat, pkgng, avail 2/1; for sale, dresser, dbl bed, couch, new carpeting. David, X3-5286.

Camb, 1 BR, spac apt, avail Jan, \$210/mo, pkgng avail. X3-6732.

Cambport, 4-BR apt, avail 2/1/73, MIT affiliates only, \$235/mo. Stew, X3-5940.

Dorchester, St. Brendans area, 2 fam hse, 2 car gar, exc cond, \$38K. X8-3546 Draper.

Everett, 5 rm apt, off st pkgng, nr T, unfurn, 2 porches, \$150. Tony, X372 Linc.

Needham, convient transport to MIT, 2 flr duplex, 3 BR, LR, K & DR, 1 1/2 B, full base, cent heat w/air cond, furn w/washer & dry, avail 1/1 to 5/30. Ellen, X3-1794.

Newton, hse for rent, 7 rms, 1 1/2 B, 3-4 BR, residential nr schools, no students, avail end of Jan, some furn avail. John, X3-4791.

Wellesley Hills Co-op, rm avail for 1 or 2 women, hse cln & comfort. Call 237-3570.

West Som, apt, avail 1/1, 6 rms, 2 B, gar, \$255/mo, all util incl, no pets, security deposit. Martin, X5777 Linc.

Jay Pk, Vt, lk side ski lodge for wkly rental, slps 15, magnificent view, all util, plowed, best skiing in east at lowest prices. Denny, X3-5606.

Loon Mt. area, NH, ski 93, ski chalet, 4 BR, 2B, lg frpl, fantastic view, \$2400/ seas. Art, X3-1930.

Vt, hse for rent for fam ski vacation, avail Jan-Feb, all conven. X3-7187.

Lost and Found

Found: blk f, cat, 6 mo-yr old, in front of Eastgate, 12/7. Jim, X3-2085.

Found: pr men's glasses, during blood drive, pick up in TCA office, W20-450. X3-4885.

Wanted

Ride to Toronto after 12/21 pm, return for IAP. David, Dorm X9-637.

Amico VFO w/power supply for 6 mtr rig. X8-4025 Draper.

Used upright Steinway, Mason-Hamlin or Yamaha piano, for welfare student. Homsey, X3-5838.

Fem rmmt, 21-30 for Waltham apt, \$100 plus util. Janice, X3-4101.

Ride to Chicago area, lv 12/19 or after, ret before 1/8, share expen & drive. Bob, X3-5810.

Books: *Dragons, Elves & Heroes, The Young Magicians, Magic Kingdoms.* X3-2164.

Young French woman, 23, mature & respon, loves children, desires family in Boston or Camb to help mother care for children for rm, board & pocket money, hospital exp, wish to improve Eng. Call 494-8866 after 6.

Lg stuffed game head to hang on wall. Jane or Robin, X3-1381 Draper.

Ride from MIT to Everett Sta or Malden Sq, Mon-Fri, 5pm. S.T. Shames, X3-4868.

Used sew mach. Jain, X3-5348.

Tbl & chrs: 1 wooden K tbl & 6 wooden chrs, buy, trade. Michelle, X3-6121.

Ride to Chicago after noon, 12/19, return for 2 people around 1/3, share drive & expen. Nick, X3-2843

Dulcimer, 2nd hand in gd cond. Pat, X3-5787.

VW air cleaner, '60-'65. John, X8-3361 Draper.

Male or fem rmmt, avail 1/1, 1 BR in 4 BR mod apt, w-w, cent heat, mod appliances, frpl, \$64.75/mo. X3-5763.

Mettler analytical balance. X3-4501.

Ride to Newport News, Va, nr Norfolk, lv anytime after noon, 12/21. Daryl Desmond, Dorm X8-488 or X3-3161 lv msg.

Pre 1942 Nat'l Geographic magazines. Ted, X7139 Linc.

Ride to Cincinnati, lv 12/21 or 22, return 12/26 or 27, wl share driving & exps. Michael, X8-4429 Draper.

Chest drws for baby, wl pay \$10-15. X3-7007.

Miscellaneous

Garage for rent, Bel/Camb line, nr # 2, X3-5524.

Exper typist & Eng teach wl edit &/or type, reas. Wendy, X3-5115.

Tap dancing instructions by qual teach, Sat at 10am. Walter Stiehl, X3-4186.

Interested in talking to people traveling to Mex City, lv 12/28 or 29. X3-3631.

Exp tech typist wl do theses, gen typing. Renie, X3-7106.

Positions Available

Secretary IV to Assistant Director of research center dealing with international studies. Will assist with administrative and general headquarters work load, handle visitors, schedule meetings and conferences. Excellent typing skills needed for extensive typing of manuscripts, reports, and research proposals. This job requires flexibility, ease in dealing with people and the ability to work under pressure.

Secretary IV to professors and research affiliates involved in experimental medical research and teaching. Responsibilities will include making appointments; arranging meetings, lectures, films, field trips and travel; preparing budget estimates for proposals; composing correspondence; typing, proof-reading, and editing of technical manuscripts and class notes; gathering information for scientific conferences and meetings. Ability and experience necessary to work on your own are important. Initiative, organization, and excellent skills (dictaphone) are required.

Biweekly X3-4251

Maternity Leave Policy Announced

A new policy affecting maternity leave has been announced by John M. Wynne, Vice President for Administration and Personnel.

The policy will apply to personnel on the hourly, bi-weekly, exempt, administrative staff and DSR staff payrolls.

A maternity leave of eight weeks, without pay, will be granted to women who plan to return to work. (They may, of course, use and be paid for any accumulated vacation time during this period.) The individual is expected to give adequate notice—usually two weeks—before beginning a leave. She may keep all her benefits in force during the leave, if she wishes and makes arrangements in advance for pay-

ment of the regular benefit deductions.

Under normal circumstances, the individual can expect to return to her job or to an equivalent job in terms of classification and pay within her department or laboratory. If her job has been eliminated because of reduction in the work force or other circumstances, efforts will be made to find other suitable employment, first in the department concerned, and second within the Institute.

Leaves of more than eight weeks may be granted at the discretion of individual departments. Extended leaves may not exceed 26 weeks. In granting such leaves, the department commits itself to provide the same or an equivalent job within the department at the end

of the leave period.

Benefits will not normally be continued beyond the eight week period on extended leave. Requests for extension of benefits must be made in writing by the department head and approved by the dean or vice president concerned and the Office of Personnel Relations.

A woman on maternity leave may use her available sick leave for a period of two weeks (ten days of leave) beginning the day she enters a hospital for child birth. Additional sick leave may be authorized if she remains disabled after this period because of complications arising from the birth. Individuals who request additional sick leave will be required to furnish medical evidence of the need.

No Paper Dec. 27

Tech Talk will not be published on December 27. Please submit material for the period of December 20-January 5, 1973 by Friday, December 15. Publication will resume January 3, 1973.

Lindquist Photos on Display

Photographs by Therold S. L. Lindquist, Jr., are currently on exhibit at MIT's Creative Photography Gallery and will remain on display through January.

Thirty some black and white prints comprise the exhibition. "The works are expressive images of somber and wise inner states of the dark sides of man," said Minor White, professor of photography at MIT.

Lindquist received his B.F.A. in photography from the Rochester Institute of Technology and his M.F.A. from Ohio State University. He has also studied photography and the history of photography with Minor White, Ralph Hattersley, Beaumont Newhall, Wilson Hicks and Clarence White.

He has been the Associate Director of Instructional Resources Center, State University College at Fredonia, N.Y., since 1966. In addition, he has taught photography and has been a photographic consultant at several colleges and universities. His works have been widely exhibited in solo and group shows and have been published in several photographic and educational journals.

Blood Drive During IAP

There will be a blood drive during the Independent Activities Period, according to IAP Blood Drive Chairman Michael Kozinetz.

The drive will be held on January 8 and 9 and will be the first January blood drive at the Institute. This schedule will give donors the required eight weeks waiting period before the spring drive, which will be held March 5 to 16.

People who expressed an interest in a January blood drive during the fall drive will be sent registration material. Anyone who has a question about the January blood drive, wants to help during the drive or needs registration forms may call the TCA office at Ext. 3-7911 or Ext. 3-4885.

Medical Board Will Keep Open Line to Consumers

Members of the community who have questions, complaints or suggestions about health care services at MIT are urged to contact the Medical Advisory Board for assistance.

A consumer's council representing all segments of the Institute, the Medical Advisory Board acts as a liaison between the Medical Department and the community. One of the Board's purposes is to keep the Medical Department informed of consumers' problems and complaints. In addition, the Advisory Board collects and disseminates information on services offered by the Medical Department and acts as a sounding board for new ideas or potential changes in medical services.

Organized last February, the Medical Advisory Board hopes to improve communication between the community and the health service. Dr. Edward Rendall, staff physician and member of the advisory group, says, "The board is something like an ombuds-committee. Its members listen to individual grievances and make sure the proper authorities in the Medical Department are made aware of the problems.

"The key is really improved communication," Dr. Rendall continues. "Sometimes the complaints arise from misunderstandings which are easily corrected. In other cases, individuals offer

criticism which lead to improvement in services. In all cases, however, we inform the individuals of what action, if any, will be taken. This system benefits both the Medical Department and its users."

All members of the community should feel free to seek the assistance of and offer suggestions to any member of the Medical Advisory Board. They are:

Faculty: Professor Kent Hansen, board chairman, Room 24-109, Ext. 3-3806; Professor John Southard, Room 54-1018, Ext. 3-3397.

Graduate Student Council: David Lam, Room 43-202, Ext. 3-5350; Judi Kornfeld, Room E10-034, Ext. 3-5763.

Student wives representative: Nancy Powell, Westgate Apartment F-1, 494-8344.

Division of Sponsored Research Staff: Don Stevenson, Room NW14-3218, Ext. 3-5543.

Office Clerical: Jan Jefferson, Room E52-456, Ext. 3-7167.

Hourly Employees: Tom Lynch, Room 56-344, Ext. 3-4711.

Undergraduate Student Association: Susan Stopek, McCormick Room 727, dormline 8-987; Allen Strasberger, McGregor Room C-314, dormline 9-486.

Medical Department: Dr. Albert Seeler, Room 11-109, Ext. 3-4480; Dr. Edward Rendall, third floor, Building 11, Ext. 3-7447; Laurence H. Bishoff, Room 3-019, Ext. 3-1774.

Changes Made In Tuition Aid Plan

Several changes in the Tuition Assistance Plan for members of the staff were announced last week by Robert J. Davis, Director of Personnel.

The Special Services section of the Office of Personnel Relations is now administering the plan for members of the staff as well as for employees. Albert F. Sise, who formerly handled the staff plan, has retired. Priscilla E. Mead will now be working closely with John Carley, assistant to the director, on the Tuition Assistance Plan for both staff members and employees.

The grade requirement for members of the staff also has been revised. Effective January 1, staff members as well as employees will be reimbursed for undergraduate courses completed with a grade of C or better and graduate courses completed with a grade of B or better.

Also effective on the first of the year, exempt personnel will use the staff plan, not the employee plan as at present. The principal difference is that under the staff plan, personnel are eligible to be

reimbursed for daytime study at schools other than MIT.

Under both elements of the Tuition Assistance Plan, the Institute will pay 100 percent of allowable costs up to \$500 per year plus 50 percent of any additional costs between \$500 and \$750 for courses taken after hours. The Institute will pay for 75 percent of the allowable costs for courses taken at MIT and under the staff plan, daytime courses taken at other schools, with no dollar maximum.

The new address and telephone extension for both Tuition Assistance Plans is Room E19-238, Ext. 3-4276 or Ext. 3-4277.

Financial Aid

Application material for consideration for financial aid for the 1973-74 academic year can be picked up in the Student Financial Aid Office, Room 5-119.



Professor Gurney.

—Photo by Margo Foote

English Critics' Praise Rewards Gurney One-Act

Last week was one of surprises—pleasant ones—for playwright Albert (Pete) Gurney, associate professor of humanities.

His initial surprise came when he received copies of reviews from the *London Times* and the *Manchester Guardian* praising his short play, *The Problem*, recently produced as the curtain-riser at the King's Head basement theater in London.

"*The Problem*," reported the *Manchester Guardian*, "is worth anyone's admiration. The author A.R. Gurney, a professor at the Massachusetts Institute of Technology, has written what at first looks like an amiable satire on the American liberal...But it is also a mocking verdict on the politics of self-evasion and the way fantasy is some people's best friend."

Professor Gurney's surprise was enhanced because he did not know the play, which he wrote in 1968, was being produced at all. Because performing rights are normally granted by an author's agent or publisher, there is often a time lag before a playwright learns his play is being produced.

Two of Professor Gurney's earlier works have also won him praise. *The Golden Fleece* was chosen one of the best off-Broadway shows during the 1969 season, and he was selected by New York theater critics as one of four most promising playwrights in 1971 for *Scenes from American Life*.

In the past two years he has written two more full-length plays, *Children* and *The Old One, Two*, which will be produced at Brandeis University in January. He has also completed his first novel, *The Gospel According to Joseph*, which he read recently at the Cambridge Street Artists' Cooperative.

The Artists' Cooperative is a coffee house which presents

weekly prose and poetry readings for audience feedback and criticism on Sunday at 8pm. In addition to Professor Gurney, other members of the MIT literature faculty who read there regularly are Patsy Cumming, Sandy Kay and Barry Spacks.

Voters Approve Loan Program

By a vote of 1,407,690 to 666,276 Massachusetts voters approved a referendum to amend the state constitution to permit the General Court to establish a student loan program in Massachusetts.

If the General Court acts on the amendment, Massachusetts residents enrolled in higher education could receive state loans as early as the 1974-75 academic year. Loans would not be restricted to in-state colleges and universities.

Vote tabulations on the November referenda were issued last week by the examiners who counted the ballots.

Davy Assists

Korea Libraries

Dewey Librarian Edgar Davy returned recently from a three-week trip to Japan and Korea where he served as a library adviser to the newly created Korea Development Institute in Seoul.

The Institute is an independent research organization which came into full operation in July, 1972 and is devoted to the study of public policy issues to assist the Korean government in making strategic policy decisions, particularly in the field of economic development.