

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 extension or room number. Ads may be telephoned to Ext. 2707 or mailed to Room 5-105. The deadline is 5pm Friday.

New Insurance Plan Available

Blue Cross-Blue Shield is offering a new medical insurance program, the Master Medical Student Health Plan, for children 19 to 25. This program may be valuable to Institute personnel with children who are not covered by the MIT plan and who are attending Massachusetts schools that do not offer Blue Cross-Blue Shield. Arrangements for this medical insurance plan should be made before September 1. For further information and brochures, call the Benefits Office, Ext. 4271.

Here and There

—Mark Feldman, '72, and Ken Lebensold, Ph.D. '69, were members of a contract bridge team that tied for fifth place in the national Spingold Master Teams contest recently held in Chicago. One hundred teams competed for the award, one of the two most highly prized trophies in American bridge. The team that included Feldman and Lebensold was eliminated by the Aces team which has won the last two world championship contests.

—Gerald Gallagher, manager of the Space Electronics Environmental Test Laboratory at Lincoln Laboratory, was honored recently by the Institute of Environmental Sciences. The Institute, a professional society of environmental engineers and scientists, elected him executive vice president.

—Bob Durland of the Purchasing Office is serving as chief referee at the National Pistol Matches in Camp Perry, Ohio this week. He succeeds Dr. Franklin Wells, '18, who has been the chief referee for many years.

For Sale, etc.

Sony tpdeck, TC255, \$110. Call 491-6098.

Living country must sell: all chan GE TV, 6 mos old, \$55; couch/bed, \$45; DR tbl & chrs, \$45; lrg wooden desk, \$20, etc. Call 623-3789.

King size, 78x80 matt w/2 box spr & legs, exc cond, \$100. Call 729-6538.

Hotpt refrig, \$50; GE wash mach, \$100; mod twin BR set: chest, br, night tbl, box spr & matt, exc cond, \$100, w/ haggle. Call 298-7310.

Chest of drawers (2), \$25 ea; Mato arm chr, \$35; rug, 6x9, \$15; mahogany dbl bed, \$50. Alex, 729-7782.

Lrg din tbl w/6 chrs, \$125; oak server, \$100; fake oriental rug, 9x12, \$100; mahogany bed set, \$240. Call 864-2741.

Ham radio, HA-460, 6 meter xceiver, exc cond, \$85. Tony, x2573.

Unpainted furn: 3 bkcases, dresser w/mirror, 2 hollow-core doors, all gd cond, \$6-\$12 ea. Mary, 354-7215.

Old Span thingamajig, now used as buffet, beautiful old wrought iron, \$200. Call 731-9489.

Power saw, lamps, typwrtr tbl, stools, percolator, ladder. Call 547-2416 evgs.

GE solid state AM clock R w/repeat alarm, \$10; electronic metronome, 40-208 ticks per min, \$10, exc cond. Call 492-5867.

Journals: CACM 9/65, 1/66-5/71; JACM 6-68; IEEE-TEC 8/64, 2/66-2/67; BSTJ 9/66-8/67, best offer. Herb, x7293 or 864-3757.

Free: Commentary magazines, 1966-70. Dorette, x585 Draper 7.

Couch, 3 piece & coffee tbl, \$25; Fisher mono HiFi console, \$25; new Bancroft tennis racket, \$9; Instamatic x-15 camera, \$12. Call x7536 or 628-5598 evgs.

Admiral TV console, 21W, \$15; Olympia deluxe sewing mach, zigzag, \$75; steam iron, \$7; window fan, 22x22, \$15; etc. Call 868-5231.

Soligor 200mm f3.5 telephoto lens, for Pentax. Call x6913.

Zenith westwood hearing aide, used only 3 mos, 2/3 cost. Mrs. Peterson, 332-7839 evgs.

Queen size bed, folding bed, B&W port TV, man's 3 sp bike, others. x5857 or 491-4199 evgs.

Hotpt port dish washer, \$100; shag rug, 10x10, lightblue, w/padding, \$75. Bob, x5518 Linc.

GE tank type vacuum, all access; cooling fans (2) w/humidifier; sabre saw, best offer. Beth, x2750.

Turu print conover colonial sofa, \$190; Rek-O-Cut, 3 sp turntbl w/empire arm, \$35; attachable twin beds (2), \$100; aquarium, 10 gal w/fixtures, \$30. Bill Blatchley, x4575 or 868-5873.

File cabinet, 2 draw heavy duty, \$30. Call 878-0484.

Sears freezer, 15 cu ft, 1 yr old, nvr used, \$100 or best. Call 329-9786.

Kitchenette w/6 chrs, \$150 new, now \$80; cots (4), new \$38, now \$10 ea. Call 298-7181.

Mahogany BR set: dbl bed, etc; sgl bed w/wood file cabinet, must sell by 8/27. George, 782-2977 evgs.

Upright piano, easily moved in Camb area, \$55. Call 354-4801 evgs.

Refrig, 2 1/2 cu ft, \$80 new, now \$40. Daryl, d10559.

Bell helmet, 7 1/2 short w/goggles, \$13; Honda 305 handlebars, \$4. Barry, x2514.

DR set w/china cabinet, \$300; LR chrs, cof tbl, typwrtr tbl, more. Donald, 862-5639.

Mamiya RB-67 pro camera, \$400. Bob, x4710.

Bell 500-TX helmets (2), exc cond, 7 1/8, 6 7/8 w/face shields, \$25 ea or \$45 both. Michael, X5665.

Boy's bicycle, amer style 26", \$15. Al, x6712.

Port B&W Zenith TV, 16"; DR tbl, blonde wood w/2 drop leaves & extra leaves, \$35; straight-bk chr, twin bed box springs, \$10. Call 232-0484.

Free Goldspot refrig w/top freezer, nvs repair. Steinmetz, x7618 Linc.

Girl's old english bicycles (2), nd repair, \$15 both. Call x5323 or 742-1734 evgs.

Wooden fiberglass canoe, 18', \$100. Call 734-6818.

Carriage, crib matt, iron, hair drier, picture frames for sale cheap; moving. Rich, x2189.

Zenith B&W TV, port typwrtr, Castro conv, others, must sell soon. Call 354-3343.

Speed clean washer, \$50. Call x6757 or 491-4189 evgs.

Rek-O-Kut trntrl, Grado tone arm, handsome cabinet, Empire-Heath-Dyna-EV fine mono system, all \$100. Bill V., x2445.

Desks (2), \$40 & \$30; sets of curtains (3), \$5 ea; metal wardrobe, \$15; lrg mirror, \$10. Call x6834 or 734-8561. Call 492-5867.

Br. new air cond, 1/2 price. Call 666-5474 evgs.

Sears frost-free refrig, \$175, 1 yr old. x181 Draper 7 or 484-0071.

Sony radio, FM/AM/SW w/elec adapter, 9 mos old, \$30 or best offer. Okuda, x2413 or 547-3997.

K Aid port dish wash, coppersone, exc cond, \$125; lrg crib w/matt, spring rocking horse. x7431 Linc or 438-4772.

Vehicles

'61 Ford V8, gd cond, pwr st, auto, R & H, \$100. Labitt, x7465 Linc.

'61 Valiant, runs well, \$75 or best. Rhim, x5155 or 491-6986 evgs.

'62 Chevy Belair, 4 dr, 6 cyl, std, gd mech cond, \$100. x7235.

'62 Econoline van, gd tires, body gd, \$200. Charlie, x5274.

'62 VW, 71K, runs well, reasonable. Call x5771.

'63 Chevy, clean, gd cond, \$275. Paul, x7803 Linc.

'63 Porsche, super 90, mint cond, under coated w/epoxy glue, no rust, \$2600. Call x189 Draper 7 or 862-4936

'64 Barracuda V8, all pwr, \$125. Call 495-2817 or 527-9110 evgs.

'64 Chevy wgn, auto, pwr st, R, new tires & snows, gd cond. Call 232-9584.

'65 Dodge Dart, 2 dr sedan, std, 6 cyl, R & H, tires, gd cond, \$300. Call 894-5320 evgs.

'65 TR4A, 34K, Mich radials, wire whls, lug & ski rack, new top, mech exc, \$900 or best. Doug, x5353 or 262-3192 evgs.

'65 Triumph Spitfire, \$400 or best. Lew or Phil, x3784 or 262-3192.

'66 Fiat, 4 dr sedan, eng nvs work, make offer. x4878.

'66 Ford Galaxie 500 conv, auto, pwr st, R, \$600. Call x4334 or 862-8757.

'66 Mustang, 289, 47K, auto, new tires, exc cond. Call 868-0792.

'66 Sprite, living area, must sell, \$200 or best. Call x6942.

'68 Ford Fairlane wgn, 6 cyl, std, 62K, \$1050. Call 862-3515.

'68 Rally Opel, 4 sp, new tires, brks, gd cond, \$650. Call 475-8761.

'68 Rambler Amer, 2 dr, 54K, R & H, 7 gd tires, exc cond, \$1000. Call x7398 or 326-3072.

'69 Dodge Dart, 4 dr, 17K, exc cond, \$1600 or best. Hans, x7267 or 868-9015.

'69 Fiat 124 Spider, 5 sp, DOHC, 4 whl discs, 4 new radials, snows, \$2100. x2665 or 547-0155.

'69 VW sqbk, red w/sunrf, exc cond, 45K, 5 new tires, new brks, \$1595. John, x7202 Linc or 369-6436.

'69 VW sqbk, new tires & muff, snows, rf rack, avail, 8/15, \$1550. Call 237-3935 evgs.

'70 MGB, exc cond, AM/FM, new snows, lug rack, \$2500. Eric, x5510 or 354-8833.

'67 Honda CL77 scrambler, exc mech shape, many accessories, \$350. Jim, 926-1561.

'68 Kawasaki, 650cc, like new. Call 646-4761 evgs.

'69 BSA, 250cc, 4K, \$475 or best. Call 438-0607.

Cape May 26, 34', sloop, \$1800. Call x241 WHOI or x5749.

Housing

Allston 3 BR, H, elevated bldg, \$250, avail 9/1. Mady, x7001 or 783-1064.

Beac Hill, 6 R apt, avail 9/1, \$350. Larry Kelly, x2627 or 227-2842 evgs.

Camb: 2 furn rms, pvt bath, \$30/mo plus supervision of 1 child 11:30-2:30 and 2 children 2:30-4 schl days. Call 547-0950.

Camb business office for rent, approx 1500 sq ft, wv carpet, air cond, in Fresh Pond Shop Center. Call 862-8466 evgs.

Cape Cod (Harwich Pt) cottage, w/hl, frpl, sleeps 6, nr beach, stores. 1/2 rate after 9/16, \$75/wk. Ed, x5646.

France, Versailles: furn apt avail 1 yr begin 10/1, 3 BR, LR, DR, gar, \$350. Connie, x3256.

Lex, 3 BR house, lrg LR, K, dining area, deck, in wooded area, \$325, avail 8/16. Call 862-7628.

Maine, Moose pond nr Conway, lakefront 3 BR cottages, frpl, elec K, weekly or monthly rental. Ruth, x2476.

N Chelms, sublet 4 1/2 R apt, 2 BR, wv carpet, air cond, various extras, \$160 heat includ, no pets, avail 9/1. Don, 251-8065 evgs.

Woburn, 3 BR duplex, immed vacancy, \$250. Ken, x3970.

Animals

Free: puppies, mixture of sheep/collie/huskie, M & F, come and see. Call x6634 or 242-4132 evgs.

Springer spaniel M & F puppies, AKC, \$75 ea. Bill Harnay, x366 Linc or 543-7128.

Wanted

Tricycle for 4 yr old child. Call 275-1290.

Ride between Wakefld & MIT. Diana, x4751.

F rmmate for August, own room, ultra mod, reg \$98, w/ negotiate. Call 547-2748.

Mature M Parakeet from gd home for mating purposes. Call 492-4297 evgs.

Lady's bycl, 3 sp. Mary, x1723.

Canning jars, cheap or free. Don Anderson, 492-3320 evgs.

Man's bicycle, 3 sp. Call 623-1336.

F rmmate 9/1 or earlier, quiet MIT affil, own lrg BR, mostly furn, BYO matt, across from Orson Welles, \$75/mo. Sally, x6746 or 876-8159 evgs.

M rmmate for lrg house in Winchester, own rm, lots of pkg, \$75/mo, Call 729-6180.

Babysitter for 9/1, to care for 2 yr old girl in Newton, 4 days per wk. x7729.

F rmmate to share lrg Winch apt. x7410 Linc or 729-5699.

Rowing dinghy, 7-8'. Vic, x7711.

Dirt bike or raler, in nd of repair, consider basket cases. Chuch, x7360 or 774-2045 evgs.

Air cond, 110 V, gd cond, reas price. Art, x4472 or x4475.

Camb, 28 yr old working girl seeks safe sunny 1 BR apt, w/ pay up to \$150. Vanessa, 868-5600 or 661-8461 evgs.

Small living space in country setting, separate from owner's hse, 40 miles from Lex. Lloyd, x7510 Linc or x422, lv message.

MIT couple nds apt 9/1, 1 BR, LR, K, B, \$180 or less, nr MIT or T line to MIT. Connie, x5243 or 354-6164 evgs.

Multiple adapter for FM tuner. Dave, x1418.

3 sp man's or woman's bike. Mark, x2094.

Miscellaneous

Quiet couple would like to bbsyt your home starting 9/71. Call 876-1371 evgs.

Thesis typing: technical and general. Call x2311.

Experimental teacherless writing class meets wkly, new members welcome. Nan Hughes, x7641.

For charter: 25' sloop on Buzzard's Bay, 4 bunks, well equipped for cruising. Sailors call 547-0835 before 9am.

Wl type on IBM exec. Lynn, 491-4312.

Lost and Found

Slide rule, engraved w/Falabella, in brown case, lost 7/23. Call x7167.

Positions Available

The Office of Personnel Relations is seeking individuals from within the Institute to fill the following openings at the staff or exempt level. If interested in any of the openings, please call Ext. 4278.

Administrative Assistants (2). Individual should have a facility or interest in dealing with administrative responsibilities, specifically in the accounting, purchasing and personnel areas. Knowledge of MIT procedures desirable.

Supervisor, Medical Records Room and Reception Area. Position involves training and supervision of 8-12 employees. Individual will develop administrative techniques to improve medical records program. Prefer RRL or candidate with ARL degree. Will substitute experience for degree if applicant interested in pursuing education in medical records science.

Assistant Advertising Manager, Technology Review. Individual will be responsible for sale of advertising space in Technology Review. Handle soliciting of present advertisers and solicitation of prospective ones. Responsible for research, interpretation and production of sales promotion material, direct mail programs and space advertising.

Dr. Wiesner said he recognizes the added burden the increase imposes on students and their families, particularly those just beginning their study at MIT.

"Yet I count on your realization that the continuing rapid rise

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TECH TALK

Massachusetts Institute of Technology

August 11, 1971
Volume 16
Number 6



Sand dollars were frequently found by student divers in the Penobscot Bay research project.

—Photo by Robert Biles, '72

Student Research Team Returns After Studying Penobscot Bay

Fifteen undergraduates, including one coed, have returned from Maine after three weeks searching for a sunken ship and charting the currents and tides of Penobscot Bay. (See Tech Talk, July 7, 1971.)

The summer project was part of the students' course work in Ocean Engineering Laboratory. The project included designing

Tuition Rises Next Summer

Tuition will be increased by \$250 to \$2,900 per year beginning with the summer session of 1972 to help the Institute cope, in part at least, with steadily rising costs.

In letters to students and to their parents earlier this week, President Jerome B. Wiesner said the increase was being applied "with great reluctance," even though the need for annual increases had earlier been forecast as required to keep pace with rising costs nationally.

"Despite reductions in department budgets and other economies, our costs continue to increase," Dr. Wiesner said. "The price of nearly everything the Institute buys from fuel oil to laboratory supplies has risen sharply. Wages and salaries have been increased, as they must, to minimize loss of real income on the part of those who serve at the Institute."

Dr. Wiesner said he recognizes the added burden the increase imposes on students and their families, particularly those just beginning their study at MIT.

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and building research equipment as well as working in the waters of Penobscot Bay. Several students also learned how to navigate and use SCUBA gear.

In addition to the MIT students, ten midshipmen from Maine Maritime Academy joined in the research. Professor Damon Cummings of the Department of Ocean Engineering supervised the project with Professor David Wyman of Maine Maritime.

One team searched for a 30-foot sailboat which sank in the bay during a storm last fall, taking the lives of four Maine Maritime midshipmen. Using various types of sonar equipment and mechanical

Lincoln Sphere Orbiting After Successful Launch

A 44-inch polished aluminum sphere designed at Lincoln Laboratory was one of nine space experiments launched successfully on a single rocket last Friday from Vandenberg Air Force Base in California.

The sphere is the second Lincoln Calibration Sphere to be put into orbit. Both are used as standards for calibration of powerful radio and radar systems. The first LCS was launched in 1965 into a circular orbit at an altitude of 1,500 nautical miles. The new sphere is orbiting at an altitude of about 450 miles, making it more easily accessible and useful to a larger number of radar facilities.

Designed for direct measurement of the sensitivity of large radio and radar systems, the new LCS can determine system sensitivity as close as one or two tenths of a decibel in some instances. The LCS has a precisely machined and carefully polished surface to

produce steady radar echoes of uniform strength, even at wavelengths of only a few centimeters. The sphere is made of 1/8-inch aluminum sheet stock, spun into two hemispheres which are joined to an internal equatorial band by 440 equally spaced aluminum screws, and then machined from a precision template and hand polished to a high gloss. Weighing 75 pounds, the LCS is exactly spherical to within a few thousandths of an inch.

In addition to aiding the accurate calibration of radar systems, the sphere will be useful in making direct measurements of the effects of different weather conditions on radio wave propagation and will provide additional information about the shape of the earth's gravitational field. By observing the effects of air drag on the orbital period, the new, lower-altitude sphere will also provide valuable information about atmospheric density and its variations.

(Continued on page 3)

F.D. Aldrich Joins Medical Department Environmental Unit

Dr. Franklin D. Aldrich, chief resident at Lemuel Shattuck Hospital, has been appointed Physician in Charge of the Environmental Medical Service. He succeeds Dr. Harriet L. Hardy, who retired in June after serving on the Medical Department staff for 22 years. The appointment was announced by Dr. Albert O. Seeler, director of the Medical Department.

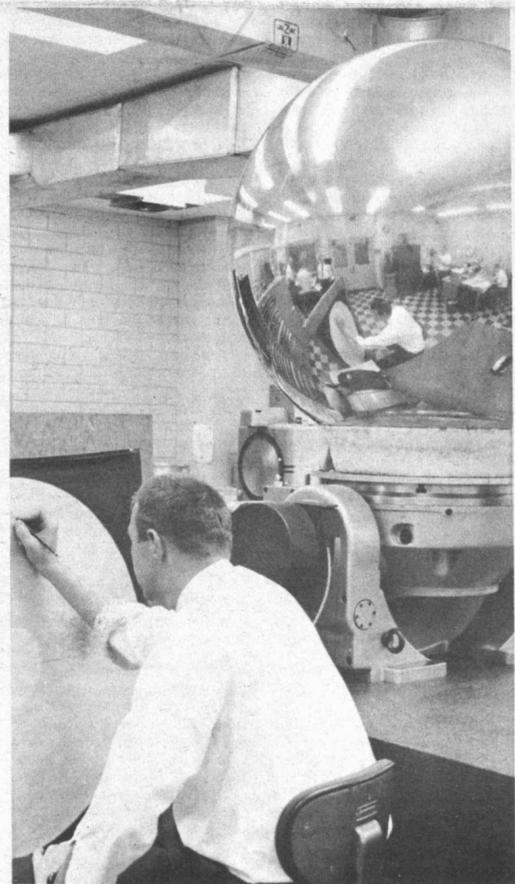
A native of Michigan, Dr. Aldrich received the B.S. degree from Michigan State University in 1950. He received the M.A. in 1953 and the Ph.D. in 1954 in plant physiology from Oregon State University. After working in plant physiology and toxicology for several years, he entered the medical school of Western Reserve University where he received the M.D. degree in 1962.

After his internship Dr. Aldrich spent a year conducting drug research for the Upjohn Company. He then served as clinical instructor and clinical assistant pro-

fessor of preventive medicine at the University of Colorado Medical Center. From 1966 to 1969 he was director of the Colorado Community Study on Pesticides in the Colorado Department of Health.

Because of his growing interest in human toxicology and internal medicine, Dr. Aldrich came to Boston's Lemuel Shattuck Hospital, where he completed the requirements for certification by the American Board of Internal Medicine. During his training there he served as assistant resident in internal medicine (1969-1970) and chief resident (1970-1971). He was also a teaching fellow in medicine at Tufts Medical School.

Dr. Aldrich will supervise the Institute's Environmental Medical Service, which is responsible for protecting the campus and its surroundings from toxic and radiation hazards. He also plans to conduct research in the field of environmental toxicology.



The shiny Lincoln Calibration Sphere underwent final precision contour measurements at Lincoln before being launched last week.

—Lincoln Lab Photo



John Terry, director of Upward Bound, has informal conversation with one of the students.

Upward Bound Completes Summer Program

Sixty Boston area high school students have been getting back on the track toward college in a summer Upward Bound program on the Wellesley campus.

"The kids in the program all have the potential for college,"



Student is absorbed by *Macbeth* in the English class.

—Photos by Margo Foote

says director John Terry, "but wouldn't get in and stay in by themselves. We look for the bright kids who have been turned off by high school—not the A or B students who would go to college anyway." The other requirement for a student's admission is that his family's income must be below a certain prescribed level.

The program, run jointly by MIT and Wellesley, is now in its sixth and final week. Students from a wide variety of cultural and ethnic backgrounds, including Apache and Hopi Indian, Portuguese, black and white, have been attending morning classes at Wellesley. During the week they live in Beebe Hall, and on weekends they return to their homes.

Upward Bound gets most of its students into college. Of 28 seniors in last year's program, 26 are now students at various colleges, mostly in New England. "This year it looks like 100%," says Mr. Terry. The program also arranges financial aid for its graduates, none of whom could go on to college without it.



Nat Bates, right, works out mathematical game with students in the computer programming course.

The classes, which include English, algebra, computer programming, biology and anthropology, are run at a low-key tempo. Students smoke and bring soft drinks to class. Teachers, who dress as casually as students, give neither tests nor grades.

"It's not like high school," says Paul Thomas, a senior who hopes

to enroll at Boston College next September. "The classes are smaller and the facilities are better. And this secluded campus really puts you in the mood for learning."

The informal approach works. During an English class last week nine students conducted a thoughtful analysis of a scene in *Macbeth*. The students accepted the play as something they could enjoy, rather than as the basis of a humdrum homework assignment. "I wouldn't get to read Shakespeare in high school unless I was in drama class," one student remarked.

The atmosphere in the computer programming class was similar. Students took turns logging in a program for playing mathematical games. Meanwhile other students used another program to study how quickly a line of people moves through a cafeteria.

The students are free each afternoon to study, swim or play softball. They have planned entertainment for Parent's Day and a talent show, built a snack bar and improved a dance and recreation area. One afternoon recently the whole group took off in buses for Newbury for a series of softball and basketball games against the Upward Bound students in another program there.

Most of the teachers at Upward Bound are from Cambridge high schools. In the program they learn and develop new methods of teaching. Clyde Payne, an algebra teacher, emphasizes the importance of teacher attitude. "Although the curriculum is important," he says, "the teacher's ability to relate, to be human, is even more important." Dr. Louis Menand, Assistant to the Provost and one of the original founders of the national Upward Bound program, agrees. "We try to get the student to interact first with the teacher as a step to get him to interact with the material," he says.

The students themselves have a say in the program's operation. They help interview prospective students and the MIT and Wellesley undergraduates who serve as tutors and counselors.

This rapport between students and teachers has evolved naturally. They live side by side in the dormitory, often talking things over together in the evenings. Between classes they joke with

one another. The teachers' families also live in the dorm, which leads to a strong sense of overall community spirit.

Although the summer session is the highlight of Upward Bound, the program also runs during the regular school year. College counseling and weekday evening tutoring are available for the students. On Saturdays they participate in a variety of cultural and recreational activities and special projects. "It's a place for the kids simply to come," notes associate director Harriet Feinberg.

Today more than 300 colleges across the country operate Upward Bound programs. MIT's version grew out of the old Science Day Camp for sixth-, seventh- and eighth-graders. "Having had the Science Day Camp was a valuable experience when we started Upward Bound," says Dr. Menand.

"I think Upward Bound is the most revolutionary thing in American education," he adds. "It can't serve as a model for all schools, simply because there are too many kids to educate. But it can show a direction about how an educational system can effectively treat its kids."

Grants for Foreign Study

Interested in graduate study abroad?

The Institute of International Education is recruiting candidates for many travel grants and fellowships offered for the 1972-73 academic year. Students interested in a graduate study program abroad can find information and applications in the Foreign Study Office, Room 10-303, Ext. 5243. Completed applications must be submitted to Dean Harold Hazen, foreign study advisor, before October 8.

Briefly the major grants are as follows:

Fulbright-Hays Full Grants are available to U.S. citizens who have a bachelor's but not a doctoral degree on the date the grant becomes effective. The program offers study in 29 countries, but the applicant must specify only one. Sufficient knowledge of the appropriate language is necessary to communicate with people of the host country and to carry out the proposed study. The full grant includes round-trip transportation, language or orientation courses if necessary, tuition, fees, health insurance, and a maintenance allowance for one year based on living costs in the host country.

Fulbright-Hays Travel Grants provide travel expenses to supplement some other grant which provides maintenance and study costs. Travel grants are available to 12 countries and include round-trip transportation, health and accident insurance, and the cost of any orientation program abroad. These funds may not be used for any other travel purposes or to supplement the student's own funds for studying.

Fulbright-Hays Post-Doctoral Awards (1973-74) for research or lecturing abroad are administered by the International Exchange of

Persons (809 United Nations Plaza, New York, N.Y.). Applicants must be U.S. citizens with proficiency in the language applicable to the chosen country. The awards for lecturing and college or university teaching require some experience at the level for which the application is made. Qualifications for research are a doctoral degree, or, in some fields, recognized professional standing as demonstrated by faculty rank, publications, etc. The award includes round-trip travel, a small allowance in local currency for travel, books and services, and a maintenance allowance.

Foreign Grants are offered by many foreign governments, universities, and private donors. Generally these cover only a portion of the expenses but may be supplemented by a Fulbright-Hays Travel Grant. Application may be made to one country only.

Churchill Grants for research and/or lecturing at Churchill College, Cambridge University, are restricted to men between the ages of 19 and 26, who have a bachelor's degree. Postdoctoral students are not eligible. Churchill Scholars have the option of spending one year at Cambridge working toward a Certificate or Diploma, or three years for a Ph.D. MIT nominates two candidates to compete with applicants from 45 other institutions for ten scholarships in the natural sciences, engineering, or mathematics. The grant includes full tuition and fees, round-trip travel from New York, and a maintenance allowance of \$1,750. Married students receive an extra \$1,000 for maintenance, \$500 for travel, and \$500 for each child.

Marshall Scholarships were established in 1953 by the British government as an expression of gratitude for the European Recov-

ery Program instituted by General Marshall in 1947. Its purpose is to enable U.S. citizens, men and women under 26 and graduates of U.S. colleges and universities, to study for at least two years for a degree in a British university. Marshall Scholarships are offered to 24 students for a specific course at a specific university. Applicants may state a preference for a particular university, but the final choice is determined by the Marshall Scholarship Committee. The award averages \$3,000 per year. Married applicants are eligible and may receive an additional stipend, but single students are preferred.

The prestigious **Rhodes Scholarships** are available to unmarried male U.S. citizens, ages 19-25, for two years of residential study at Oxford University. Contact Tom Gerrity c/o Index Systems, Inc., 1 Broadway, Cambridge, 492-1500; or Professor David Ness at the School of Management, Ext. 6602.

DAAD (Deutscher Akademischer Austauschdienst) awards approximately 70 grants to Ph.D. candidates and applicants, ages 18-32, who have received their doctorates since June 1969. The award includes a \$140 per month stipend for ten months in addition to round-trip transportation, health and accident insurance, waiver of tuition and fees, and an additional allowance for married students. Candidates should be fluent in German and must pass a difficult language examination at the German host university.

The Swiss Federal Institute of Technology (ETH) in Zurich offers a one-year fellowship for graduate study. A stipend of \$1,150 covers economical living and academic costs but the student must use his own funds for travel, cultural activities and recreation in Europe.

TECH TALK

Volume 16, Number 6

August 11, 1971

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THE INSTITUTE CALENDAR

August 11
through
August 20, 1971

Send notices for August 18 through August 27 to the Calendar Editor, Room 5-111, Ext. 2701, by noon Friday, August 13.

Here and There

--If you've been held up recently by the road work being done on Vassar Street, take heart. It may be a traffic nuisance for several weeks, but it marks real progress for the Institute. What's happening on Vassar Street is the installation of telephone lines which will bring Centrex to MIT next summer.

--Graduate students who hold appointments as research assistants, teaching assistants or instructors are eligible for junior membership in the American Association of University Professors. The annual membership dues is \$3. Students wishing to be nominated for membership should submit their names to Dr. Irwin W. Sizer, dean of the Graduate School, Room 3-134, Ext. 4869.

The telephone extensions in the Dean of Engineering's office (Room 1-206) have been changed. Dean Alfred Keil can now be reached on Exts. 3291 and 3292, Associate Dean James Bruce on Ext. 3293, and Assistant Dean John Currie on Ext. 3294.

Students Study Polluted Waters Off Maine Coast

(Continued from page 1)

equipment, the students tried a side-looking sonar device developed by Professor Ira Dyer, modeled after a device used earlier by Professor Harold "Doc" Edgerton. This technique, which scans the bottom at an oblique angle instead of looking straight down, helped the searchers cover a larger area of the bay, but nothing conclusive was ever found.

A second team charted the currents and tides in Penobscot Bay. After determining the flow of water, they traced the course of pollution through the bay region.

The study began near a depleted copper strip mine which is separated from neighboring waters by a dam. The students analyzed several water samples from the area and found relatively few pollutants. In comparison, samples taken near open sewage dumps along the Penobscot River were heavily polluted.

When the mine is shut down next year, the dam will be opened, allowing heavy metal seepage to flow into unprotected waters. The students charted the path which will dump this metal waste into Penobscot Bay, already damaged by pollution from paper mills, chicken processing plants and other industrial factories.

The students designed and built some rather ingenious equipment for their research project. One of their gadgets measured the correlation between tides and changing water pressures. Another device, shaped like a propeller, measured current direction.

At least four different methods were used to measure current

Seminars and Lectures

Extracting Scientific Information from Interplanetary Spacecraft Radio Teaching Data *

Louis D. Friedman, graduate student, Department of Aeronautics and Astronautics. Instrumentation doctoral thesis presentation. Wednesday, August 11, 2pm. Room 33-206.

Sonic Boom Calculation in a Stratified Atmosphere *

Dr. Michael Schorling, NASA Langley Research Center, Hampton, Virginia. Acoustics and Vibration Seminar. Friday, August 13, 11am. Room 3-343.

MIT Club Notes

Baker House SPAZ Jogging Club **

Jogging around BU and Harvard Bridges. Daily 10:45pm. Baker House, Second Floor West.

Science Fiction Society *

Every Friday, 5pm. Student Center, Room 421.

Classical Guitar Society **

Summer classical guitar classes every Monday and Thursday, 5pm. Room 1-132.

Outing Club *

Every Monday and Thursday, 5pm. Student Center, Room 473.

Nautical Association **

Basic Sailing Shore School. Repeated every Wednesday throughout the summer, 5:15pm. MIT Sailing Pavilion.

MIT/DL Duplicate Bridge Club **

Every Tuesday, 6pm. Student Center, Room 473.

Movies

The Wrong Box **

Lecture Series Committee. Wednesday, August 11, 7 and 9:30pm. Room 10-250. 50 cents.

Stardust and Iron Petticoat *

MIT Chinese Students Club. Friday, August 13, 7:30pm (Iron Petticoat) and 9:30pm (Stardust). Kresge Auditorium. Admission \$1.75 for adults and \$1 for children. Tickets available in advance or at the door. MIT community entitled to 25 cent discount on advance tickets only. For information and tickets, call Ray Eng, Ext. 2961.

Gambit **

Lecture Series Committee. Saturday, August 14, 7 and 9:30pm. Room 10-250. Admission 50 cents.

I Walked with a Zombie *

MIT Film Society. Monday, August 16, 8pm. Room 10-250. Admission \$1.

Seven Days in May **

Lecture Series Committee. Wednesday, August 18, 7 and 9:30pm. Room 10-250. Admission 50 cents.

velocity in the bay. First the students used a cassette recorder to tape the vibrating sounds made by a wire as current flowed against it. The frequency of this sound, or hum, corresponded to a particular current velocity. Using the same principle, the students also recorded the sounds made by a rotor and a propeller.

Another type of velocity meter, the "styrofoam cup technique," undoubtedly was the students' most imaginative design. They started with an ordinary styrofoam coffee cup, cut a hole in the bottom, attached a paper clip and a metal washer, repeated the process 1,000 times and presto—a current velocity meter.

In the experiment the jerry-rigged cups, placed in the water one by one, sank at a constant speed. When the washer touched bottom, it fell off the paper clip and the cup floated back to the surface, again at a constant speed. By keeping track of where each cup was placed and where it resurfaced, the students charted the

direction and speed of the current.

As in most research projects, the students encountered a few problems. A small rowboat, being towed behind a larger ship, almost sank when its line got tangled in the ship's propeller. It was touch and go for a while, but the students removed the outboard motor, bailed a lot of water, and finally managed to keep the rowboat afloat.

The divers had problems too. "SCUBA divers are well-known for mutilated eardrums," says Martin. "Three members of our group, including Professor Cummings, came down with ear infections. We finally sent for a doctor to examine everybody's ears."

Despite the small difficulties, the students all agree that the Penobscot Bay project was a great way to spend the summer. Back on campus, they're settling down to the chore of documenting their research and making plans for next year.

Dance

Modern Dance Class **

MIT Dance Workshop. Intermediate/Advanced. Every Thursday, 7pm. McCormick Gym.

Israeli Folk Dancing *

MIT Folk Dance Club. Every Thursday; party last week of each month. 7:30-11pm. Student Center, Room 407. Basics taught from 7:30-8pm.

Friday Afternoon Dance Break *

MIT Folk Dance Club. International Folk Dancing on the oval lawn in front of Kresge Auditorium. Every Friday, 12-1pm.

International Folk Dancing *

MIT Folk Dance Club. Every Sunday, 7:30pm. Student Center, Sala de Puerto Rico.

Balkan Dancing *

MIT Folk Dance Club. Basic, Intermediate, Advanced. Every Tuesday; party first week of each month. 7:30pm. Student Center, Room 407. For more information call Jane Weiman, 876-5609.

Square Dance Club *

Every Tuesday, 8pm. Student Center, Room 491. For information call x6213.

Folk Dance Practice *

New England Turkish Students Association. Every Wednesday at 8pm and every Sunday at 6pm. Student Center, Room 407. For more information call Y. Ayasli, 864-8276.

Modern Dance Technique Class **

Elementary/Intermediate. Every Monday, Wednesday and Friday, 5:15pm. McCormick Gym.

Exhibitions

Seymour Lipton: Recent Sculpture *

20 sculptures from the past five years, of nickel, silver or bronze on Monel metal. Sponsored by the MIT Committee on the Visual Arts, courtesy of Marlborough Gallery, NY. Drawings by Seymour Lipton are on exhibit in the Hayden Lobby. 1-5pm daily through the summer. Hayden Gallery and Courtyard, through September 19.

Steamboat Design *

Details of Robert Fulton's steamboat "North River" and other early American steamboats. Hart Nautical Museum, Building 5, First Floor, through the summer.

Deep-Ocean Mining *

Material from Sea Grant Project Office. Hart Nautical Museum, Building 5, First Floor, through the summer.

Main Corridor Exhibitions *

Presented by students and departments. Buildings 7, 3, 4, 8.

Athletics

Summer Rugby *

Every Tuesday and Thursday, 5pm. Briggs Field.

Religious Services and Activities

Christian Bible Discussion Group *

For details contact Professor Schimmel, x6739. Every Thursday, 12:15pm. Room 20B-031.

Islamic Society Prayers

Every Friday, 12noon. Student Center, Room 473.

Roman Catholic Mass

Every Sunday, 11am. MIT Chapel.

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

Don't Forget

Join your friends at the Muddy Charles Pub, 110 Walker Memorial, 11:30am to 7:30pm daily. *

*Open to the Public

**Open to the MIT Community Only

***Open to Members Only

†Freshmen interested in departmental program encouraged to attend.

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 extension or room number. Ads may be telephoned to Ext. 2707 or mailed to Room 5-105. The deadline is 5pm Friday.

For Sale, Etc.

Coleman sgl mantle gas lantern, like new, \$9. Don Anderson, 492-3320 evgs.

Pr Goodyr stud tires w/whls, 4 ply F70-14. x7174 or 547-4470 evgs.

Farfisa Combo Compact, port organ, exc cond, \$325, w/ negotiate. Call 262-3272 evgs.

Greco guitar, GR12 w/case, \$30; wall mounted bkshef, adjustable brackets & shelves, \$12; Toastmaster toaster, \$10; Borg bathrm scale, \$3. Call 354-7215.

GE port dishwasher, gd cond, \$50. x392 Linc or 862-3773 evgs.

Triple track alum windows (7), 60"x36", \$40 or best. Bart, x5011.

Avail 8/31, dbl bed, dress tbl, desk, DR tbl w/6 chrs, coffee tbl, stereo, etc. Call 267-5676.

Autopress wkshop manual, condenser & points for MG 1100. Joe, x3223 or 484-9275.

Proof set '71 S, \$7 ea, negotiable. Bill, x6541.

Amana refrig, best offer. Call 332-6299 evgs.

Sunapee, 3/4 acre in yr round development, w/water rights, \$2900. Susan, x5426 Linc.

Simmons sgl bed w/bxspr & matt, almost new, \$30. Call 864-5925.

Refrig, 16 or 17 cu ft capacity, gd size freezer, exc cond, \$30. E. Mangan, x7279.

New Whirlpool gas dryer, \$120 or best. Oscar, x6310 or 782-0181 evgs.

Sears washer/dryer, 2 1/2 yrs old, \$300. x5323 or 742-1734 or 867-4913.

Crib, children's dresser, bkcase, \$35; vaporizer, \$6; Peterson car seat, \$6; toaster, \$5. Call 489-2417.

TEAC 12 AU tapedeck, 4 mos old, microphones, remote controls, and access, \$300. x4064 or 536-0238 evgs.

GE port dishwasher, exc cond. Call x501 Draper 7 or 277-0394.

File cabinet, heavy duty, 2 drws, \$30. Call 876-0484 evgs.

Console B&W TV, 23", \$30; coffee tbls (2), \$20 ea; tire, 8x14, exc cond; night tbl, \$10; brass lamp, \$20. Call 868-3729.

Adolfo red/auburn shag wig, new, \$10. Call 547-9694.

Beige sofa, Whirlpool washer. Call 237-4827.

Lrg DR tbl w/6 chrs, \$115. Call 354-4801 evgs.

Girl's 20" Raleigh bicycle, gd cond, \$20 firm. Call 332-7482.

Rebuilt Steinway parlgr or piano, best offer. Call 868-1111.

Crib size bed & matt, gd cond, \$20. x6749 or 876-5047.

Dbl bed w/box spr & frame, yr old, \$50. Stan, x7001.

Lrg DR tbl w/6 chrs, \$125; oak server, \$100; fake oriental rug, 9x12, \$100; mahog bed set, \$240. Call 846-2741.

Antique barber's chr, great conversation piece. Rod, x5160.

Admiral refrig, 18 cu ft, \$65; Amana air cond, 9000 BTU, \$65, both avail 8/28. Terry, x2256.

Mahog china cabinet, \$30; Magnovox stereo/FM radio/record player, \$180; lrg chest w/shelves & 2 drws, gd for linens, \$20; night tbls (2), \$20 both. Call 876-4160.

Dbl bed, new w/2 sets sheets, \$70; banjo, \$50. x5020 or 646-8406.

Grey luggage, 3 piece set, exc cond. Betsey, x3827.

Royal elec port typwr, best offer. Call 482-0359.

Coffee tbl, \$5; rocking chr, \$8; chest w/3 drws & detachable mirror, \$18; sgl bed, \$20. Call 623-3789.

Drawing board, port w/parallel rule, \$10; used drying equip, triangle, etc, best offer. Andra, 354-7215.

Sears air cond, 6000 BTU, 7.5 amps, 7.0 BTU/watt, 2 yrs, exc cond, \$100. Peter, x7524 Linc.

Gas range, \$25. David, x7652.

Admiral 10 cu ft refrig, yr old, \$155 new, asking \$100. Mary, 868-2347 evgs.

Stereo components: Marantz pwr amp & Rect spkrs. Call 277-2992 evgs.

Realistic stereo concertmaster, 36 watt AM/FM R w/Dual spkrs (2), \$110; Realistic MC-1000 Dual spkrs (2), \$65. Joe, x7673.

Metal bkcase, \$9; Mod love seat, \$18; floor & tbl lamps, \$4, \$8, \$10; elec frying pan, \$8. Call 491-7027.

Desk, \$40; metal wardrobe w/mirror, \$15; lrg mirror, \$10; two chrs, \$4 ea. Nihat, x6834 or 734-8561 evgs.

Dresser w/mirror, \$30; chest w/drws, \$15; night tbl, \$10; leather arm chr, \$15; all in exc cond. x1559 or 926-1888.

DR tbl, \$7; sgl bed, \$15; hair dryer, \$15; man's ice skates, 8, \$14; woman's ice skates 6, \$7; free sgl bed and sofa. Wen-Li, x5353 or x2447 or 354-3855 evgs.

Conv sofa bed, \$35 or best. x5435.

Turq print conover colonial sofa, \$190; Rek-O-Cut, 3 sp turntbl w/empire arm, \$35; attachable twin beds (2), \$100; aquarium, 10 gal w/fixtures, \$30. Bill Blatchley, x4576 or 868-5873.

Mahog D tbl, 4x6, \$15; 6 chrs, \$30; couch/bed, \$25; dbl bed, \$10, etc. Alan, x5309.

Man's bicycle, 26", 3 sp, \$40. Janet, x4308 or 862-5156.

Tandberg model 64X tpdk, Mod 12 w/built in amps & spkrs. Call 868-4468.

Mahog chest, \$30; fan/heater, \$5; hot plate cooker for 2, \$5; fawn carpet, 9x5, \$6. Call 862-5806.

Lrg 4 drw wh bureau, \$5; yel cabinet, \$4; sgl bed, \$20; red painted love seat, \$10. Call 426-7651 evgs.

Kenmore 2 spd 3 temp washer, exc cond, \$85; Thayer crib w/matt, \$20; sew machine, \$15. Call 491-2288 evgs.

Woman's, 3 spd bicycle, pd \$80, now \$45. Lilian, x6866.

Moving must sell: Hotpt refrig, K tbl, coffee tbl, small sofa, etc, reasonable. x2195 or 522-9830 evgs.

Blkwall tires, 7.75-14, 2 snows, 2 regular, \$1-\$6; new Lange buckle boots, 8 1/2 N, \$75; elec knife/mixer, \$15. Mike, x6762.

Broiler/fry pan, teflon, \$12; elec mixer, \$6; ladies golf shoes, 7 B, \$15. John, x6762.

Lrg arm chr, \$35. Debbie, 566-1012 evgs.

Stereo system: Sansui receiver, BSR MacDonald turntbl & Goodman spkrs, \$200. Call 277-2992 evgs.

Vehicles

'56 VW bus, runs well, new br, \$45. Call 527-3610 evgs.

'59 VW, body bad, eng gd, \$85 or best. Call 961-1698 evgs.

'62 Chevy Impala, 4 dr, gd cond, must sell soon, \$200. Call 354-4371.

'62 Pontiac, gd cond, \$175 or best. Peter, dl 0280 evgs.

'63 Chevy Biscayne, gd cond, \$300. Call 354-3343.

'63 Chevy 409 conv, needs trans, \$150 or best offer. Rosemarie, x661 Linc.

'64 T-Bird, conv, one owner, immac cond, all pwr, \$650. Steve, x2334 or 492-6346 evgs.

'64 Volvo, 122S, 4 dr sedan. x4169 or 864-1411 evgs.

'64 Dodge wgn, pwr st, auto, elec tailgate window, \$300 or best. C. D. Paton, x7411.

'65 VW, 3 new tires, snows, exc cond, \$650. Call 332-8231.

'65 Mustang, conv, exc cond, \$750. x3647 or 491-1627 evgs.

'66 Olds, F85 wgn, all pwr, new snows, \$650 or best. x7921 or 475-7679 evgs.

'67 Volvo 144S, 31K, new tires, exc cond, best over \$1400. Russ Betts, 862-5561.

'68 VW ftbk, 4 sp, disk br, new tires, snows, exc cond, \$1700 or best. Call x2360.

'68 Karmann Ghia, auto-stick, \$1500 or best. George, 782-2977 evgs Mon-Thurs.

'68 Chevy Nova II, 4 dr, 6 cyl, R & H, auto, extra snows, exc cond, \$1000. Call 277-1401.

'68 Olds 442, blue conv, pwr st & br, auto, \$1200 or best. Martha, x4794.

'69 Mustang, pale yellow, 428 eng, 18K, exc cond, \$1800. Call 935-6231 evgs.

'69 VW, gd cond, 33K, light bl, R, sunrf, \$1250. x5155.

'69 Torino, exc cond, 23K, incl snows, stereo, \$1800. Call 625-8134 evgs.

'70 Plymouth wgn, 5K, exc cond, \$2600. x6917 or 484-8220.

'64 BSA cycle, rebuilt, needs new wire. Ron, x4749 or x3939.

Sailboat, 16', Dacron sails, extra equip, trailer, \$995. Call 944-2138.

'59 15' fiberglass runabout, 35 hp Evenrude motor & Teenee trailer, \$500. Bob, x2255 or 472-0945.

Housing

Arl, tudor style, 3-4 BR furn house, LR, K, 1 1/2 B, study, avail 9/12-6/5/72, \$400. x4183 or 643-0225 evgs.

Modern 2 BR apt near Columbia and Cambridge Sts, \$180/mo + util. Call 661-0439 or 864-5662.

Dedham colonial on priv way, 3 BR, 2 extra rms on 3rd floor, study, family rm, 1 1/2 B, for sale in upper 30's. Call 326-8471.

Falmouth-Sippewissett, 4 BR, new house, walk to beach, avail for rent now to Labor Day or after. x7043 or 861-8215 evgs.

Harv Sq apt avail, employees only. Vanessa, 661-8177 evgs.

Newton & Waltham, 1 & 2 BR apts, conv to trans. = George, x6470 or 899-5353.

Maine, Mooselookneguntic Lake, near Rangeley, lakeft contemp 4 BR house in wilderness, mts, sundeck, frpl, elec K, ww carpet, includ use of canoe, wkly or monthly rental. Jeannie, x3584 or 232-2822.

Maine lakeside cott, Sebago area, winterized, furn. Write C. Westcott, Box 86, Forge Village, Mass, 01828.

Waban, 3 BR house, LR, DR, K, gar, avail immed for year, nr schools, \$300/mo. David Baye, 523-5866.

Westgte: sublet eff apt to MIT couple, from 8/23 to 12/23. Lima, 492-3824 evgs.

Animals

Sipt Siam kitten, trained, ready for new home, \$15. Dick, x5430 or 653-8189 Natick.

Free: 2 imaginative kittens, juggling & wrestling act partners. Call 354-7590 evgs.

Free cuddle puppies, Dachshund/Beagle/other. x7263 or 251-8207.

Free: 2 F kittens, trained, fluffy gray & brown & orange stripe. Call 492-6266.

AKC Siberian Huskie pups, 8 mos old, all shots, \$175. Ken, 729-6538.

Free kittens, 5 wks old, 2 blk & white, 2 gray & blk tigers. x5911 or 354-0350 evgs.

AKC mini French poodle, Bl F, 11 months old, \$60. Pete, x366 Linc.

English Pter puppies, regis, reasonable. x7655 or 327-6198.

Wanted

E flat alto saxophone. x393 Linc.

Rmmate for apt in NYC to share w/alumni. Call 864-5687.

Lehninger, *Bio-Chemistry* for 7.05. Sally, x6746 or 876-8159 evgs.

Rmmates (2) for Somerv 4 BR apt. John Willet, x5934 or 491-8671 evgs.

Metal carpenter's mitre box. Call 524-0118 evgs.

VW eng, gd cond. Gary, 723-7145 evgs.

Gov Winthrop style slant lid desk, for young girl, medium sized flat top wood desk for young man, gd cond & in expen. Call 484-9591.

Trunks, all sizes. x6298 or 491-0868.

Reasonable 4x5 view camera. Karl, x4765.

Amer Flyer toy trains. Blanchard, x322 Draper 7.

F rmmate, own R, 4 BR, 2 B, apt w/appliances, parking, on T line, near Coolidge Corner, for 9/1 or sooner, \$117. Margaret, x4737 or 731-1059 evgs.

M & F rmmates for mod Camb apts, own rms. M call 492-4675, F call 547-2748.

Bicycle, 3 sp, man or womans. Anne, x3221.

Ride to Ann Arbor or Detroit, end of Aug, will share expenses. Call 864-5925.

Babysitter, wkdays 9-5 for 11 yr old boy, 8/16-9/1. Sara, x7195 Linc.

Bicycle, 3 sp. Michael, x5873 Linc.

Wanted, 1 BR furn apt, 9/1-9/10. Call 646-2951.

F rmmate, 25-35 for Camb apt. Call 491-0473 evgs.

Lady's bicycle, coaster brake. Jack, x4168.

F. rmmate for furn apt nr MIT, \$78/mo. Balie, x7953 or 491-1838 evgs.

Young woman to do babysitting & light housewk. Call 482-0959.

Home for mildly retarded 23 yr old F w/academic family for 1 yr, start 9/1. Social Service, x4911.

Within 5 miles of MIT, 4 BR furn house for no more \$300. Ken, x5058 or 969-8312 evgs.

Vacuum cleaner in gd cond. x7297 or 491-5838.

Babysitter, reliable w/references, half days/wk. Call 484-9275.

Miscellaneous

Responsible wife will babysit wkdays for child, in own home or yours. Call 484-3549.

Will type fast, 90 w/min, neat, term papers, etc. Dee, x6830.

Will babyst evgs & wkends. Call 492-4572.

Will repair TV & R, very reasonable. Call 288-0880.

WI do technical & thesis typing. Kathee, x3840.

Pro St Claus, Jim A. Lopez, avail all yr round. Call x443 Linc or Haverhill 372-5295.

Lost and Found

Lost: passport w/all papers. Linda, x3511 or 729-6453.

1972 Tuition to Rise to \$2,900

(Continued from page 1)

in prices and wages must be reflected in tuition fees," he said. "This is a problem we share with all other private universities, most of which have found it necessary to adopt tuition rates equal to or exceeding that at MIT. We have sought to keep any increase here as low as financially feasible and to announce it well in advance to aid your own planning."

Dr. Wiesner told students and their families that the university is making every effort to build up financial aid funds to help, if possible, lessen the impact of the tuition increase.

"It continues to be our desire that no qualified student should be prevented from coming to MIT for lack of financial resources," he said. "We are examining every alternative to assure this goal, including various plans for loan repayment contingent upon income. To increase the capital available for scholarships, fellowships and loans, I have designated student financial aid one of our highest priority development goals, and we are beginning a major effort to secure increased financial aid funds."

Dr. Wiesner also said MIT hopes there will be improved forms of federal assistance to higher education that will reduce the direct burden on students and their families.

"I can assure you that intensive efforts are being made to develop the Institute's other sources of income—from endowment, gifts, research grants and contracts," Dr. Wiesner said. "Even as these efforts are successful, they cannot cover the share of the cost of education borne by tuition, which is still substantially less than the full cost of an MIT education."

"Determined as we are to maintain the quality of that education, our only prudent course is to concentrate on minimizing costs and to adjust tuition as necessary to maintain its proportionate contribution to the overall educational budget."

Expenditures at MIT have exceeded income by some \$2 million a year for each of the past two fiscal years and a similar shortfall is expected, despite economies, for the present fiscal year, a financial experience common to most colleges and universities in the US in recent years, and tuition has been increasing to help meet this inflationary spiral upward. The Institute's last tuition increase was announced a year ago. Tuition was raised by \$150 to \$2,650 effective with the start of the present summer session.