

NAS Elects 4 From MIT

Four MIT professors were among 60 new members elected to the National Academy of Sciences, and an MIT professor received a NAS Award, at the 114th annual meeting last week in Washington, D.C.

The four professors elected were: Dr. Michael Artin, professor of mathematics; Dr. Louis N. Howard, professor of mathematics; Dr. Samuel C.C. Ting, Thomas Dudley Cabot Professor of Physics, and co-recipient of the 1976 Nobel Prize in Physics, and Gerald N. Wogan, professor of toxicology in MIT's Department of Nutrition and Food Science.

Their election brings to 74 the number of MIT faculty members who have been elected to the NAS.

Dr. Chai-Chao Lin, Institute Professor and professor of applied mathematics, was awarded the National Academy of Sciences Award in Applied Mathematics and Numerical Analysis for his outstanding contributions to the fields in 1976. He is also a member of the NAS.

Election to the NAS is considered to be one of the highest honors that can be accorded to an American scientist or engineer.

Several MIT alumni were also among the 60 new members of the NAS.

They are:
William R. Hewlett, '36, president and chief executive officer of Hewlett-Packard Company, Palo Alto, Calif.

Martin J. Klein, '48, Eugene Higgins Professor at Yale University.

Burton Richter, '52, professor of physics, Stanford Linear Accelerator Center, Stanford University, Calif., who shared the 1976 Nobel Prize in Physics with Dr. Ting.

AARP Chapter First Meeting Set

Installation of officers and a reception for new members will officially launch the MIT-Cambridge chapter of the American Association of Retired Persons on Sunday, May 15, at 3:30pm in Morse Hall at Walker Memorial.

The chapter was formed earlier this spring to encourage fellowship among older members of the community, particularly those who are not eligible for the Quarter Century Club. To date more than 200 have enrolled in the new organization.

Membership in the chapter is open to all members of the MIT community and residents of Cambridge aged 55 or older. Chapter dues are \$2 per person annually.

Meetings will be held monthly at 5pm on the fourth Tuesday except in July, August, December and January. Location and topic of each meeting will be listed in the Community Notices section of the Institute Calendar.

Officers to be installed at the May 15 meeting will be: President—Robert J. Radocchia, Vice President—Ruth L. Dawson, Secretary—Mary Frances Daly and Treasurer—Max Byer.

Other members of the board of directors are: Samuel D. Clark, Miles P. Cowen, Dorothy Donahue, Harold Dryer, Joseph F. Lynch, Francis B. Magurn, Waiter L. Milne, Richard A. Osborne, Zachary Taylor, Joseph S. Mercurio, and Antoinetta Murphy.

Following the installation of officers and the board, refreshments will be served and there will be music for dancing.



CLEAR VIEW SPECIALISTS—The four-story high windows flanking the pillared entrance to MIT's William Barton Rogers Building at 77 Massachusetts Ave., are cleaned of a long winter's grime by William Canty, left, and Mel Burnham, both of Charlestown, employees of Arro Contracting Co., Inc., of Charlestown, MIT's window cleaner since 1947. The building, MIT's main entrance, is named for the founder of the Institute. Phil Mack, who heads Arro, said there are more than 100,000 lights (windows) of glass in Buildings 1 through 11 alone.

President Jerome B. Wiesner has released the following statement to members of the MIT community:

"The April 28 issue of the campus newspaper *Thursday* contained a full page article that many in this community, judging by the letters and telephone calls I and others have received, found extraordinarily offensive and a gross violation of our norms of taste and of regard for privacy. I share this sense of revulsion and am deeply concerned at the evidence of the absence of editorial control at *Thursday* with respect to matters of taste, possible libel, concern for veracity, and the human sensibilities of others on this campus.

"This act raises serious questions as to the use of the Institute name and facilities by a publication which so flagrantly disregards Institute norms. The identification with MIT tarnishes us all.

"The issue here is primarily not one of freedom of the press but of continued provision of institutional support for a potentially libelous disregard for the privacy of persons in this community. The university, of all institutions, must be in the vanguard both of the protection of privacy and the right to publish, and must act with care in balancing invasion of the former with constraint of the latter.

"One immediate reaction in this case would be to revoke the privilege of *Thursday's* use of the Institute's name and facilities. Actions are under way through the regular procedures of the Institute, however, to consider the harm done to this community and certain of its constituents. In addition to the review process of the Faculty Committee on Discipline, the Dean for Student Affairs is initiating, through the Association of Student Activities, a review of the status of *Thursday* as a recognized student activity, which is a precondition for use of the Institute name and facilities.

"These actions will proceed. In the end, however, we must rely on a sense of responsibility on the part of those who publish to respect the rights, values, and dignity of the community they seek to inform."

'World Change' Lectures Concluded

"Short of thermonuclear war itself, (population growth) is the gravest issue the world faces over the decades immediately ahead."—Robert S. McNamara, April 28.

"However well-intentioned, I am convinced that the Administration's nuclear energy policy is a formula for nuclear isolationism."—U.S. Senator Frank Church, May 2.

Talks by Robert S. McNamara, President of the World Bank, and United States Senator Frank Church, Democrat of Idaho, brought to an end MIT's "World Change and World Security" lecture series.

In the series, which began in December, ten world leaders discussed questions of world security in the time frame of the next two decades and in the context of changes they

think might develop or be brought about during these decades.

Mr. McNamara, a former Secretary of Defense who has headed the World Bank since 1968, told a Kresge Auditorium audience Thursday night (April 28) that a significant decline in fertility may have at last begun in developing countries. There is an urgent need to accelerate the decline, however, he said, in order to avoid a world of 11 billion people, "a world none of us would want to live in," by the end of the next century.

The decline in fertility in developing countries over the past two decades, Mr. McNamara said, "appears to have been general and widespread. It has occurred in 77 of the 88 countries for which estimates are available."

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Versator II to Begin Fusion Experiments

VERSATOR II, the newest of MIT's experimental fusion devices, went "on the air" officially Monday, May 2, at an informal turning-on celebration held in Room 36-272.

About 75 persons attended the event, including faculty and staff from the Research Laboratory of Electronics, the MIT Department of Physics, and the Plasma Fusion Center, which provides a focus for fusion work at MIT.

A congratulatory message was sent by the Energy Research and Development Administration, which has pledged additional support to upgrade the machine to higher magnetic fields.

The federal agency is the sponsor of the new machine and also of ALCATOR, the Institute's larger fusion device in the Francis Bitter National Magnet Laboratory.

Hosts for the VERSATOR celebration were Dr. George Bekefi, profes-

sor of physics, and members of his team that designed and built the machine.

Like ALCATOR and other major fusion devices, VERSATOR II is of the so-called tokamak design—a doughnut shaped apparatus in which the fusion plasma is contained by a magnetic field.

Although smaller and designed to be operated at lower temperatures and magnetic fields than those of ALCATOR, the new machine provides great experimental versatility—and thus is so named—to allow a wide range of plasma physics experiments.

With the new machine, MIT now has three experimental fusion machines. The third, named RECTOR, allows studies of toroidal plasmas with an elliptical cross-section.

VERSATOR II is an upgraded version of VERSATOR I, a highly sim-

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Tony Smith Sculpture Installation Planned

Tony Smith's monumental steel sculpture, *For Marjorie* (1961)—a recent addition to MIT's Permanent Collection—will be installed at MIT's West Campus on May 11.

The artist will attend an informal celebration on Thursday, May 12, at 4pm around the new work to be sited on the lawn and flanked by Austrian pines at the entrance to the Westgate complex. The entire MIT community is invited to attend. In case of rain, the celebration will be held in New House 3 Lounge.

The event will provide a unique opportunity for the MIT communi-

ty to meet the artist and to exchange responses to the sculpture. Refreshments will be served.

Smith, a patriarchal figure among sculptors of the 1960s and an early proponent of the Minimalist movement, studied at the New Bauhaus in Chicago and was a practicing architect for 20 years before turning to sculpture in 1960. In 1967, at age 55, he had his first one-man show. It established him as mentor and master to a younger generation of artists.

His work clearly reflects interest in the modular principle espoused

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Breakthroughs and History Combine at Open House

Breakthroughs in science—like the Alcator project—and glimpses of history—like laboratory equipment used in the World War II development of radar—are two of more than 50 exhibits and events to be explored at Employees Open House on Saturday, May 7, from 10am to 5pm.

More than 5,000 employees, their families and friends are expected to come and see what makes MIT tick at the second biennial event. Visitors will be greeted in the

main lobby with balloons and Open House buttons and programs by a core of members of the Open House committee to direct them to whichever activities they find most interesting.

Activities range from movies such as "The Sand Box Derby," a record of this year's competition in Introduction to Design (2.70) to "hands on" experience in the cockpit simulator and television studios, "Invisible Forces in

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Chamber Players to Give Final Concert May 10

The MIT Chamber Players will give the final concert of their 1976-77 season at 8pm, Tuesday, May 10 in Kresge Auditorium. The concert will be open to the public free of charge.

The concert will include Stravinsky's *Pastorale* for Violin and Wind Quartet (1934), Purcell's *King Arthur* (1691), Gabrielli's *Canzona per sonare*, No. 1 (1608), Stravinsky's *Concertino* for 12 instruments (1952 version) and *Adagio* for Clarinet and String Quartet (1833) attributed to Wagner. Following intermission the Players will perform Schubert's *Octet* for Winds and Strings in F, Op. 166 D803 (1824).

Chamber Players concerts give MIT students an opportunity to perform alongside young, professional musicians from the Boston area, members of the MIT music faculty, alumni, and staff.

Violist Marcus Thompson, associate professor of music in the MIT Department of Humanities, who formed the Chamber Players in 1974 and serves as group director, will conduct the two works by Stravinsky. The rest of the music will be played without conductor.

The program was selected for the wide variety of instruments used. Stravinsky's *Pastorale* for woodwind quartet and violin solo

French Art Songs In Chapel Concert

A concert of French art songs will be performed by Vincent Ricento, baritone, and Thomas Zajkowski, pianist, at 8:30pm on Wednesday, May 4, in the MIT Chapel.

The concert, sponsored by the French Section of the MIT Department of Humanities, is open to the public free of charge.

The program will include songs by Cherubini, Fauré, Debussy, Duparc, Hahn, Poulenc, and Satie.

Mr. Ricento received a graduate degree from the New England Conservatory of Music and has continued his studies in the US and abroad. He has appeared in many opera productions in Boston, Philadelphia, Salzburg, and St. Jean de Luz. His most recent recitals have included the first American performances of several works.

Mr. Zajkowski received the master's degree from the New England Conservatory of Music and then studied with Margaret Chaloff and Byron Janis. He has recorded the complete keyboard works of Cherubini. Radio broadcasts in Boston, New York, and Amsterdam have carried some of the recordings. He has given many recitals and last summer played with the *Orchestre du Capitole de Toulouse* in France at the *Academie Internationale Maurice Ravel*.

Harbison Takes Part in Panel On Sessions

Composer John Harbison, associate professor of music at MIT, participated in a recent panel discussion of Roger Sessions' cantata, *When Lilacs Last in the Dooryard Bloomed*.

The Boston Symphony Orchestra (BSO) sponsored the discussion as prelude to their performances of the work in late April. Other panelists were Gunther Schuller, president of the New England Conservatory; Michael Steinberg, BSO director of publications; Justin Kaplan, noted Whitman expert, and Fred Lerdahl, a composer who teaches at Harvard. They gave an introduction to the Sessions score, a setting for chorus, soloists, and orchestra of Whitman's elegy.

The panel was part of a week-long tribute to Sessions who is celebrating his 80th birthday this year. Sessions attended the panel, received the Horblitt Award from Boston Symphony Trustees and an honorary degree from Boston University, and supervised the BSO performance and recording of his cantata.

Professor Harbison published an article on Sessions' *Montezuma* last spring, and his composition *Diotima* was recently premiered by the BSO.

will be performed by Janet Packer, violin, Wellesley '70; Nelson Gore, oboe; Carl Schlaikjer, English horn, MIT '66 with a graduate degree in chemistry; Stephen Umans, clarinet, a research associate in electrical engineering and computer science, and Tom Stephenson, bassoon, MIT '70.

Purcell's *King Arthur* and Gabrielli's *Canzona per sonare*, two early works for brass, will be performed by Robert Pettipaw, trumpet, director of the MIT Brass Ensemble; Herbert Stortz, trumpet, a sophomore from Boston; Mark Nowitzky, trombone, a sophomore from Simi Valley, Calif., and Esther Horwich, trombone, a senior from Alexandria, Va. Mr. Stortz, Mr. Nowitzky, and Ms. Horwich, all members of the MIT Brass Ensemble, are all majoring in electrical engineering and computer science.

Stravinsky originally composed *Concertino* in 1920 for string quartet. He reorchestrated the work in 1952 for 12 instruments. The wind quartet, violin, and brass quartet of the first part of the program will combine for this work and be joined by second bassoon, Alice Barkan, a junior in biology from Ardsley, N.Y.; flute, Kenneth Weiner, a junior in physics from Miami, Fla., and cello, Mark Simcox.

Adagio for Clarinet and String Quartet, attributed to Wagner, is an early work. Written for woodwind solo with string quartet, it is almost the complete opposite of the program's first piece, the *Pastorale*, written for violin solo with woodwind quartet. Joining Mr. Umans, clarinet, will be Ms. Packer, violin; Arthur Hu, violin, a freshman from Reston, Va., and co-concertmaster of the MIT Symphony Orchestra; David Allcott, viola, a sophomore from West Allis, Wis.; Mr. Simcox, cello, and Dewey Dellay, bass, a student at Berklee College of Music and member of the MIT Symphony Orchestra.

Schubert's *Octet* for Wind and Strings in F, the most famous piece on the program, is probably, at 65 minutes of playing time, the longest composition in chamber music repertoire. The six musicians who play the Wagner *Adagio* will also play the Schubert *Octet*, being joined by Mr. Stephenson, bassoon, and James Impara, French horn, a junior in architecture from Rockville, Md.

Epstein Receives Artists Fellowship

Dr. David Epstein, MIT professor of music and conductor of the MIT Symphony Orchestra, has received a \$3,000 Artists Fellowship in Music Composition from the Massachusetts Arts and Humanities Foundation.

He was one of eight Massachusetts composers selected from 115 applicants by a panel of three out-of-state composers. Selections in the blind competition were based on quality of work submitted. The grant is unrestricted and without time constraint.

Professor Epstein has composed commissioned works for the New York State Council for the Arts, the Boston Symphony Orchestra, and the Philadelphia Quartet. He is currently composing a Cello Concerto for Robert Sylvester.

The MAHF's Artists Fellowship Program awards about 55 annual fellowships to creative artists in 11 fields.

Logs a Hit In Florida

The MIT Logarithms recently returned from a successful 10-day concert tour in Florida.

They performed for students at seven high schools in Tampa and Miami, staying after each performance to answer questions about MIT. They met many alumni when they provided entertainment for the annual dinner of the MIT Tampa Bay Alumni and for an alumni party held for prospective freshmen from the Miami area.

Highlight of the tour was a concert at Disneyworld's "Mainstreet, USA"

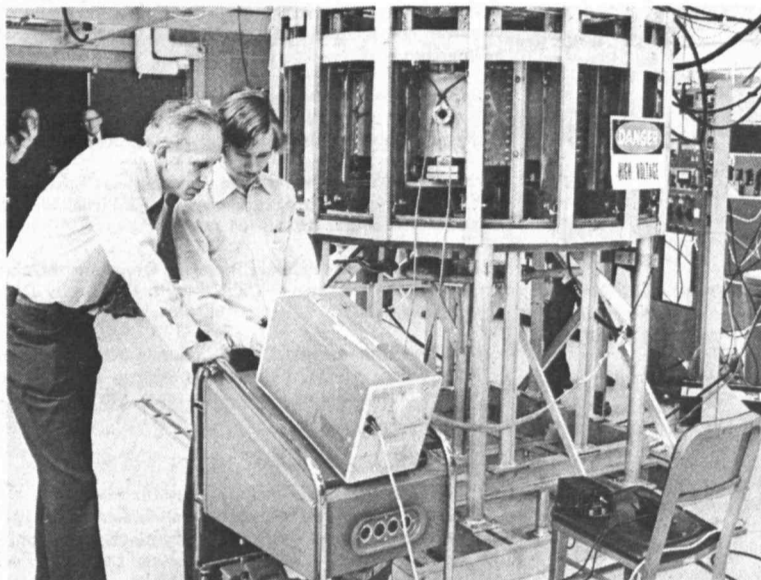
'The Trip' Is Back

With summer coming on, thoughts of vacations come to the fore.

To help them along, the Quarter Century Club and the Community Service Fund are this week offering "The Trip," a lottery with trips for two to Paris and the Alps as first prize and to Peru as second prize.

Chances—at \$1 each or three for \$2—are available daily from 11:30am to 1:30pm in the lobbies of Buildings 7, 10, E19, Walker and Lobdell. They will also be sold from 11am to 2pm at Employees Open House on Saturday, May 7, in Lobby 7.

The drawing will be held Saturday in the Sala de Puerto Rico at approximately 3pm during the Employees Open House reception.



When MIT's new tokamak fusion device, VERSATOR II, officially went "on the air" Monday, May 2, hosts for the informal celebration to mark the event included Dr. George Bekefi, professor of physics, and leader of the team that designed and built the machine, and Alan S. Fisher, a graduate student from Toronto, Canada, and a member of the team.

Versator II to Begin Fusion Experiments

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plified tokamak configuration developed by Dr. Robert J. Taylor, presently at the University of California at Los Angeles.

Members of Professor Bekefi's team include Peter Dandridge of Atomics Limited; Edward W. Fitzgerald, Ivan Mastovsky, John J. McCarthy, Anthony Pastori and Kenneth Rettman, MIT engineering staff members; Alan Fisher, Stephen Knowlton, David B. Laning, Alan

Palevsky, Burton Richards, and David S. Stone, graduate students; and Kirk A. Frey, Manuel Gonzalez, Jonathan B. Green, and David S. Stone, undergraduates; and Ady Hirschcovitch, a postdoctoral fellow.

Research to be conducted with VERSATOR II will concentrate in particular on methods of heating the fusion fuel. In this work, the group will work closely with the ALCATOR team and also with the Princeton Plasma Physics Laboratory.

Helen W. Slotkin Appointed To Institute Archivist Post

Helen Willa Slotkin, former head of the Special Collections Department of the University of Cincinnati Libraries, has been appointed Institute Archivist in the MIT Libraries, effective May 1, Jay K. Lucker, director of Libraries, has announced.

The position of Institute Archivist becomes full-time with Ms. Slotkin's appointment. Professor E. Neal Hartley was MIT's first Institute Archivist, dividing his time between that position and teaching from 1966 to December 1976, when he stepped down to return to teaching full-time in the Department of Humanities. Under his direction the Institute Archives developed significantly as a depository for MIT's records and as a resource for the history of 19th and 20th century technology.

In her new position, Ms. Slotkin will administer the Institute Archives and MIT's collections of manuscripts, personal papers, oral history, and rare books. She will work closely with members of the faculty to promote use of the collections in educational programs. She will identify and acquire new collections, and implement Institute policy for the collection and preservation of official records. She will also develop a policy manual covering access to archival material.

Ms. Slotkin was music librarian at

Carter Energy Plan Good For Nation, NEEMIS Says

A preliminary analysis by a computer-based energy management and modeling system at MIT indicates that President Carter's energy conservation plan can be good for the nation and for New England.

Dr. John Donovan, associate professor at the Sloan School of Management and director of MIT's New England Energy Management Information System (NEEMIS), and Dr. Richard Tabors, NEEMIS economist, analyzed the potential effects of the Carter plan Thursday following the President's address to Congress Wednesday night. The NEEMIS system was developed in 1973, under the sponsorship of the New England Regional Commission, to assist energy policymakers in New England in dealing with problems brought on by various aspects of the energy crisis.

The President's plan, the preliminary analysis showed, has the potential to:

— Provide better mechanisms to secure equalization of the price of energy throughout the country. (For example, natural gas and oil prices in New England are heavily dependent on higher foreign prices because 90 percent of New England energy is petroleum based, with 70 percent of that imported. Raising prices of internal gas and oil will help New England achieve parity with the rest of the country.)

— Increase the price of energy gradually, thus easing the economic and social impact of the inevitable price increases that will occur as petroleum resources are depleted.

— Accelerate the introduction of new techniques through the price mechanisms in the plan.

— Encourage conservation through the same mechanisms.

Drs. Donovan and Tabors cautioned, however, that yet-to-be-specified rebate plans could detract from some of these benefits for New England if the redistribution of funds is not carefully thought out.

The scheme may also have an unknown effect on supplies of gas and oil, they added.

They also had these comments on specific components of the plan, based on their computer study:

Natural Gas—Deregulation of natural gas and hence, increasing the price, could be a good action for New England and for the country. Among the benefits: More resources will be discovered; more gas will be available. New England may receive an added benefit compared to other regions because it may be less dependent on the current low price, regulated gas that will have sharp price increases under the plan.

Coal—The idea of letting prices of presently inexpensive but exhaustible forms of energy rise and encouraging the use of coal is sound. For coal to be of use in New England, however, serious attention must be given to the railroad capacity since the railroad may be the essential link between coal producers and utilities. At present, the rail industry faces serious problems that may constrain its ability to deliver coal to New England. Overall, in order for coal to be a viable alternative in New England, four factors must be addressed: technology, quantity and quality of resources, disposal of ash, and transportation and distribution.

Insulation (and other homeowner energy saving measures)—The idea of the Carter program to encourage conservation in the home is sound. Twenty percent of all energy consumed in New England, and 10 percent in the United States, is consumed in home heating.

The payback for installation of such energy savers as storm windows, storm doors and insulation will be one to two years less than it would have been without the Carter plan. What is needed for public policy in New England is information as to what proposals are the best and most effective for the region.

Drs. Donovan and Tabors conclude that New England may serve as an energy early-warning system for the rest of the nation.

"New England is furthest from sources of United States coal production and is projected to remain with a reliance on foreign oil. It is closest to foreign petroleum and furthest from United States sources of energy.

"It will be the least secure region under any United States energy supply scenario.

"Hence, the New England region's energy security problems are even more acute and sharply focused than the other United States regions, and its high cost of energy focuses attention on the economic and social problems of energy source transition.

"For these reasons, energy problems facing New England will, in many respects, be the forerunners of those facing other regions."

Thornburn Honored

Dr. David Thornburn, associate professor of literature in the MIT Department of Humanities, has been awarded a 1977 Rockefeller Foundation Fellowship in the Humanities. In this third annual competition, more than 1300 young men and women competed for 35 fellowships.



Ms. Slotkin 1973 with responsibility for Cincinnati's archives, rare books, manuscripts, and related materials.

Among the major collections she was responsible for were the University Archives, the Archives of Medical History including the papers of Dr. Albert Sabin, the Urban Studies Collection, and a regional collection of Ohio government archives. She organized the archives of the Ohio Mechanics Institute, including records from its founding in 1828.

Mr. Slotkin received the BA degree from Queens College, City University of New York, and the MLS degree from Simmons College.

She is a member of the Society of American Archivists and its College and University Archives Committee. She is also active in the Society of Ohio Archivists.

Women's Forum* — The MIT Grievance Procedure. Dr. Mary Rowe, Social Assistant to the President and Chancellor for Women and Work, lead a general discussion. Mon, May 9, 12n, Rm 10-340.

Pre-Retirement Seminar — Social Security, James Dube, Social Security Representative; **Medicare and Medex, Fay Donohue-Rolfe,** Blue Cross/Blue Shield Representative. Tues, May 10, 2:30-4:30pm, Rm 66-110. Refreshments.

Wifery in Modern Obstetrics* — Helena McDonough, RN, CNM. Maternal and Parent Education Group Meeting sponsored by MIT Health Information Office. Tues, May 10, 12n-1:30pm, MIT Infirmary W-5, 3rd floor.

Project mug meeting* — Wirewrapped prototypes of the ECD Micro-mind demonstration. Sponsored by the Micro-mind Users Group. Tues, May 10, 10pm, 196 Broadway.

Pre-Retirement Seminar — Social Security, James Dube, Social Security Representative; **Medicare and Medex, Fay Donohue-Rolfe,** Blue Cross/Blue Shield Representative. Thurs, May 12, 9:15-11:15am, Rm A-166. Info: x658 Linc.

Readings of the Short Story* — Laura Furman, published in *The New Yorker*, will read from her fiction and discuss her work in Barry Spacks' class. All are welcome. Thurs, May 12, 11am, Rm 4-156.

Camb AARP Chapter Meeting — Installation of officers, social dancing with music & refreshments, dancing if desired. Sun, May 15, 4-6pm, Walker Memorial Morss Hall.

Social Events

Mezz — MIT talents give performances in relaxed coffeehouse atmosphere.** Wine, cheese, coffee & donuts. Come relax & enjoy! Fri, May 6, 8pm, Stu Ctr Mezzanine Lng.

Gay and Bisexual Women's Get-Together* — informal gathering to meet gay/bi women. Fri, May 6, 7:30pm, Rm 50-306. Dessert will be served. Info: Carol, x5-8532 Dorm.

MIT's Rat — Sponsored by Student Center Committee. Fri, May 13, 10pm-1am, Sala. Light & dark beer only 35¢/16 oz. We play requests all night. Free with college ID.

Movies

Lion in Winter — LSC.** Fri, May 6, 7 & 10pm, Rm 26-100. 75¢ w/MIT or Wellesley ID.

Harry — SCC MidNite Movie.** Fri, May 6, 12m, Sala. Free.

London on the Orient Express — Sat, May 7, 7 & 10pm, Rm 26-100.** 75¢ w/MIT or Wellesley ID.

Like it Hot — LSC.** Sun, May 8, 6:30 & 9pm, Rm 26-100. 75¢ w/MIT or Wellesley ID.

Thousand and One Hands (Souhel Ben Barka)* — Mastering the City: Risk and Survival in the Third World, film & discussion. Tues, May 10, 8pm, Rm 3-133.

Shorts of the Afternoon (Deren & Hammid); Dog Star Men (Brakhage); **Bro Street (Baillie); Our Trip to Africa (Kubelka)* — MIT Film Sec.** Tues, May 10, 7:30pm, Rm E21-010.

The President's Men — LSC.** Fri, May 13, 7 & 10pm, Kresge. Admission: 75¢ w/MIT or Wellesley ID.

My Boy and His Dog — LSC.** Sat, May 14, 7 & 9:30pm, Rm 26-100. Admission: 75¢ w/MIT or Wellesley ID.

Black Panther — LSC.** Sun, May 15, 6:30 & 9pm, Rm 26-100. Admission: 75¢ w/MIT or Wellesley ID.

Mains Sales; Therese* — French films with English subtitles sponsored by Humanities Dept. Sun, May 15, 7pm, Kresge Little Theatre.

Music

Noon Hour Concert Series* — Thurs, 12n-1, Chapel. May 5: Mark Kroll, harpsichord; May 12: Carol Lieberman, baroque violin.

Borodin Quartet* — Abramowitz Memorial Concert. Wed, May 4, 8pm, Kresge. Selections by Tchaikovsky, Haydn, and Shostakovich. Ticket required.

A Concert of French Art Songs* — Compositions by Cherubini, Faure, Debussy, Duparc, Hahn, Poulenc, and Satie. Sponsored by French Section, Dept. of Humanities. Wed, May 4, 8:30pm, MIT Chapel. Free.

Chamber Music Society Concert* — Wed, 5:15pm, Music Library. Info: x3-3210. Free.

MIT Symphony Orchestra Concert* — Marcus Thompson conducting works by Copland, Moussorgsky, and Ravel. Joy Blackett, mezzo-soprano, will be soloist. Sat, May 7, 8:30pm, Kresge. Admission: \$1 at door, free w/MIT ID in Bldg. 10 Lobby the week of the concert.

MIT Choral Society* — Performance of *Vesperae Solonelles De Confes-* **sore, K. 339 and Requiem Mass in D Minor, K. 626 by Mozart** under the direction of John Oliver. Sun, May 8, 7:30pm, Kresge. Tickets: \$4, or \$2 w/MIT ID, avail at door or by calling x3-2906.

Renaissance Vocal Music* — Sponsored by Chamber Music Society. Auditions & rehearsal Sun, 7:30pm, Rm 4-160. Yves, x3-5810.

MIT Chamber Players Concert* — Pieces by Stravinsky, Wagner, Schubert. Tues, May 10, 8pm, Kresge. Free.

Ethnomusicology Program of University of Illinois* — Concert and demonstration including Anklung Ensemble, Thai instruments and a Chinese Orchestra. Thurs, May 12, 3:30pm, Kresge. Free.

Robert and Catherine Strizich* — Italian and English lute duets of the Sixteenth Century. Fri, May 13, 5:15pm, Kresge.

Spring Concert* — MIT Concert Band, John Corley, conductor. World premiere of Matthew Marvuglio's *Evocation*, Gould's Symphony for Band, Vaughan Williams' *Toccata Marziale*, and works by Holst, Persichetti, and Bovicchi. Sat, May 14, 8:30pm, Kresge. Free. Tickets: Avail Lobby 10, week of concert.

Spring Concert* — MIT Women's Chorale. Sponsored by MIT Women's League. Sun, May 15, 2:30pm, MIT Chapel. Free.

Theatre

Six Characters in Search of an Author* — MIT Dramashop. May 6 & 7, 8pm, Kresge Little Theatre. Admission: \$2.50, \$1.50 opening night. Info, x3-4720.

Ionesco's *Macbett — MIT Community Players.** Thurs, May 12 thru Sat, May 14, 8pm, Kresge Little Theatre. Tickets on sale in Lobby 10 week of May 9, \$3, \$2.50 w/stu ID. Reservations, x3-4720.

Dance

Renaissance Dance* — Sponsored by MIT SCA. Beginners welcome. Wed, 8pm, Burton dining hall. Info: Beth Parkhurst, 964-1840.

Renaissance Dance Band* — MIT SCA Dancing. Inviting players of recorders or other early instruments, expertise not necessary. Wednesday nights, 8pm, Burton Dining Hall Info: Ron x3-7814.

MIT Folk Dance Club — International: Sun, 7:30-11pm, Sala. **Balkan:** Tues, 7:30-11pm, Stu Ctr Rm 491. **Informal:** Fri, 12n-2pm, Kresge Oval (Bldg 7 Lobby in bad weather). **Israeli:** Thurs, 7:30-11pm, Sala.

MIT Dance Workshop — Sponsoring a number of different projects for second term. Please check Workshop bulletin board, duPont Armory, Bldg W31.

Exhibits

John Messina: Photographs* — Thru Wed, May 25, Creative Photography Gallery, Bldg W31. Mon-Sat, 10am-6pm, Sun, 12n-8pm.

Pottery and Art Sale* — MIT Student Art Association. Wed May 4, 10am-6pm, Bldg 10 Lobby.

Women in American Architecture: A Historical and Contemporary Perspective* — exhibition documents the role women have played in the history and development of American architecture. Sponsored by the Committee on the Visual Arts & the MIT Department of Architecture. Hayden Gallery, Mon thru Sat, 10am-4pm, free. Public preview, Fri, May 6, 8-10pm.

Exhibition and Sale of Original Graphic Art: Early and Modern* — Representative from Ferdinand Roten Galleries, Inc showing oriental prints and manuscripts. Sponsored by the Student Art Association. May 9 & 10, 11am-6pm, West Lng, Stu Ctr.

MIT Historical Collections* — Permanent exhibition Mon-Fri, 9am-5pm, Bldg N52, 2nd floor. **Bicentennial Exhibits:** Katharine Dexter McCormick, '04; Vannevar Bush, '16; Karl Taylor Compton; Norbert Wiener, and 1876 Exhibit, Bldg 4 corridor. **The New Technology Exhibit** 2nd floor balcony of Lobby 7. **Energy Exhibit** Bldg E40, 1st floor. **Radiation Laboratory Exhibit** main corridor, Bldg 8.

Strobe Alley* — High speed photographs by Harold E. Edgerton, Institute Professor and Professor of Electrical Measurement, Emeritus. Bldg 4, 4th fl.

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

Graphics by MIT Design Services* — On exhibit in Bldg 7 corridor.

Canones* — Music Library, Rm 14E-109. Examples of the use of canons from 7 centuries of music.

Lobby 7 Events

Technique Photography Display* — Weeklong exhibit of the yearbook photography staff's best work. Mon, May 9 thru Fri, May 13, Lobby 7.

Athletics

Home Schedule* — Thursday, May 5 — V Baseball. Mass Bay Comm. College, 3pm, Briggs Field. **W. Softball.** Gordon College, 3pm, JV Baseball Diamond. **VM Tennis.** Amherst, 4pm, du Pont Tennis Court. **Saturday, May 7 — HVWT Crew.** Cochrane Cup, Dartmouth & Wisconsin, 11:30am, Charles River Basin. **V Lacrosse.** Brandeis, 2pm, Briggs Field. **Monday May 9 — JV M Tennis.** Buckingham Browne & Nichols, 4pm, du Pont Tennis Court.

Maggie's Self-Designed Fitness Class — Classes 12n-1pm, du Pont fencing & wrestling rms; 5-6pm, du Pont T Club Lng. PE credit course, but all are welcome.

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 May 11 through May 22 to the Calendar Editor, Room 5-111, Ext. 3-3270, before noon Friday, May 6.

Wheaton President to Give Warner Memorial Lecture

"Have Women Outgrown the Liberal Arts?" is the title of a lecture Alice Frey Emerson, president of Wheaton College, will give at 6pm on Wednesday, May 11, in the Student Center Mazzanine Lounge.

Sponsored by Women's Forum, the lecture will be the second annual Gay Warner Memorial Lecture. The entire MIT community is invited to attend.

Refreshments will be served at 5:15pm. MIT Chancellor Paul E. Gray, chairman of Wheaton's board of trustees and of the search committee that selected Dr. Emerson as Wheaton's president, will introduce the speaker. Questions and discussion will follow.

Dr. Emerson is completing her second year as Wheaton's first woman president. She received the AB degree from Vassar College in 1953 and the PhD degree from Bryn Mawr College in 1964. Before going to Wheaton in 1975 she taught political science at Bryn Mawr and the University of Pennsylvania, and was dean of women (1966-69) and dean of students (1969-75) at the University of Pennsylvania.

She is vice-chairman of the American Council on Education's Commission on Women and serves on the advisory board of Higher Education Resource Services (HERS) Mid Atlantic and of the Institute for Paralegal Training in Philadelphia. She is a member of Harvard Overseers' Committee to visit the Department of Athletics and the Long-Range Planning Committee at Wheeler School. This year she became a director of Penn Mutual Life Insurance Company, Philadelphia, and

First National Boston Corporation, Boston.

The Gay Warner Memorial Lecture is an annual event sponsored by Women's Forum in memory of Gay Warner who was an MIT employee and member of the Forum Steering Committee at the time of her death in 1975.

Charles Cleanup Project Seeks 200 Volunteers

It's picnic time once again around MIT and on the banks of the Charles River, and MIT's Alpha Phi Omega service fraternity is recruiting volunteers to assist the Charles River Watershed Association clean up the river banks on Saturday, May 7, between 9am and 4pm.

Ms. Lisa S. Chabot, a junior in electrical engineering and computer science from Quartz Hill, Calif., is project chairman for APO.

Ms. Chabot is hoping for a turnout of about 200 students, staff and employees from MIT. They will concentrate on the Cambridge side of the river, from the Pierce boat-house to the Stop & Shop area. Although the cleanup effort is scheduled from 9am-4pm, any help anyone can give during that period—even if only for an hour or so—would be greatly appreciated.

For more information or to sign up to volunteer call APO, x3-3788, or stop by the booth in the Building 10 Lobby.



WOMAN'S BUILDING, designed by Sophia Hayden for the World's Columbian Exposition in Chicago, 1893, is represented in the exhibition, "Women in American Architecture: A Historical and Contemporary Perspective," to be held in MIT's Hayden Gallery from May 6 through June 18. Sophia Hayden (1868-1953), MIT '90, was the first woman MIT

graduate of the four-year course in architecture. Woman's Building, dedicated in 1892, won first prize at the exposition and stood for six months. There will be a public preview of the Hayden Gallery presentation from 8-10pm on May 6. The Gallery is open 10am-4pm, Monday through Saturday.

Technology Studies To Hear Tarr

Joel Tarr, professor of history, technology and urban affairs at Carnegie-Mellon University will be speaker for the Technology Studies Seminar on Wednesday, May 4.

"Waste-Water Technology and the Evolution of State Regulation: a Retrospective Analysis" will be a discussion of the results of a retrospective technology assessment of wastewater collection systems.

In his work, funded by the National Science Foundation, Professor Tarr focuses on the historical evolution of

sewage systems, examines the cost-benefit forecasts made in the development of these systems, and evaluates the worth of these forecasts in the light of the ensuing real world impacts of this technology on urban society, values and state government.

The Technology Studies Seminar Series, offered each term by the Technology Studies Program is open to the public free of charge. Seminars are held in Rm 20D-205 at 4:00pm preceded by coffee served in the same room at 3:30pm.

Alumnus Abducted

Mauricio Borgonovo '61, the foreign minister of El Salvador who was kidnapped Tuesday, April 19, by leftist terrorists, has not yet been released, the Salvadorean Embassy reports. According to a UPI report, Minister Borgonovo, who received the SB in mechanical engineering from MIT, is the second most important politician in El Salvador, after the President.

Breakthroughs and History Combine at Open House

(Continued from page 1)

Nature," and "The Ultimate Magic Show," two perennial favorites explaining aspects of physics and chemistry respectively will also be presented.

For those interested in memorabilia, MIT Historical Collections with MIT artifacts ranging from paintings to the radar instruments will be open at 265 Massachusetts Ave. Historical Collections also houses MIT's telephone collection, one of the most extensive anywhere.

The Safety Office and Campus Patrol will have exhibits and tours demonstrating techniques for protecting against dangers at work

and in the home, and showing MIT's ambulance and rescue procedures.

A number of offices will be open, including the special assistants for minority affairs and for women and work, the Health Plan, and Admissions, to discuss their various activities and services.

For the sports minded, the lacrosse team will be playing Brandeis on Briggs Field at 2pm, and the crew will be racing against Dartmouth and Wisconsin on the River. Maggie Lettvin of television fame will demonstrate self-designed fitness from noon to 1pm in the Athletic Center and the

swimming pool will be open all day.

Briggs Field also will be the site for a low-level rocket launch by the MIT Rocket Society from noon until 2pm, while on the other side of campus, the Tech Model Railroad will hold its own open house.

Culmination of the day will be a reception in the Sala de Puerto Rico, hosted by MIT President and Mrs. Jerome B. Wiesner and other members of the administration. Drawings for trips to Paris and the Alps and to Peru, as well as the Open House \$100 bond, will take place at the reception.

Bicentennial Lectures End

(Continued from page 1)

This drop in worldwide birthrates is an historic change, he said, but "its pace is still far too slow." It would be possible, by accelerating the decline, to stabilize the world's population at 8 billion, instead of 11 billion, he said, adding that the difference of 3 billion is equal to 75 percent of the present world total of 4 billion.

Mr. McNamara said that governments must encourage couples "to desire small families" and then provide parents with "the means to implement that desire."

In order to alter the social and economic environment that tends to promote fertility, he said, governments should try to:

- Reduce current infant and child mortality rates sharply.
- Expand basic education and substantially increase the proportion of girls in school.
- Increase the productivity of smallholders in rural areas, and expand opportunities for the poor in the cities.

WGBH to Show Mime Videotape

"Illusions", a five minute videotape of a mime performance produced by MIT students during a 1976 IAP workshop on color video production, will be shown by WGBH-TV (Channel 2) at 11:30pm Sunday, May 8, as part of the "Artists' Showcase" program.

The IAP course was funded by the MIT Council for the Arts. Although many of the students had some experience in video production, none had experience with the sophisticated equipment used for color production.

The workshop was allotted studio space three times during January, 1976 and at each meeting completed a different video piece. "Illusions", the first work produced, was performed by Kenyon Martin and Drucilla Markle of the National Mime Theater. "Illusions" has been shown several times on the MIT Cable TV system and has been entered in a film festival in Sweden.

MIT students involved in the workshop were:

Thomas M. Coate, sophomore in electrical engineering and computer science from Belmont, Mass.; Mark H. James, a junior in biology, Oneonta, N.Y.; Steven D. Krueger, sophomore in electrical engineering and computer science, New Braunfels, Tx; Paul A. Maki, junior in electrical engineering and computer science, Phoenix, Az; Douglas F. Pastorello, sophomore in electrical engineering and computer science, Belmont, Mass.; and Brian L. Raila, senior in architecture, Baltimore, Md., who originated the project.

In addition, three undergraduates from other schools—Paul Andrews, Harvard, Dan Bloom, Boston University, and Jeremy D'Entremont, Colgate University, all at MIT in an IAP exchange program, participated.

Two MIT staff members also worked on the project. They were Thomas K. Norton, a research affiliate in the Laboratory of Architecture and Planning, and Harris D. Eigabroadt, supervisor of video facilities for the Center for Advanced Engineering Study.

— Put greater stress on more equitable distribution of income and services in the drive for greater economic growth.

— And, "above all else," raise the status of women socially, economically and politically.

In the category of enabling parents to have smaller families, he said, the governments should:

— Provide a broad choice of present contraceptive techniques and services.

— Improve the delivery systems by which parents can get the services they wish.

— Expand present levels of research seeking better techniques and services.

In summary, Mr. McNamara said: "We know that eventually the world's population will have to stop growing. That is certain. What is uncertain is how. And when. At what level. And with what result. We who are alive today can determine the answers to those questions. By our action—or inaction—we will shape the world for all generations to come."

Senator Church, Chairman of the Senate Subcommittee on Energy Research and Development, in an address in the Compton Lecture Hall Monday evening (May 2) disagreed with President Carter's nuclear energy policy of foregoing development of the breeder reactor.

The policy, the Senator said, "will reduce, not enhance, U.S. influence in shaping worldwide nuclear policy."

"Instead of advancing the control of nuclear weapons proliferation," he continued, "our self-imposed restraint runs the grave risk of leaving an international vacuum, which is an invitation to nuclear anarchy."

He said the U.S. must take the lead in devising "an international framework which will enable all non-weapon states to meet their genuine energy needs with nuclear power, while minimizing the risk of nuclear weapons proliferation."

Earlier this year President Carter announced the United States would cease development of a broader demonstration project in Tennessee, cease reprocessing nuclear fuel for broader use, fund research and development in alternative nuclear programs which do not involve direct access to materials usable in nuclear weapons and increase substantially the number of conventional nuclear power plants fed by uranium rather than plutonium.

Noting that plutonium, the substance used in breeder reactors, is the material from which nuclear weapons are made, Senator Church agreed that the President's worry about proliferation of nuclear arms was legitimate.

He argued, however, that unilateral American renunciation of breeder technology will not stop foreign breeder development, nor contribute to the search for reliable energy resources.

"The Administration proposal is flawed for at least two reasons," he said:

— "It does not take sufficient account of the energy vulnerability of countries lacking our resource base."

— "It fails to offer a satisfactory substitute for the world's diminishing supply of oil."

The breeder program is the only new energy technology, Senator Church said, "which holds out the promise of relieving Europe and Japan of an unremitting dependence

upon foreign-held fuel supplies." And, Senator Church added, not only will Europe and Japan proceed with breeder technology, they will seek to export it for commercial gain.

For these reasons, Senator Church said, the U.S. energy policy must feature reprocessing of spent fuel in the near future, "accompanied by the research and development necessary to enable us, by the early 1990's, to place on the market some form of breeder technology."

The MIT lecture series was started during the Bicentennial year as part of a program of studies to create better understanding of how to deal with changing world conditions the United States will face in its third century.

The series opened with Roy Jenkins, the President of the Commission of European Communities. Other speakers, besides Mr. McNamara and Senator Church, were Willy Brandt, former West German Chancellor and chairman of his nation's Social Democrat Party; McGeorge Bundy, President of the Ford Foundation; David A. Hamburg, President of the Institute of Medicine of the U.S. National Academy of Sciences; Sigvard Eklund, Director General of the International Atomic Energy Agency; Roberto de Oliveira Campos, Brazilian Ambassador to Great Britain; Canon Burgess Carr, General Secretary of the All Africa Conference of Churches; and Georgi A. Arbatov, director of U.S. and Canadian Studies of the Academy of Sciences of the Soviet Union.

The series was planned by a committee which included Manson Benedict, Jagdish N. Bhagwati, Lincoln P. Bloomfield, John M. Deutch, Bernard T. Feld, Ted R.I. Greenwood, Amelia C. Leiss, George W. Rathjens, Walter A. Rosenblith, Jack P. Ruina, Eugene B. Skolnikoff, Leon Trilling and Norman C. Dahl, chairman.

Sculpture

(Continued from page 1)

by Frank Lloyd Wright to whom he was apprenticed for two years. Two of his major concerns—scale and structure—mirror the play between sculptural and architectural interests. His involvement has remained grounded in the traditional sculptural issues engendered by the late 1950s work of Gabriel Kohn and David Smith's well-known "Cubi" series rather than in the technical and theoretical aspects of "systems aesthetic" of concern to some younger artists involved in the Primary Structures movement. Tony Smith's work is environmental, at once carving out its own spatial territory and declaring a new sense of surroundings through which the viewer is invited to enter.

Like the influential sculptures *Marriage and Cigarette*, *For Marjorie* was designed during the early '60s, a pivotal period in the history of a reductivist sculpture.

Smith came to MIT in 1975 to review possible sites and suggest an appropriate piece. The fire-hydrant red sculpture was purchased with the one percent art allotment for New House.

When the other housing unit designated for the Memorial Drive side of West Campus is completed, plans are to site the sculpture there. The work's large archway with symbolic portal connotations would serve as entrance to the complex.



HELEN RAINE of MIT Graphic Arts will be demonstrating electronic typesetting during MIT's Employees' Open House Saturday, May 7.

This Week in Sports

Lacrosse Team Posts Victorious Season

by JILL A. GILPATRIC

Director of Sports Information

The MIT lacrosse team (6-4) is in the midst of its first winning season since 1969. In last week's action, the Tech team overpowered Colby College 16-2 on Wednesday. On Saturday, the Engineers brought home a big win over Springfield with a score of 13-5. The other four victories this spring were a 10-7 win over Kean College (N.J.), Babson 9-7, Holy Cross 9-2 and Merrimack 14-3.

Senior goalie Jeff Singer (Plainville, N.Y.) has been outstanding this season, having made 161 saves while only allowing 68 goals for a percentage of .703. In MIT's two wins last week, he made a total of 27 saves and only let in 6 goals. Jeff's performance this season tops off an impressive athletic career at MIT. He has been Tech's starting goalie for the past three years and has made All-New England Honorable Mention twice and All-Snively Division Honorable Mention in his freshman and sophomore years. Last year he was selected to the All-Snively Division First Team. Jeff has also been team MVP for the last two years and has a very good chance of receiving that honor again this year.

Senior Roger Renshaw (Havertown, Pa.), midfielder, leads the team in points made, with 13 goals and 20 assists. He made 2 goals and 4 assists against Colby and 1 goal and 4 assists in the Springfield game. Sophomore Phil MacNeil (Pasadena, Cal.) is the team's second leading scorer with 24 goals and 3 assists. Sophomore Al O'Connor (Collinsville, Conn.), attack, made a total of 11 points last week with 4 goals against Colby and 6 goals and 1 assist versus Springfield. This brings his season total up to 16 goals and 9 assists. Senior Steve Hyland (Danvers, Mass.) has also been having a good season, scoring 13 goals and 9 assists.

The Engineers have only two games left this season. On Wednesday they travel to Westfield State and on Saturday they meet Brandeis at MIT in the last game of the year.

Caradon to Speak

Lord Caradon, well-known British diplomat, will discuss "Three Present Dangers to International Peace" in a Center for International Studies seminar today (Wednesday, May 4) from noon to 2pm in the Millikan Room (E53-482).

Lord Caradon was Minister of State for Foreign and Commonwealth Affairs and United Kingdom Representative at the United Nations from 1964 to 1970. Since then he has performed assignments for the United Nations in Africa and elsewhere.

The MIT outdoor track team (3-1) placed fifth in the Annual Greater Boston Track and Field Championships at Boston College this past Sunday. But the big stories were the individual performances of senior Frank Richardson (Sac City, Iowa) and junior Reid Von Borstel (Edmonton, Alberta). Richardson, a three-time All-American, won the G.B.C. Three-Mile in a MIT school record of 13:50. In the high jump, von Borstel placed second on fewer misses, but leaped to another new MIT record of 6'8".

The Tech cross country, indoor and outdoor track teams posted an overall 18-3 record and produced several new varsity records. The team's next competition is the Annual Outdoor Eastern College Division Championships at Westfield State this Saturday, May 7.

Obituaries

T.A. St. Sauveur

Funeral services for Thomas A. St. Sauveur, 54, a heat and vent mechanic in Physical Plant who died Sunday, May 1, will be held today (Wednesday, May 4) at 10am at the Daniel O'Brien Funeral Home, 907 Massachusetts Avenue, Cambridge.

A former Cambridge resident, Mr. St. Sauveur lived in Melrose at the time of his death. He came to work at MIT in 1971.

He is survived by his wife, Ruth E. (Dungan); four sons, David T. St. Sauveur, Michael R. St. Sauveur, Edward P. St. Sauveur and Phillip J. St. Sauveur; and a daughter, Stephanie J. St. Sauveur. He is also survived by four brothers and three sisters.

R.L. DiPietro

Romeo L. DiPietro of Medford, a night custodian in Physical Plant, died Wednesday, April 27, after a long illness.

Mr. DiPietro, 57, had been an MIT employee since 1961. One brother, Alfred DiPietro, is currently an MIT employee and another brother, William A. DiPietro, is retired from MIT. He is also survived by three sisters, Helen E. DiPietro, Josephine T. DiPietro and Margaret M. DiPietro. They all live in Medford.

H.A. Moore

Herbert A. Moore of Brookline, 76, a retired guard at Draper Laboratory, died Wednesday, April 27. Mr. Moore started working at MIT in 1943 and retired in 1965. He is survived by his wife, Theresa L. (Cole).