

### Awards Convocation

The MIT community is invited to submit nominations for the Institute Awards given annually to students, faculty and staff who have made outstanding contributions to the MIT community. They will be honored at the Awards Convocation May 7 at 3:30pm in Huntington Hall (Rm 10-250).

The awards are as follows. The **Karl Taylor Compton Prize** is given to students who have made lasting or sustained contributions to the MIT community. The **William L. Stewart Jr. Awards** recognize a single, outstanding contribution to a particular activity or event. The **James N. Murphy Award** is given to an employee whose spirit and loyalty exemplify inspired and dedicated service, especially with regard to students. The **Laya W. Wiesner Award** is presented to an undergraduate woman student who has most enhanced MIT community life. The **Laya and Jerome B. Wiesner Awards** provide two awards to students, organizations, living groups or activities for achievement in the creative and performing arts. The **Louis Sudler Prize in the Arts** is presented to a graduating senior who has demonstrated excellence or the highest standards of proficiency in music, theater, painting, sculpture, design, architecture or film.

Also, The **Albert G. Hill Prize** is awarded to the minority undergraduate junior or senior student who has maintained high academic standards and made continued contributions to the improvement of the quality of life for minorities at MIT. The **Irwin Sizer Award** is presented to any member or group in the community to honor significant innovations and improvements to MIT education. The **Edward L. Horton Fellowship Award** is given to a student group that fosters fellowship within the graduate student community. The **Goodwin Medal** is presented to a graduate student whose performance of teaching duties is "conspicuously effective over and above ordinary excellence".

Nominations, citing the nominee's qualifications and accomplishments, should be sent in letter form to the Awards Committee, Rm 7-143 by Friday, April 4.

### •Credit Union move

On Monday, March 10, the MIT Employees Federal Credit Union will move from E19-601 to a newly decorated fourth floor location (E19-437). Its phone numbers, x3-2844 and x3-2845, and operating hours, 10am-3pm Monday through Friday, will remain the same.

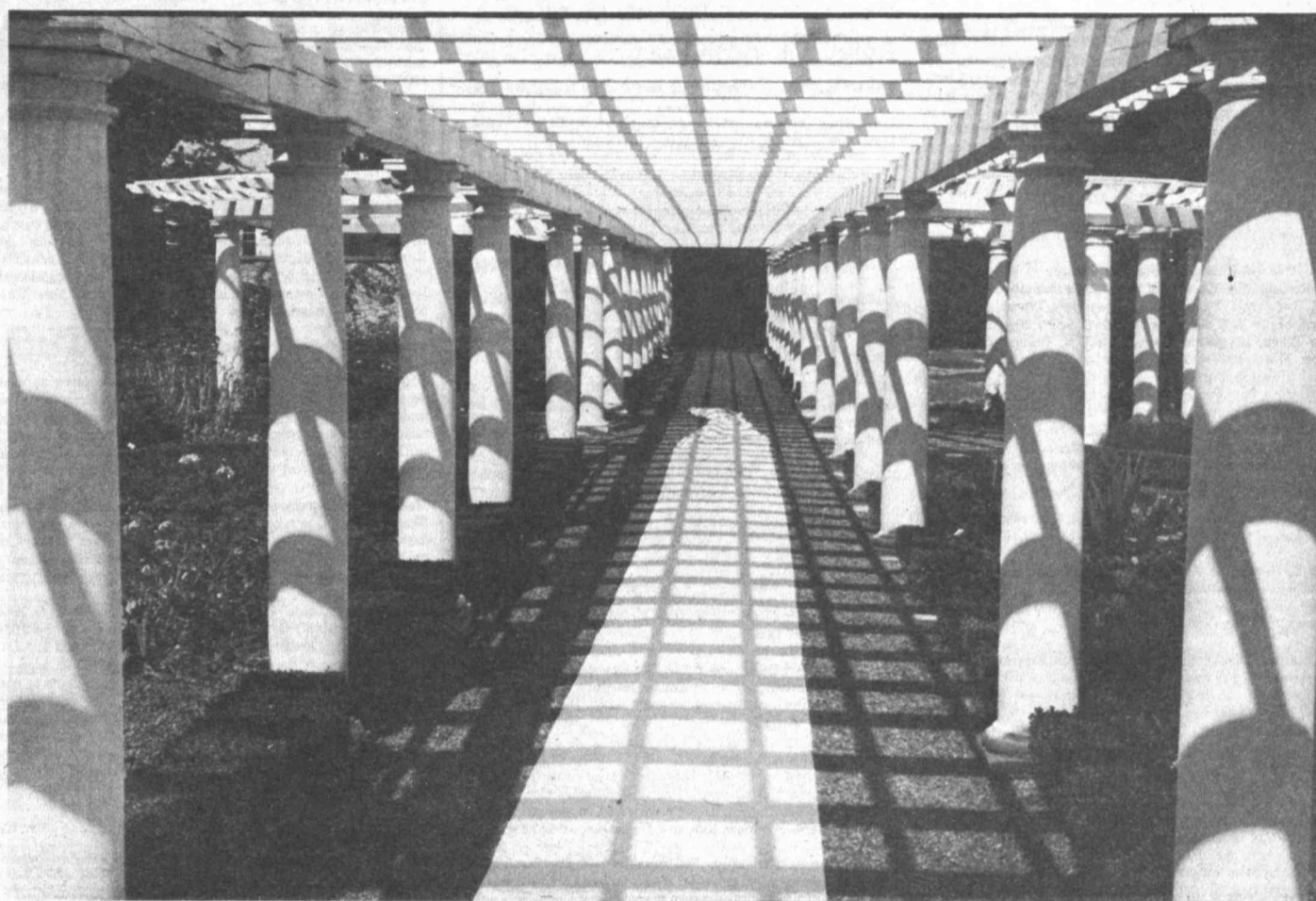
### Weight Control

The Medical Department's spring Weight Control Program has been rescheduled to begin Wednesday, March 12. The leader of the 10-week program is Connie Roberts, R.D. of Brigham and Women's Hospital.

The fee is \$60 for students and MIT Health Plan members; \$75 all others. Call the Health Education Service at x3-1316 to register.

### Crafts Faire

MIT community members will be selling handmade crafts including jewelry, quilts, pottery, toys and edible goodies in Lobby 10 from 8:30am-4:30pm on Tuesday, March 18 and Wednesday, March 19. The faire is sponsored by the Tech Community Women.



A study in perspective, light and shadow, entitled simply "Monroe County, N.Y.," by Gordon Thomas, a senior library assistant, is included in an exhibit now open at the MIT Museum. The exhibit, called Three Photographers, also features

the work of Linda R. Cuccurullo, a library cataloguer, and Carolina S. Salguero, formerly of the Department of Architecture. The show will continue through April 19. See story on page 3.

## AIDS to be discussed at Monday Colloquium

An Institute Colloquium on Monday, March 10, will focus on AIDS (Acquired Immune Deficiency Syndrome) with a late afternoon panel presentation and after-supper living group discussions.

Speakers at the panel program and discussion, from 4-6pm in Rm 10-250 (Huntington Hall), will include experts on the disease and its ramifications. The panel will be chaired by Mary Rowe, special assistant to the president.

The scheduled panelists and their topics are:

—Sandra Panem of the Brookings Institute, Washington, D.C., and author of *The Interferon Crusade*, "Science and Public Policy."

—Dr. Alan Brandt, assistant professor of the history of medicine and science at the Harvard Medical School, and author of *No Magic Bullet: A Social History of Venereal Disease in the U.S. Since 1880*, "Social and

Cultural History of AIDS."

—Dr. George Grady, professor of medicine at Tufts Medical School, assistant commissioner in the Massachusetts Department of Public Health and state epidemiologist, "Epidemiology and Public Health."

—Larry Kessler, executive director of the AIDS Action Committee, Boston, "The High Risk Community."

Panelists and other invited guests will participate in the living group discussions following dinner.

The scheduled discussion leaders and student coordinators are:

—Next House—Sandra Panem; Robin Mowry.

—Senior House—Dr. Michael A. Kane, acting director of the MIT Medical Department, and Professor Samuel J. Keyser, associate provost, and Senior House faculty resident; Chris Towse.

—East Campus—Larry Kessler and Dr. Nancy H. Hopkins, MIT professor of biology; Ellen Maker.

—Delta Psi—Dr. George Grady; Steve Genn.

—New House—Dr. Alan Brandt and Dr. Richard M. Douglas, professor of history at MIT; Ed Ajhar.

—McCormick—Dr. John M. Moses of the MIT Medical Department; Becky Thomas.

—MacGregor—Dr. Stephan L. Chorover, MIT professor of psychology; Kesavan Stinivasan.

The program is cosponsored by the Technology and Culture Seminar at MIT and The Institute Colloquium Committee.

## Study: office building boom not dependent on tax laws

A study by the Center for Real Estate Development has concluded that today's office building boom will continue even if tax laws affecting real estate are changed drastically.

In finding that current tax laws are not the major factor driving the boom, the authors estimate that office construction over the balance of the decade would decline only 15-20 per cent annually should the tax laws be altered, as has been proposed.

The report was written by William C. Wheaton, associate professor of economics and urban studies at MIT, and Professor

Raymond G. Torto of the University of Massachusetts/Boston.

A popular explanation for the current high activity in office construction—in the face of record vacancy—is that present US tax laws, if unchanged, will strongly benefit real estate investments. The study shows, however, that while tax benefits and resultant real estate "syndicated" partnerships are an important phenomenon, tax benefits have not contributed as much as might be expected to construction levels.

(continued on page 7)

## MIT is NE indoor track champ

MIT's 1600-meter relay team nipped Brandeis University by less than a 10th of a second for its lone win of the meet, but the Engineers used superior depth to successfully defend its title at the 7th Annual New England Division III Indoor Track and Field Championships February 22, at Bates College in Lewiston, Maine.

MIT finished with 76 points to edge Brandeis which had 72. Colby was third at 51 followed by Bates (45) and Williams (37). Eighteen teams scored points in the meet.

Entering the relays, MIT and Brandeis were tied at 56-56. "At that point, I thought we might be in trouble because Brandeis has such good relay squads," said MIT coach Gordon Kelly.

However, Brandeis did not score in the distance medley relay while MIT placed second to set the stage for the 1600 relay. On the final lap of the race, senior co-captain Dan Lin held off the Judges' Ken Andrews, who earlier had won the 500-meter run, as MIT won in 3:24.74.

(continued on page 5)



Martin J. Buerger, a retired MIT professor renowned for his pioneering work in the application of X-ray crystallography, died Tuesday, Feb. 25, at his home in Lincoln at the age of 82. See obituary on page 8.





Several shanties, built to protest the fact that MIT holds stock in companies doing business in South Africa, were put up Sunday, March 2, on Kresge Oval. The MIT Coalition Against Apartheid organized the activity. —Photo by Calvin Campbell

## Keil Fellowships established

The MIT School of Engineering has established the Alfred Keil Fellowships for the Wiser Uses of Science and Technology, to honor Dr. Keil, Ford Professor of Engineering, emeritus.

Professor Keil served as dean of the School of Engineering from 1971 to 1977, after having been head of the Department of Ocean Engineering. Throughout his career at MIT, he has stressed the importance of research and study on the societal and policy implications of science and technology. In particular he was a driving force behind the establishment of the Technology and Policy Program.

The awards will cover full tuition for an academic year, starting in September. They will be awarded annually either to a continuing or an entering graduate student in the School of Engineering.

The awards will be based on three general criteria: academic excellence; the relevance of a student's intended work to the spirit of the

fellowship; and creativity, construed as the potential for enabling the student to do something that might not otherwise be possible.

A faculty committee set up to oversee the awards is encouraging students to apply and asking faculty to call attention of potential applicants to the fellowship. The committee is chaired by Professor Daniel Roos, Japan Steel Professor and Director of the Center for Technology, Policy and Industrial Development. The other members are Professors Richard de Neufville and Richard Lester.

Each application should be limited to two pages, explaining the student's proposed research or study, and how it would contribute to the wiser use of science and technology. The names of two references should be provided, at least one of whom is an MIT faculty member.

Applications should be submitted by March 21 to Professor Roos in Rm. E40-209. Awards will be made by early April.

## Photo exhibit opens at Museum

"Three Photographers," a collection of photographs by Linda R. Cucurullo, cataloguer, and Gordon A. Thomas, senior library assistant at the MIT Libraries, and Carolina S. Salguero, formerly of the Department of Architecture, will be on view at the MIT Museum through April 19.

Ms. Cucurullo of Braintree took her first photography course at MIT in 1974. She has exhibited her prints over the past eight years at Wheaton College, 1984; Alliance Francaise, 1984; MIT Faculty Club, 1978, 1980, 1982, 1984; Artists Representative Art Gallery, 1982; and Rotch Visual Collections, MIT, 1978-79.

A 1985 MIT Admissions Office Photo Contest Winner, Ms. Cucurullo holds a BA degree from Wheaton College and an MLS degree from Simmons College.

Mr. Thomas of Jamaica Plain has had one-man shows at Paul Mellon Art Center, Wallingford, Conn., 1984, and Rotch Visual Collections, 1983. He has also participated in a group exhibition at the Harbour Gallery, Boston, 1983.

Born in Detroit, Mr. Thomas attended Ohio State University, Columbus, from 1966-1968, and was graduated from Kansas City Art Institute, Mo., with a BFA in 1971 and Boston University with a MFA in 1974.

Ms. Salguero of Brookline has exhibited at the Yale Gallery of Art and Architecture.

She took her first photography class four years ago in order to meet academic requirements at Yale College. She majored in studio art and American Studies and graduated magna cum laude in 1984.

## Chaim Weizmann Conference is set

The latest advances and research in science, technology and medicine in Israel will be presented at the eighth annual Chaim Weizmann Conference on Israeli Science, Technology and Medicine Sunday, March 9, from 12:30-5:30pm in the Mezzanine Lounge, Student Center.

The symposium is sponsored by the MIT Hillel.

Dr. Sami S. Ofri, coordinator of Industrial Research and Development in the Israeli Ministry of Industry and Commerce, will deliver the keynote address, "Industrial Research and Development in Israel". Dr. Ofri is a visiting scholar at the Sloan School of Management.

Dr. Dror Sadeh, visiting professor in biomedical engineering, will address "Space Research in Israel." He is coordinator of the Israeli Space Agency and professor of physics and astronomy at Tel Aviv University.

Dr. Shmuel Enav from Tel Aviv University and a visiting professor in mechanical engi-

neering will review "Biotechnology in Israel."

Other participating Israeli scientists and the topics they will discuss include: Dr. Myron Mellman of the Weizmann Institute, "Performance of Distributed Systems"; Dr. Zeva Reuveni, formerly of Hebrew University Medical School, "Science Related Careers in Israel: A Personal Perspective"; and Dr. Zvi Bentwich, an Israeli physician affiliated with the Hadassah-Hebrew University Medical Center and Weizmann Institute who is conducting research at Harvard Medical Center, "Studies in Cancer and AIDS Research in Israel".

A bagel brunch will be served at 11:30pm for \$2. Validine will be accepted.

An information fair, featuring films and literature on work, study and travel opportunities in Israel, will be held at 2:45pm. Representatives from various agencies and programs will be present.

For further information, call the MIT Hillel at x3-2982.

## Charles Fuery to be featured

The MIT Symphony Orchestra's spring concert will present Chopin's Piano Concerto No. 1, with guest pianist Charles Fuery this Saturday (March 8) at 8:30 pm.

Guest conductor will be Alan Yamamoto, who is in residence at MIT this spring.

The program will also include Brahms' Symphony No. 3, in F Major and Beethoven's Rondino in Eb Major for 2 Oboes, 2 Clarinets, 2 Horns and 2 Bassoons, Op. Posth.

Mr. Fuery, a member of the piano faculty at the University of California, Berkeley, has received numerous performance awards includ-

ing the Eisner prize for Musical Excellence. In his recital debut in the Paramount theatre of the Arts, Fuery was described by the San Francisco Chronicle as a musician who "communicates the heart and soul of music with often astonishing results."

Mr. Yamamoto is a member of the conducting faculty at New England Conservatory and is the Assistant Conductor of the Boston Philharmonic.

Tickets are \$1 or free for the MIT/Wellesley community. They can be reserved by calling x3-2826 between 1 and 5 pm.

An MIT alumnus and former faculty member, Professor Arthur C. Ruge (pronounced like ruby, with a hard g) has been honored as the Boston Museum of Science's 1986 New England Inventor of the Year. Dr. Ruge, 80, a Lexington resident, holds at least 56 US patents and many more foreign patents, mainly related to his best-known invention, the SR-4 Strain Gage.

Since its invention in 1938, when Professor Ruge was still a doctoral candidate at MIT, millions of Strain Gages have been produced and used worldwide. Virtually all commercial weighing scales employ the Strain Gage as the weight-sensing element. It also helped the allies achieve military superiority in World War II by providing inexpensive, accurate measurement of stresses on military aircraft and weapons.

Dr. Ruge invented the Strain Gage in an MIT laboratory while trying to create a device to measure stresses on the bottoms of scale models of municipal water tanks. He recalls that the invention just "popped into my mind, whole." Its basic elements were glue, an extremely fine wire and a piece of paper. He knew that strain would change the resistance of the wire, so that when he applied the wire in a rigid base (the glue) to the surface of the tank (using the paper for insulation), he could measure the change in resistance in the wire as stress was applied—thus giving him an accurate measurement of the stress.

The invention was so modest-appearing—about the size of a fingernail—that some engineers told him it was too obvious to be patented. To which he would reply, "Sure it's obvious, now that I've invented it." Even the MIT Patent Committee was unimpressed, granting Professor Ruge all rights to the invention in a 1939 letter because "while...interesting...the committee does not feel that the commercial use is likely to be of major importance."

The rest, as they say, is history. In 1939 he and another MIT professor, A. V. DeForest, formed a company to manufacture and market several of Dr. Ruge's inventions. Dr. Ruge served as president and chairman until 1955, when the company was sold.

Dr. Ruge, a graduate of the Carnegie Institute of Technology, received the SM from MIT in civil engineering in 1933 and the ScD in engineering seismology in 1939. He taught at MIT in civil engineering until 1947.

—Phi Beta Kappa has selected Institute Professor Mildred S. Dresselhaus as one of 13 Visting Scholars for 1986-87. Members of the panel travel to universities and colleges that have Phi Beta Kappa chapters to meet undergraduates, lead classroom discussion and give lectures. The program's purpose is to enrich the intellectual atmosphere of the institutions and encourage the pursuit of scholarship.

—And now in fiction comes Brendan Barnes, a young computer science professor at MIT who has been recruited by a clandestine offshoot of the Pentagon to insert "software bombs" into the central Soviet computer network. Barnes is the protagonist of the spy thriller, *Software*, a best-seller in France just released in an English edition. And just what adventures does this imaginary faculty member get caught up in? Here's a sampling, from the review of the book in *The Washington Post*: "...Little does Brendan know that the top tomato of the Soviet Union's computer is none other than his former graduate-exchange student and lover...now married to an upwardly mobile KGB type named Sergei. Little does Sergei know that their daughter...is in fact Brendan's child from the Cambridge tryst..." It may not sound like much but the reviewer seems to conclude that *Software*, all in all, isn't a bad read.

—Dr. T. David Burleigh has received an Alexander von Humboldt Research Fellowship to work in West Berlin for one year and will be going to West Berlin in March to start a two-month language course. Dr. Burleigh, a postdoctoral associate in the Department of Materials Science and Engineering, received the SM and PhD from the Department in 1980 and 1985.

—Dr. Martin C. Jischke, who received the SM in 1964 and PhD in 1968 in aeronautics and astronautics at MIT, has been appointed chancellor of the University of Missouri's Rolla campus. A well-known engineering educator, he has been dean of the University of Oklahoma's college of engineering since 1981 and he also served as interim president of the university for eight months in 1985.

—Two persons now at MIT and two graduates are among 29 PhD recipients who have been offered \$60,000 fellowship awards designed to contribute to the future

vitality of the nation's scientific effort. The awards are made under the National Science Foundation's Mathematical Sciences Postdoctoral Research Fellowship program. The recipients now at MIT are Ravi B. Boppana, who will receive the PhD in electrical engineering and computer science this year, and Eric A. Carlen, an instructor in mathematics who received his PhD from Princeton University in 1984. Boppana plans to do his fellowship work at MIT, and Carlen at Princeton. MIT graduates offered fellowships were Ethan S. Devinatz, PhD '85, and Joseph F. Johnson, PhD '83.

—Two graduate students in the Center for Real Estate Development's Master of Science Program—Dominic J. Adducci and Daniel E. Elder—are among 36 students nationwide who have received \$300 academic scholarships from the Real Estate Educators Association.

### PRESS CLIPPINGS:

—Dr. Gary T. Marx, professor of sociology in the Department of Urban Studies and Planning, has expressed his views on timely topics in three op-ed articles. In one, written for the Los Angeles Times and distributed nationally, he warns that sophisticated surveillance methods threaten individual liberty and privacy. Another, co-authored by Chuck Wexler, a recent PhD from Dr. Marx's department, was published in the Christian Science Monitor and was taken from a longer study that will appear in the journal *Crime and Delinquency*. It makes the point that swift police action, using provisions of federal and state civil rights laws, can help deter racial harassment and violence directed against minorities. The most recent, in *The New York Times*, criticizes those who advocate the indiscriminate and widespread use of drug tests and "lie detectors," warning that this, too, "poses disturbing problems for civil liberties."

—Economist Lester C. Thurow, in a *New York Times* op-ed article, says he isn't so sure anymore that the financial panics of the 1920s and the Great Depression of the 1930s couldn't happen again. Pointing to "stagnation, farm bankruptcies, financial speculation, nonperforming loans, large potential defaults and falling real estate values, he comments that "the echoes of the Great Depression sound louder and louder." He adds: "To pretend it (financial disaster) cannot happen again and that governments do not have to protect the integrity of the system is to guarantee that it will happen again."

—USA Today reports that two recent MIT graduates, Brian L. Hinman and Jeffrey G. Bernstein, have developed a "picture telephone" for their company, PictTel Corp., working 14 hours, six to seven days a week to beat a deadline set by the lead underwriter in their 1984 public stock offering. Their success, the newspaper reports, has earned them company stock worth \$21.3 million. The two grew up together in Wheaton, Md., sharing an interest in ham radios, according to the newspaper, and got the idea for PictTel while graduate students in electrical engineering at MIT. Both received SMs in 1984.

—MIT economist and oil expert Morris A. Adelman told *The New York Times* that falling oil prices aren't likely to reverse the energy conservation habits developed by American business and consumers. "Even if the price of oil dropped to where it was in 1973, we'll never go back to where we were in terms of the amount of oil consumed relative to the gross national product," he said. "Part of the change is irreversible."

—A *Washington Post* profile on Richard Berendzen, the energetic president of American University who promotes his school by making himself highly visible, carries this disclaimer from Berendzen: "I don't really like parties...I don't smoke. I don't drink. I was a physics major at MIT...Does that sound like someone who enjoys parties?" Berendzen received the SB in physics in 1961.

—The *Wall Street Journal* reports that Sloan professor William F. Pounds, formerly dean of the school, has been named chairman of a trust company formed to manage the Rockefeller family's 170 trusts. The article describes Professor Pounds, who will work part-time in the post, as a senior advisor to the Rockefellers.

—Dr. Richard K. Lester, ARCO Associate Professor of Nuclear Engineering, is the author of the lead article in the March issue of *Scientific American*. In *Rethinking Nuclear Power*, he suggests a possible strategy for freeing nuclear power from its current impasse—based on a new generation of lower-power, centrally fabricated nuclear reactors designed for inherent safety.











Slain Swedish leader Olof Palme talked with former MIT President Jerome B. Wiesner, with whom he worked on arms control matters, before giving a lecture here in 1980.

## Hazardous wastes seen costly

New regulations on the disposal and cleanup of hazardous waste promise to have far-reaching effects on the finances of American business and may even force individual householders to clean up their act.

The prediction is made by Gordon F. Bloom, a lawyer, real estate developer and senior lecturer at the Sloan School of Management. Writing in the February/March issue of "Technology Review," MIT's national magazine of technology and policy, Bloom said that the "fallout from ever more stringent regulations on the disposal of hazardous waste, and the costs of cleaning up the many wastes improperly disposed of in the past, will affect the lives of every US citizen and the future of every business."

"The prices of consumer goods will rise," he continues, "small firms may go out of business, the structure of industries may change, and companies will have to redesign their products to produce less waste."

One example of such "widespread ramifications of regulations on hazardous waste," he said, might occur when a savings bank grants a mortgage loan to a developer to build a shopping center. "The center operates successfully," he says, "until one day the owner receives a notice informing him that the center has been built on land with buried oil tanks that are now leaking and polluting a nearby water source. The state orders the owner to clean up the waste (and) since the owner cannot comply with the state order and also afford to pay interest and principal on his mortgage, he defaults. A good loan has suddenly become a bad loan."

Even now, Bloom said, some firms face enormous potential liabilities from leaking landfills even though they may have complied with all regulations in effect at the time when they disposed of the waste.

He notes in his article that the Environmental Protection Agency estimates there are 30,000 to 50,000 improper waste dumps in the nation, many of which are now leaking into wells and aquifers.

The Office of Technology Assessment, he adds, estimates that dealing with just the most critical 10,000 sites will cost \$100 billion.

"Some firms may decide to stop making products such as highly toxic chemicals, and other companies that depend on these materials may find that supplies have dried up," he comments. "Companies may also be reluctant to begin making new products that result in hazardous waste because the threat of liability is too severe. . . . Moreover, individuals may be reluctant to start up small firms that generate hazardous waste because some courts have held company officers personally liable for cleanup costs, especially if the officers are substantial stockholders."

Nor will the effects be limited to businesses, Bloom writes:

"Because of problems with municipal landfills, individuals may soon find that they have to take responsibility for the hazardous waste they discard. Householders dispose of enormous amounts of potentially hazardous products daily, including drain and oven cleaners, pesticides, used batteries, and spot removers and other solvents. . . ."

"Although disposal of these products by individuals is now unregulated, at least ten states are considering control measures. These include an excise tax on such items that the state can use to pay to clean up wastes. . . . As concern about leaking landfills grows, states are also likely to require consumers to pay a hefty deposit when buying hazardous products. . . ."

Bloom calls upon individuals, businesses and government to focus their attention on trying to deal more effectively with the problem.

"We can no longer afford to consider pollution from hazardous waste someone else's problem and avoid taking responsibility for the waste each of us generates," he concludes.

## Pickens to speak

T. Boone Pickens Jr., president and chairman of Mesa Petroleum Company and a controversial corporate raider, will speak on the topic, "Let's Get Corporate America Going," Thursday, March 6, at 4:30pm in Bowen Hall (E51-329). The lecture is part of the Sloan School's Distinguished Speakers Series.

prize, \$100 second prize, \$50 honorable mention.

**The Boit Manuscript Prize**—Works of substantial length (fiction, poetry, essays), completed or in progress, by MIT undergraduates, are eligible. Primarily this award is for longer works and collections, in any category, which give evidence of publishable quality. Awards: \$300 first prize, \$150 second prize, \$75 honorable mention.

**The Writing Program Prize for Engineering Writing**—Writing by undergraduates at MIT, on any topic of professional interest to engineers, is eligible. Awards: \$200 first prize, \$100 second prize, \$50 honorable mention.

**The Writing Program Prize for Scientific Writing**—Writing by undergraduates at MIT, on any topic of professional interest to scientists, is eligible. Awards: \$200 first prize, \$100 second prize, \$50 honorable mention.

**De Witt Wallace Prize for Science Writing for the Public**—Writing by undergraduates at MIT, addressed to lay audiences, on issues and developments in science, medicine, and engineering. Works of any length are eligible. Awards: \$300 first prize, \$150 second prize, \$75 honorable mention.

For more information, applications and prize guidelines are available in the Writing Program headquarters office, Rm14E-310.

## "We live in the days of madness..." the late Prime Minister Olof Palme

Swedish Prime Minister Olof Palme, assassinated in Stockholm last week, came to MIT in December 1980 for a World Lecture Series talk on arms control, telling his MIT audience that "we live in the days of madness."

At the time, Mr. Palme was the opposition leader in Sweden after having headed the government from 1969 to 1976; he became prime minister again in 1982 when his Social Democratic Party won an election that ended six years of non-socialist rule.

Mr. Palme, an ardent supporter of arms reduction, worked closely on the arms control

issue and other international projects with former MIT President Jerome B. Wiesner. Dr. Wiesner said this week that Mr. Palme was one of the people he "most admired in the world."

In his MIT talk, Mr. Palme said, "It seems as if we are being driven towards nuclear war by the sheer momentum of military technology. I do not hesitate to say that we live in the days of madness. I firmly believe that unless something drastic can be done, the uncontrolled arms race will lead to a nuclear catastrophe."

## Martin Buerger dies at 82

Martin J. Buerger, a retired professor renowned for his laboratory and pioneering work in the application of X-ray crystallography, died Tuesday, Feb. 25 of Alzheimer's Disease at his home in Lincoln. He was 82.

Dr. Buerger, Institute Professor, emeritus, and professor of mineralogy and crystallography, emeritus, had been associated with MIT as a student and faculty member for 55 years when he closed out his career in 1975.

Dr. Buerger created and directed an X-ray diffraction laboratory devoted to crystal structure analysis that was internationally known for its instruments, analytical methods, research publications and the young scientists trained under his direction.

The laboratory developed systematic methods for determining how individual atoms in crystals are arranged in space. His method of "image seeking functions" employed a mathematical device to sort distances between the atoms, so that they fall into proper places in a pattern.

Because the properties and behavior of matter depend on the spatial arrangement of atoms, his instruments and analytical methods had importance in fields as diverse as chemistry, physics, metallurgy and molecular biology.

In addition to inventing two dozen new instruments and accessories, he authored ten textbooks and more than 200 journal articles in which he discussed his inventions, new methods and new ideas.

A former student, Dr. Bernhardt J. Wuensch, professor of ceramics, said: "Martin Buerger's impact on crystallography extended beyond his textbooks and important research contributions to instrumentation and theory. Many of his former students and postdoctoral associates fill key academic positions throughout the U.S. and worldwide. His long service as editor of the Zeitschrift fuer Kristallographie and on the editorial committee of the International Tables for X-ray Crystallography continued to influence developments in his field until the time of his death. His guidance will be deeply missed. It is significant that his influence will continue to be recognized through the recent establishment of the Martin J. Buerger Award of the American Crystallographic Association."

Dr. Buerger was born in Detroit, Mich., but moved with his family to several locations in New York state before graduating from Morris High School in New York City. He began his undergraduate work at MIT in 1920 in chemistry, then transferred to chemical engineering and mining engineering before receiving the SB in 1925. He received the SM in geology in 1927 and the PhD in mineralogy in 1929.

He began his long teaching career while still a graduate student, as a teaching assistant

## John Babcock

John Brazer Babcock, 96, professor of railway engineering emeritus in the Department of Civil Engineering, died February 19 in Portland, Maine.

A member of the faculty since 1916, he was in charge of courses in railway engineering and transportation, construction engineering and other subjects until his retirement in 1954. For 25 years, he served as placement officer for what was then called the Department of Civil and Sanitary Engineering. He served as a lecturer at MIT from 1954-59.

During World War II, he served as railroad evacuation officer for the Massachusetts Committee on Public Safety.

Professor Babcock was born in Boston, and was the son of the late John Brazer and Harriet A. (Burditt) Babcock Jr. He graduated from the Mechanic Arts High School in 1906 and MIT where he received the SB in civil engineering in 1910.

Following graduation he worked for six years with the Canadian railroads and was a consulting engineer.

He served in a variety of offices, including president of the Boston Society of Civil Engineers, and as chairman of the Transportation Committee of the American Society of Civil Engineers. He was secretary of the Engineering Societies of New England. He held memberships in Tau Beta Pi and was the oldest living national honor member of Chi Epsilon, the national civil engineering fraternity.

In 1979, he received the MIT Bronze Beaver. He was married in 1913 to Mildred Willard of Boston who died in 1952.

He leaves a son, Willard F. of North Carolina, three grandchildren and a great-grandchild.

in 1925-27, and instructor in 1927-29. He joined the faculty as an assistant professor in 1929, became an associate professor in 1935, professor in 1944 and Institute Professor, a rank of special distinction conferred by fellow faculty members, in 1956. From 1956 to 1963 he served as director of MIT's School of Advanced Study. At retirement in 1973, he became a senior research associate for an additional two years until 1975.

Dr. Buerger was elected to the National Academy of Sciences in 1958. He served as president of the American Crystallographic Society, the American Society for X-Ray and Electronic Diffraction and the Mineralogical Society of America; as vice president of the Geological Society of America; and as a councilor of the American Academy of Arts and Sciences.

He also served on numerous United States and international bodies, and he was made a foreign member of the Brazilian Academy of Sciences for his assistance in inaugurating a program of crystallography at the University of Rio de Janeiro.

His honors included the Arthur L. Day Medal for distinguished application of physics and chemistry to geology, presented by the Geology Society of America; the Roebling Award of the Mineralogical Society of America; and an honorary doctorate from the University of Berne in Switzerland.

He is survived by his wife, Lila (MacAskill); five daughters, Marla Friedrich of Rochester, N.Y.; Laura Sawyer of Mechanicsburg, Pa.; Janet Buerger of Rochester, N.Y., and Lincoln; Dorothy Buerger of Lincoln and Patricia Avery of West Springfield, N.H.; and three grandchildren, Julie Sawyer, Lisa Friedrich and Cylyn Avery.

Services will be private.

Donations may be sent to the Martin J. Buerger Student Aid Fund, Department of Earth, Atmospheric and Planetary Sciences, Rm 54-918.

## Dr. Violet Haas

Dr. Violet B. Haas, 59, a former visiting professor in electrical engineering in 1983-1984, died January 21 in Lafayette, Ind. after a long illness.

Dr. Haas was a professor of electrical engineering at Purdue University where she had been on the faculty since January 1962. During her professorship at MIT she was active in many women groups.

Born in Brooklyn, N.Y., she received the AB degree from Brooklyn College in 1947, the SM degree in 1949 and PhD degree in 1951 from MIT.

Dr. Haas was named a Vassie James Hill Fellow in 1951, a National Science Foundation Science Faculty Fellow in 1960, and was elected as one of five "Very Important Women" at Purdue by the Association of Women Students in 1976.

She received the D.D. Ewing Award in 1977, the Helen B. Schleman Gold Medallion Award in 1978, and was listed in Who's Who of American Women, and American Men and Women of Science.

She has had numerous articles published in research, scholarly and professional journals.

She was a member of the Society of Women Engineers; Society of Industrial and Applied Math; a board member of American Society of Electrical Engineering Constituent Committee on Women in Engineering, and was past editor of Women Engineering Students Newsletter. She was also a member of the League of Women Voters; YWCA and was on the board of directors at Lafayette Symphony.

She leaves her husband, Dr. Felix Haas, executive vice president and provost at Purdue, who received the SB degree in 1948, SM in 1949 and PhD in 1952 from MIT; a daughter, Elizabeth Ann of Cleveland who received the SM in 1977 and PhD in 1979 from MIT; and two sons, Richard Allan of Worcester, who received SB in 1973 from MIT and David Robert of Berkeley, Calif.

## Anna Beaton

Anna Beaton, 55, of North Andover, an accounting assistant in the Comptroller's Accounting Office, died February 10 in the MIT infirmary. She had worked in the comptroller's office since she joined MIT in 1977. Mrs. Beaton leaves her husband, William, who works at the Charles Stark Draper Laboratory; two daughters, Deborah of Washington, D.C. and Linda, a student at the University of Maine; and a son, Steven, of Derry, N.H.

## Writing competition issues call for papers

The 1985-86 Writing Prize Competition, sponsored by the MIT Writing Program, is accepting manuscripts from undergraduate students through April 18, 1986. The 24 prizes, each of which carries a cash award, are presented to those students whose essays, plays, poetry, short stories, and technical papers are judged to be of the highest quality by a committee of faculty and staff members.

Ilona Karmel, senior lecturer in the writing program and this year's competition chairman, hopes all interested students will "take the plunge" and submit their best efforts to the competition. She is also encouraging faculty members who receive undergraduate papers of outstanding quality to have their students enter the competition.

The prizes are:

**The Ellen King Prize for Freshman Writing**—Writing by freshmen at MIT in all categories (fiction, short story, essay, drama), is eligible. Awards: \$150 first prize, \$75 second prize, \$25 honorable mention.

**The Robert A. Boit Writing Prize**—Writing by undergraduates at MIT in the categories of essay, poetry and short story, is eligible. Awards (in each category): \$200 first