MIT TECH TALK

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Mouse inventor wins $500K Lemelson prize

Douglas C. Engelbart of the Bootstrap Institute, a high-tech pioneer who invented the computer mouse, hypertext and groupware, has been named the winner of the $500,000 Lemelson-MIT Prize for 1997, the world's single largest cash prize for American invention and innovation.

Dr. Engelbart, whose 20 patents are generally credited with launching the entire high-technology industry, received the award from the Lemelson-MIT Prize Program on the recommendation of three review panels of leading experts representing scientific, engineering and medical disciplines in academia and industry.

The Lemelson-MIT Lifetime Achievement Award was given to Gertrude B. Elion of Chapel Hill, NC, who shared the 1988 Nobel Prize in medicine or physiology with two other researchers. She holds 45 patents, two of which are for drugs that combat acute leukemia.

"These winners represent American ingenuity at its best," said Lester C. Thurow, the Jerome and Dorothy Lemelson Professor of Management and Economics at the Sloan School and chairman of the Lemelson-MIT Prize Board. "Their commitment to their beliefs and ideas has dramatically altered and improved lives while advancing industry."

"Drs. Engelbart and Elion's achievements have transformed and enriched our daily lives," said President Charles M. Vest.

"Their contributions to our national productivity and well-being should hold a prominent place in the public mind. Through the Lemelson-MIT Awards, we can bestow a measure of that well-earned recognition."

Drs. Engelbart and Elion will receive holograms designed for the Lemelson-MIT Program by the Media Laboratory. Both will be honored tomorrow evening (April 10) at a special ceremony at the Smithsonian Institution's National Museum of American History in Washington, DC.

Dr. Engelbart, 72, who has degrees from Oregon State and the University of California at Berkeley, did much of his breakthrough research while at the Stanford Research Institute in the 1950s and '60s. He founded the Bootstrap Institute in Fremont, CA, in 1989.

His invention of the first fully integrated, two-way computer/video teleconference led to the development of elaborate communication systems, including NLS oNLine and ARPAnet, the precursor to the Internet. His technological firsts include creation of the computer mouse, hypermedia, multiple-window screens, groupware, online publishing and electronic mail systems.

Since its patent in 1970 (it was created a decade earlier), more than 100 million mice have been sold by Logitech Inc., the world leader in computer mouse manufacturing.

Dr. Elion, 79, who holds degrees from Hunter College and New York University, devoted her 40-year career

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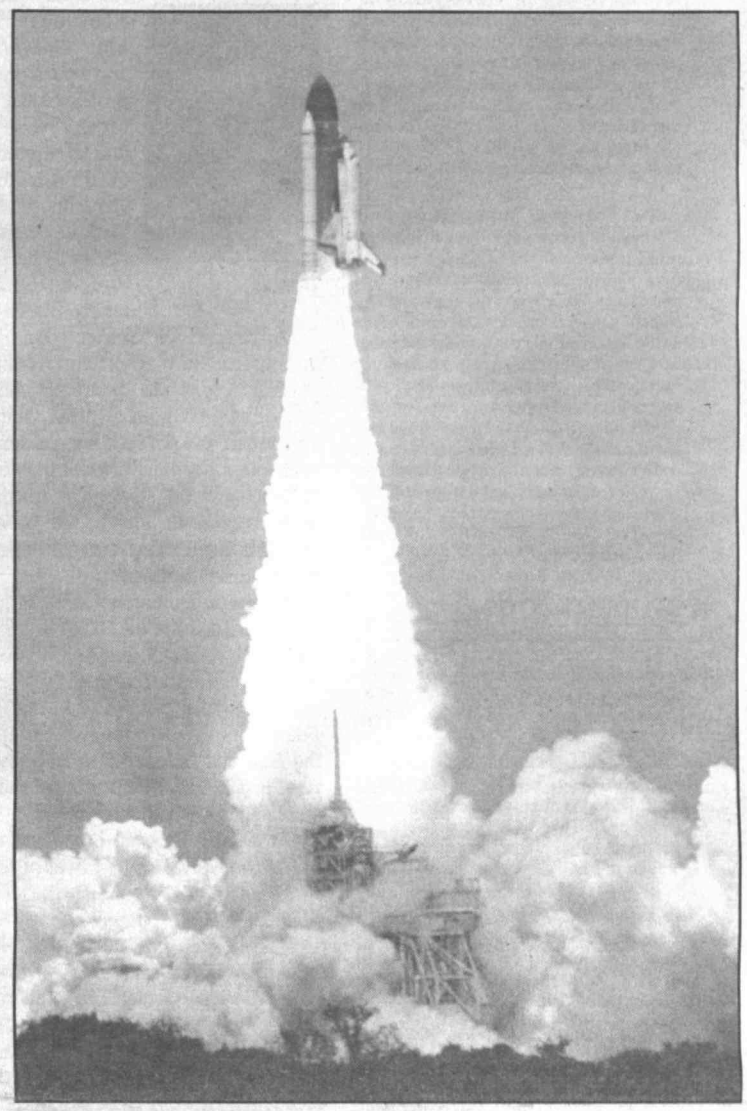


The space shuttle Columbia lifts off from the Kennedy Space Center on April 4 at the start of the STS-83 Microgravity Science Laboratory mission. **Photo by John Tylko**

MIT had key roles on Spacelab

■ **By John Tylko**
Special to MIT Tech Talk

MIT scientists and alumni/ae were deeply involved in STS-83, the first Microgravity Science Laboratory (MSL-1) Spacelab mission, which was launched on Friday from the Kennedy Space Center and returned yesterday afternoon, 12 days early, after fuel cell troubles developed.

The planned 16-day mission aboard space shuttle Columbia was intended to serve as a scientific test bed for a series of microgravity experiments under development for the International Space Station.

On Sunday, problems developed with a fuel cell which combines hydrogen and oxygen to produce electrical power aboard the space shuttle. Following mission rules and safety guidelines, the decision was made to power down the fuel cell, institute a series of energy management steps using the remaining two fuel cells, and develop plans for an early end to the mission. It is only the third time in space shuttle history that a mission has been cut short due to equipment failure.

Shuttle program manager Tommy Holloway said NASA would consider reflying the Microgravity

(continued on page 8)

MIT study predicts bright economic future for Hong Kong

■ **By Robert J. Sales**
News Office

A year-long MIT study is bullish on Hong Kong's prospects for the 21st century, even though the People's Republic of China will assume control of the territory's prosperous free economy on July 1.

Professors Richard K. Lester of nuclear engineering and Suzanne Berger of political science conducted a seminar for invited guests yesterday (April 8) in Hong Kong on the findings of the study, "Made by Hong Kong." It was published by Oxford University Press and will be available next month.

Professors Lester and Berger both worked on the highly respected 1989 report by the MIT Commission on Industrial Productivity entitled "Made in America/Regaining the Productive Edge." Professor Lester is the founder and director of MIT's Industrial Performance Center.

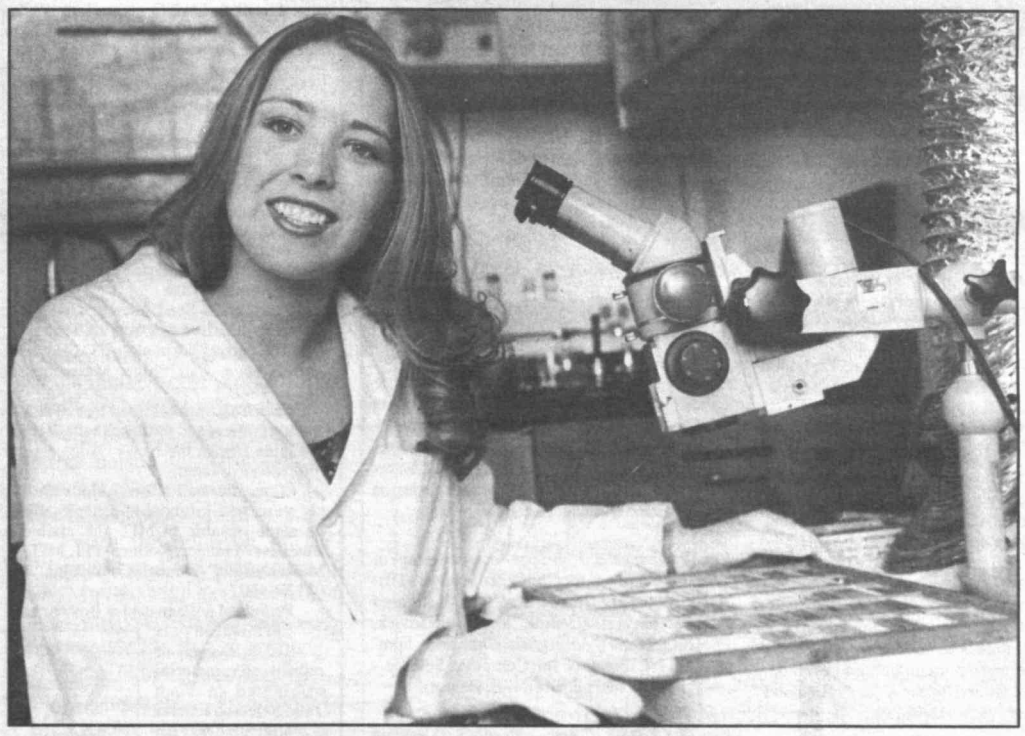
The new report, based on 516 visits to 350 Hong Kong companies and organizations, draws its conclusion in simple, straightforward language: "We see a future for Hong Kong as a world-class industrial power."

In remarks taped at MIT to welcome the audience at the Hong Kong seminar, President Charles M. Vest said, "The report suggests that the keys to Hong Kong's economic future are strong investment in research and development on the one hand, and investment in the professional and educational development of its workforce on the other.

"Throughout the world, the foundation is being laid for the evolution of a new generation of technology-based products and services—products and services that will appeal to the constantly evolving markets and partner-

(continued on page 8)

Beauty pageant prize helps pay student winner's tuition



Susan Rushing, who will compete for the title of Miss Maryland in June, does UROP neuroscience work in the lab of Professor Gerald Schneider. **Photo by Donna Coveney**

■ **By Sarah Wright**
News Office

For sophomore Susan Rushing, the Miss America contest could be a runway paved with gold.

A year ago, all that stood between Ms. Rushing and her dream of becoming a surgeon was a skimpy $250,000 in tuition costs.

A month ago, she donned her swimsuit, wore a crown and sang "O Mio Babbino Caro" from Giacomo Puccini's *Gianni Schicchi* in front of a panel of judges and a crowd of 1,000 in her hometown of Frederick, MD.

Now, Ms. Rushing, 20, who is studying systems neuroscience, is Miss Frederick, with $2,500 in scholarship money already en route to MIT and enough community service commitments to keep her commuting between Cambridge and Frederick, a suburb of Washington, DC, every weekend. "I do my problem sets in airports, waiting rooms—anywhere," she said. "Besides, I don't think of this in beauty pageant terms. I think of it as scholarships."

As Miss Frederick, Ms. Rushing will compete in the Miss Maryland pageant from June 26-28. A soprano, she plans to sing "Cuando M'en Vo' Soletta per la Via," Musetta's waltz, from Puccini's *La Boheme*. If she rules in Maryland, viewers all over the world will see her in September in the Rorschach of American life, the Miss America pageant.

(continued on page 8)

IN BRIEF

FACULTY MEETING

A regular meeting of the faculty will be held next Wednesday, April 16 at 3:15pm in Rm 10-250. Agenda items will include:

- Vote on the motion to establish a revised undergraduate communication requirement—Professor Bacow.
- Vote on the motion to establish a Master of Engineering Program in Logistics—Professor Sheffi.
- Report of the Edgerton Committee—Professor Wein.
- Motion to implement housekeeping and other changes to *Rules and Regulations of the Faculty*—Professor Bacow
- Report of the Committee on Nominations: nominees for members of standing committees—Professor de Moncheaux.

NO TECH TALK

MIT Tech Talk will not be published on April 23 because of the Patriot's Day holiday. The deadline for submitting classified ads and announcements for the April 16 issue, which will cover the period from April 16-May 4, is Friday, April 11 at noon.

Student ■Notices

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

■ ANNOUNCEMENTS

Career Services and Preprofessional Advising Recruitment Presentations—Apr 9:** *New Media Artists Agency,* 6:30pm, Rm 4-149.

International Career Fair*—Apr 24-25: Sponsored by the MIT European Club. More info: <http://web.mit.edu/euroclub/career/>.

Foreign Languages & Literatures Contest—** Stop by the display case next to the first floor elevator in Bldg 14N or see <http://web.mit.edu/fll/www/news> for rules and prizes.

■ RELIGIOUS ACTIVITIES

The Chapel is open for private meditation 7am-11pm daily. Regular Chapel services are:

Baptist Campus Ministry—**Weekly events: Tuesday night dinner at 5:15pm; Tuesday night bible study, 6pm; Monday graduate discussion, noon. Meets in Bldg W11.

Campus Crusade for Christ—**Weekly meeting on Wednesdays, 8pm, PDR 1 & 2, 3rd fl Student Center. Daily prayer, Rm W11-080 (CFL), 8am. More info: x2-1781 or <absfree@mit.edu>.

Tech Catholic Community—**Weekday Mass Tues & Thurs 5:05pm, Friday 12:05pm, Saturday 5pm, Sunday 9:30am & 5pm. Call x3-2981.

Christian Science Organization—**Thursdays at 7pm. Call x3-8797 or <lnorford@eagle.mit.edu> for further information.

Communitas-Life Together—**Protestant Worship Sunday at 11am. Sponsored by: American Baptist Church, United Church of Christ, United Methodist Church, Presbyterian Church (USA). Chaplain John Wuestneck, x2-1780 or <chaplain@mit.edu>.

Lutheran-Episcopal Ministry at MIT*—Regular Wednesday worship, 5:10pm, followed by supper in the Bldg W11 dining room. **Apr 9:** "A Healing Ministry in the Midst of Civil War," 7pm, more info Calendar, page 4. Bible Studies, Tuesdays 5:30-6:30pm, Bldg W11. More info: x3-0108.

Meditation and Discourse on the Bhagavad Gita*—With Swami Sarvagatananda, MIT Chaplain and Head, Ramakrishna Vedanta Society of Boston. Every Friday, 5:15-6:30pm, MIT Chapel. Sponsored by the MIT Vedanta Society. More info: 661-2011 or <mehta@jimmy.harvard.edu>.

MIT Orthodox Christian Fellowship—** Wednesdays at 5:30pm in Student Ctr DR 1 for dinner followed by Chapel Vespers. John Kymissis, Dorm x5-7649 or Costa Sapuntzakis, Dorm x5-7683..

Other religious meetings:

Baptist Student Fellowship*—Weekly meetings on Tuesdays, include dinner followed by Bible Study. 5:30-7pm, Bldg W11, small dining room. Sponsored by Baptist Campus Ministry. More info: x3-2328.

Graduate Christian Fellowship—**Weekly meetings in Student Ctr, PDR 1&2, Fridays at 5:30pm. Also weekly Bible studies and Responsible Technology discussion group. Andrew Crabtree 868-0488 or <crabtree@mit.edu>.

Hillel*—More info: x3-2982.

Lincoln Laboratory Noon Bible Studies*— Wednesdays at noon, South Lab S2-410. Annie Lescard, Linc x2899.

MIT Muslim Students Association*—5 daily prayers, Bldg W11; also Friday congregation 1:10-1:45pm, Rm W11-110. Info: x8-9285.

■ OPPORTUNITIES

I. Austin Kelly III Prize Competition 1996-1997. Two prizes of $600 each for scholarly or critical essays in the following fields: Anthropology, archaeology, economics, film & media studies, history, history of science & technology, linguistics, literature, music, philosophy, politics, theater, visual arts, women's studies. Rules and guidelines are available in the Music Office, Rm 14N-207 or by contacting Mary Cabral, x3-5623. Open to MIT undergraduates. Deadline: **April 10.**

Alfred Keil Fellowship for the Wiser Uses of Science and Technology. This award, established by the School of Engineering, covers full tuition for an academic year and is based on academic excellence, the relevance of a student's intended work to the spirit of the award, and creativity construed as the possibility of enabling the student to do something that might not otherwise be possible. Application should be limited to two pages explaining the student's proposed research and how it will contribute to the wiser uses of science and technology. The names of two references are required, including at least one MIT faculty member. Applications should be submitted to Prof. Daniel Roos, Rm E40-209. Deadline: **April 15.**

■ STUDENT JOBS

There are more job listings available at the Student Employment Office, Rm 5-119, or on the Web at <http://web.mit.edu/seo/> (student access only).

On-Campus, Office. The MIT Office of Corporate Relations is looking for someone familiar with Microsoft Office and other SW, possibly including ACT!, to use links and templates to develop customized client management database for a small networked office. Contact Ken at (508) 772-4848.

Off-Campus, Marketing. Work in marketing department, exploit capabilities of Lotus Notes, serve as Webmaster to company Web site, update content, create and implement new ideas. Call Allen Dalezman at 528-4277.

Off-Campus, Tutor. Math and science tutor needed. Five hours of one-on-one teaching, especially algebra. Looking for enthusiastic, inventive, non-smoking, master's or upper-class undergraduate student who enjoys children who think and question, to coordinate curriculum and to teach very bright 15-year-old boy who suffers from chronic fatigue syndrome. Must have teaching experience. Located in South End of Boston, accessible by public transportation. References required. Call Kristin Tran at x3-1614.

For students with a Federal Work Study component in their aid package (see <http://tute.mit.edu/seo/wwwcl/sersum.html> or contact Student Employment Office for full details).

Instructional Assistant, BELL Foundation. The assistant will work directly with and report to the BASICs site coordinator. Duties: assist in developing and implementing curriculum for each scholar, recreational activities, field trips, site set-up and clean-up, oversee the maintenance of the scholars' portfolios, and assist in performing weekly assessment. Qualifications: one-on-one tutoring and leadership experience preferred, friendliness and enthusiasm, interest in children, demonstrated respect for all children, and ability to work in a group environment. Please fax resume with cover letter to Kimberly Willingham, fax: 349-3545.

Radio News. Living On Earth produces a one hour weekly radio news program on enivornmental issues and conducts middle school programs on environmental education. Opportunities exist in the following areas: general production, news writing, feature story research, middle school curriculum activities development. Candidates should possess excellent written and oral skills, and feel at ease with accessing information via telephone and a number of computer programs. Additionally, s/he should be well organized. Some broadcasting, recording, journalism, public policy, biology or environmental issues work experience is helpful. Please fax resumes with cover letters to Julia Madeson, fax 868-8659.

Latin America Research. Researchers will undertake library and on-line research that expands EcoLogic's database of information about community-based development and the conservation of threatened tropical ecosystems in Latin America. This information is then provided to Latin American partner organizations participating in EcoLogic's computerized information exchange, the Network for New Ideas. Familiarity with the Internet and Spanish preferred. Fax Luise Wills, 441-6363.

■ VOLUNTEERS

The MIT Public Service Center (Room W20-311, x3-0742) has compiled the following volunteer opportunities.

Shelter, Inc., an organization providing help to the homeless, is seeking volunteers with extensive computer knowledge to help with the technical problems they are currently experiencing. Volunteers would act as a resource, mostly by phone, when needed. For more information or an offer to help, call Mark Alston-Follansbee at 547-1885 or Doug Kline at 864-8140.

Boston ACE is currently looking for unpaid interns for its July and August Summer Academy. Boston ACE provides free year round tennis and academic guidance for economically disadvantaged girls. Interns' responsibilities will include: tennis coaching and/or academic instruction as well as assisting the Director with program development. Applicants should have experience in all or some of these areas. Send a cover letter and resume to: Georgia Levenson, Executive Director, Boston ACE, 27 Highland Ave., Cambridge, MA 02139.

Le Casino Grande Fundraiser, sponsored by the Middlesex County Chapter of Links, is in need of volunteers to run casino games on Sat. April 26 at the Westford Regency Inn. Funds will benefit local shelters for battered women and The Links Scholarship Fund. Training will be held on Apr. 14. To sign up, contact Loretta Davis at 491-6050.

■ CABLE

For more information about cable at MIT, call Randy Winchester at x3-7431, Rm 9-050, e-mail: <randy@mit.edu>. World Wide Web: <http://web.mit.edu/org/m/mitcable/www/home.html>.

Continuously Running Programs—*Channel 11:* NASA Television most days, sometimes interrupted for other uses. *Channel 12:* Today at MIT - a listing of MIT events. To submit your event listings for this channel, send email to <tv-messages@mit.edu>. *Channel 13:* International Channel: see <http://www.i-channel.com> for more information.

Apr 9: *Channel 8:* 11am-12:30pm—Live coverage of the EECS/RLE Seminar Series on Optics and Quantum Electronics: "Solid State Lasers: From Concepts to Applied Sources," James Harrison, Schwartz Electro-Optics. *Channel 9:* 5pm-2am—repeat of above lecture. *Channel 10:* 4pm—Physics 8.01 Review Assignment #9 with Prof. Walter Lewin. This program will repeat every hour on the hour until 4pm, 4/18.

Apr 15: *Channel 8:* 4-5:30pm—Live coverage of the MTL VLSI Seminar: Kerry Bernstein, IBM. *Channel 9:* 5:30pm-2am—MTL VLSI Seminar: Kerry Bernstein, IBM. (repeat).

Apr 16: *Channel 8:* 11am-12:30pm—Live coverage of the EECS/RLE Seminar Series on Optics and Quantum Electronics: "Fiber Grating Devices for Communication Systems," Thomas Strasser, Lucent Technology, Bell Laboratories. *Channel 9:* 5pm-2am—EECS/RLE Seminar Series on Optics and Quantum Electronics (repeat)

Apr 17: *Channel 8:* 3:30-5pm—Live coverage of the Laboratory for Computer Science - Distinguished Lecture Series, "The Challenges of Managing Innovation," Mr. John Warnock, CEO Adobe Systems, Inc. *Channel 9:* 5pm-2am—Laboratory for Computer Science - Distinguished Lecture Series (repeat).

Apr 18: *Channel 10:* 4pm—Physics 8.01 Review Assignment #10 with Prof. Walter Lewin. This program will repeat every hour on the hour until 4pm, 4/23.

Crimewatch

The following incidents were reported to the MIT Campus Police between Mar 20 - Apr 2:

Mar 21: *Bldg E40,* 1) laptop, $2,500; wallet, $75; *DuPont desk,* $527 stolen; *Bldg 33,* laser printer stolen, $350.

Mar 22: *500 Memorial Dr.,* complaint of taxi blowing horn; *Bldg 7,* suspicious person report; *Burton,* suspicious package.

Mar 24: *Bldg E23,* suspicious activity; *Bldg 68,* annoying phone call; *Rockwell Cage,* portable CD player stolen, $150; *Bldg 9,* computer stolen $2,662; *Bldg 50,* male taken into custody on an outstanding warrant.

Mar 26: *Bldg 38,* ethernet card stolen, $200; *Bldg 10,* malicious damage.

Mar 27: Edgerton Hse., radio stolen, $100; *Student Ctr.,* $85 stolen from wallet; *500 Memorial,* annoying phone call; *Bldg 10,* posters removed.

Mar 28: *Student Ctr.,* male taken into custody on an outstanding warrant; *Bldg 13,* bike tire stolen, $70; *DuPont,* male taken into custody for outstanding warrant.

Mar 30: *500 Memorial Dr.,* complaint about taxi blowing horn; *Ashdown,* cash stolen, later recovered; *Westgate,* bike seat stolen, $30; *Bldg 36,* keyboard stolen, $100; *Johnson Athletic Ctr.,* athletic equipment stolen, $130; *Bldg 10,* annoying phone call; *Student Ctr.,* male taken into custody on an outstanding warrant.

Apr 1: *Bldg 36,* pocketbook stolen, $210; *West Garage,* two vehicles broken into; *Burton,* compact disks and cash stolen, $550.

Domar of economics dies at 82

Ford International Professor of Economics Emeritus Evsey D. Domar, 82, whose students included the former chair of President Clinton's Council of Economic Advisors during a 25-year MIT career, died on April 1 in Emerson Hospital in Concord.

Professor Domar came to MIT in 1957 as a visiting professor of economics while on leave from Johns Hopkins University and was named a professor the following year. He was appointed the Ford Professor in 1972, one of seven Institute chairs endowed by the Ford Foundation. He retired in 1984.

Domar

An expert on Soviet economics during the Cold War and an early champion of Kéynesian theory, Professor Domar saw economics grow from an arcane subject debated by academics to an integral tool in formulating political and societal strategies. In 1980, with tongue in cheek, he created Domar's Law: "The worse it gets, the more we are needed."

Professor Domar, who taught at the Carnegie Institute of Technology, the University of Chicago and Johns Hopkins before arriving at MIT, consulted for the RAND Corp., the Ford Foundation, the Brookings Institution, the National Science Foundation, the Batelle Memorial Institute and the Institute for Defense Analysis.

Professor Domar, born in Lodz, Poland on April 16, 1914, was raised in Manchuria and emigrated to the United States in 1936. He earned the BA from UCLA in 1939, MS degrees in mathematics from the University of Michigan (1940) and Harvard University (1943), and the PhD in economics from Harvard in 1947.

He was a Fellow of the American Academy of Arts and Sciences, the Econometric Society, and the Center for Advanced Study in the Behavioral Sciences. He served on the executive committee of the American Economic Association from 1962-65 and was its vice president in 1970. He also was the president of the Association for Comparative Economics in 1970.

Professor Domar was a member of the board of editors of the American Economic Review from 1957-59 and contributed numerous articles to a scholarly publications.

His ever-present pipe in hand, he was a mentor to several generations of MIT students, including Laura D'Andrea Tyson, who served in the first Clinton administration.

Professor Domar is survived by his wife, Carola, of Concord; two daughters, Alice D. of Sudbury and Erica D. Banderob of Milton, and three granddaughters.

Other obituaries

BARBARA MARKS

Barbara Marks, 79, of Fairfield, CT, died on March 20. She began working at MIT in 1954 and was a senior secretary in the Department of Aeronautics and Astronautics when she retired in 1990. Survivors include a son, Paul Marks of Fairfield.

ROGER S. NAPPIER

Roger S. Nappier, 75, of Jamaica Plain, died on March 18. He was a grounds worker in Physical Plant who retired in 1986 after 15 years at MIT. Survivors include his wife, Marjorie; two daughters, Lascene Hooker and Karen Harris, and a son, Rodger.

ALBERT J. PUKT

A funeral Mass was held at St. Mark's Church in Dorchester on March 8 for Albert J. Pukt, 78, of Falmouth Heights, who died on March 5. He was a machinist in the Department of Chemical Engineering when he retired in 1982 after 29 years at MIT.

Mr. Pukt leaves a daughter, Gayle Knipe of Marlboro; two sisters, Elizabeth Aylward of Taunton and Natalie Mahoney of Abington; a brother, Joseph of Abington, and several nieces and nephews.

Arias to give third lecture

Dr. Oscar Arias Sánchez, winner of the 1987 Nobel Peace prize and former president of Costa Rica, will deliver the last of his three Karl Taylor Compton Lectures at MIT on April 14 at 4pm.

The lecture, entitled "How Much Poverty Can Democracy Endure?" is free and open to the public. It will be in Rm 10-250, followed by a reception.

The first lecture in the series, 'Demilitarization: A Major Factor for Development," was delivered on January 13. The second lecture, "Latin America Facing New Challenges," took place on February 24.

In the February talk, Dr. Arias called on the United States to assume a greater role in the future of Latin America. "The United States, as we are all aware, is the healthiest and wealthiest nation in the world," he said.

Dr. Arias, 56, studied law and economics at the University of Costa Rica and earned a doctorate in political science from the University of Essex in England. After serving as professor of political science at the University of Costa Rica, he was appointed Costa Rican minister of planning and economic policy. He won a seat in Congress in 1978 and was elected secretary-general of the National Liberation Party in 1981. In 1986, Oscar Arias was elected president of Costa Rica.

The lectures were sponsored by the MIT Department of Urban Studies and Planning, the School of Architecture and Planning and the Provost's Office. Rm 10-250 is wheelchair accessible. For more information, call x3-2024.

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Periodical postage paid at Boston, MA.

Weinberg is first Ludwig Professor

Dr. Robert A. Weinberg, a founding member of the Whitehead Institute for Biomedical Research, has been named the Daniel K. Ludwig Professor for Cancer Research at MIT.

The appointment was announced by Dean of Science Robert J. Birgeneau. At the same time, Assistant Professor Tyler E. Jacks was named a Daniel K. Ludwig Scholar for Cancer Research.


Weinberg

These appointments are supported by an endowment from the Virginia and D.K. Ludwig Fund for Cancer Research. The total bequest will eventually support two additional chairs, graduate fellowships and a UROP fund, all for cancer research.

"We are pleased to have MIT's role in cancer research recognized by Mr. Ludwig's generosity," Dean Birgeneau said. "We are especially gratified that a portion of the funds will be used to support undergraduate research."

Mr. Ludwig, a real estate magnate and founder of National Bulk Carriers, directed the major portion of his estate toward cancer research, making bequests to Harvard, Johns Hopkins University, Stanford, the University of Chicago and Memorial Sloan-Kettering Cancer Center as well as MIT. All of the recipients besides MIT are teaching hospitals or have medical schools affiliated with teaching hospitals.

Dr. Weinberg is the author or editor of five books and more than 250 articles. His two most recent books, intended for a lay audience, are *Racing to the Beginning of the Road: The Search for the Origin of Cancer* and *Genes and the Biology of Cancer,* co-authored with Dr. Harold E. Varmus, director of the National Institutes of Health. He is a member of the National Academy of Sciences and a fellow of the American Academy of Arts and Sciences.

Among Dr. Weinberg's many honors and awards are the Discover Magazine 1982 Scientist of the Year, the National Academy of Sciences/US Steel Foundation Award in Molecular Biology, the Sloan Prize of the General Motors Cancer Research Foundation, the Bristol-Myers Award for Distinguished Achievement in Cancer Research, the Harvey Prize from the American Society for Technion Israel Institute of Technology, and the Gairdner Foundation International Award. He serves on scientific advisory boards for the Institute of Molecular Pathology in Vienna, the Weizmann Institute in Rehovoth, Israel, and Massachusetts General Hospital.

Dr. Weinberg received the SB in 1964 and PhD in1969 from MIT, both in biology. He did postdoctoral research at the Weizmann Institute and the Salk Institute in La Jolla, CA, and returned to MIT in 1972. In 1982, he was appointed professor of biology and also became one of the five original members of the Whitehead Institute. He has been an American Cancer Society Research Professor at Whitehead and MIT since 1985.

Dr. Jacks, a graduate of Harvard with a PhD in microbiology from the University of California at San Francisco, recently received the 18th annual Cornelius P. Rhoads Memorial Award from the American Association for Cancer Research. He is also affiliated with the Center for Cancer Research.

Dr. Jacks is an assistant investigator for the Howard Hughes Medical Institute and serves on the research advisory board of the National Neurofibromatosis Foundation. He is co-chair of the National Neurofibro-matosis International Consortium of the Molecular Biology of NF1 and NF2.

Awards & Honors

■ Technion, the Israel Institute of Technology, has bestowed an honorary doctorate, the Doctor Scientiarum Honoris Causa, on **Dr. Robert Langer,** the Germeshausen Professor of Chemical and Biomedical Engineering. In a letter to Professor Langer, Professor Zehev Tadmor, president of Technion, wrote that the honor was given "in recognition of your outstanding contributions to the development of revolutionary new principles and materials for controlled drug delivery and tissue engineering; for your wisdom to translate novel scientific concepts into therapeutic modalities for better health care to benefit mankind, and for your remarkable ability to spark in younger scientists the curiosity to search for novel ideas and to transmit to them your love of research."


Langer

■ The Smithsonian Institution's National Museum of American History has chosen Dr. **Seymour Papert,** Professor of Education and Media Technology, as this year's NEC Leadership Award for Education. It is one of five annual Smithsonian awards that recognize achievement in the application of information technology in society.

In addition to receiving his award, Professor Papert will also have his recollections and reflections preserved for national posterity. The Smithsonian conducts in-depth video history interviews with its award winners, archives them, and uses segments in educational publications and presentations as well as publishing transcripts on the Web.

■ Dr. **Alexander Slocum,** the Alex and Brit d'Arbeloff Associate Professor of Mechanical Engineering, will receive the SME Frederick W. Taylor Research Medal in May. The award from the Society of Manufacturing Engineers recognizes "significant published research leading to a better understanding of materials, facilities, principles, operations and their application to improve manufacturing processes."


Slocum

Professor Slocum has published numerous articles on the design of precision machine tool components from modular low-cost hydrostatic bearings to damped structures to kinematic couplings, and he is the author of the text *Precision Machine Design.*

■ Dr. **Carl C. Ton,** a postdoctoral associate in the Center for Cancer Research, is one of 131 young researchers selected to receive grants from the National Alliance for Research on Schizophrenia and depression (NARSAD). NARSAD is the largest publicly supported, nongovernmental funder of psychiatric research in the country. Dr. Ton will use his grant ($30,000 a year for two years) to apply genetic mapping and positional cloning to a study a gene on chromosome 8 which confers susceptibility to schizophrenia.

Nuclear engineering establishes new CD chair

The Department of Nuclear Engineering held a reception earlier this week to mark the endowment of the new Norman C. Rasmussen Career Development Chair in Nuclear Engineering. The first holder of the chair is Kenneth R. Czerwinski, who joined the MIT faculty as an assistant professor in November 1996.


Czerwinski

Many individuals and corporations joined to endow the chair to honor Professor Emeritus Rasmussen, who retired in 1994 after 30 years on the faculty, including service as department head from 1975-81. He is noted for his pioneering work in nuclear risk assessment as exemplified by the 1994 Reactor Safety Study. That work and subsequent contributions are among the most influential elements of nuclear safety and licensing throughout the world.

Professor Czerwinski received the PhD in nuclear chemistry from the University of California at Berkeley in 1992. Before coming to MIT, he was a postdoctoral fellow at the Institut für Radiochemie at Technische Universität in Munich, Germany. He is an expert in actinide chemistry with an interest in environmental and waste management of nuclear materials.

Among the contributors to the chair who attended the reception at MIT were Bernard Fox, president and CEO of Northeast Utilities; William McCormick, CEO of CMS Energy Corp.; Stephen Younger, program director for nuclear materials weapons technology at Los Alamos National Laboratories; and Dr. Zack Pate, president and CEO of the Institute for Nuclear Power Operations.

Two are appointed in cost analysis

Patrick Fitzgerald, former assistant controller for cost analysis at Cornell University, has joined MIT as director of cost analysis. Thomas E. Mullen has also been promoted from assistant comptroller for cost development to director of federal cost studies in the Office of Cost Analysis. The announcements were made by Glenn Strehle, vice president for finance and treasurer.

Mr. Fitzgerald succeeds the retired John O'Sullivan, who handled most of the Institute's indirect-cost negotiation activities for many years. Mr. Fitzgerald supported the indirect-cost activities at Cornell for nine years after a 12-year career in industry.


Fitzgerald

He holds the BBA in business management from St. John Fisher College and the MBA in general management from Syracuse. Mr. Fitzgerald will direct the Office of Cost Analysis, which now reports to the director of sponsored programs.

Mr. Mullen will have primary responsibility for the construction of the indirect-cost proposal, the employee benefit proposal and related pension issues, and he will act as liaison with the Defense Contract Audit Agency and Office of Naval Research.

"With the addition of Mr. Fitzgerald and the promotion of Mr. Mullen, MIT has established a cost analysis unit with outstanding knowledge and experience," said Julie Norris, director of sponsored programs. "We look forward to their interaction with the MIT community."

Hollomon symposium addresses food scarcity

Lester Brown, president of the Worldwatch Institute, will discuss "Facing the Challenge of Food Scarcity" at the seventh annual J. Herbert Hollomon Memorial Symposium sponsored by the Technology and Culture Forum on Thursday, April 10 at 4pm in Rm 9-150.

The session will be moderated by Professor Nazli Choucri of the Department of Political Science. Respondents will be Richard Levins, an agro-ecologist at the Harvard School of Public Health, and Richard Goldman of the Harvard Institute for International Development.

Mr. Brown, an agriculture expert, served as advisor to Secretary of Agriculture Orville Freeman starting in 1964 and later as administrator in that department. He later helped establish the Overseas Development Council and in 1974, he founded the Worldwatch Institute, a nonprofit research institute devoted to the analysis of global environmental issues. The organization's publications include Vital Signs, the widely read State of the World reports. Mr. Brown has also authored several books including *Who Will Feed China?* and *Tough Choices: Facing the Challenge of Food Scarcity.*

Dr. Hollomon, who held leadership positions in academe, industry and the federal government, received the SB in physics (1940) and the ScD in metallurgy (1946). After serving as president of the University of Oklahoma (1968-70) and assistant secretary of commerce for science and technology (1962-67), he returned to MIT and founded the Center for Policy Alternatives, which identified major sociotechnical issues and the policies and practices surrounding them. In 1985, the center became part of the Center for Technology, Policy and Industrial Development. Dr. Hollomon died in 1985 at the age of 66.

For more information, see the Web site at <http://web.mit.edu/tac/www/home.html.>

Do you have news or information you'd like to share with the MIT community or outside readers?

The MIT News Office staff can work with you to produce Tech Talk stories and press releases on such things as:

- **Research advances (upcoming papers, clinical trials, etc.)**
- **New programs**
- **Noteworthy events or milestones**

Contact the News Office at **x3-2700** or **<newsoffice@mit.edu>**. Also see our World Wide Web page with links to our various publications at **<http://web.mit.edu/newsoffice/www/>.**

Calendar items, notices, classified ads: Listings of community events and lectures, classified ads and student notices can be submitted by Institute mail, e-mail or in person at Rm 5-111. Check the calendar and ad pages for submission requirements, or in TechInfo under Publications—>Tech Talk Online.

Display ads: Tech Talk runs display ads submitted *only* by recognized MIT departments and organizations at the rate of $15 per column inch. Contact Tech Talk editor Alice Waugh, x8-5401, <awaugh@mit.edu>.

Errata

- In an article in the April 3 issue of MIT Tech Talk about the Human Resource Practices Development team (HRPD), an incorrect date was given for the establishment of the design team. The Reengineering Steering Committee adopted the human resources principles in late 1994, but the Human Resource Practices Design team was not created until 1996.

- In an item in the same issue on where to send donations to the Paul E. Gray (1954) Endowed UROP Fund or the Priscilla King Gray Endowment Fund for the Public Service Center, the ZIP code was incorrect. The US mail address is: Bonny Kellermann, Office of the Recording Secretary, 238 Main St., Suite 200, Cambridge, MA 02142. Interdepartmental mail may be sent to Bonny Kellermann, 238 Main. MIT Tech Talk regrets the errors.

It's a fact

In 1903 Lydia G. Weld became the first woman to receive an engineering degree from MIT, the SB in naval architecture and marine engineering.

Institute Calendar

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

April 9 - 20

■ SPECIAL INTEREST

Medical Breakthroughs From MIT: Sampling Current Research*—Apr 10: Moderator: William M. Kettyle, M.D., Associate Director, MIT Medical Dept. Panel: Elazer R. Edelman, M.D., PhD, Asst. Professor, Health Sciences and Technology; Brigham and Women's Hospital; Emilio Bizzi, M.D., Dept. Head, MIT Brain and Cognitive Sciences; Linda G. Griffith, Ph.D, Assoc. Professor, Chemical Engineering. The Catherine N. Stratton Lectures, 9:30am-12pm, Wong Auditorium, Tang Center (Bldg E51). More info: MIT Women's League, x3-3656.

Food Scarcity: Fact or Fiction?*—Apr 10: Lecture by Lester Brown, President, Worldwatch Institute. Respondents: Richard Levins, Agro-Ecologist, Harvard School of Public Health; Richard Goldman, Harvard Institute for International Development. Moderator: Nazli Choucri, MIT. The Seventh Annual J. Herbert Hollomon Memorial Symposium sponsored by the Technology and Cluture Forum at MIT, 4pm, Rm 9-150. More info: x3-0108 or <http://web.mit.edu/tac/www/home.html>.

The People and the Community*—Apr 10: Lecture by Aaron Feuerstein, President and CEO of Malden Mills. Industry Leaders in Technology and Management Lecture Series, Center for Technology, Policy and Industrial Development, 4:30-6pm, Kresge Auditorium. More info: <http://web.mit.edu/ctpid/www/lecture/lecture.html>.

How Much Poverty Can Democracy Endure*—Apr 14: Lecture by Dr. Oscar Arias Sànchez, 1987 Nobel Peace Laureate, President of Costa Rica 1986-1990, Founder of Arias Foundation for Peace and Human Progress. Final lecture in the three-part Karl Taylor Compton Lecture Series. Sponsored by the Dept. of Urban Studies and Planning, the School of Architecture and Planning, and the Provost's Office, 4pm, Rm 10-250. Reception following.

Tiananmen Three Ways: Text, Film, and Web*—Apr 14: Lecture by Prof. Peter Perdue, MIT, Head of History Section. Program in Science, Technology, and Society Colloquia. 4pm, Rm E51-095. More info: x3-4062.

■ SEMINARS & LECTURES

WEDNESDAY, APRIL 9

Solid State Lasers: From Concepts to Applied Sources*—James Harrison, Schwartz Electro-Optics. EECS/RLE Seminar Series on Optics and Quantum Electronics, 11am-12pm, Rm 34-401B. More info: x3-8504.

De-Alerting Nuclear Forces*—Bruce Blair, Senior Staff, Brookings. Security Studies Program, CIS, 12-1:30pm, Rm E38-615. Bring a bag lunch; refreshments provided.

Acoustic Thermometry of Ocean Climate: Where Do We Stand?*—Dimitris Menemenlis, MIT. Oceanography Sack Lunch Seminar, 12:10pm, Rm 54-915.

Modeling and Design of Reload LWR Cores for a 48 Month Fuel Cycle*—Michael V. McMahon, MIT. Fission/Energy Seminar in Nuclear Engineering, 3pm, Rm NW12-222. Refreshments.

Phase Transitions in Thin Polymer Mixtures*—Prof. Sanat Kumar, Pennsylvania State Univ. Program in Polymer Sciences and Technology Seminar, 3:30pm. Rm 37-252. Refreshments. More info: <rutledge@mit.edu>.

Significance of the GISP2 Pre-Holocene and Holocene Rapid Climate Change Events*—Prof. Paul Mayewski, Univ. of NH. Sponsored by the Dept. of Earth, Atmospheric and Planetary Sciences, 4pm, Rm 54-915. Refreshments, 3:30pm, Ida Green Lounge.

Iron in the Halls Brook Storage Area*—Dr. Sergi Diez. Aquatic Sciences Seminars, Parsons Lab., 4:05pm, Rm 48-316. More info: x8-5554 or <janiscka@mit.edu>.

A Healing Ministry in the Midst of Civil War—The Rt. Rev. Gordon McMullen, Merrill Fellow, Harvard; former Anglican Bishop in No. Ireland.** Sponsored by the Lutheran-Episcopal Ministry at MIT, 7pm, Bldg W11.

THURSDAY, APRIL 10

Medical Breakthroughs From MIT: Sampling Current Research*—9:30am-12pm, Wong Auditorium, Tang Center (Bldg E51). See Special Interest, above.

Sharing the Payoffs of Collaborative R&D Relationships*—Prof. Sandy Jap, MIT. Sponsored by the MIT International Center for Research on the Management of Technology, 11:30-1pm, Rm E51-376. Bring your lunch. Beverage and dessert provided.

Forecasting and Assimilating Ocean Processes & Variables*—Allan Robinson, Harvard Univ. MIT Sea Grant, Draper Labs & MIT Dept. of Ocean Engineering Autonomous Underwater Vehicles Seminar, 12noon, Rm E38-300. More info: x3-9310 or <bales@mit.edu>.

Biocatalyst Engineering for Extreme Environments*—Douglas C. Clark, Univ. of California at Berkeley. Chemical Engineering Seminar, 3pm, Rm 66-110, Refreshments, 2:45pm.

A Comparison of Formulations for the Single-Airport Ground Holding Problem with Banking Constraints*—Michael Ball, Prof. and Chair of Management Science and Statistics, Univ. of Md. Operations Research Center Seminar, 4-5pm, Rm E40-298. Refreshments to follow, Rm E40-106. More info: <http://web.mit.edu/orc/www>, <toktay@mit.edu> or x3-7412.

Strain Localization of Concrete in Compression*—Dan Jansen, Tufts Univ. Engineering and Environmental Mechanics, 4-5:30pm, Rm 1-350. Refreshments, 3:30pm. More info: x3-7186.

Teaching and Learning in Cyberspace*—Vijay Kumar, Director, Academic Computing; Leslie Perelman, Assoc. Dean for Undergraduate Academic Affairs; Shigeru Miyagawa, Foreign Languages and Literatures. Moderator: Edward Barrett, Writing and Humanistic Studies. MIT Communications Forum, 4-6pm, Rm 2-105. More info: <http://web.mit.edu/comm-forum/www> or x3-0008.

Food Scarcity: Fact or Fiction?*—Lester Brown, President, Worldwatch Institute. 4pm, Rm 9-150. See Special Interest, above.

Fuel Transport in Oil During a Cold Start*—Normal Peralta, Graduate Research Assistant, MIT. MIT Sloan Automotive/Reacting Gas Dynamics Laboratories, 4:15-5:15pm, Rm 31-161. Refreshments, 4pm.

The Future of Particle Physics*—Frank Wilczek, Institute for Advanced Study. MIT Physics Colloquium, 4:15pm, Rm 10-250. Refreshments, 3:45pm, Rm 26-100.

The People and the Community*—Aaron Feuerstein, President and CEO of Malden Mills. 4:30-6pm, Kresge Auditorium. See Special Interest, above.

2-D Tomography for Process Monitoring and Control—Prof. Fred Gouldin, Sibley School of Mechanical and Aerospace Engineering, Cornell Univ.** Energy Lab Seminar, 4:30-6pm, Rm E40-496.

***Pop Internationalism**—Paul Krugman, MIT.** Part of the "authors@mit" series sponsored by the MIT Press Bookstore and the MIT Humanities and Dewey Libraries, 5:30pm, Rm 54-100.

FRIDAY, APRIL 11

From Brawn to Brains: GE's Vision for Railroad Control Management Systems*—David Calhoun, President and CEO, GE Transportation Systems. Center for Transportation Luncheon Seminar on the theme of "Chief Executive Viewpoints," 12-12:45pm (lunch: $4/MIT students, $7/others), 12:45-2pm (lecture), Rm 10-105 (Bush Rm.). Open to MIT community and outside transportation and logistics community.

MONDAY, APRIL 14

Human-Centered Control of Indoor Thermal Environment*—Ming Zhou, PhD Candidate, MIT Mechanical Engineering. Building Technology Lecture, 12:30-1:15pm, Rm 26-110.

A New Type of Insulation Material*—Joseph Charlson and Tim Harvey, MIT SMBT 1997. Building Technology Lecture, 1:15-2pm, Rm 26-110.

Modern CT Scanner*—Mr. John Dobbs, Analogic Inc. American Nuclear Society/Nuclear Engineering Dept. Seminar, 3:30pm, Rm NW12-222. Refreshments, 3pm.

How Much Poverty Can Democracy Endure*—Dr. Oscar Arias Sànchez. 4pm, Rm 10-250. See Special Interest above.

Tiananmen Three Ways: Text, Film, and Web*—Peter Perdue, MIT. 4pm, Rm E51-095. See Special Interest above.

Complexation of Transuranic Ions by Humic Substances: Application of Laboratory Results to the Natural System*—Prof. Ken Czerwinski, MIT. Civil & Environmental Engineering Water Resources & Environmental Engineering, 4:05pm, Rm 48-316. More info: x8-5554 or <janiscka@mit.edu>.

The Dynamical Selection of Form: Spiral, Paper, Fish*—Dr. Andrew Belmonte, Dept of Physics and Astronomy, Univ. of Pittsburgh. Applied Mathematics Colloquium, 4:15pm, Rm 2-105. Refreshments, 3:45pm, Rm 2-349. More info: <http://web.mit.edu/mathdept/www/AppliedMathColloq/spring97>.

TUESDAY, APRIL 15

The Sensitivities of Alternative High Speed Circuit Styles*—Kerry Bernstein, IBM Microelectronics, Essex Junction, VT. MTL VLSI Seminar Series, 4pm, Rm 34-101. Refreshments, 3:30pm.

Quantization Noise*—Prof. Bernard Widrow, Information Systems Laboratory, Stanford Univ. Distinguished Lecture Series, d'Arbeloff Laboratory for Information Systems & Technology, 4pm, Rm 5-234. More info: x3-2021.

Recent Work*—Ada Karmi-Melamede, architect, Tel Aviv, Israel. The Eleventh Arthur H. Schein Memorial Lecture, Department of Architecture, 6:30pm, Rm 10-250. More info: x3-7791.

WEDNESDAY, APRIL 16

Fiber Grating Devices for Communication Systems*—Thomas Strasser, Lucent Technologies, Bell Laboratories. EECS/RLE Seminar Series on Optics and Quantum Electronics, 11am-12pm, Rm 36-428. More info: x3-8504.

To Keep and Bear Arms*—Joyce Lee Malcolm, Professor of History, Bentley College. Security Studies Program, CIS, 12-1:30pm, Rm E38-615. Bring a bag lunch; refreshments provided.

Opportunities for Technology in Molecular and Cell Engineering*—Cr. Charles Cantor, Director, Center for Molecular Biotechnology, and Chair, Dept. of Biomedical Engineering, Boston Univ.. Center for Biomedical Engineering Seminar, 12pm, Rm 68-180.

On the Cause (and Possible End) of the Modern Ice Age*—Prof. Steven Stanley, Johns Hopkins Univ. Sponsored by the Dept. of Earth, Atmospheric and Planetary Sciences, 4pm, Rm 54-915. Refreshments, 3:30pm, Ida Green Lounge.

Nonequilibrium Dissolution of Nonaqueoous Phase Liquid (NAPL) Contaminants*—Dr. Alex Mayer. Aquatic Sciences Seminars, Parsons Lab., 4:05pm, Rm 48-316. More info: x8-5554 or <janiscka@mit.edu>.

How the Internet is Transforming the Software Business*—Doug Carlston. Media Lab Colloquium Series, 4:30pm, Rm E15-070 (Bartos Theatre).

Auschwitz: The Devil is in the Details*—Robert Van Pelt, Univ. of Waterloo. History, Theory and Criticism Forum, 5:15pm, Rm 5-216. More info: x8-8438 or x8-8439.

THURSDAY, APRIL 17

The Challenges of Managing Innovation*—Mr. John Warnock, CEO, Adobe Systems, Inc. Laboratory for Computer Science Distinguished Lecture Series, 3:45pm, Rm 26-100. Refreshments, 3:30pm.

You Can Solve That MIP!*—Irv Lustig, Director of Numerical Optimization, CPLEX Optimization. Operations Research Center Seminar, 4-5pm, Rm E40-298. Refreshments to follow, Rm E40-106. More info: <http://web.mit.edu/orc/www>, <toktay@mit.edu> or x3-7412.

Soil Vapor Extraction in Aggregated Soils*—Chiu-On Ng, G, MIT. Engineering and Environmental Mechanics, 4-5:30pm, Rm 1-350. Refreshments, 3:30pm. More info: x3-7186.

Documentary Film as Narrative Art*—Steve Ascher and Jeanne Jordan, West City Films; Ross McElwee, Artist in Residence, Harvard Univ.; Susan Woll, Central Studios and DeskTop Video Lab. Moderator: Glorianna Davenport, MIT Media Lab. MIT Communications Forum, 4-6pm, Rm 34-101. More info: <http://web.mit.edu/comm-forum/www> or x3-0008.

The Partnership for a New Generation of Vehicles (PNGV) - Progress and Challenges*—Trevor O. Jones, PNGV Review Panel Chairman. MIT Sloan Automotive/Reacting Gas Dynamics Laboratories, 4:15-5:15pm, Rm 31-161. Refreshments, 4pm.

***Noam Chomsky: A Life of Dissent**—Robert Barsky.** Part of the "authors@mit" series sponsored by the MIT Press Bookstore and the MIT Humanities and Dewey Libraries, 6pm, Rm 54-100.

The Fine Line: Where Does Science Leave Off and Cartooning Begin?"—MIT Artist in Residence Larry Gonick, cartoonist, 7pm, MIT Museum. More info: x3-4444 or x3-8089.

FRIDAY, APRIL 18

Elongational Flows in Jets, Filaments, Films, and Vortices; Rheology and Hydrodynamics*—Prof. A. L. Yarin, Chemical Engineering Dept., Univ. of Wisconsin-Madison. Mechanical Engineering Seminar, 3pm, Rm 3-270. More info: x2-1490 or x3-1925.

CRIXIVAN, : Engineering Contributions to a Potent AIDS Therapy*—Michael P. Thien, Merck Research Univ. Chemical Engineering Seminar, 3pm, Rm 66-110, Refreshments, 2:45pm.

The 1994 Forest Fire Event in Southeast Asia: Its Influence on Global Atmospheric Chemistry*—Dr. Haruo Tsuruta, National Institute of Agro-Environmental Sciences. Sponsored by the Dept. of Earth, Atmospheric and Planetary Sciences, 4pm, Rm 54-915. Refreshments, 3:30pm, Ida Green Lounge.

■ COMMUNITY CALENDAR

Clinical Research Center (CRC) Call for Volunteers*—The CRC seeks healthy menopausal and post-menopausal women, ages 45-60, for investigation of a soy supplement for the amelioration of naturally occurring menopausal symptoms. $700 stipend. Call Patti Miliotis, CRC Neuropsychology Research, 252-1613.

Emergency/Back-Up Child Care Briefing—April 10:** Overview of options to help prepare for and handle routine child care emergencies including care for children who are mildly ill and care during snowdays, etc. 12-1pm, Rm 4-144. Sponsored by the Family Resource Center. Preregistration required, call x3-1592.

Family Resource Center Seminars*—Apr 11: Gifted Children: Myths and Realities. **Apr 14:** Financing Higher Education. **Apr 17:** Girls, Math, and Science: Breaking the Barriers. All 12-1:30pm, Rm E19-758. Preregistration requested, call x3-1592 or e-mail <frc@mit.edu> or see <http://web.mit.edu/personnel/www/frc/>. Sponsored by the Family Resource Center.

Health Education Service Workshop—Apr 12:** First Aid, 1-5pm, $40. Preregistration required, limited enrollment. More info: x3-1316.

Health Education Services Free Parenting Programs—Apr 9:** New Parent Survival Strategies. **Apr 16:** How to Raise Healthy and Responsible Children. 12-1pm, Rm E23-297. More info: x3-1316.

Infant-Toddler Child Care Briefings—Apr 15:** Introductory discussions for expectant parents and those new to parenting or child care, covering types of care, costs, finding and evaluation care, and parental leave. Sponsored by the Family Resource Center, 12-1:30pm, Rm 4-144. Preregistration required, call x3-1592.

Informal Needlework Group—**Sponsored by the MIT Women's League, 10:30am-1:30pm, Rm 10-340 (Emma Rogers Room). Upcoming meetings: **Apr 16, May 7, 21, June 4.**

MIT Pistol & Rifle Club, Basic Pistol Marksmanship Course*—Starts Apr. 10: 4 nights—Apr. 10, 11, 17, 18, 6-9pm, duPont pistol range. NRA certified course covers safe handling, storage and use of firearms, as well as developing marksmanship skills to meet local police department requirements for pistol permits. Fee $50, $10 deposit. Info/registration: Valerie Lowe, Draper x8-4769 or e-mail: <vlowe@draper.com>.

User Groups and Quick Start Classes—Apr 9:** World Wide Web Quick Start, 12-1pm, Rm E40-302. **Apr 10:** FileMaker Pro User Group, 9:30-10:30am, Rm E40-302. **Apr 11:** Windows 95/NT Quick Start, 12:15-1pm, Rm 11-206. **Apr 14:** HTML Demo, 1-4pm, Rm E40-302. **Apr 16:** Eudora Quick Start, 12-1pm, Rm E40-302. **Apr 17:** SAP Brown Bag Lunch, 12-1:30pm, Rm 37-252. OS/2 User Group, 5-6:30pm, Rm 2-105. **Apr 18:** Technology Orientation for New Employees, 12-1:30pm, Rm E40-302. All events free. Sponsored by Information Systems.

Wives' Group—Apr 9:** Tour of Boston's Chinatown, including dim sum lunch. Meet at Medical Center Lobby, 12pm, bring $5 to cover expenses. Call x3-1614 to reserve. **Apr 16:** Black Gospel Music w/Myra Rodriguez and Donnell Patterson. Meet in Rm 491 of the Student Center, 3pm. Free babysitting available. All members of the MIT community are welcome. Info: x3-1614.

Working Group on Support Staff Issues—Apr 9:** Regular meeting, 12-1:30pm, Rm 10-105 (Bush Rm). Lunch is provided, please RSVP to <eaj@mit.edu>. More info: Cheryl Thornton x2-1122 or Edward A. Jacobson x3-5030.

■ SENIOR FOCUS

What We Need to Know about Arthritis as We Age—Apr 17:** Sponsored by the Association of MIT Retirees, presentation by Dr. Michael Kane of the Medical Department, 11am, Rm E15-070 (Bartos Theatre).

■ MITAC

The MIT Activities Office (MITAC) is a non-profit employee service that serves the cultural and recreational needs of the MIT community (including MIT's retirement community), their families, and friends. Two locations: (1) Room 20A-023, 18 Vassar St, Cambridge, 9:30am-3:30pm, Monday, Wednesday, Thursday, and Friday (closed Tuesday and all Institute holidays); (2) Room LLA-218, x6130, Lincoln Lab., Lexington, 1:15-4pm, Thursday and Friday only. Call x3-7990 at 20A-023 or e-mail <julieh@mit.edu> for further information. Please note that MITAC accepts only cash or a personal check (with a valid MIT ID) made payable to MIT. (Include MIT ID#, room number, and extension on checks.) Credit cards not accepted.

Preservation Hall Jazz Band—Apr 13:** Symphony Hall, Boston, 3pm. Tickets $35.

Campbell's Champions on Ice—Apr 25:** Fleet Center, Boston, 8pm. Tickets $39 (reg $40).

Alvin Ailey American Dance Co.—Apr 26:** Wang Center, 2pm. Tickets $34 (reg. $40).

Handel & Haydn Society—May 4:** Symphony Hall, 3pm. Tickets $29.50 (reg. $45).

Pennsylvania Dutch/Gettysburg Getaway—May 23-26:** Tickets $259pp/double, $235pp/triple, $329/single. Must be purchased by Apr 11.

Museum Passes—**Children's Museum, $4 (reg $6-7); Museum of Science, $4 (reg $5.50-$7.50).

Nick's Comedy Stop—** Tickets $5.50 ($5 + 50¢ svc charge), admits 2 people.

Discount Movie Tickets—**Sony Theatres, Showcase Cinemas, General Cinemas $5 ($4.50 plus 50¢ svc chrg); General Cinemas, children $3 ($2.75 + 25¢); Kendall Square Cinema tickets, $5.50 ($5 plus 50¢).

■ ALUMNI ACTIVITIES

Alumni Interfraternity Conference—Apr 16:** "Membership Recruitment for the 21st Century," 4-6pm, Rm 54-100. "Future Trends in Greek Life," 5-6pm, Rm 1-190. Reception (6pm) and Dinner-Awards Program (7pm), Stratton Student Center, Twenty Chimneys. Alumni: $20. More info: Theresa Lee, x3-8280, Rm 10-140, <tjoyce@mit.edu>.

■ MOVIES

MIT-Germany Program Movie*—Apr 17: Orhan Pamuk. Portrait of the renowned Turkish writer. 45 minutes, in German, no subtitles. Free. 7pm, Rm 2-105. Distinguished Max Kade Visitor, Turkish-German writer Zafer Senocak, will lead discussion afterwards.

Admission to below Lecture Series Committe Movies is $2.00, and MIT or Wellesley identification is required. For the latest Lecture Series Committee movie and lecture information, call the LSC Movieline, x8-8881, or check TechInfo or the Web.

Apr 11: Jeffrey, 7 & 10pm, Rm 26-100. Last Tango in Paris, 7:30pm, Rm 10-250. **Apr 12:** The English Patient, 7 & 10pm, Rm 26-100. **Apr 16:** Eight Heads in a Duffel Bag, 8pm, Rm 26-100. **Apr 18:** Scream, 7 & 10pm, Rm 26-100. Cries and Whispers, 7:30pm, Rm 10-250. **Apr 19:** Shallow Grave, 7 & 10pm, Rm 26-100.

***Next deadline for listings:* 12 noon Friday, April 11.** Covers events from Wednesday, April 16 through Sunday, May 4. Listings for the Institute Calendar and Student Notices may be e-mailed to <ttcalendar@mit.edu> or mailed to Calendar Editor, Rm 5-111. Faxes are not accepted. Early submissions encouraged.

Retiree talk on arthritis set

Arthritis, a common complaint of many older people, will be the topic at the next seminar of the Association of MIT Retirees on Thursday, April 17 at 11am in the Bartos Theater of the Wiesner Building.

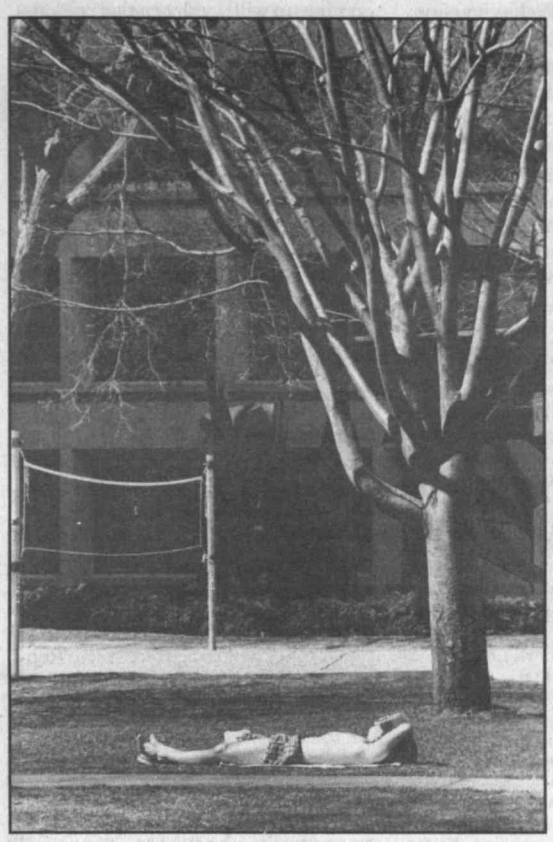
Dr. Michael Kane, an internist in the Medical Department, plans to discuss joint problems such as osteo-arthritis, polymyalgia and gout and their treatment, as well as difficulties in treating musculoskeletal disorders in older patients. Dr. Kane is board certified in rheumatology and has been a member of the MIT Medical staff since 1974.

Parking for the seminar will be available in the CRA lot at Broadway and Ames St. (enter from Ames off Broadway). Refreshments will be available before the seminar.

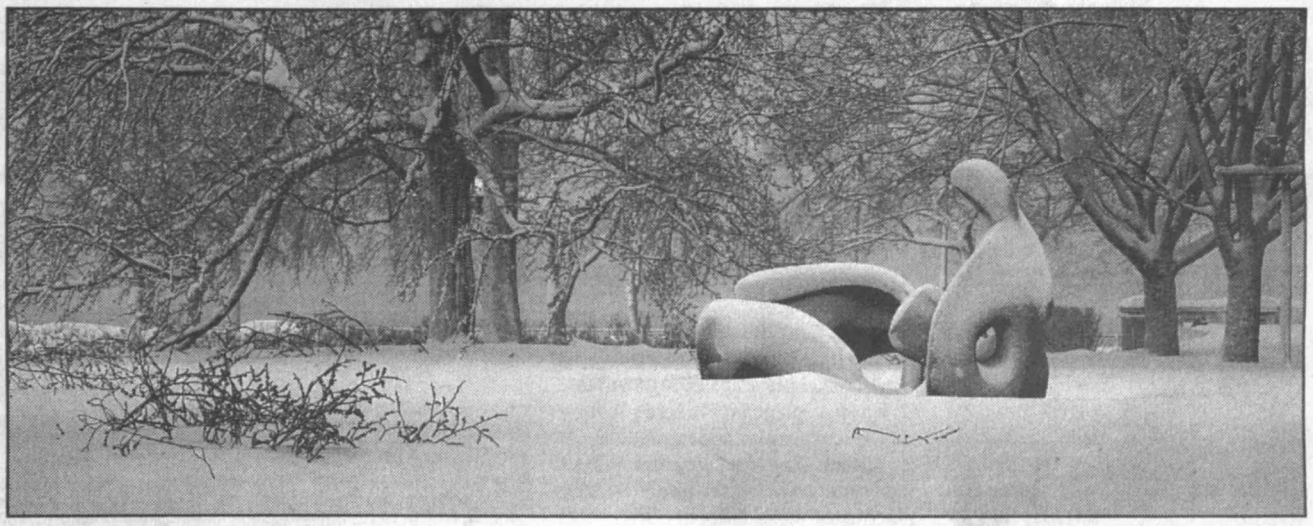
The next program in the series—on Thursday, April 24, at 1pm—will be a question-and-answer session on medical benefits available to retirees. Representatives from the Medical Department and the Benefits Office will address questions on negotiating the health care system. Retirees may submit questions in advance to the Association office, Rm 20A-023.

These programs are open to the MIT community.

If you don't like New England weather...

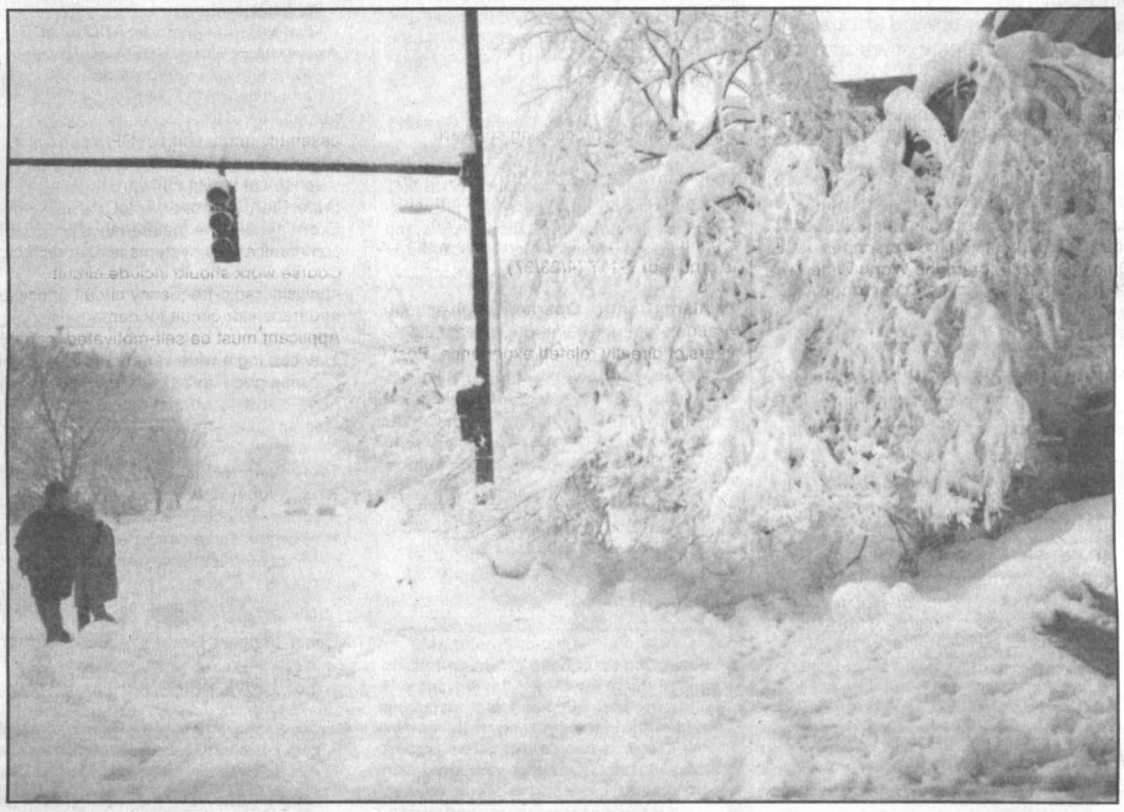


Esteban Mendoza, a senior in chemistry, dozes in the sun by the East Campus volleyball court on Friday, March 28, never dreaming of the 25 inches of snow that would just a few days after he got an early start on his tan. **Photo by Donna Coveney**



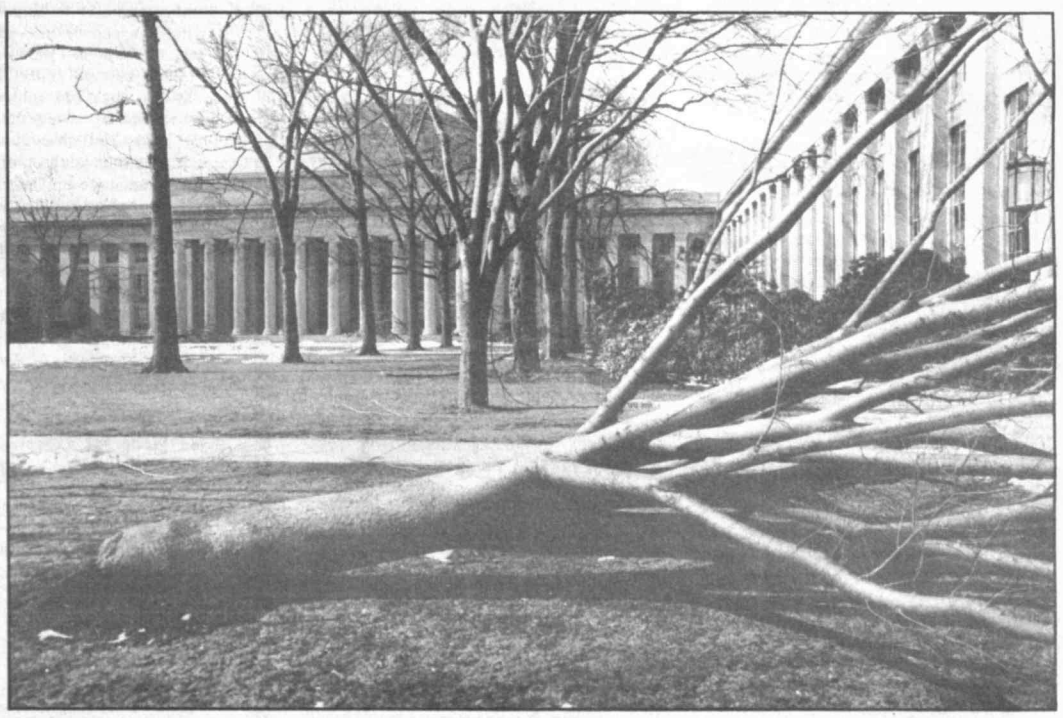
Snow-covered branches, both aloft and on the ground, frame Killian Court at around 6am on Tuesday, April 1.
Photo by Liang-Wu Cai

...wait half an hour, or so the saying goes. The changes from warm springtime to the Blizzard of '97 and back took a bit longer than that, but the variety of conditions over the past week and a half were documented by photographers on the MIT campus.



It was tough going for pedestrians outside the 77 Massachusetts Avenue entrance to MIT on Tuesday. The bus shelter was rendered almost inaccessible by this snow-laden tree, which hardly mattered since buses weren't running and the Institute was closed. The tree eventually became another storm victim; it was cut down this week.
Photo by Alice Waugh

On Wednesday morning, this fort on Briggs Field, built during the snowstorm, was already listing and melting in the bright sunshine.
Photo by Donna Coveney



The snow melted quickly, but it left a reminder of its power in the form of damaged and destroyed trees all over campus, like this one that toppled on Killian Court. **Photo by Donna Coveney**

MIT scientist suggests meteorite role in crash of TWA 800

■ By Robert J. Sales
News Office

Irving Itzkan is a tough-minded Brooklyn native who learned to argue on street corners in Brighton Beach, and he's used to having people pay attention when he expounds a theory, even if they are listening only to develop counter-arguments.

Dr. Itzkan, a research scientist in the George R. Harrison Spectroscopy Laboratory, has a theory about the crash of TWA Flight 800. He shared his thoughts—that a meteorite could have caused the tragedy last July in which 229 passengers and crew died when the airliner crashed off Long Island—and his line of reasoning with the Federal Bureau of Investigation and National Transportation Safety Board last fall.


Itzkan

The response?

"A deafening silence," recalls Dr. Itzkan, a Cornell graduate with a PhD in physics from New York University. "It was like I sent it down a black hole."

Dr. Itzkan isn't used to being ignored. He came to MIT in 1988 after a 16-year career at the Avco Everett Research Laboratory, which helped solve the reentry problem for NASA and the Department of Defense during the Sputnik era. He is an expert in the medical use of lasers and a founding fellow of the American Society for Laser Medicine and Surgery. He is also a member of the laser committee at Beth Israel Hospital and a consultant in lasers and optics for several private corporations.

Recently, Dr. Itzkan learned a lesson in media manipulation from former White House press secretary Pierre Salinger, who forced investigators to respond when he pitched the discredited missile theory for the crash on TV. While Mr. Salinger could play his contacts at CNN and ABC and sit back while the other media scrambled to match the story, Dr. Itzkan's possibilities were limited. He wrote a letter to The Boston Globe.

In the letter, published on March 22, Dr. Itzkan says: "Every day, about three meteorites large enough to bring down an airplane hit the earth. Almost all fall harmlessly in remote locations. I estimate that the probability that a meteorite will hit an airplane some place in the world is about 1 percent per century."

Dr. Itzkan, 67, who acknowledges that this is a much longer shot than Mass Millions (he does not buy lottery tickets), notes that as long as the odds are, the probability is not zero. By logically eliminating other theories, he says the meteorite scenario becomes less of a long shot and should be explored, if only to reject it with evidence.

Noting that eyewitnesses reported a visible upward streak in the sky just prior to the crash, seeming to belie the falling meteorite theory, Dr. Itzkan wrote that the trajectory "would *appear* to be moving upward to a ground-based observer on the shore of Long Island.

"If the meteorite did come from the east or south, it would have been over portions of the Earth that were in darkness in the hour before impact, but would itself be illuminated by the sun," he wrote. "It might have been seen by observers in Europe or Africa, although it would probably have been dismissed as an orbiting manmade object. It might also have struck land, probably in New England."

Response to the letter? The investigators remain mute. However, his friends and colleagues have been supportive.

"Nobody's come up and told me I'm nuts, or implied that it's a kook kind of thing, like a conspiracy theory," Dr. Itzkan said. "My brother-in-law [a retired high-tech public relations counselor] said it sounds plausible."

Dr. Itzkan won't fret about the official cold shoulder. Spring is in the air and Fenway Park and the sea beckon. Dr. Itzkan, a Navy veteran, is an avid sailor, and he plans to spend a lot of time teaching sailing and sailing himself, perhaps cruising on a friend's yacht or schooner. When he's not on the ocean, he'll be at Fenway rooting for the Red Sox, which is not nearly as exciting as rooting for the Dodgers at Ebbets Field but is a reasonable compromise.

Occassionally, he'll look at the sky and wonder.

"No question, the meteorite is a long shot," he said. "But they keep coming up with evidence that rules out the high-probability stuff. I'd say it's gone from a billion-to-one shot to a 100-to-one shot."

Attention: retirees

When changing from winter to summer residences, please send the change of address notice directly to the Benefits Office, Rm E19-411, MIT, Cambridge, 02139-4307. The Benefits Office maintains the Tech Talk mailing list for retired members of the community.

Ongoing Community Meetings

■ COMMUNITY

MIT Ballroom Dance Club*—Call for schedule, x8-6554

The Furniture Exchange at MIT**—Used furniture needed in good condition, to be sold to MIT/Harvard students. Donations are tax-deductible and receipted; our profits go to MIT scholarships. Call x3-4293 or x3-3656.

GABLES (Gay, Bisexual, and Lesbian Employees and Supporters) at MIT**—Meetings held twice a month, one for general business and one for a program or social gathering. Info line x2-1014. Staff lesbigay e-mail list sign-up, send e-mail to <gables-request@athena.mit.edu>.

Graduate Student Council Grocery Shuttle*—The GSC offers a grocery shuttle from MIT to the Allston Star Market, free to all members of the MIT community, on Tuesday nights and Saturday mornings. The schedule and pickup locations can be viewed at <http://www.mit.edu:8001/activities/gsc/Committees/HCA/Grocery/grocery.html>. More info: Geoffrey Coram, <gjcoram@mit.edu>, 577-5719.

MIT Toastmasters**—Upcoming meetings: **Apr 18, May 2, 16, June 6, 20; July 11, 25, Aug 8, 22, Sept 12, 26, Oct 10, 24, Nov 7, 21, Dec 5, 19.** An organization that helps people improve and practice their public speaking and presentation skills. 12:05-1:25pm, Rm E19-220. Sponsored by MIT Personnel Office.

■ FAMILY

Family Resource Center**—See web site at <http://web.mit.edu/personnel/www/frc/>. In addition to parenting workshops and programs, the Family Resource Center also offers support and training programs for child care providers, workshops at your request, a lending library, and individual consultations concerning parenting, schools, child care options, and work/family issues. Call x3-1592 or <frc@mit.edu>.

Family On-Line Services**—A computer workstation is available in the Family Resource Center reception area for those who would like to access child care databases and on-line parenting resources. Also, the FRC maintains a list of those members of the MIT community who would like to be on an e-mail list to receive news, program updates, etc. To be added to the subscriber list, e-mail <frc@mit.edu> or call x3-1592.

Fathers Group**—Peer-led, informal discussions of the challenges and joys of fatherhood. No fee. Cosponsored by the Family Resource Center and the Health Education Resource Center. Open to MIT, Draper and Whitehead communities. Thursdays, 12-1pm, call or e-mail for meeting place, x3-1316 or <mit-dads@mit.edu>.

New Mothers Group**—Professionally-led group for expectant and new mothers.Exchange ideas on the special rewards and challenges of being a new parent. No fee, no preregistration required. Cosponsored by the Family Resource Center and the Health Education Resource Center. For schedule and further information, call x3-1316.

Off-Campus Playgroups**—The MIT Wives Group, with the cosponsorship of the Family Resource Center, provides ongoing support for establishing and maintaining informal parent-child playgroups. Contact Wives Group, Rm E23-376, x3-1614.

Parents Forum**—Peer-led discussions offering parents a chance to connect with each other, reduce isolation, and share successful strategies. Fathers and mothers who have children of any age are welcome. No fee. Enrollment limited to 20. Meets the second Thursday of each month, 1-2pm, Rm 4-206. More info: Chris Bates, x3-4084 or <cbates@mit.edu>.

Parent Networks**—Allows parents and other family members at MIT to exchange information and ideas on topics of mutual interest. Networks have been formed to date on the folowing topics:
- *Parenting Children with ADD or ADHD*
- *Parenting Children with Special Needs*
- *Parenting Adopted Children*

More info: x3-1592.

Working Parents Group**—Ongoing meetings weekly on Tuesdays, 12-1:30pm. Cosponsored by the Family Resource Center and the MIT Medical Dept. New members welcome, no fee. For more information call x3-4911.

■ HEALTH

Alcoholics Anonymous (AA)*—Meetings every Tues, 12-1pm; Thurs, 12-1pm, Rm E23-364. Alise, x3-4911.

Al-Anon*—Meeting every Fri, noon-1pm, Rm E25-525; every Wednesday (4th step) 12-1pm, Rm E53-212, Dewey Library (2nd Fl. Study Lounge), and every Monday, 12-1pm, Lincoln Lab Bldg 1218, Family Support Ctr. The only requirement for membership is that there be a problem of alcoholism in a relative or friend. Alise, x3-4911.

Alcohol Support Group**—Meetings every Wednesday, 7:30-9am, sponsored by MIT Social Work Service. Alise, x3-4911.

Cancer Support Group**—Tuesdays, 12:15-2pm. For those with acute and chronic forms of cancer. Sponsored by the MIT Medical Dept. Dawn Metcalf, Social Work Service, x3-4911.

Co-Dependents Anonymous (CoDA)*—Thursdays, 6:30-8pm, Rm 66-168. Alise, x3-4911.

Early Pregnancy, Prepared Childbirth and Childbirth Review**—Classes are offered to patients of the MIT Medical Department's Obstetrics Service. Call x3-1316.

Health Education Resource Center**—Books, free video loan program and brochures on diet, exercise, wellness, childbirth, parenting, aging and much more. Rm E23-205; open weekdays 9-5pm. Call x3-1316.

Infertility Support Group**—Fridays 12-1pm, 3rd floor group room, Medical Department. Sponsored by the MIT Medical Department. More info: Dr. Rochelle Friedman x3-2916.

Nursing Mothers Room**—A comfortable, private place to nurse babies or express milk. Equipped with a hospital-type breast pump. Cosponsored by the Family Resource Center and the Medical Dept. Located within the Women's Lounge in Rm 10-384, accessible 24 hrs/day. Make arrangements with Margery Wilson, Rm E23-407, x3-2466.

Nursing Mothers' Group**—First & third Wednesday of each month, 11am-11:55pm, Rm E23-297.For pregnant and nursing women. Babies & toddlers welcome. Parking available. No fee. No registration. Sponsored by the Medical Dept. and the Family Resource Center. More info: x3-2466.

RSI Alert!**—RSI Alert! is a group of MIT employees and students dedicated to 1) creating an awareness of RSI (Repetitive Strain Injury), 2) educating to prevent RSI, and 3) facilitating treatment and accommodations for those who have RSI. We meet every 2nd Wednesday of the month, noon-1:00, in Room 14N-405. For further notices, subscribe to our listserv by sending an email to <listserv@mitvma.mit.edu> with the message, "subscribe rsialert your name," or for more information, call x3-6695.

Weight Watchers at Work**—New session starting. More info: Anne Hudson x8-5683 for more information.

Yoga for Beginners**—Sponsored by the MIT Women's League, Mondays, 5:15-6:30pm, Walker Dance Studio, Rm 50-201. More info: Ei Turchinetz 862-2613.

■ INTERNATIONAL

MIT Language Conversation Exchange**—Practice a language with a native speaker and get to know someone from another country. Call x3-1614 for more information.

Stammtisch/German Table*—Join us for lunch auf deutsch, all are welcome. Every Monday 1-2pm, MIT's Walker cafeteria. More info: <debi@mit.edu> or <sberka@mit.edu>.

Guide for Foreign National Spouses Seeking Work**—Information on topics such as American resumes, job interviews, volunteer work, employment agencies, salary negotiation, visa issues, much more. Free information booklets, Rm 5-106 and Rm 4-105. Reference binders may be used in Rm 12-170; ask for Beth Anderson.

Chinese Lunch Table. Mondays, 12-2pm, Student Center, Rm 439. Bring your own lunch and come practice speaking Chinese. All levels welcome. Extensive collection of books also available in our library. Sponsored by the Chinese Students Club.

Esperanto Conversation Group. Mondays 7:30-9pm in the SCC Coffeeshop in the Student Center. Sponsored by the MIT Societo por Esperanto. More info: <speak@athena.mit.edu>.

La Table Francophone. Thursdays 1-2pm in Walker. Open to anyone who wants to speak French over lunch in a friendly atmosphere. Call x3-9777.

Japanese Lunch Table. Thursdays through Dec 8 (except Nov 24) at 12:30-2pm in Rm E38-7th floor conference room. All members of the MIT community are welcome to come and make new friends—in English or Japanese. Cosponsored by the MIT Japan Program and the MIT Japan Friendship Association. More info: Mitsuko Barker 723-8788 or Sue Sherwood x3-8095.

MIT Japan Program**—Students: Go to Japan with the MIT Japan Program, and do cutting-edge research in your field in a Japanese corporate, government or academic organization. All expenses paid. More info: x3-8737 or x8-8208.

Hosts to International Students Program*—Offer assistance, encouragement and occasional hospitality to our students from around the world. Not a home-stay program. Faculty, staff and alumni/ae (singles, couples or families) are encouraged to participate. Kate Baty, x3-4862.

Mandarin Language Round Table*—Informal discussions for Mandarin language students and speakers, with Visiting Scholar Xu Pei-hua of Fudan University, Shanghai. Every Thursday (except March 28) from 12:30-1:30pm, Rm E38, 6th floor conference room. Bring your own lunch. Sponsored by the MIT International Science and Technology Initiative. More info: x8-7331.

Classified Ads

Tech Talk ads are intended for personal and private transactions between members of the MIT community and are not available for commercial use. The Tech Talk staff reserves the right to edit ads and to reject those it deems inappropriate.

INSTRUCTIONS: Ads are limited to one (of about 30 words) per issue and may not be repeated in successive issues. Ads may be resubmitted after skipping a week. Ads/renewals are not accepted via telephone or fax. All must be accompanied by full name and extension (or proof of MIT affiliation).

- **E-mail address (return address must be mit.edu): <ttads@mit.edu>**
- **Interdepartmental/Walk-in address: Calendar Editor, Rm 5-111.**

Please note that all Tech Talk ads are provided to TechInfo on the date of publication, which makes them accessible world-wide via the Internet.

All extensions listed below are campus numbers unless otherwise specified, i.e., Dorm, Lincoln, Draper, etc.

MIT-owned equipment may be disposed of through the Property Office.

Deadline is noon Friday before publication.

■ FOR SALE

Pierre Cardin garment bag $25; various bookshelves; 3 fishtanks with full setup (filter, heater, hood), 10 gal, 15 gal, 55 gal; all items < 1 yr. old. Call 225-9891.

Panasonic VCR, Hi-Fi stereo w/remote, $200; twin mattress, 1 yr old, $95; wash mach & elec dryer, Kenmore, 10 mos old, maint incl, $550 (new $900). E-mail <cju@mycroft.lms.mit.edu>.

Oscilloscope: Tektronix 2336 100 Mhz dual trace, new probes, manuals incl, $700; Sweep/Function Generator: BK Precision 3022, 2 Mhz, $300. Call 460-0089 or e-mail <nick@mit.edu>.

Kolcraft umbrella stroller w/canopy. For child up to 30 lbs, exc cond, $15. Contact <derienzo@mit.edu> or call x3-7443.

Prom dresses/party dresses, Junior/Misses sz 7/8, 9/10, 13/14, used 1x for prom, daughters can't use anymore, make an offer. Vicki x3-2691.

Ladies tap shoes, sz 10, Capezio Teletone taps, leather mary-jane style, exc cond, worn 1x, $30 or bst (orig cost $60). Contact <rjacobs@mit.edu>.

Whirlpool washer, elec dryer, XL capac, 4 yrs old; 18.2 cu. ft. refrigerator, glass shelves, 5 yrs old; Hotpoint window a/c, 10000 btu, 5yrs old. Call x3-8684 or e-mail <BJONES@cmod.pfc.mit.edu>.

VCRs for sale, several to choose from, best name brands, all have very little usage, $75/ea; also TV-VCR combo, $150 (bought new for $299) Call 324-2254 or e-mail <rpgardne@mit.edu>.

Great starter/extra computer, Mac Classic II, sys 7.5, 4MB built in memory w/ram doubler for 8MB total, b/w monitor, $325 or reasonable offer. Contact <sexton@psfc.mit.edu> or 822-2183.

Red Sox tickets to share, singles & doubles, great seats. Nancy 734-4763.

Q-sz bed, incl frame, bxsprg, matt, 6 mos old; comforter; 2 twin-sz matt & blankets; baby carriage; crib; clock radio; phone; 2 prs sz 10 & 12 snow boots, like new; lamp. Anneke or Sjef, 876-1168.

Sealy Posturpedic sleep sofa w/matching love seat, textured beige, $300. Call x3-9887 or 643-4176.

■ VEHICLES

1983 Volvo DL, 4 dr sedan, 5-sp standard transm, 133K miles, $1,795. Call Paul or Chris at 284-1859.

1987 Volvo 240 SW, metallic gray, 1 ownr, runs exc, nds no work, exc cond, $3900. Carol x8-5139 or 508-392-9474.

1989 Toyota Corolla wagon, 5-sp shift, exc cond & maint record, AM/FM/cass, a/c, 97K, $4,250. Audrey x3-8490 or <saracco@mit.edu>.

1991 BMW K100RS, $7990. Call x8-6763 or 508-921-4325.

■ HOUSING

Arlington: sublet 2.5BR apt on Camb line, nr 77 bus, Alewife T, resid nbhd, gar, hdwd flrs, yd, avail May 15-Sept 1 w/option to take over lease, $950/mo. Contact <laoliver@mit.edu>, call 646-4397.

Concord: West, beaut old Victorian, 4+BR, 2b, wrap-around porch, maple flrs, beaut woodwork, steps to train, shops, school, grt nbhd, $369,000. Call 508-371-1841, eves, wknds.

■ ROOMMATES

Jamaica Plain: Looking for a sublease to take current roommate's room, May 1 - Sept 1, I'm moving out during Aug. $500/incl; 1st, last mo rent req. Morgan x3-1621, <morgana@mit.edu>.

■ MISCELLANEOUS

Rick's delivery & moving service, single item or an entire complex; packing, hauling, delivery, clean outs, removal and disposal, free estimates. Call 623-8545.

Geothermal sculptures to appear

■ By Lynn Heinemann
Office of the Arts

Heat, water and art will come together on Kresge Oval on April 15-16 cuttesy of Robert Dell, research affiliate with the Center for Advanced Visual Studies. An installation of at least five anthropo-morphic geothermal sculptures, each seven to 10½ feet tall, will display a variety of kinetic activities and create a visual dialogue documenting weather and temperature changes.

This will not be Mr. Dell's first creation of this kind. In 1988, he received a Fulbright research grant—the first awarded to an artist—to develop sculpture incorporating geothermal energy in Iceland, resulting in a permanent installation in Reykjavik. Last fall, he created a temporary installation at Yellowstone National Park powered by the Grotto and Castle Geyser groups. The title for MIT's installation, *Reykjavik MIT Yellowstone*, indicates its physical location between Mr. Dell's two previous projects.

Since MIT doesn't have the natural geyser and hot spring activity of the other sites, the sculptures will be powered by geothermal simulators developed by Mr. Dell and Guy Pollard, technical instructor in the Department of Physics. These self-contained units act as "a portable heart-lung machine" said Mr. Dell, calling hot water the "blood nutrient for the sculptures."

The hot water and steam circulation system encased in the sculpture creates a heat field that is both warm to the touch and audible. Electricity is generated from the heat without any moving parts, while an area of rock crystal radiates electric light in response to the heat's intensity. The uneven distribution of insulation intensifies or neutralizes the heat's effects, and weather phenomena such as sunlight, rain, wind and changing temperature create what the artist calls a "constantly changing... earth life-force which is a non-threatening personification of our living planet."

Arts at MIT

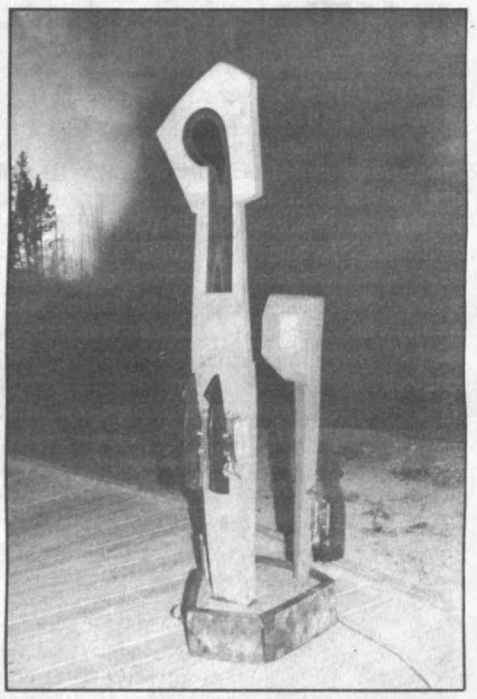
CROSSING AN ARTISTIC BRIDGE

The marriage of art and scientific innovation was a natural for Mr. Dell, whose artistic path led through engineering. "I'd decided to be a civil engineer after admiring some beautiful bridges," he said, but he found the vocation "too confining." His artistic career with more traditional forms in the 1970s, but a prolonged illness changed his work radically. He recalls becoming "aware of the transitory nature of life and that all life forms are deeply dependent upon this planet," and he reflected this philosophy in sculptures that are more tied to the earth and less self-involved.

"Today we are removed from the earth. We walk on concrete and exist in climate-controlled buildings and automobiles," Mr. Dell said, voicing the hope that his work can "help reduce this artificial... separation that we experience as a result of our attempts to control nature."

Reykjavik MIT Yellowstone, which has received funding from the Council for the Arts at MIT and industrial sponsors Melcor Inc. and Hallcrest Products, will operate both days from 3-9:30pm. Mr. Dell will deliver a lecture about his work on Tuesday, April 15, at 7:30pm in Twenty Chimneys in the Stratton Student Center.

Mr. Dell has dedicated the MIT project to Yellowstone Park research geologist Rick Hutchinson, who died in an avalanche subsequent to his supervision of the Yellowstone installation. *Reykjavik MIT Yellowstone* will be documented by photographer Barry Hetherington and by MIT Video Productions. For more information, call x3-4415.



Robert Dell's "Hitavaeteur VI" ("hot water guardian" in Icelandic) was installed at Yellowstone National Park's Grotto Geyser in October 1996.

Photo by L. Barry Hetherington

Endellion Quartet returns to MIT

On Saturday, April 12, the Endellion String Quartet will present the second of its bookend concerts at MIT, capping a week-long residency. Andrew Watkinson (first violin), Ralph de Souza (second violin), Garfield Jackson (viola) and David Waterman (cello) will perform Beethoven's Op. 18, No. 6 in B-flat; Bartók's Quartet No. 4 and Schubert's Quartet in A Minor at 8pm in Kresge Auditorium.

The Endellion String Quartet

In Britain, the Endellion Quartet has appeared at nearly all the major series and festivals and is regularly broadcast on BBC radio and television. In 1987, the Endellions recorded the complete string Chamber Music of Britten on the EMI label. The results were selected as Chamber Music Recording of the Year by both the Daily Telegraph and the Guardian and were the most highly recommended version of Britten's three string quartets in Radio 3's Record Review. The Endellions have also released recordings of Mozart, Bartók, Dvorák, Smetana, Walton, Bridge and Barber.

One student commenting on the Endellion's April 1995 residency at MIT said, "I think that the Endellion residency has been by far one of the best music residencies during my five years at MIT. They are a quartet whose purpose is *music*-making, as evidenced by their sensitive and gorgeous performances of the works."

For more information, call x3-2906.

Sci-fi musicals mirror MIT life

■ By Lynn Heinemann
Office of the Arts

Can one spend too much time in a lab? Can engineers dance? The Museicakl theater Guild confronts these questions as it ventures into the science fiction world with the production of *Weird Romance*, two one-act musicals of "speculative fiction" set in the near future.

With a laboratory setting at MIT for one of the stories and plot devices that include advanced technologies such as holography and brain transfers, each story—*The Girl Who Was Plugged In* and *Her Pilgrim Soul*—uses a character that is not quite human to show a different perspective on love.

Director Scott Gagnon, who credits his cast with providing insight on how engineers would behave and on how to design a realistic lab, not to mention the creation of "some fun special effects," finds the match of material and venue perfect. "We have dancing engineers in lab coats and goggles, a hotshot singing scientist and an MIT lab setup," says Mr. Gagnon, who received the MFA in theatrical directing from Emerson College and has acted and directed professionally in the Boston area.

In *Her Pilgrim Soul,* a dedicated scientist named Kevin finds that his marriage is suffering because of the time he devotes to his laboratory. Cara Laughlin, a senior in literature and biology who plays Nola, Kevin's holographic lab project, notes that where a general audience would sympathize with his neglected wife, an MIT audience will probably sympathize with Kevin.

"The [play's] scientists are very typical of MIT students," said Ms. Laughlin, adding wryly that Kevin's marriage "is very reminiscient of some relationships I've had with electrical engineering students."

With music by Alan Menken *(Little Shop of Horrors* and Disney animated classics *Aladdin, Beauty and the Beast* and *The Little Mermaid),* book by Alan Brennert with lyrics and additional book by David Spencer, the show will be performed in Kresge Little Theater on Friday-Sunday, April 11-13 and Thursday-Saturday, April 17-19. Curtain is at 8pm except for a 2pm matinee on Sunday, April 13. Tickets are $9, $8 for MIT faculty and staff and other students, and $6 for MIT/Wellesley students (group rates available). For information and reservations, call x3-6294, e-mail <mtg-tickets@mit.edu> or see the Web page at <http://web.mit.edu/mtg/WWW/mtg-home.html>.

Institute Arts

For more arts-related information call the 24-hour hotline at 253-ARTS or consult the World Wide Web at <http://web.mit.edu/arts/www/>.

■ MUSIC

Chapel Concerts*—Apr 10: Azulao—Jay Rosenberg, guitar, percussion, voice; June Howe, soprano. Brazilian and Spanish music. **Apr 17:** Marina Minkin, harpsichord. J.S. Bach's Goldberg Variations, BWV 988. 12noon, Chapel. 12noon, Chapel. x3-2906

Advanced Music Performance (AMP)*—Apr 16: Yukiko Ueno (G), piano. Bach, Chopin, Ginastera and Liszt (Repeated at Lincoln Lab, Apr 18, 12noon). All concerts at 5pm, Killian Hall. x3-2826

24-Hour Coffeehouse Series*—Apr 14: New-(R)Age-Art-Rock. CeyJay (piano/voice), 9pm. **Apr 16:** Grace Chung (vocals) and Pedro Verdugo (bass) and friends (jazz), 9pm. **Apr 17:** John de Guzman '97 (piano/voice). Original pop-rock/alternative compositions, 6:30pm. **Apr 18:** Bach, Beethoven and Bartok performed by Grant Ho '97 (violin) with pianists Andrew Newberg '97 and Yukiko Ueno (G), 9pm. 24-Hour Coffeehouse. x3-7972 or <coffeehouse-events@mit.edu>.

Toons at Wellesley*—Apr 11: Co-ed acapella ensemble. With guest group TBA. 7:30pm, Tower Court (Wellesley College). Sarah, 283-7155

Costa Rican Guitarist Pablo Ortiz*—Apr 12: Traditional Costa Rican melodies and music by notable Latin American composers. 8pm, Killian Hall. Marco Pravia, 437-7300 or <praviam@mit.edu>.

Endellion String Quartet*—Apr 12: See story above.

MITCAN: Music of Africa Performance Class.**—Directed/taught by Prof. James Makubuya. Ensemble class offers hands-on practice and performance experience on various traditional African musical instruments. This semester, the MITCAN expands its syllabus of activities to Kenyan and South African music and dances as it continues with items from Uganda. No previous experience is required. Meets Thursdays, 7-9:30pm, Kresge Reh Rm A. More info: x3-4964 or <makubuya@mit.edu>.

MIT Guild of Bell Ringers*—Change ringing on hand bells. Beginners always welcome. Will also ring for occasions. Meets Mondays, 6:30pm, 2nd floor balcony of Lobby 7. More info: Ken, 784-6114

■ DANCE

MIT Folkdance Club*—*Sun*—International Dancing: Early teaching for beginners–7-8pm; Teaching & requests–8-11pm, Sala de Puerto Rico or Lobby 13. *Tues*—Advanced Balkan Dancing: Regular teaching & requests, 8-11pm, Student Ctr 4th floor. MIT/Wellesley students free, 25¢ others. Call x3-FOLK or e-mail <fdc-request@mit.edu> for locations on a given week.

■ THEATER

***Weird Romance*—Apr 11-13, Apr 17-19:** Musical Theatre Guild production (see story above).

■ READINGS

"Colored Girls with Pens" Reading*—Apr 10: Series of Writing by women of color. Shirley Geok-Lin Lim reads from her memoir *Among the White Moon Faces*. 7pm, Rm 6-120. x3-5683

"Ich trug den gelben Stern"*—Apr 14: Reknowned German-Jewish writer Inge Deutschkron reads from her work, in German. Sponsored by German Studies Program of Foreign Languages & Literatures and the MIT-Germany Program. 7pm, Rm 14E-310. Monika Totten, x3-4859 or e-mail <mtotten@mit.edu> or see <http://web.mit.edu/course/21/21.german/www/Deutschkron.html>.

"The Last Poets"*—Apr 18: Performance by revolutionary poets and recording artists, Abiodun Oyewole and Umar Bin Hassan with drummer Don Babatunde $5 available only at door. 8pm, Kresge Aud. Eto Otitigbe, x5-7443 or <think@mit.edu>.

■ EXHIBITS

List Visual Arts Center (E15)*—*Kay Rosen*. New work by Gary, IN-based artist exploring the linguistic and graphical mutability of the written word and modes of communication, both visual and verbal. *Nahum Zenil: Witness to the Self*. Paintings by contemporary Mexican artist exploring themes of personal and cultural identity. *Luis Gonzalez Palma*. Contemporary Guatemalan photographer's work portrays indigenous Guatemalans in a poetic and evocative way. Gonzalez Palma's work lends visibility and history to his subjects, who are often those at the fringes of this society which has traditionally esteemed Spanish and European culture over its own. All shows run through June 29. Hours: Tues-Thurs & weekends 12-6pm; Fri 12-8pm; closed holidays. Curatorial Office Hours—Meet the curatorial staff for informal discussions—Weds, 12:30-1:30pm. More info: x3-4680

MIT Museum (N52)*—*Gestural Engineering: The Sculpture of Arthur Ganson*. Permanent installation of Ganson's whimsical kinetic sculptures address emotional and philosophical issues between the animate and inanimate, human and machine. Ganson is a former MIT Artist-in-Residence. *Maps from the Age of Atlases*. Rare maps from the MIT Museum's Hart Nautical Collections. Through May 4. *What's So Funny About Science?* Exhibition of cartoons of New Yorker science cartoonist Sidney Harris. Through May 31. Ongoing: *LightForest: The Holographic Rainforest. Holography: Artists and Inventors; MIT Hall of Hacks; Light Sculptures by Bill Parker; Math-in-3D: Geometric Sculptures by Morton C. Bradley, Jr.; MathSpace*. 265 Mass Ave. Tues-Fri 10-5, Weekends 1-5. More info: x3-4444.

Compton Gallery*—On the Surface of Things: An Exhibition of Images in Science and Engineering Photographs*. Photographs by science photographer Felice Frankel, visiting lecturer and artist-in-residence at the Edgerton Center. Through June 27. MIT Museum's Compton Gallery. Weekdays: 9-5. x3-4444

Hart Nautical Gallery*—*Ships for Victory: American Shipbuilding's Finest Hour*. Shipbuilding production during World War II. Permanent Exhibition of MIT Museum's Ship Models. Ongoing. Weekdays 9-5pm. More info: x3-5942.

The Dean's Gallery*—New England Landscapes: An Interpretation in Pastel*. by Teresa M. McCue. The Dean's Gallery, Sloan School of Management, E52-466. Show runs through Apr 30. Weekdays 9-5pm. x3-9455 or <http://web.mit.edu/deans-gallery/www/>.

"Reykjavik MIT Yellowstone"*—Apr 15-16. Geothermal sculptures and artist's talk (see story above).

ORIZURU: Japanese Paper Cranes. Folded sculptures by Prof Akira Naito, Professor Emeritus of Nihon University. Exhibit is up indefinitely in the hallway gallery outside Rm 4-405. More info: x8-7940 or e-mail <lavin@mit.edu>. The MIT community is welcome to attend meetings of the MIT Origami Club. E-mail <origami-request@mit.edu> or see the Web at <http://web.mit.edu/origami/>.

Women's Studies. Permanent exhibition of archival photographs documenting the role of women at MIT over the decades. Rm 14E-316. More info: x3-8844.

■ OTHER

"Courting Killian" Contest Deadline*—May 10. Publishing Services Bureau contest for images/interpretations/visions of Killian Court, in any media (photos, illustrations, paintings, electronic files [Mac], sculptures, models, video/audiotape, equations, words, etc). Winners will be posted on the MIT Home Page on Web. Entries must fit though the doorway, Rm 5-133. Info: <psb@mit.edu>.

Engelbart, Elion are Lemelson winners

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to the search for innovative drugs to alleviate illness. In addition to the leukemia drugs Purinethol and Thioguanine, she played a major role in developing allupurinol (Zyloric or Zyloprim), an effective treatment for gout and some of the side effects of chemotherapy; azathioprine (Imuran), which blocks the body's rejection of foreign tissue; and acyclovir (Zovirax), the first significant medication to safely block a virus.

More than a half a million transplant recipients in the last 34 years have benefited from her discovery of azathioprine. She has continued to encourage young inventors by mentoring medical students, giving lectures, sponsoring scholarships for chemists and being involved in national and international committees, including the World Health Organization.

Engelbart

Elion

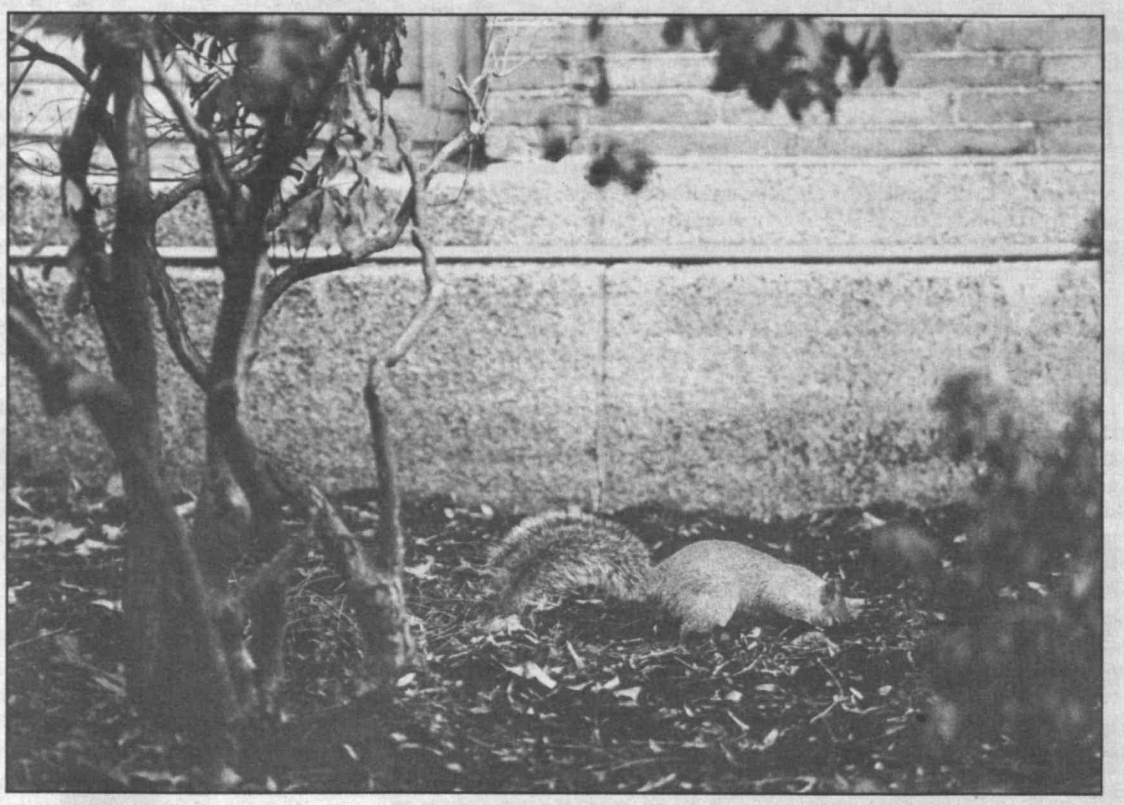
"Inventors are an often unrecognized part of the fabric of American life," said Dr. Jerome H. Lemelson, the nation's most prolific inventor with more than 500 patents. The Lemelson-MIT Prize annually honors Americans who demonstrate leadership and excellence in creativity, invention and/or innovation in medicine and health care, energy and environment, telecommunications or computing, consumer products, durable goods and industrial products.

Dr. Lemelson and his wife, Dorothy, established the program in 1994 to inspire a new generation of American scientists, engineers and entrepreneurs. The program is administered by MIT.

The first Lemelson-MIT winner was automotive engineer William J. Bolander, whose 10 patents cover key innovations used by Saturn and General Motors. Last year, Drs. Herbert Boyer and Stanley Cohen shared the prize for inventing a method of cloning genetically engineered molecules in foreign cells. The first lifetime award winners were Drs. David Packard and William Hewlett, founders of the Hewlett-Packard Co. Last year's lifetime achievement winner was Dr. Wilson Greatbatch, inventor of the cardiac pacemaker.

The program also awards an annual $30,000 Lemelson-MIT Student Prize. The winners have been graduate students Thomas Massie, David Levy and Nathan Kane.

Going to ground



A squirrel hunts for a nut before last week's snowstorm, when the leaves underfoot weren't so soggy.
Photo by Donna Coveney

MIT researchers, alums play roles in latest shuttle mission

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Science Laboratory on a shuttle mission later this year.

Two materials science experiments planned for this mission were developed at MIT. Both utilize the Electromagnetic Containerless Processing Facility, which allows containerless processing of metallic samples in the microgravity environment of space. Electromagnetic coils are used to levitate samples in Earth-based experiments, but they require the use of strong magnetic fields to overcome the Earth's gravity.

In the microgravity environment, the samples can be positioned far more accurately under much lower magnetic fields, resulting in significantly lower fluid flows within the samples. Because of the lower power required for positioning of the sample, the temperature of the sample can be controlled precisely, resulting in a well-defined heat balance. Also, the samples can be processed without use of cooling gases, greatly improving the purity of the processing environment.

Professor Merton Flemings and postdoctoral associate Douglas Matson, both of the Department of Materials Science and Engineering, developed the Alloy Undercooling Experiment, which is designed to measure the solidification velocity in samples of steel alloys which are melted and then cooled below their equilibrium melting point while still in a liquid state. This process is known as undercooling.

Researchers expect that this work will have direct applications in the design of steel strip casting facilities, the casting of high-performance alloys used in jet engine turbine blades, and the welding of stainless steel alloys where rapid solidification occurs.

The undercooling experiment is designed to produce data on phase selection and growth kinetics within the limited melt convection environment that is possible in the microgravity environment of space.

The Measurement of Surface Tension and Viscosity of Undercooled Liquid Metals Experiment was originally developed by the late Professor Julian Szekely of materials science and engineering and was previously flown on the STS-65 International Microgravity Laboratory mission in July 1994.

In a tribute to Professor Szekely, who died in December 1995, his students and colleagues, Dr. Gerardo Trapaga and Robert Hyers, decided to continue this investigation into measuring the viscosity and surface tension of reactive and undercooled liquid metals such as zirconium, gold, a gold-copper alloy, a palladium-silicon alloy and stainless steel alloys.

Researchers expect that the combination of electromagnetic levitation and the microgravity environment in space would minimize internal fluid flows in the samples, preventing transition to turbulence and allowing measurement of the fluid's molecular viscosity.

In this experiment, metallic samples are positioned using electromagnetic levitation coils and melted by induced currents. The sample is then deformed by a pulsed magnetic force, creating surface oscillations. Using high-speed digital image analysis, the deformation of the sample over time can be analyzed using Fourier spectrum analysis to determine the frequency of these oscillations, which allows the surface tension and viscosity of the samples to be determined.

Two of the seven crew members of STS-83 have close ties to MIT. Dr. Janice Voss (SM '77 in electrical engineering, ScD '87 in aeronautics and astronautics) is the payload commander for the mission. She became a NASA astronaut in July 1991 and has flown two previous space shuttle missions: STS-57, the first Spacehab mission (a separate mission from Spacelab) in June 1993, and STS-63, the first shuttle rendezvous mission with the Mir space station in February 1995.

Dr. Roger K. Crouch, the mission's payload specialist, was a visiting scientist at MIT from 1979 to 1980 and is now chief scientist of NASA's Microgravity Space and Applications Division.

Two backup crew members who trained for the STS-83 mission are MIT alumni/ae: NASA astronaut Catherine G. Coleman (SB '83 in chemistry), trained as a backup mission specialist, and Dr. Paul D. Ronney (ScD '83 in aeronautics and astronautics), trained as an alternate payload specialist.

(John Tylko, SB '79 in aeronautics and astronautics, is a special correspondent for MIT Tech Talk).

Hong Kong future bright, report says

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ship opportunities in East Asia, Europe and the Americas. Hong Kong can play a major and effective role in this evolution."

The report, conducted by a 22-person MIT team, calls for the Hong Kong business, government and educational communities to dedicate themselves jointly to developing strategies and resources in six vital areas:

- Strengthening the capacity to create new products and processes
- Upgrading the capabilities of the industrial workforce
- Strengthening the public institutions of "safe harbor"
- Increasing the rate of formation of technology-based enterprises
- Increasing government's technological competence.
- Making the territory more attractive to technological experts from the West and the People's Republic.

"The higher value-added goods in the 21st century will be *service enhanced* products," the report says. "Such products bring together manufacturing and services in ways that defy our conventional statistical categories."

The report notes that the Hong Kong economy's traditional strength has shifted rapidly from products "made in Hong Kong" to those "made by Hong Kong." Industry now contributes 9.3 percent of the territory's gross domestic product, compared to 23 percent 13 years ago. It says: "Hong Kong firms make goods through long production chains that may start in Hong Kong but use manufacturing sites in the Pearl River Delta, further inland and beyond; in Indonesia, the Philippines, Burma (Myanmar), Malaysia, Mauritius, Africa, and more recently, even in Latin America."

The research was sponsored by the Hong Kong Industry and Technology Council, the Better Hong Kong Foundation, the Hong Kong Trade Development Council, Chen Hsong Holdings Ltd. and the Hong Kong Industrial Technology Centre Corp. It was coordinated by the Hong Kong Government Industry Department and the Hong Kong Productivity Council.

"The participation of Hong Kong's business and governmental leadership in this study represents an important step toward the creation of a business climate that can foster a new generation of products and services, and create new markets for businesses worldwide," President Vest said.

"MIT remains committed to the idea that government, industry and the academic community can work together to increase mutual understanding and to develop pragmatic strategies for technological and economic advancement. We believe that this type of cooperation must transcend international borders—and we see our participation in 'Made by Hong Kong' as a model for this type of cooperative international endeavor—one that will build stronger bridges of understanding and cooperation between Hong Kong and US industry.

"Of course, we are also very pleased that this study has given us a chance to work closely with a community that has produced so many accomplished MIT alumni. Three of them have been instrumental in the creation and design of the 'Made by Hong Kong' project: David Wong, the chairman of Dah Sing Financial Holdings Limited; Kenneth Fang, chairman of the Hong Kong Productivity Council; and Victor Fung, chairman of the Hong Kong Trade Development Council."

Professor Lester, director of the MIT Commission on Industrial Productivity as well as the Industrial Performance Center, and Professor Berger, director of the MIT International Science and Technology Initiative, edited the report. They were assisted by 10 senior researchers and 10 student researchers.

"On behalf of MIT's faculty and administration, it is my pleasure to offer our profound gratitude to each of these distinguished individuals for the work they have done in support of this study and of the ever-stronger ties between MIT and the Hong Kong business community," President Vest said.

The report will be the centerpiece of a two-day conference at MIT May 15-16 entitled "'Made by Hong Kong': Changes and Opportunities of 21st Century Industry in Hong Kong and China."

MIT student sets sights on Miss Maryland contest

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Ms. Rushing always knew she wanted a career in science. She never considered entering a beauty pageant as a way to help pay for college. But with college tuition for a younger sister and a younger brother looming, her dream of staying at MIT to become a "big-city surgeon" was threatened.

"I wanted to become a doctor who makes patients feel truly comfortable with the procedures they must face," Ms. Rushing said. Still, when a former high school teacher, himself a pageant director, suggested she compete with the scholarship dollars in mind, Ms. Rushing was dubious. "I wasn't thrilled about the swimsuit part," she said. "While they say it's for visual observation of muscle tone, I believe there are better ways to measure fitness."

Yet the dream still beckoned, and so did the life she'd found at MIT. She's active in MedLINKs and is a member of the Ballroom Dance Team and the Vegetarian Support Group. She lives among "sisters you can rely on" in her sorority house, Alpha Phi. As a Vocal Music Scholar, she sings at MIT events, including the national anthem at basketball games.

And then there's her full course load, which is bringing her ever closer to that medical degree and a career that reflects her values.

"It's a rigorous life and it's stressful," she admitted. "I would never have applied to MIT. My dad, an engineer, told me to go for it. So I did. And it's great."

Ms. Rushing, who grew up in Birmingham, AL, admits she's a long way from home. "People back there have heard of Harvard. They call it 'the Vanderbilt of the North.' But MIT? Somebody once asked me, 'Why do you want to go to college to learn how to fix refrigerators?'"

With her family's support, Ms. Rushing dug into medical work in Maryland before she went away to college. Her star rose quickly in a region where the competition for internships at places like the National Institutes of Health is fierce. Completing high school in three years, she spent her junior summer through her entire senior year as an intern at the National Cancer Institute studying lymphoma in AIDS patients and cancer cell initiation. She published two articles while working there.

Ms. Rushing, who began studying voice in eighth grade, has toured extensively in Europe and the United States. At 16, she was the youngest member of the Maryland Lyric Opera. Although she had an opportunity to attend the Juilliard School in New York, Ms. Rushing instead chose MIT and is active in the Vocal Music Scholars program. She is also a member of the MIT chamber choir. Along with four other Vocal Music Scholars, Ms. Rushing will give a recital on May 11 in Killian Hall.