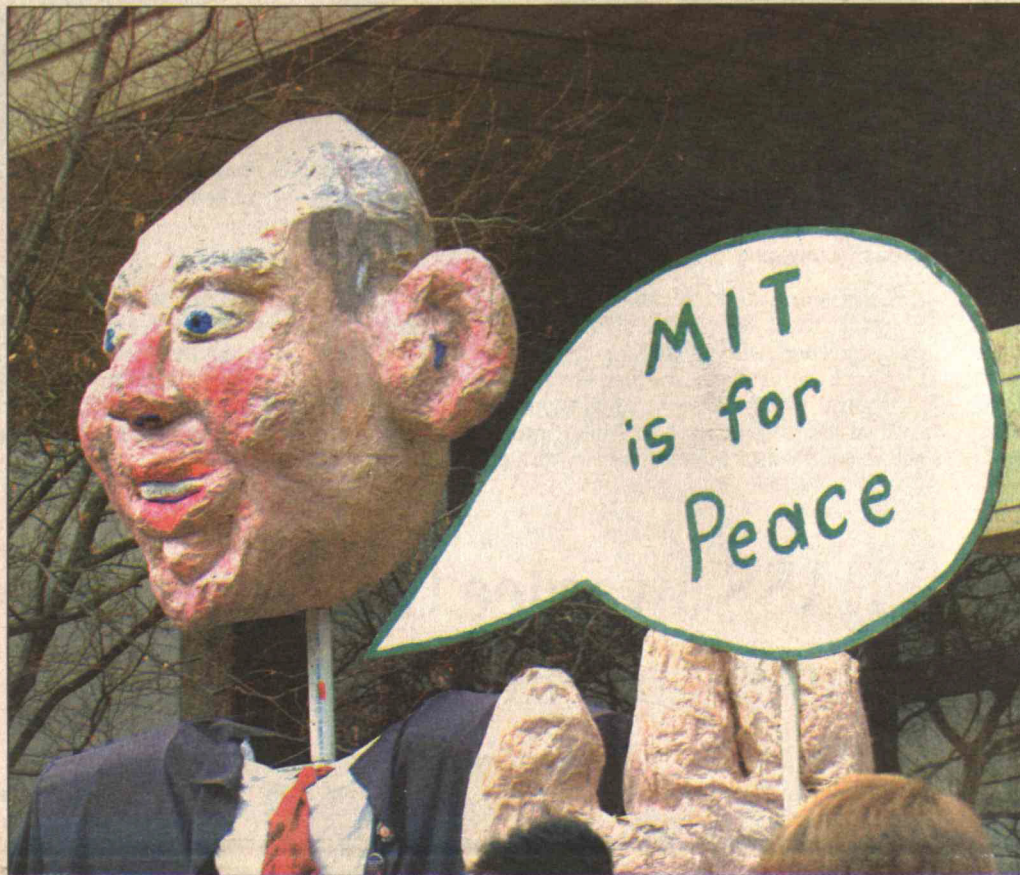


*“Obviously, this is not something most people volunteer for. It’s the contract I signed, though. I will help in keeping these guys alive.”*

Second Lt. Jimmy Wu, S.B. 2002 (right)



A giant puppet of President Bush took center stage at the MIT rally against the war in Iraq in front of the Student Center on March 20. See stories on page 4.



Alumnus Jimmy Wu receives his U.S. Army commission last June.

## Mitchell to speak at graduation

Former U.S. Sen. George J. Mitchell, the architect of a peace agreement in Northern Ireland who came close to a repeat performance in the Middle East, will be MIT’s 137th Commencement speaker on Monday, June 9 in Killian Court.

“Senator Mitchell is a truly distinguished American and world citizen,” President Charles M. Vest said in making the announcement. “His objectivity, integrity and wisdom have earned him respect across the political spectrum. He has grappled effectively with some of the most daunting issues of conflict and peace in this era. We are very fortunate to have him address our graduates and their families.”

Mitchell, who was appointed to represent Maine in the Senate in 1982 when Edmund S. Muskie resigned to become secretary of state, went on to be elected to two full terms. A Democrat, he served as majority leader from 1989 until he left the Senate in 1995.

At the request of the British and Irish governments, Mitchell chaired the peace negotiations in Northern Ireland that resulted in the Good Friday Agreement in 1998. For his service there, he received numerous awards and honors, including the Presidential Medal of Freedom—the highest civilian honor the U.S. govern-

See **MITCHELL**

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## Faculty hears projections on budget, endowment

Denise Brehm  
News Office

The Institute’s endowment peaked in 2000 at more than \$6 billion for a brief “snapshot in time,” Provost Robert A. Brown told the faculty on March 19, but now stands at about \$5.5 billion, making MIT the “poorest of the wealthy” behind—but in the same league with—Harvard, Yale, Princeton and Stanford.

“The hill in front of us is very large,” Brown said, referring to the enormous endowments of those four schools. Harvard’s endowment is about \$17 billion.

Speaking at the monthly faculty meeting, Brown said that MIT’s endowment capital and investment grew 13 percent between 1992 and 2002. But growth for the investment is projected to be flat into 2006.

Based on that prediction, he gave finan-

cial projections for fiscal years 2004 (which begins July 1, 2003) and 2005, and an overview of how the Institute has progressed in meeting its objectives in five key areas: increased undergraduate financial aid; increased support of graduate research and education; investment in physical facilities; faculty renewal; and compensation and benefits for faculty, staff and students.

The average undergraduate scholarship has increased from \$13,084 in 1998 to \$19,227 this year. The Institute has begun supporting the research assistant (RA) subsidy and created presidential fellowships for graduate students from money raised in the fund-raising campaign. The renovations budget saw enormous growth—from \$2.4 million per year to \$24 million. More than 300 new

See **FACULTY**

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PHOTO / DONNA COVENEY

## A short, sweet life

This crocus between buildings 6 and 18 showed its colors last Friday in a welcome sign of spring. But by Monday morning, temperatures were in the 30s and snow was falling on campus. In the afternoon, the sun broke through, temperatures rose and the patches of purple could be seen again.

Did this particular crocus survive winter’s last stand? It was impossible to tell whether it was still standing amid the mixture of new and older flowers. The life expectancy of a crocus is less than a week under the best of circumstances.

### NEWS

#### BRAINY PIONEERS

Attendees at the Picower-RIKEN Neuroscience Symposium discuss programmed cell death and other new frontiers in brain sciences.

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#### DUPLICATION AND DIVISION

Angelika Amon wins the \$500,000 Waterman Award for her research on genetic material during cell division.

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### RESEARCH

#### SCHOOL DAYS

On a field trip to MIT, high school honors students learn about genetics and protein structure.

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#### DESERT CREEP

Scientists make a climate model to explain the southern advance of the Sahara Desert’s border 6,000 years ago.

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### ARTS

#### A WHIRLY GIG

The MIT Ballroom Dance Team hosts a competition in du Pont this weekend.

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#### VIOLIN TALK

Freshman Amy Lee, an accomplished violinist who has played nationwide, discusses practice, performance and competition.

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# Picower Center hosts neuroscience symposium

Deborah Halber  
News Office

The third Picower-RIKEN Neuroscience Symposium, "New Frontiers in Brain Science," drew dozens of participants to hear researchers from around the world describe the state of the art of neuroscience from the molecular to the behavioral level.

The symposium was held March 26-28 in Wong Auditorium.

Sponsored by MIT's Picower Center for Learning and Memory, the symposium featured sessions on molecular and cellular neurobiology, developmental and adult plasticity, systems neuroscience and learning and memory. Keynote addresses were given by Richard Axel, a Columbia University expert on olfactory perception in the brain, and Robert Desimone, who studies how the brain's visual system works in visually complex scenes.

One of 20 speakers, Nobel laureate H. Robert Horvitz, professor of biology and an investigator for the Howard Hughes Medical Institute, gave an overview of genetic control of programmed cell death in *C. elegans*.

Programmed cell death occurs natural-

ly in all animals and is a major feature of nervous system development. As many as 85 percent of all nerve cells created during development die by programmed cell death. Horvitz said that rather than looking at cell death as an indication of something wrong, researchers should consider it as normal as other routine cell functions. Programmed cell death gone awry can lead to disease. Neurodegenerative diseases such as Alzheimer's involve too much cell death, while cancer involves too little.

Horvitz's laboratory has identified the genes needed for programmed cell death. The genes, called *ced-3* and *ced-4* in *C. elegans*, have corresponding genes in humans. Another gene, *ced-9*, keeps cells alive and can reverse the process of cell death. Most recently, Horvitz has isolated a gene called *egl-1*, which also plays a key role in the sequence of events that induces a healthy cell to die and become engulfed and dismantled by its neighbors. With this knowledge, he said, it may one day be possible to create disease treatments based on reversing or enhancing programmed cell death.

Other MIT speakers included Guosong Liu, associate professor of brain and cognitive sciences, who spoke on molecular mechanisms and implications for synaptic

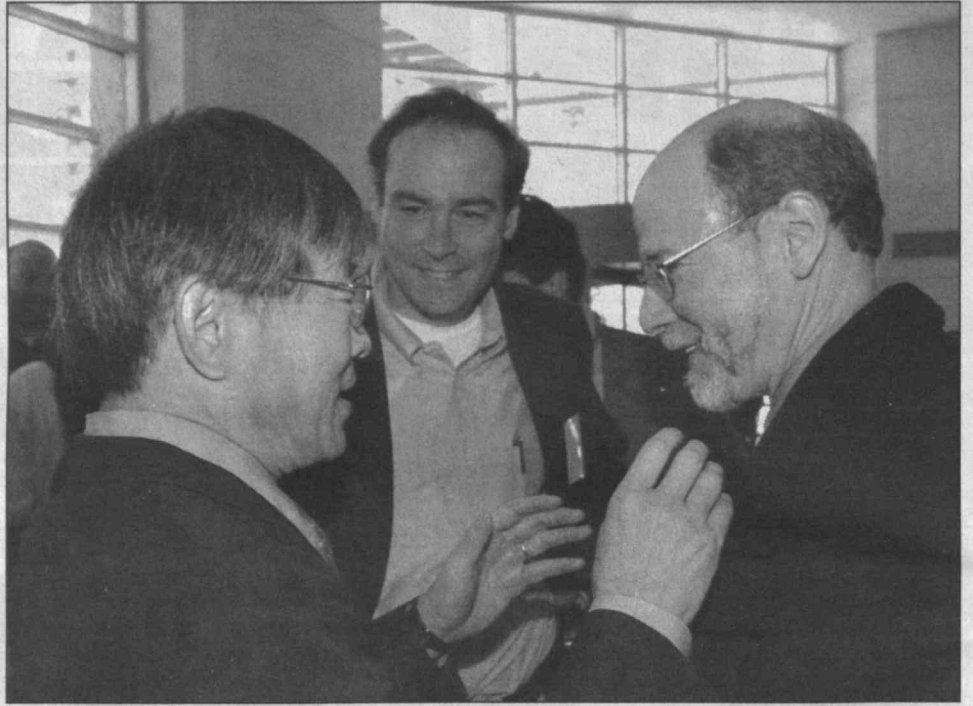


PHOTO / DONNA COVENEY

Chatting during a break at the Picower-RIKEN Neuroscience Symposium are (left to right) Susumu Tonegawa, a Nobel laureate and director of the Center for Learning and Memory; Professor Mark Bear, who just joined the Picower Center and the brain and cognitive sciences faculty; and 2002 Nobelist H. Robert Horvitz.

transmission and plasticity; Morgan Sheng, the Menicon Professor of Neuroscience, who spoke about molecular mechanisms in plasticity that involve the structural reorganization of synapses at several levels; and Earl K. Miller, professor of neuroscience and associate director

of the Picower Center, who spoke about prefrontal cortex neurons that appear to play a role in executive brain functions such as directing attention, recalling stored memories, integrating diverse information and transmitting acquired knowledge.

## MITCHELL

Continued from Page 1

ment can give; the Philadelphia Liberty Medal; the Truman Institute Peace Prize; the German (Hesse) Peace Prize; and the United Nations (UNESCO) Peace Prize.

In 2000, President Clinton, Israel's then Prime Minister Ehud Barak, and PLO chairman Yasir Arafat asked Mitchell to chair an international fact-finding committee on violence in the Middle East. The committee's recommendation, known as "the Mitchell Report," was endorsed by the Bush administration, the European Union and many governments.

Mitchell, a former U.S. attorney who resigned as a U.S. District Court judge when he was appointed to the Senate, is a 1954 graduate of Bowdoin College and the Georgetown University Law Center (1960). He is now a partner in Piper Rudnick, a business law firm with offices



George Mitchell

in 12 U.S. cities.

With former senator and defense secretary William S. Cohen, he wrote "Men of Zeal," about the Iran-contra investigation. His other books are "World on Fire" (1990), analyzing the threat of the greenhouse effect, and "Not For America Alone: The Triumph of Democracy and the Fall of Communism" (1997); and "Making Peace" (1999), an account of his experience in Northern Ireland.

Mitchell is chancellor of The Queen's University of Belfast and as president of the Economic Club of Washington. He chaired the International Crisis Group, a nonprofit organization dedicated to preventing crises in international affairs, as chair of the special commission investigating allegations of impropriety in the bidding process for the Olympic games, and as chair of the National Health Care Commission.

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## SHASS awardee George Shultz to speak on 'Reflections' April 9

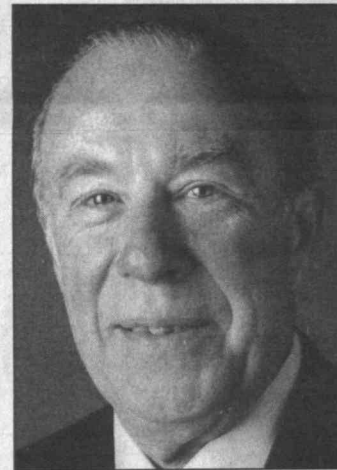
The Robert A. Muh Award honoring an MIT graduate for noteworthy achievements in the humanities, arts and social sciences will be presented to former Secretary of State George P. Shultz on April 9. As part of the ceremonies, he will give a talk titled "Reflections" in Bartos Theater.

Shultz, who earned the Ph.D. in industrial economics from MIT in 1949, taught here from 1948-57. He then joined the faculty of the University of Chicago Graduate School of Business and served as dean of the school from 1962-68.

He has served in senior staff positions under three U.S. presidents and has been a critical participant in economic and foreign policy developments over four decades. Shultz held two key positions in the Reagan administration: chairman of the President's Economic Policy Advisory Board from 1981-82 and Secretary of State from 1982-89. He was appointed Secretary of Labor by President Nixon in 1969, Secretary of the Treasury in 1970 and director of the Office of Management and Budget in 1972.

He served as a senior staff economist on the President's Council of Economic Advisors during the Eisenhower administration, taking a year off from his teaching duties at MIT.

Shultz joined the Bechtel Group in 1974 and rejoined it in 1989 as director and senior counselor. In 2001, he was named the Thomas W. and Susan B. Ford Distinguished Fellow at the Hoover Institution at



George Shultz

Stanford University.

The Robert A. Muh Award was first announced in October 2000 at the 50th anniversary celebration of the School of Humanities, Arts and Social Sciences (SHASS).

Muh (S.B. 1959 in management), a life member of the MIT Corporation and longtime chair of the Humanities Visiting Committee, endowed the award to honor an MIT alum who has made significant contributions to education, scholarship or performance, academic administration or arts management in the humanities, arts or social sciences. The award will rotate among the three major areas in SHASS.

Muh and his wife, Berit, have two daughters, Alison and Carrie. Carrie received the S.B. in biology from MIT in 1996 and the S.B. and S.M. in political science in 1997.

### Correction

A story in the March 19 issue of MIT Tech Talk incorrectly identified Acusphere. Acusphere is an MIT startup that began Phase III clinical trials in February for an ultrasound contrast agent that detects coronary artery disease in patients with ischemic heart disease. The agent was designed by MIT Professor Robert Langer.

## MIT home page changes its look

A redesigned MIT home page launched yesterday, featuring usability enhancements and a broader canvas for the popular central graphic.

The navigation has been expanded to include categories. For example, when you look under "Research," you can now search by topic, not just by lab or department name.

Other enhancements to the second-level pages include merging "Admin-

istration" and "Resources" into "Offices and Services," renaming "Campus Life" to "Community," and renaming "Academics" to "Education." These pages also have a new user interface that expands and contracts the lists.

The redesign was done by Suzana Lisanti and the Web Communications Services team in close collaboration with designers from Pentagram.

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PHOTO / DONNA COVENEY

### Jake's ladder

Jake Abernethy, who graduated with a degree in math last May, practices his juggling (not to mention balancing) outside Kresge Auditorium on Friday. He plans to perform as a juggler in Harvard Square and Faneuil Hall, among other sites, as the weather warms up.

## SMA expands graduate program

The National University of Singapore (NUS), Nanyang Technological University of Singapore (NTU) and MIT signed a memorandum of understanding last week to take the Singapore-MIT Alliance to the next level of graduate education and research in science and engineering.

The largest interactive distance education collaboration in the world, the Singapore-MIT Alliance (SMA) takes advantage of state-of-the-art synchronous and asynchronous facilities to achieve seamless instruction across 12 time zones. The voice delay is less than a second between the Cambridge classroom and Singapore classrooms.

SMA-2 will place greater emphasis on Ph.D. research and education, and on greater interaction with industry and research institutes.

For the first time, it also will provide some students at the Singapore universities the opportunity to earn a master's degree from MIT as well as graduate degrees (master's or Ph.D.) from the two Singapore universities in at least three programs. These students—who will also study at MIT—must satisfy the admission and degree requirements at each university.

Graduates in Singapore now receive a

certificate from MIT for their participation in the Singapore-MIT Alliance. Currently in Singapore, 38 Ph.D., 172 S.M. (professional master's) and 29 M.Eng. (master of engineering) students are enrolled in SMA programs at NUS and NTU.

Now in its fourth year of operation, SMA involves about 50 professors from MIT and another 50 from both NUS and NTU in teaching courses and supervising research. SMA has graduated 227 professional master's and 21 M.Eng. students from the Singapore universities.

In 2005, the scope of SMA-2 will expand to incorporate the life sciences. All programs will offer a Ph.D. degree from NUS or NTU. The Ph.D. programs will mostly take the form of NUS/NTU degrees with an SMA certificate from MIT, as currently practiced in SMA-1.

MIT Provost Robert A. Brown said, "The advancement of the Singapore-MIT Alliance into its second phase guarantees that SMA will continue in the elite position as a premier model for intensive collaboration in education and research between great research universities, no matter the distance between collaborators. I'm very excited about the prospects for success."

# Luisa, Mario Molina battle air pollution in Mexico City

Nancy Stauffer

Laboratory for Energy and the Environment

An international team led by an MIT research scientist and her husband, an MIT Nobel laureate, is working to help Mexican policy-makers find ways to reduce Mexico City's severe and persistent air pollution. The researchers, who have been working on the project for more than three years, will be traveling back to Mexico in late March to spend another five weeks using a novel mobile laboratory to collect field data.

The project is the initial focus of the Integrated Program on Urban, Regional and Global Air Pollution, directed by Dr. Luisa T. Molina of the Department of Earth, Atmospheric and Planetary Sciences and Institute Professor and Nobel laureate Mario Molina. It includes investigators from across MIT, the Harvard School of Public Health and other U.S. and international institutions. More than a dozen institutions and government agencies in Mexico are involved.

The goal of the program is to perform "integrated assessments" of different emissions-reduction strategies, considering not only scientific and technological factors but also the broader social, economic and political dimensions of the problem and possible actions that could be taken.

Without data, it's impossible to predict how various emission-reduction strategies might actually improve air quality. The Mexico City metropolitan area has been the subject of air quality studies, including widespread air-pollution monitoring and "emissions inventories" (lists of specific sources and their emissions). However, initial computer simulations by the Molinas' team showed that the current emissions inventories did not fully explain the pollution that was measured in the atmosphere.

As a result, the team instituted an intensive field campaign to improve the quality of the available data. Key to the work is the mobile lab—a van carrying highly sophisticated, state-of-the-art instruments

to accurately track and map noxious emissions. The lab was provided by Aerodyne Research Inc., a collaborator in the work.

In a two-week campaign last year in Mexico City, the researchers rode in the van while following cars, trucks and buses to analyze their exhaust plumes. To "map" the city's air quality and determine daily variations, they also parked the van at different locations, sometimes for 24 hours or more.

Last summer and fall, they checked human exposures by carrying handheld monitors while riding in commuter buses and delivery trucks. They also left monitors in bus and truck terminals for several days at a time.

Preliminary mobile laboratory findings indicate the potential significance of the new measurements. For example, measurements taken on the grounds of an elementary school showed tremendous photochemical activity; ozone reached high peak concentrations on two consecutive afternoons, even though the weather was not unusually hot or sunny.

The team continues to analyze the resulting data—a process that will take many months and will result in refined air-pollution models and numerous technical publications. In the meantime, the novel design of the program itself can begin to serve as a model for similar programs in other highly polluted cities.

This research is supported by the Comisión Ambiental Metropolitana (via Fideicomiso Ambiental del Valle de México), the MIT Alliance for Global Sustainability, the National Science Foundation and the MIT Laboratory for Energy and the Environment. The team published a book entitled "Air Quality in the Mexico Megacity: An Integrated Assessment" (Kluwer Academic Publishers, 2002), which provides an overview of the current understanding of the air pollution problem and lessons learned from air-quality management programs to date.

For further details, go to <http://lfee.mit.edu/publications/report> and <http://eaps.mit.edu/megacities>.

## Angelika Amon wins NSF's \$500,000 Waterman Award

Deborah Halber  
News Office

Angelika Amon, the Linda and Howard Stern Career Development Associate Professor of Biology, is the 2003 recipient of the National Science Foundation's Waterman Award, given annually to a young researcher who receives NSF funding. She will receive \$500,000 over three years.

She is the third member of the MIT faculty to win the award. Previous winners were Associate Professor Vahid Tarokh of electrical engineering and computer science in 2001 and Professor Christopher C. (Kit) Cummins of chemistry in 1998.

Amon, a researcher at the Center for Cancer Research (CCR) and an associate investigator of the Howard Hughes Medical Institute, seeks to decipher the regulatory networks within the cell that ensure accurate duplication and segregation of genetic material during cell division. This information is vital to understanding normal cell division and the abnormal cell division that leads to cancer.

Using the budding yeast *Saccharomyces cerevisiae* as a model (it turns out that the molecules involved in cell division in yeast and humans are very similar), Amon combines genetic and biochemical techniques to determine how the various cell cycle transitions are regulated.

While cell division has long been understood on a basic level, nobody

knows how individual molecules control the transitions that take place throughout the cell cycle. "We are particularly interested in the chromosome segregation part—how cells make sure that this happens in an accurate manner," she said.

While oncogenes and genomic instability play critical roles in cells turning cancerous, tumors that grow out of control also somehow acquire extra chromosomes. "The main way to gain chromosomes is when they don't partition correctly. The normal cell has surveillance mechanisms and checkpoints that detect and fix such errors, but in cancer cells the checkpoints are gone," Amon said.

Because these surveillance mechanisms also operate in yeast, scientists can use yeast genetics to identify the genes responsible. Knowledge of the genetic underpinnings of this process could be a very powerful tool, and in this way, "we can start unraveling this basic cell mechanism," Amon said.

Amon received undergraduate and graduate degrees from the University of Vienna. She did postdoctoral work with Ruth Lehmann in the Whitehead Institute and was appointed a Whitehead Fellow in 1996. Amon became an assistant professor of biology in the CCR and the Department of Biology in January 1999.

Established by Congress in 1975, the Alan T. Waterman Award marked the 25th anniversary of the NSF and honors its first director.

# '02 ROTC grad believes in U.S. mission in Iraq

After Jimmy Wu received the S.B. in mechanical engineering last June, he planned to pursue a career in the Midwest and joined a National Guard unit in McConnessville, Ohio.

Second Lt. Wu of the 2nd-174th Air Defense Artillery Battalion has now put his civilian career plans on hold. The unit was activated on March 15.

While he did not anticipate mobilization, Wu believes in the mission.

"Operation Enduring Freedom has liberated Afghanistan and [Operation Iraqi Freedom] will definitely liberate Iraq," he said. "These are good things. I am grateful for the opportunity to participate."

In a letter to the MIT News Office, Wu described his platoon's role in combat.

"Our mission is to shoot down enemy aircraft, UAVs [unmanned aerial vehicles] and cruise missiles in defense of rear area assets," he said. "We have not received a definite word on where we are going, but we are heading down to Fort Bliss, Texas

to train up as per our mobilization plan."

Wu, who received his commission through the MIT ROTC program, actually had only 12 days to consider civilian plans. Shortly after graduation, he attended a five-month air defense artillery officer basic course that ended on Feb. 6. He received word that the outfit would be mobilized on Feb. 18 and lived in the armory while awaiting reassignment.

As a Stinger platoon leader, Wu's primary responsibility is positioning missile firing teams "to protect static assets during daylight," he wrote. "As a platoon leader in general, I also supervise day-to-day activities such as equipment maintenance, battle drills and counseling subordinate leaders."

Wu, who comes from Acton, Mass., continued, "Obviously, this is not something most people volunteer for. It's the contract I signed, though. I will help in keeping these guys alive."

# Global technology could bring terrorists 'with us and among us'

Lois Slavin

Engineering Systems Division

The technology that helped advance communications and globalization has also made the world safer for terrorists and easier for them to execute their plans, the chairman of the National Academy of Engineering Committee on Terrorism recently told a standing-room-only audience at MIT.

Thanks to transnational networks, global and national security is no longer simply a matter of traditional weapons and warfare because now "the enemy is with us and among us" anywhere in the world, said John Garrick.

The Internet has become a planning and organizing tool for terrorists. "It's made it easier for them to gather information, but we can also use it to monitor their activity," Garrick said in his March 17 talk, "Combating the Risk of Terrorism: Making the Right Decisions." The presentation, sponsored by the Technology and Policy Program and the Engineering Systems

Division, was one in a series leading up to a May 2 day-long symposium on science, technology and the role of the university in global and homeland security (see <http://esd.mit.edu/TPP/symposium2003.html> for details).

Battling terrorism in the interconnected world requires the federal government to partner with local government, private institutions, academic institutions and the public in ways they have never done before, Garrick said. He compared the current practice of terrorism risk assessment—which has historically focused almost exclusively on threats and has lacked a plan for effective integration—with one developed by the NAE terrorism committee. This proposal calls for a scenario-based approach to quantitative risk assessment that focuses on low-probability/high-risk events, with integration across traditionally independent units.

"Embracing the notions of uncertainty and complexity gives you a lot more flexibility and the opportunity to see other possibilities that may not have been represented," Garrick said.

# U.S. vulnerable to security threats during war

Sarah H. Wright

News Office

Political scientists with expertise in military strategy, international security, and the causes and consequences of war analyzed U.S. operations in Iraq and weighed the potential aftermath in a Center for International Studies forum on March 21.

Participants in the forum titled "War with Iraq: Conduct and Consequences" were Stephen Van Evera, associate director of the Center for International Studies (CIS); Owen Cote Jr., associate director of the Security Studies Program; Thomas Christiansen, professor of political science; and Daryl Press, assistant professor of government at Dartmouth College.

In discussing the global context in which the Iraq war is unfolding, the speakers noted tensions within the Middle East as well as those arising from North Korea's nuclear program, and they highlighted the persistent menace of terrorism on U.S. soil.

The United States currently faces security challenges which it is not meeting, particularly in preparing for the possible use of chemical or biological weapons here, warned Cote. "These weapons are not like nuclear weapons; these are ubiquitous, impossible to prevent

either in Iraq or here. We still don't know the source of the 2001 anthrax attack. But the civilian populace can be protected some. Homeland security should work on a civilian warning system. For example, every building should have a type of smoke detector that can warn when something is in the air," he said.

Van Evera endorsed Cote's view of the United States as "woefully underprepared—a wide open, fat, lolling target" for terrorism. The Iraq war will "distract our intelligence and weaken our war against Al Qaeda, and the threat from Al Qaeda is very large. This is a very skilled, ambitious force with unlimited murder on its mind," he said.

Van Evera noted that Al Qaeda fervently hopes to see American bungle its mission in occupying a post-war Iraq. "History says that occupiers often do bungle," Van Evera said. "We must find international partners and get the U.S. flag off this occupation."

Christiansen focused on the role that North Korea's nuclear program may have in America's timing of the war in Iraq. The U.S. must have "teeth in its negotiations with North Korea, and the Iraq war may do that." Describing elements of U.S.-North Korea negotiations, he said, "We want those fuel rods removed and the nuclear production facilities destroyed. The North Koreans want security, economic aid and trade openings. Nobody wants to invade North Korea and occupy it."

# MIT community members rally to protest Iraq war

Sarah H. Wright

News Office

Members of the MIT community turned out in force on March 20 to support a student-led walkout and rally to protest the war on Iraq.

A crowd estimated at 600 filed out of offices, classrooms and labs at noon, gathering on Kresge Oval to applaud speakers who voiced opposition to the U.S.-led attacks that began the previous night.

The MIT Anti-War Coalition, a student group, organized the rally, recruited speakers, provided materials for making signs and banners, and transported the large, popular George W. Bush puppet to the steps of the Stratton Student Center. The puppet required three handlers; once aloft, it danced a goofy samba.

Students wearing white jump suits—dubbed "cog suits" to dramatize their slogan "We will not be cogs in the war machine!"—quietly passed out bandage-style armbands, complete with fake-blood "wounds." Anti-war chants and Brazilian drums provided rhythm and a little dancing for the chilled protesters.

"Nobody likes a bully," "MIT Nerds for Peace," "Get a non-military job!" and "I love my country—I oppose this war" were among the slogans. An enormous banner—"MIT says No Blood for Oil"—was spread out on the ground near the chapel, easily visible to local TV news helicopters swirling overhead.

Hugh Gusterson, associate professor of anthropology in the Program in Science, Technology and Society, said the war in Iraq is "about oil, about Israel, about American global dominance. We must decide what kind of country we want to live in—one guided by Bush, Cheney and Rumsfeld's squalid, inhumane vision? Do you want John Ashcroft reading your e-mail?"

Other speakers included Ayida Mthemba, associate dean in Counseling and Support Services; Balakrishnan Rajagopal, assistant professor in urban studies and planning and director of the Program in Human Rights and Justice; Stephanie Wang, a junior in economics who works with United Trauma Relief, an international humanitarian aid group; Afiya Whisby, a junior in architecture representing the MIT Black Students Union; Christine M. Ortiz, a junior in chemical engineering; and Jeff Duritz, a senior in urban studies and planning.

The MIT protesters were joined

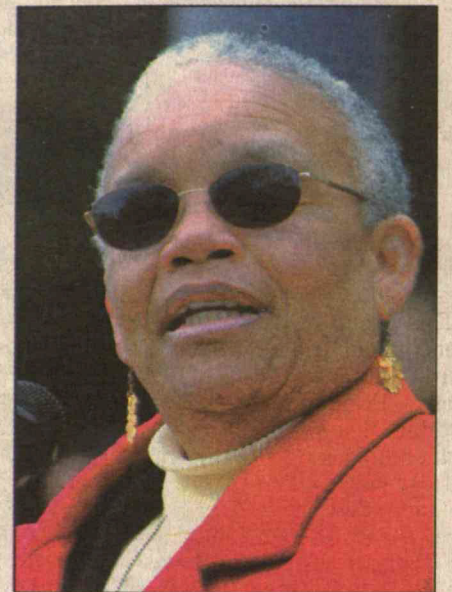


PHOTO / DONNA COVENEY

*"Struggle together to make America the place we want it to be."*

Ayida Mthemba

Associate dean, Counseling and Support Services



PHOTO / DONNA COVENEY

*"Speak in one unified voice: we will not stand for this!"*

Christine Ortiz

Junior in political science

mid-afternoon by student groups from Harvard and Tufts. The united throng set off toward a larger rally in Boston, pausing to sit in on the Harvard Bridge, shutting down traffic briefly.

## NEWS YOU CAN USE

### Graduating students' sites sought

In its May/June issue, openDOOR, the web magazine of the MIT Alumni Association, will feature students graduating in June. Nominate the web page of your favorite soon-to-be-grad, and you could win a copy of the new MIT Press book, "Nightwork: A History of Hack & Pranks at MIT." The best sites will be featured in openDOOR. Submit your favorites to <http://alumweb.mit.edu/opendoor/nominate> by Monday, April 7.

### Arts scholar applications due

The deadline for applications for the Arts Scholars Program is Friday, April 4 at 5 p.m. Open to 2003-04 sophomores, juniors, seniors and graduate students regardless of major, the program is for students committed to work in the arts who'd like more interaction with fellow student and faculty artists and more exposure to the rich resources of the Boston area. Return applications and supporting materials to Room E15-205. Applications and guidelines are available in rooms E15-205 and 10-280 and at [http://web.mit.edu/arts/special\\_programs/art\\_scholars.html](http://web.mit.edu/arts/special_programs/art_scholars.html).

# High school students sample science at MIT

Deborah Halber  
News Office

MIT Nobel laureate H. Gobind Khorana relayed the recipe for India ink to 18 rapt biology honors 10th-graders Monday as part of an hour-long discussion that touched on his childhood village, where his school consisted of mats under a wooden box in the shade. The makeshift blackboard was a clay-coated wooden board scratched with a pen made from a stalk of sugarcane.

This group of students on a science field trip to MIT also heard Khorana, the Alfred P. Sloan Professor Emeritus, describe his groundbreaking work on unlocking DNA's genetic code, while others of the 80 who attended from Arlington, Hudson, Holliston, Lexington and Dedham observed zebrafish embryo development or analyzed protein structure with laptops on loan from the physics department. The fourth group learned how microscopy and time-lapse digital photography could be combined to view axon growth in live neurons.

The four groups came together to hear Eric Lander, professor of biology and director of the MIT/Whitehead Genome Center, sum up the past century's progress in understanding the human genome—a century that started with Mendel's idea that "packets of information" are handed down from one generation to the next, and ended with

an almost complete inventory of every human gene. The students were intrigued by Lander saying that he could, with saliva samples, determine which students in the audience were at risk for Alzheimer's disease or which were carriers of cystic fibrosis.

The group also heard Susan Lindquist, professor of biology and director of the Whitehead Institute for Biomedical Research, describe the ability of shape-shifting proteins to cause mad cow disease.

"The field trip to MIT was organized in part to answer a need expressed by science teachers," said biology instructor Mandana Sassanfar, who organizes summer programs that connect local students and teachers with MIT. In fact, the need was a little overwhelming. The activity was originally planned for 40 students and extended to 80, while another 90 had to be turned away.

"Bringing high school students to an institution such as MIT and giving them the opportunity to meet and speak with internationally renowned scientists and interact with graduate students, postdocs and instructors is a very important and inspiring experience for many of the students, especially the younger ones," Sassanfar said.

"In addition, the hands-on activities offered to the students during the field trip are very difficult to organize in a high school setting, but are very relevant to the high school science curricu-



PHOTO / L. BARRY HETHERINGTON

Postdoctoral associate Elizabeth Wiertel (left) engages Holliston High students Kristina Bachrach and Bradley Reed during their school's trip to MIT.

lum," she said.

The science field trip was supported in part by the Howard Hughes Medical Institute (HHMI). One of the activities made possible by HHMI is a special group in Professor Graham C. Walker's laboratory that works on educational issues, with a focus on teaching introductory biology.

Walker, who welcomed the high school students and helped arrange the discussion with the usually reticent Khorana, hooked up with Sassanfar because of her experience with high school outreach. She also will organize a week-long biology workshop for high school teachers this summer.

"This field trip was our first

activity that directly involved high school students and I feel sure that we will be doing it again," Walker said. "Judging from the reaction of the students and teachers, I think it was very successful. We learned some things from this year's experiment that should allow us to make it even better in the future."

## Climate models need their veggies

Research explains climate change in Sahara Desert 6,000 years ago

Denise Brehm  
News Office

Just as vegetables are essential to balancing the human diet, the inclusion of vegetation may be equally essential to balancing Earth's climate models.

Scientists at MIT who were trying to create accurate models of climate change in the southern Sahara Desert found that including a realistic component of vegetation growth and decay was absolutely essential. Without including the vegetation as a variable (rather than a fixed parameter), the models were not able to show the region's transformation from a fertile expanse of vegetation 6,000 years ago to an arid stretch of mostly sand and mountains today.

"Vegetation is such an important component of the climate system that in this model, including the vegeta-

tion was the only way to explain what happened in the past," said Elfatih Eltahir, an author of the paper describing the research, which appeared in the Jan. 16 issue of the *Journal of Geophysical Research*.

"Looking at the past climate provides a reasonable way—perhaps the only way—to test models, which must be accurate if they're going to predict future climate changes," said Eltahir, a professor of civil and environmental engineering who studies hydroclimatology. "Scientists recognize that the ocean is an important component of the climate system. We are saying that vegetation over land regions is equally important."

Sometime during the past 6,000 years, the southern boundary of the Sahara Desert moved 500 kilometers south, making the desert a much larger portion of northern Africa. The Sahara, the largest desert in the world, covers all of North Africa, from

the Atlantic coast to the Red Sea. The "newly" arid area was once covered by lush green grasses and trees and was home to elephants, giraffes and other large wildlife. This includes portions of Sudan, Eltahir's native country.

Eltahir and his research team chose the Middle Holocene period for their models, because ice cores taken by climatologists show that the amount of carbon dioxide in the atmosphere was very similar to that of our own time. So CO<sub>2</sub> became a fixed parameter in the model.

However, solar radiation—which fluctuates according to slow variations in the geometry of the Earth's orbit and has considerable impact on climate—was very dissimilar. Six thousand years ago, the geometrical aspects of Earth's orbit were significantly different from today. However, these changes in the planet's orbital parameters, though necessary for triggering a retreat of the desert border, were found to be insufficient to fully explain the extent of the change in the desert's area. The feedback involving vegetation changes amplified the model's response to the change in orbital parameters and brought the model simulations close to the observations of paleoclimatologists.

Another interesting—and rather dire—aspect of the models is the indication that interference with the plants and animals making up the biosphere can induce an altered biosphere which may become fixed at a different climate equilibrium. Eltahir's models suggest that the erosion of that 500-kilometer swath of land from arable to arid was likely sudden, occurring over decades and years, rather than a slow evolution over centuries.

"Sometimes nature reinforces whatever damage you do. We tend to think of nature as healing the damage we humans do. But in this case it seems to be a bit self-destructive," said Eltahir.

## Gamma-ray burst reveals death of star, birth of something big

At around an hour past dawn Saturday, the MIT-built High-Energy Transient Explorer (HETE) spotted a massive gamma-ray burst that briefly outshone the entire universe in gamma rays. Two hours later, this burst, brighter than 99 percent of its counterparts and only two billion light years from Earth, was still 10 trillion times brighter than the sun.

MIT scientists and others arriving on the scene of this and an October gamma-ray burst surmised that they had witnessed the death of a gigantic star and the birth of something monstrous in its place, possibly a brand-new, spinning black hole.

The Oct. 4, 2002 observation, featured in the March 20 issue of *Nature*, is the most detailed of any gamma-ray burst to date and provides confirmation of the "collapsar model," in which the core of a supermassive star is thought to collapse into a black hole. The observation was made by NASA's High-Energy Transient Explorer (HETE), built by MIT, and ground-based robotic telescopes and fast-acting researchers around the globe.

In a separate result, an MIT scientist reported at the March 24 meeting of the American Astronomical Society that NASA's Chandra X-ray Observatory helped confirm that a different gamma-ray burst (first spotted by HETE on Aug. 13, 2002) was connected to the death of a massive star.

"If a gamma-ray burst were a crime, then we now have strong circumstantial evidence that a supernova explosion was at the scene," said Nathaniel A. Butler, a graduate student in physics. "Our observation supports two of the most important features of the popular supernova model for gamma-ray bursts. An extremely massive star, which likely exploded less than two months prior to the gamma-ray burst, was beamed into a narrow cone."

Around dawn on Saturday, March 29, HETE spotted one the brightest and closest gamma-ray bursts yet. At its peak, the afterglow was visible with backyard amateur telescopes. The burst was relatively nearby, approximately two billion light years away.

"Gamma-ray bursts must be many times more powerful than we previously thought," said George Ricker, senior research scientist in the Center for Space Research and principal investigator for HETE. "The gamma-ray portion of the burst is perhaps just the tip of the iceberg."

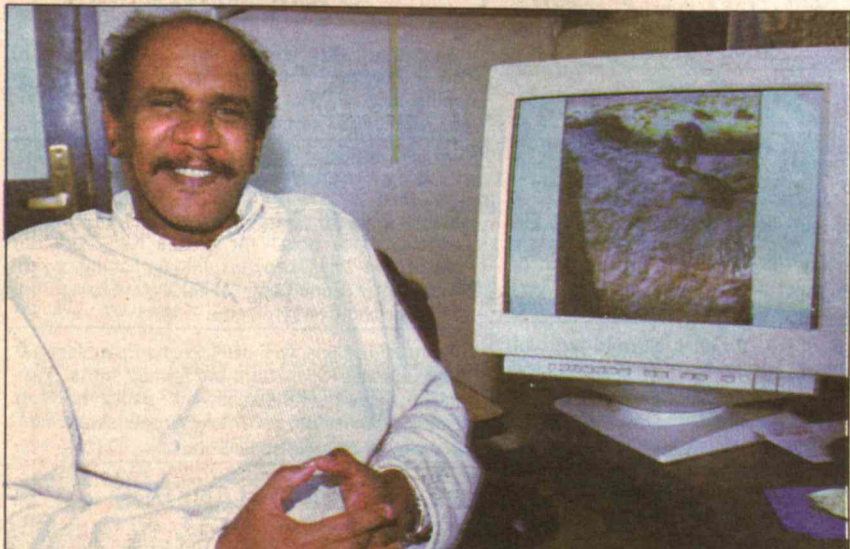


PHOTO / DONNA COVENEY

Professor Elfatih Eltahir of civil and environmental engineering sits by a monitor showing rock art of a giraffe carved thousands of years ago when portions of the Sahara were still green.

# Nine leadership projects funded

As part of an ongoing effort to help students develop superior leadership skills, Chancellor Phillip L. Clay has provided funds for nine proposals submitted to his Working Group on Student Leadership Development, a group of 12 faculty, staff and students.

"We hope to learn from our experience with these projects how to most effectively provide students with the leadership expertise they need to be successful in any of their future endeavors," Clay said in announcing the grants.

Among the proposals funded is an all-day Visionary Leaders Conference on Sunday, April 6 at the Sloan School of Management, which will focus on social responsibility in business, science and engineering. The conference is free to all MIT and Wellesley students. Additional information is available at <http://leaders.mit.edu>.

StartingBloc, a nonprofit organization founded by management sophomore Brett Boshco and a friend from the University of Chicago, is co-sponsoring the event. "We feel it's imperative that future business leaders understand the challenges of running a business that is responsible to all of its stakeholders," said Boshco.

Other projects that received at least partial funding were a week-long pre-orientation program for freshmen; a retreat for newly elected student government officers; a pilot retreat for government/house teams in three residence halls; and two retreats for executive leadership teams of four gay, lesbian, bisexual and transsexual student groups.

Others were an IAP retreat for the Mars Gravity project; a retreat for participants in the Innovation, Development, Enterprise, Action and Service (IDEAS) student program for public service projects; a workshop series devoted to reflection; and an assessment of leadership training needs that will lead to a series of workshops. For additional information, contact Francine Crystal at 258-8661 or [fcrystal@mit.edu](mailto:fcrystal@mit.edu).

## FACULTY

Continued from Page 1

faculty members have been hired, 90 as replacements for those who took early retirement in 1996. And three new buildings have been built (two residential halls and the Zesiger Center) while three more are underway: the chemistry building, the Stata Center and the brain and cognitive sciences project.

For fiscal 2004, expect no change in faculty hiring, financial aid or the graduate RA subsidy, the provost said. There will continue to be presidential fellowships for graduate students, though fewer of them (from 170 to 100) and possibly there will be a slight reduction in the renovations budget.

But there will be a nearly \$20 million cut to the budgets of academic units (\$4 million from the general budget, \$9 million because of reduced endowment revenue and \$6 million from other revenues), and a \$13 million reduction for administrative units coming from the general budget.

"This will not be a time of growth for the Institute," he said.

The expected impact for fiscal 2005 will be a decrease in the RA subsidy from 65 to 50 percent, continued decreased funding for academic and administrative units, less money for renovations and discretionary spending, and modulated increases in faculty and staff compensation.

One positive note, Brown added, is that although research volume growth was static for many years, it has

## AWARDS AND HONORS

■ **Claude H. Lupis**, the Danae and Vasilis Professor of Ferrous Metallurgy, has been named a Fellow of ASM International, the materials information society (formerly the American Metals Society). ASM President Gordon H. Geiger cited Lupis "for seminal contributions to the application of thermodynamic principles to chemical metallurgy, and for the development of economic analysis for large-scale metallurgical systems."

■ **Shane Hamilton**, a graduate student in the Program in Science, Technology and Society, won the Siegel Prize, a \$2,000 award given annually for the best essay on issues relating to science, technology and society written by an MIT student in the previous year. His essay, "Cold Capitalism: The Political Ecology of Frozen Concentrated Orange Juice," was written for a graduate seminar taught by Professor Harriet Ritvo in the spring of 2002. Hamilton is working on a dissertation about the role of long-haul trucking in American food distribution in the 20th century.

■ Professor **Kim Vicente** has received one of two Steacie Fellowships, one of Canada's premier science and engineering prizes, granted by the Natural Sciences and Engineering Research Council of Canada. Vicente, the Hunsaker Distinguished Visiting Professor in the Department of Aeronautics and Astronautics, is a leader in the growing field of cognitive engineering. "Rather than expecting people to adapt to complex machines, cognitive engineers try to rework the design of technological systems to match what we know about human nature. In everyday situations, this leads to devices that are easier and less frustrating for people to use," he said.

■ The New England Board of Higher Education (NEBHE) honored MIT with the New England Higher Education Excellence Award to recognize its "excellence in improving the diversity of the student

and faculty bodies and outreach/partnership to the community." The citation noted that MIT has been a steadfast supporter and host of the NEBHE Science Network conference, which matches more than 400 New England secondary, undergraduate and graduate students interested in science, technology, engineering and mathematics disciplines with more than 100 industry and academic leaders. MIT "has also taken an initiative in developing programs that increase the number of women on the faculty, while creating a fair and supportive environment," the citation added.

■ Two honors have recently accrued to **Ellen T. Harris**, the Class of 1949 Endowed Professor in Music. She won the Louis Gottschalk Prize of the American Society for 18th-Century Studies, given to honor an outstanding historical or critical study on the 18th century. Harris is the author of "Handel as Orpheus: Voice and Desire in the Chamber Cantatas." She also has been awarded membership in the School of Historical Studies at the Institute for Advanced Study in Princeton, N.J., for spring 2004. While in residence, she will write on Handel's life in London refracted through the lives of his little-known friends.

■ **Thomas P. Hughes**, the Mellon Professor Emeritus of the University of Pennsylvania and Distinguished Visiting Professor in MIT's Program in Science, Technology and Society (STS), has been elected to the National Academy of Engineering. Election to the NAE is among the highest professional distinctions accorded an engineer. Hughes, the first historian of technology to be named to the NAE, was cited for his contributions to that field. An assistant professor at MIT in the 1960s, he returned to MIT in the early 1990s as a visiting professor in STS, and he was named to his current position in 1999. Other newly elected NAE members from the Institute were announced in the March 5 issue of MIT Tech Talk.

increased recently up to \$450 million. The number of graduate students has increased the last few years as well; the Institute now has more than 6,000 graduate students, or one and a half times the number of undergraduates. But the number of tenure track faculty members has not changed. "You would think this wouldn't be possible, but the faculty haven't shown there is any upper limit" to this trend, he said.

### Students requiring discipline

Professor Derek Rowell said the Committee on Discipline—which hears cases of academic dishonesty and severe personal misconduct—had a "very light year" in 2001-02, with only nine cases instead of the usual 12-15 in most years. The committee heard five cases of plagiarism, one case of cheating and three of theft, involving five male and four female students (three each sophomores, juniors and seniors), leading to two expulsions, three suspensions and four instances of formal probation. Both expulsions and one suspension resulted from a single case, he said.

So far this year "the news is worse," with 17 cases already reported, Rowell said.

Larry Benedict, dean for student life, reported on other cases of personal misconduct heard by the Division of Student Life. For 2001-02 the number of cases was down. The highest number of cases involved alcohol (28). Theft was second (17), followed by being in a prohibited location (14), harassment (9) and disorderly conduct (6). Six

other categories had fewer than five cases each. About 80 students were involved, 85 percent of them men. "The plurality of cases involve freshmen. This is to be expected, as they are learning our values and standards," Benedict said.

"Our students are extraordinarily well behaved," he added. Sanctions included warnings (written and verbal), probation and suspension. Students also were required to write educational papers, attend alcohol education classes, provide community service or pay a fine, among other things.

### Other business

President Vest noted that MIT's police, environmental protection and Facilities staff were "quite well-prepared" for war-time events. "We have a responsibility for maintaining a caring and safe community for our members," he said.

Chancellor Phillip Clay said he and other members of the Committee on Community would hold special briefings for invited members of the community to further the Institute's goal of maintaining an open, welcoming community.

"We want to make sure that we don't make distinctions among our colleagues once they've been admitted," said Clay. "Last week and several weeks hence, we are sending out thousands of letters of admission throughout the world. We must make sure we conduct ourselves so that our yield is not affected."

## CLASSIFIED ADS

Members of the MIT community may submit one classified ad each issue. Ads can be resubmitted, but not two weeks in a row. Ads should be 30 words maximum; they will be edited. TechTalk ads are posted on the Internet. Submit by e-mail to [ttads@mit.edu](mailto:ttads@mit.edu) or mail to Classifieds, Rm 11-400. Deadline is noon Wednesday the week before publication.

### FOR SALE

Queen-sz mattress & boxspring Sealy gd cond \$80. Pinewood table 3'x5', like-new, 2 chairs \$60. Sofa-bed \$50. Philippe 617-253-8174 (lv mes) or 617-666-9674 or [saltiel@ai.mit.edu](mailto:saltiel@ai.mit.edu)

2 tickets to Bela Fleck and the Flecktones. 4/9, 8pm at Orpheum. Ctr balcony, \$54 (save \$5, reg \$29.50 ea). Penny, [pennys@mit.edu](mailto:pennys@mit.edu).

Queen size platform (no mattress). Bedworks (Cambridge) oak, exc cond. \$100 cash & carry. 617-661-8111 or [jstein@mit.edu](mailto:jstein@mit.edu).

2 7-ft classic sofas from Paine furniture, peachy pink color. 2 matching occasional chairs w/wooden arms. 7ft bookshelf, grt shape. \$600 for all. 781-391-0959.

8-ft sofa and 6-ft loveseat. Green fabric, grt cond,

insanely comfortable, purchased at Jordan's. \$300 for both. [jbernard@ll.mit.edu](mailto:jbernard@ll.mit.edu), 781-981-3297 or <http://www.quibx.com/forsale/sofa.html>.

### VEHICLES

1984 Oldsmobile Cutlass Supreme. Damage to right side headlight frame. Well maintained and in very good condition. 69k miles. \$1,000. Fran, 617-253-5179.

1989 Taurus wagon. 6-cyl, 3L, auto, blue, 130k miles, gd tires/brakes/exhaust, radiator leaks, otherwise vry reliable. \$550, John, 617-969-2129.

1989 Plymouth Reliant, 4-dr, exc cond, extremely well maintained, have service receipts and record book, 100k miles, \$595. Pete, 253-7253.

1994 Black Geo Prizm LSI. Auto, A/C, AM/FM/cassette, Lo-jack security system, 4-cyl, 22.5k orig miles, \$3,500. Mike Frongillo, 253-5092.

1999 Honda Civic LX Sedan. 4-dr, exc cond, black, spiffy, vry clean, A/C, cruise, AM/FM/CD, moon roof, 65k miles. Front tires brand new, rear tires used 1 season, 2 snow tires. \$6,999/bst. [bfay@mit.edu](mailto:bfay@mit.edu) or 617-247-2119.

2003 Toyota Corolla LE. 5,500 miles, moonstone color, moonroof, CD, auto, A/C, pwr doors/locks, perfect cond, \$15,200. 617-524-4220.

### HOUSING

Arlington: 2BR, 1st flr of 2 family. 2 mins from 77/79 bus, nr Mass Ave, driveway prkg, sun porch. \$1,400. Liz, 253-7805 or [zotos@mit.edu](mailto:zotos@mit.edu).

Arlington: Just outside Arlington Ctr. 2BR, 1b EIK, dw, disposal, hwd flrs, bsmnt storage, w/d hookups, porches, off-strt prkg, half garage, nr Rts 2/93/128/95, quiet neighborhood, walk to Mass. Ave. and T. \$1,500/mo. 617-212-1508.

Cambridge: Furn rms for rent, all utils, w/d, full kitchen privileges, across from Kendall Cinema, near T. \$650/mo, \$250/wk, \$75/day. J. Blair, 258-2843 or 617-576-5125.

Natick: Grt 3-4BR, 2.5b split-level home on circle. Nr Rt 9/90/mall. Landscaped, garage, study, new kitchen and appliances. Gd schools/neighborhood, motivated sellers, \$405,000. 508-545-1630.

Chelsea: Fully-furn, renov, painted 3BR, 1b, kitchen, 2nd flr, Broadway, waterfront, nr public transport (10 mins to Boston), nr grocery stores. \$1,050 + utils. Rita, 781-771-3073.

### ROOMMATES

Dorchester: 30+ female wanted to share 1,100 sq ft 2BR apt. Fireplace, pantry, w/d, porch, 5 mins to Savin Hill Red line. Avail 6/1, \$600+. 617-288-8751 or [gmonahan@mit.edu](mailto:gmonahan@mit.edu).

### VACATION

Maine: 2BR, 1b ocean front cabin. Lrg lr/kitchen, windows face ocean, nr Acadia Natl Park/Bar Harbor. Nr trails, beaches, biking, fishing, swimming lakes. June-Sept, \$1,000/wk. Steve, 253-5757 or [chorover@mit.edu](mailto:chorover@mit.edu).

White Mountains, NH: 3BR, 2b, twnhse, sleeps 8, nr Waterville/Loon/Cannon/Tenney Mtns. Panoramic views, athletic ctr, htd pools, hot tub, saunas, fitness ctr, no smoking/pets. Avail wknd or wkly. [snowood\\_view@attbi.com](mailto:snowood_view@attbi.com).

### MISCELLANEOUS

Dissertation doctor/manuscript consultant/grants editor avail for writing projects lrg and small. Ph.D. in English; published author; 20 yrs varied experience, incl MIT. 617-628-7679 or [karp57@earthlink.net](mailto:karp57@earthlink.net).



Former MIT Ballroom Dance Team members Reena Freedman and Michael Posner (hidden) show off their winning whirl in the MIT Open Ballroom Dance Competition.

# MIT hosts ballroom dance competition

Lynn Heinemann  
Office of the Arts

Samba scrimmages? Tango tournaments? Rumba rumbles? Hundreds of twinkle-toed competitors, mostly college students from throughout the northeast will converge on MIT's du Pont Athletic Center for the MIT Open Ballroom Dance Competition on April 5-6.

Established at MIT in 1997, the event features six levels of competition from newcomer to championship in four styles of dance: standard (waltz, tango, Viennese waltz, foxtrot and quickstep), Latin (cha-cha, samba, rumba, paso doble and jive), smooth (waltz, tango, foxtrot and Viennese waltz) and rhythm (cha-cha, rumba, swing, bolero and mambo). Awards include \$1,000 in scholarships.

At last year's competition, which drew nearly 600 dancers from 38 schools, the MIT team of graduate students Igor Pavlovsky (mathematics) and Yanfeng Lin (biology) won the championship-level Open Standard. This year the duo will defend that crown.

Their glides and dips may look effortless, but most teams devote countless hours to practicing the art. Genevieve Cuevas and Carlos Lopez, both seniors in electrical engineering and computer science who dance in the international-style Latin events, practice about three hours each day, six days a week. Their main coach is in Boston, where they take two hours of lessons each week, but they also travel to New York twice a month for lessons.

Mathematics senior Tilke Judd, who will compete in the gold and pre-championship Latin and rhythm events with two different partners, began ballroom dancing as a freshman at MIT. "I like to say that I came to MIT because they had the best ballroom dance team," she said, noting that she did what she calls her "whole rookie-yearling-veteran dancer sequence" at MIT.

Although most couples have set choreographies, it's inevitable, says Cuevas, that

couples crash into each other now and then, especially at the lower levels where "they just pack the dance floor with competitors."

The art of preventing these crashes is known as "floor craft." With experience, says Judd, the dancers learn tactics for getting around the floor effectively.

The grace and precision of the competing dancers is not the only spectacle on view, notes Lin, who says the fashion show is also of interest. "There are lots of fancy gowns, many with feathers, floats, multiple layers and rhinestones," she said. Female dancers may also have neck and arm bands and elaborate headwear, while the men can be seen in tail suits and black costumes for Latin dance. Dancers who perform more than one style bring multiple costumes.

"I'm getting all my fake eyelashes and nails in order," laughs Judd who has a short Latin costume and a long ballgown for her two events.

## Guest Performers

In addition to the competition, the South African duo Michael Wentink and Beata—undefeated world amateur Latin champions as well as world professional Latin grand finalists—will present a special performance on Sunday, April 6 at approximately 4:30 p.m. (the time will depend on the number of contestants and the duration of the preceding competition). Lin, who evokes physics analogies although she's studying biology, calls the duo "hotter than plasma and cooler than supercool atoms."

Competitions are scheduled from 9 a.m. to 8 p.m. on April 5-6. The grand finals will take place at the end of each individual competition session on Sunday, April 6. Lin suggests that the best times for watching fancy footwork will be around 4 p.m. for standard and smooth (pre-championship and championship) and 7 p.m. for Latin and rhythm.

For more information, see <http://mitdbd.mit.edu/comp>.

## Violinist vied in national string competition

Freshman Amy Lee is an accomplished violinist who traveled to Salt Lake City last month as a national finalist in the Music Teachers National Association (MTNA) collegiate string competition. She earned this opportunity after winning the Washington state competition and the northwest six-state division competition.



Amy Lee

Lee, a native of Olympia, Wash., won the Grand Prize in the 2001 Capital Area Youth Symphony Association (CAYSA) 2001 Young Artists Competition in her hometown, which earned her a solo spot at their March 2 concert.

She plans to major in biology with a minor in music and biomedical engineering.

Lynn Heinemann of the Office of the Arts caught up with Lee on her return from Salt Lake City.

**Q.** How did you get started on the violin?

**A.** When I was four and a half, I watched my older sister take a violin lesson, and one of the teachers wanted me to try. Lessons were a combination of Suzuki and traditional methods.

**Q.** Do you get nervous before competing and/or performing?

**A.** I don't really get nervous when I play the violin. I think of it more as my version of "having fun." Music should never be a chore. When I play, I tend to forget what's going on around me, so I'm not very affected. The MTNA competition was a bit more challenging, because I had to play a 50-minute program, including a full concerto. The competitors are also required to play things of different genres, so I actually played pieces from the Romantic, early Baroque, classical and contemporary periods.

**Q.** Tell me about "The Butterfly Lovers Violin Concerto" by He Zhan Hao and Chen Kang, which you performed in your March 2 concert with CAYSA in Olympia, Wash.

**A.** It definitely is a very special piece to me. It's a rare type of piece, existing solely to tell a story, so it's not really cluttered up by musical acrobatics. It's pure beauty.

**Q.** How have you pursued your musical interests at MIT?

**A.** I was a member of the MIT Symphony Orchestra and the MIT Chamber Music Society. Last semester, under the CMS, I was in a baroque trio, with graduate student Ada Au (harpsichord) and freshman Marion Dumas (recorder), coached by lecturer Jean Rife. That was an amazing experience because during the past few years I've become very interested in the Baroque style, but back home I was never able to find people who play those instruments.

**Q.** Aren't you missing a lot of classes for these concerts and competitions?

**A.** It's a bit tough, but it's worth it. My professors and recitation teachers are fairly flexible. I missed two tests for MTNA nationals, so my profs allowed me to take makeup exams. And I've e-mailed scans of my problem sets to my recitation teachers to print out and turn in for me, so that's really very generous of them.

**Q.** How did you do in the competition?

**A.** I didn't place this time, but I think nationals is always an amazing experience. It's fun to see how much more competitive the music world gets each year. You can't ever stop practicing and trying to improve. And it's always interesting to see the look on people's faces when they hear I'm going to MIT, since it's viewed as such a computer science/tech kind of school.

I'm in many more music activities now at MIT than I was in high school. There are so many talented musicians at MIT that there are more opportunities to play with others.

## ▶ ARTS NEWS

### DeFrantz to direct 'Of Thee I Sing' at Emerson College

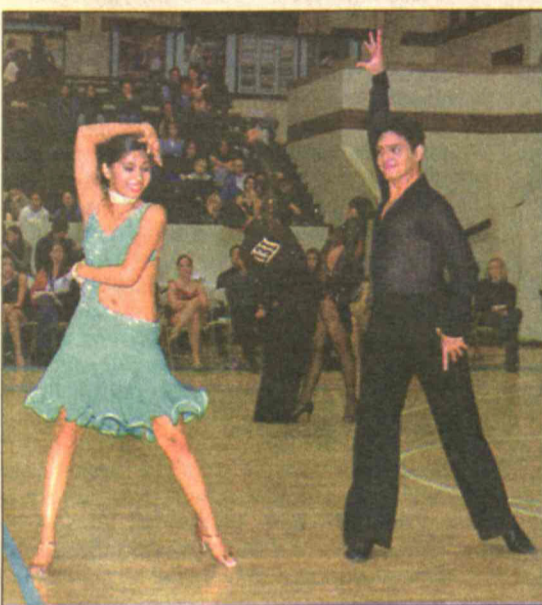
Associate Professor Thomas DeFrantz is directing the Emerson Stage/Musical Theatre Society of Emerson College production of "Of Thee I Sing," the Gershwin show that was the first musical to win a Pulitzer Prize for drama. The course of politics and true love encounter political and romantic complications all the way to the Supreme Court while the president is being sued and impeached for his treatment of a woman with a shady past, the vice president is a nonentity who can't name the states, and the fate of the country hangs on a beauty contest that will determine who will wed the most eligible bachelor. Though it sounds like CNN mixed with "The Bachelor," this show was written in 1931. Performances are April 3-12, Thursdays and Fridays at 8 p.m. and Saturdays at 2 p.m. and 8 p.m. at the Brimmer Studio Theater (69 Brimmer St., Boston). Tickets are \$12. For more information, call 617-824-8369.

### Photographs of life in Bhutan on display in local coffee shops

"DZONG: Life in the Sacred Fortresses of Bhutan," a small exhibition of big photographs taken by teams of photographers from MIT and Friendly Planet during expeditions to Bhutan, is on display at both Toscanini's locations in Cambridge (Central Square and Harvard Square) and at the Someday Cafe in Davis Square through April 30. A dzong is the medieval fortress-monastery which presides over the provinces of Bhutan. Friendly Planet is a nonprofit organization founded by Michael Hawley of the Media Lab to build schools in developing countries. The MIT participants included seniors Rebecca Hurwitz and Ming Zhang; Christopher Newell (Media Lab administrative assistant); and alumni Sandy Choi (S.B. 1999) and Hawley (Ph.D. 1993). Hawley says that 50,000 photos were taken, a mix of film and digital, all GPS stamped, scanned at grain resolution, de-noised and printed with the latest high-end HP 5500. "We were stunned at how dazzling the final results are," he said. "Among other things, they clearly prove that film photography is largely obsolete."

**MIT EVENT HIGHLIGHTS APRIL 2 - 6**

- Science/Technology
- Performance
- Architecture/Planning
- Humanities
- Music
- Exhibit
- Reading
- Special Interest
- Business/Money
- Film
- Sports
- Featured Event



**Ballroom Dancing**

Seniors Genevieve Cuevas and Carlos Lopez compete in an international-style, Latin dance event at Tufts University.

**WEDNESDAY**  
April 2

**Valve Job**  
Brass quintet with Jim Bales, asst director, Edgerton Ctr. Artists Behind the Desk Spring Concert. Noon-1pm, Killian Hall. 253-1712.

**The Quest for Mars: Scientific and Human Destiny?**  
James Garvin, NASA. 3-4pm. Rm. 37-252. 258-5546.

**Softball vs. Regis College**  
4pm. 253-7946.

**Start-up Clinic**  
MIT Enterprise Forum of Cambridge. 6-9pm. Faculty Club. 253-8240.

**THURSDAY**  
April 3

**Baseball vs. Wheaton College**  
3pm. Briggs Field. 253-7946.

**French Political Life after Extreme Right Rise in 2002**  
Presidential Elections Denis Jeambar, L'Express. Sponsored by MIT France Program. 4-5:30pm. Rm E38-714. 253-8095.

**What's Happening to Prime Time?**  
John Romano, writer and producer. Communications Forum. 5-7pm. Bartos Theater. 253-3521.

**FRIDAY**  
April 4

**Assessing the Academic Work Environment for Women**  
**Scientists and Engineers**  
Abby Stewart. Women's Studies Program. 2pm. Rm 4-163. 253-8844.

**Student Recital**  
Mary Farbood, harpsichord. Bach, Scarlatti, Rameau, Kalabis. 5pm, Killian Hall. 253-2906.

**"Spartacus"**  
LSC. 6 and 10pm and Sunday at 6pm. \$3. Rm 26-100. 258-8881.

**"Ninjas in Training," "Would-be Terminators"**  
Anime Club. 7pm. Rm 6-120.

**SATURDAY**  
April 5

**Ballroom Dance Competition**  
Hosted by MIT Ballroom Dance Team. 9am-8pm, April 5-6. Finals at ~4:30pm April 6. DuPont Athletic Ctr.

**MIT Invention Studio: Current Clatter**  
Transform outdated electronic sound-makers into musical instruments. Pre-registration required. \$25/2-person team, 1-3:30pm, MIT Museum. 253-5927.

**Men's Tennis vs. Coast Guard**  
1pm. Katz Tennis Courts. 253-7946.

**Women's Outdoor Track & Field Engineer's Cup**  
2pm. Steinbrenner Track. 253-7946.

**"The Trials of Henry Kissinger"**  
LSC. 7 and 10pm and Sunday at 10pm. \$3. Rm. 26-100. 258-8881.

**Techiya Spring Concert: Rock-in' The Bayit**  
Jewish a cappella group. 8-9:30pm. Rm 10-250. 253-0778.

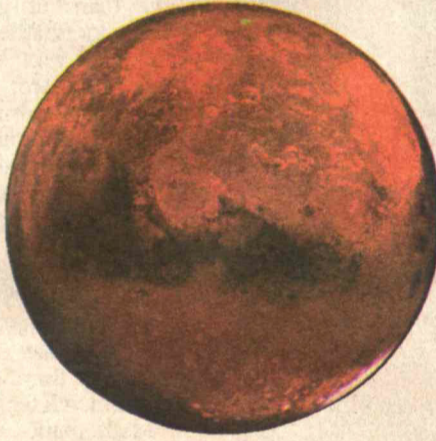
**SUNDAY**  
April 6

**Men's Tennis vs. Bowdoin College**  
2pm. Katz Tennis Courts. 253-7946.

**"Paul Pfeiffer"**  
Final day of exhibition. Gallery talk by Hiroko Kikuchi. 2pm. List Center. 253-4680.



**"The Trials of Henry Kissinger"**



**The Quest for Mars**

**Go Online!** For complete events listings, see the MIT Events Calendar at: <http://events.mit.edu>.  
**Go Online!** Office of the Arts website at: <http://web.mit.edu/arts/office>.

**EDITOR'S CHOICE**

**"UTOPIA LIMITED"**

MIT Gilbert & Sullivan Players production. April 4-6 and 10-13. 8pm; 2pm on Sundays. Tickets from \$6 to \$10. 253-0190.

*April 4*  
**Sala de Puerto Rico**  
8 p.m.

**WASSERMAN FORUM ON CONTEMPORARY ART**

Post-Revolutionary Sex and The Future of Visual Desire. Artists Larry Clark, Glenn Ligon and Claude Wampler. 253-4400.

*April 5*  
Rm 10-250  
2 p.m.

**AARDVARK JAZZ ORCHESTRA**

Conducted by Mark Harvey. Aardvark celebrates the release of its new CD "Duke Ellington/Sacred Music." 253-2906.

*April 5*  
Kresge Auditorium  
8 p.m.

**MIT EVENT HIGHLIGHTS APRIL 7 - 13**

**MONDAY**  
April 7

**The History of Water and the Built Environment**  
From Aqueducts to Low-flush Toilets  
Alice Outwater (S.M. 1987). 12:30-2pm. Rm 7-431.

**Connecting Jewish Women @ MIT**  
Sherry Turkle. Sponsored by Hillel. 4:45pm-5:45pm. Student Center Private Dining Room #1. 253-2982.

**Men's Volleyball vs. New Haven**  
7pm. DuPont Gymnasium. 253-7946.

**"Suppose a form..."**  
Abstract monotypes and paintings exploring circles, by Kathleen Cammarata. Through April 24. The Dean's Gallery, Rm E52-466. 9-5pm. 253-9455.

**TUESDAY**  
April 8

**Baseball vs. Emerson College**  
3pm. Briggs Field. 253-7946.

**Women's Lacrosse vs. Wheaton College**  
4pm. Jack Barry Turf. 253-7946.

**Whither the Democratic End of History: Egypt and the Middle East**  
Eberhard Kienle, Universite d'Aix-Marseille. 4:30pm. Rm E51-095. 253-8961.

**From Memory to Monument & Back Again**  
James Young, Univ. of Massachusetts, Amherst. 6:30pm, Rm 10-250. 253-7791.

**March Madness "Z" Throw Contest**  
Show off your free-throw skills; compete for prizes. All members of Z-Center invited. 7-10pm, Zesiger Sports and Fitness Center.

**WEDNESDAY**  
April 9

**Robert A. Muh Alumni Award**  
George Shultz, former U.S. Secretary of State, receives Muh Award and gives talk, "Reflections." 5pm. Bartos Theatre. 253-3450.

**DotCom: Where Are We Today**  
Rick Daniels, president, The Boston Globe. MIT Enterprise Forum. 6pm. Rm 10-250. 253-8240.

**"Spanish & English: Two Sides of the Looking Glass"**  
Puerto Rican writer Rosario Ferre discusses her latest book. Signing follows. 7pm, Rm 6-120. 253-4771.

**"Family: Scene, Yet Unseen"**  
Opening reception. Black and white documentary photos by B.D. Colen, winner of the Pulitzer Prize for reporting. 8:30-10pm. Sidney-Pacific Graduate Residence, 70 Pacific St. 253-0713.

**THURSDAY**  
April 10

**Baseball vs. Babson College**  
3pm. Briggs Field. 253-7946.

**Basics of Business Plans for Scientists and Engineers**  
Joseph G. Hadzima Jr, managing director of Main Street Partners LLC and founding dir. of \$50K competition. Sponsored by Science and Engineering Business Club. 6pm. Rm 4-370.

**From the Margin or From the Center**  
Marie Celie Agnant will talk about French Caribbean women writers. Sponsored by Women's Studies. 6pm, Rm 4-163. 253-8844.

**"She Loves Me"**  
Dramashop production of musical by Harnick & Bock, directed by Michael Ouellette. \$8, \$6. 8pm, April 10-12 and 16-18. Kresge Little Theater. 253-2908.

**FRIDAY**  
April 11

**Student Chamber Concert**  
String and piano music. Organized by senior David Foxe. 11:30am-12:30pm Lewis Music Library (14W-109). 253-5636.

**Softball vs. WPI**  
3:30pm. Briggs Field. 253-7946.

**Student Recital**  
Stavroula Hatzios, oboe; Karen Harvey, piano; Mary Farbood, harpsichord. Sonatas by Telemann, Hindemith, Saint-Saens. 5pm, Killian Hall. 253-2906

**"Harry Potter"**  
LSC. 7 and 10:30pm and Saturday at 7pm. \$3. Rm 26-100. 258-8881.

**Campus Preview Weekend Concert**  
MIT Chamber Ensemble perform classical, jazz and world music. Forum at 7pm. Concert at 8pm, Killian Hall. 253-2826.

**SATURDAY**  
April 12

**Teaching Across the Disciplines**  
Workshop for teachers: tips on how to use the MIT Museum to teach. Hands-on activities. MIT Museum. \$40. 10am-2pm. 253-9607.

**Baseball vs. Clark University**  
Noon. Briggs Field. 253-7946.

**"About Schmidt"**  
LSC. 7 and 10pm and Sunday at 10:30pm. \$3. Rm 26-100. 258-8881.

**Battle of the Bands**  
Zeta Beta Tau Alpha Phi class competition of 10 bands. Proceeds go to Children's Miracle Network. \$10, \$5, \$3. 8-11pm, Lobdell. 232-3257.

**MIT Chamber Choir**  
Charles Shadle, William Cutter, Randall Thompson, Brahms. 8pm, Kresge Auditorium. 253-2826.

**SUNDAY**  
April 13

**Media Test Wall "Just Stand There!"**  
Video artists examine stillness and responses to it. Through April 21. Whitaker Bldg 56. 253-4400.



**Valve Job**

Jim Bales will perform with the brass quintet Valve Job on April 2.