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# TechTalk

S E R V I N G   T H E   M I T   C O M M U N I T Y

## MIT conference tackles depression

**Deborah Halber**  
News Office Correspondent

Key stakeholders in the American depression epidemic — neuroscientists, clinicians, patients and health-care industry representatives — came together Monday at a one-day conference at MIT sponsored by employee benefits company CIGNA and the Picower Institute for Learning and Memory.

Depression, clinically defined as persistent black moods, constant distressing memories and an inability to experience pleasure, affects more than 20 million Americans a year at a huge national cost. “On Depression,” which kicked off the Open Mind Series of conferences

related to learning and memory, sought to improve the diagnosis, prevention and treatment of depression. The disease is now believed to cause not only mental anguish but also early death from medical conditions as diverse as stroke and cancer.

Moderated by Dr. Peter D. Kramer of Brown University, author of “Listening to Prozac” and “Against Depression,” the event’s wide-ranging presentations touched on the latest findings in basic neuroscience, insurance issues, behavioral studies, current and potential treatments, depression in the workplace and depression among artists and writers.

Robert Pinsky, former U.S. poet laureate, read poems by Yeats to support his idea that depression is a necessary part of human evolutionary adaptation, a craving

for perfection that results in frustration and feelings of worthlessness. Psychiatrists Dr. Charles Nemeroff of Emory University and Dr. Ned H. Kalin of the University of Wisconsin related the results of studies on certain gene combinations that seem to make people resistant or prone to depression. Garry Giannone, vice president at Prudential Financial, used a case study about a divorced single mother whose depression almost cost her her job as an example of how intervention in the workplace is needed to seek out and help undiagnosed and untreated employees.

Panelist Paul H. Stypulkowski of Medtronic Neurological described how a treatment of last resort — deep brain stimulation, in which electrical leads are implanted in the brain — has successfully

treated symptoms of Parkinson’s disease and epilepsy and may be applied to depression.

The conference’s goal, said co-organizer Mark Bear, Picower Professor of Neuroscience at the Picower Institute, was to allow a diverse group of professionals to explore how fundamental insights in neuroscience can be applied to problems of great societal importance. The Open Mind Series, said Keith Dixon, president of CIGNA Behavioral Health, is a demonstration of CIGNA’s “commitment to understanding more about the complex relationship between the mind and body and to learn what else we can do to help people

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## ‘Apprentice’ to star MIT alumnus

**Amy Marcott**  
MIT Alumni Association

Look out, America. An MIT alumnus will take a seat in Donald Trump’s boardroom when NBC’s reality TV show “The Apprentice” premieres tomorrow, Sept. 22, at 9 p.m.

Randal Pinkett (S.M., M.B.A. ’98, Ph.D. ’02), an entrepreneur, will be one of 18 contestants, most of whom were hand-picked by real estate magnate Trump. Trump’s control of the selection process is new this year after Trump expressed dissatisfaction with the previous season’s cast.



**Randal Pinkett**

Pinkett, 34, is the co-founder, president and CEO of Newark, N.J.-based BCT Partners, a management, technology and policy consulting firm for corporations, government agencies and nonprofits. BCT Partners specializes in housing and community development, economic development, human services, nonprofit and community technology and education.

Contestants are contractually bound not to discuss the show, but Pinkett was willing to reveal his motivations for applying. “First, I want the opportunity to learn from Mr. Trump,” he said. “He is an icon in business with a wealth of knowledge, whereas I am still relatively young in my

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PHOTO / DONNA COVENEY

### Working from the ground up

Graduate student Shuji Suzumori helps to build a wall behind the MIT Museum late last month. He was among a team of architecture students who built the wall to test an ancient construction technique called ‘rammed earth.’ Suzumori is pouring blue clay and gravel into a compactor to mix and crush the material before it’s used. **Story, additional photo on Page 5.**

struction technique called ‘rammed earth.’ Suzumori is pouring blue clay and gravel into a compactor to mix and crush the material before it’s used. **Story, additional photo on Page 5.**

## Blown here by Katrina, students start anew

**Sasha Brown**  
News Office

Freshman Luke Harris spent the first few hours of his college career trying to escape Hurricane Katrina.

The Chicago native had only just arrived at his new home — Tulane University in New Orleans — when he and his roommate were evacuated on Aug. 27. They spent the next few days with fellow students in Jackson, Miss., talking, playing cards and bonding as they wondered when they could get back on campus.

Soon it became obvious that he and his fellow students were not going to return

this semester. The Category 4 hurricane devastated parts of the Gulf Coast and destroyed the city of New Orleans. “It was a pretty uncertain time,” said Harris, who flew home to Chicago to explore his options.

As his friends scattered, enrolling as visiting students at various schools throughout the country, Harris decided to apply to MIT again. Originally his first choice, MIT denied Harris admission last year. But he was accepted as a special visiting student and arrived on campus Sept. 9.

Harris is not alone. MIT is hosting 10 undergraduates from affected areas, and has accepted 15 graduate students. Two of the undergraduates come from the Univer-

sity of New Orleans, one from Xavier University, one from Loyola and six, including Harris, are from Tulane.

For the fall term, MIT has waived tuition and fees for the visitors and is providing free housing in available rooms in undergraduate and graduate dorms, fraternities, sororities and independent living groups.

Senior Lesley White of the University of New Orleans sees her time at MIT as making the best of a difficult situation. “This seemed like a good opportunity,” said White, who grew up in New Orleans.

Though it was difficult to leave her fam-

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### NEWS

#### ENERGY FOR THE FUTURE

BP’s chief scientist will give the first lecture sponsored by MIT’s Energy Research Council.

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#### INNOVATION REWARDED

MIT faculty and alumni are listed among Technology Review’s 35 best innovators under 35.

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### RESEARCH

#### HURRICANE LESSON

Professor Yossi Sheffi outlines what business can teach government about resilience in crises.

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#### NATURAL ENGINEERING

Researchers examine the armor coating provided by seashells to help engineers design better protection for people.

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### ARTS

#### HAVE A TASTE FOR VENOM?

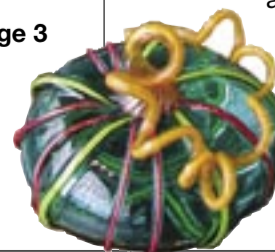
‘The Five Venoms Style’ will be performed Friday in a show featuring Vietnamese guitar.

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#### LINUS WOULD BE PROUD

Lovers of the Great Pumpkin, get ready! It’s time for the annual glass pumpkin sale.

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# Hockfield addresses Boston chamber

Kathryn M. O'Neill  
News Office

MIT is an economic powerhouse in Massachusetts and a driving force behind regional innovation — but no university can go it alone, President Susan Hockfield told the Greater Boston Chamber of Commerce on Wednesday, Sept. 14.

Other not-for-profits, businesses and government all have roles to play in improving the quality of life in Massachusetts, the nation and the world, she told the crowd of more than 300 people packed into the Four Seasons Hotel ballroom in Boston Wednesday morning.

Hockfield was welcomed by chamber President Paul Guzzi and introduced by Dr. James J. Mongan, president and CEO of Partners HealthCare, who is chairman of the chamber's board. The chamber has been an active advocate in Washington on behalf of federal support for research and

higher education.

Universities are “magnets for creative businesses,” Hockfield said, but “collaboration across intellectual and institutional boundaries will be a condition for success in the next phase of the innovation economy.”

She said the nation faces three key challenges to its economic competitiveness: a crisis in public education that is leaving too many K-12 students illiterate in math and science; a long-term decline in federal investment in research and development; and challenges to the openness of American higher education to students from lower and middle income groups and from other countries.

Closer to home, Hockfield pointed out two crucial problems for Greater Boston: the high cost of housing and the difficulty of making business investments, exemplified by the permitting process.

“Other states and local regions are working more aggressively than we are to retain existing knowledge-based indus-

tries, and to build new ones,” she said. “We need a collective commitment to address such crucial regional issues.”

Hockfield asked the leaders in the audience to “think creatively about how we can best work together to sustain the innovation economy by transferring the fruits of university research to society.”

MIT has played a critical role in “catalyzing the technological innovation that fuels economic growth,” she said, pointing to the thousands of companies founded by MIT graduates, faculty and students over the years. Pointing to the tremendous opportunities in areas such as energy, and in the convergence of the life sciences and engineering, she said that the challenge is to continue to harness the ideas born here for the benefit of the world.

“My own hope is that the academy, industry and our public officials can continue to work together to make this area the nation's best environment in which to innovate,” she said.

## DIGITALK: WHERE IT'S AT



### Calendar improved

The improved MIT events calendar at <http://events.mit.edu/> is the place to find MIT events of all kinds: arts, sports, lectures, cultural activities and more.

The new calendar is faster, easier to navigate and quicker to search — by keyword, date, category or event sponsor. Improvements for adding and editing events include revised categories and full support for repeating and series events.

The editor's picks change on reload to showcase the vibrancy of student and community life on campus. Events are also displayed in the Lobby 7 kiosk, and may be selected for Tech Talk, the News Office website, or the MIT home page.

The calendar is sustained by the community and relies on event planners to post their events. If you would like to get started posting your events, visit <http://web.mit.edu/ist/services/events/eligible.html>.

The calendar is a project of the Information Center, IS&T and the Office of the Dean for Student Life.

### Online SciQuest catalog

MIT requisitioners can now access a variety of suppliers via the new SciQuest ECAT catalog at <http://web.mit.edu/ecat/sciquest/>. SciQuest is a catalog aggregator allowing access to a range of suppliers all offering improved MIT pricing. This “one-stop” catalog lets requisitioners browse for, compare and order products through a single gateway. The current list includes Sigma-Aldrich, Qiagen, GE Healthcare Biosciences (formerly Amersham), USA Scientific, Perkin Elmer, Newark InOne and Roche Diagnostics, with more to be added. For more information, go to the SciQuest website or send your inquiries to [sciquest@mit.edu](mailto:sciquest@mit.edu).

### WebMail upgrade

MIT WebMail allows access to MIT e-mail through almost any web browser on almost any computer, almost anywhere in the world. This service has been upgraded and now offers several features that have been commonly requested by the MIT community. These include better notification of session timeouts to prevent loss of composed mail; more attachment handling and viewing features; and address book functionality to save contact information across sessions. Combined with the recent e-mail quota increase to 500MB, this upgrade translates into a more robust WebMail solution for the community. You can access the improved MIT WebMail at <http://webmail.mit.edu/>.

### New e-mail list service

A new service lets MIT users create their own e-mail lists online, including Mailman lists and Moira/Athena lists. Mailman is a web-based list management system that offers moderation of list traffic, archives of list messages and flexible list subscription and filtering options. Moira lists, also known as Athena mailing lists, can be used as simple mailing lists as well as access control lists in networked file systems, such as AFS or NFS. Moira lists do not offer moderation of list traffic. You can access the list creation website from <http://web.mit.edu/accounts/www/list.html> (MIT certificates required). If you have questions about the type of list you need, or feedback about the service, contact IS&T User Accounts at [accounts@mit.edu](mailto:accounts@mit.edu).

*DigitalK is compiled by Information Services and Technology.*

## Energy council launches series

MIT's Energy Research Council is initiating a series of energy colloquia starting Thursday, Sept. 22, with a lecture by Steve Koonin, chief scientist of BP, one of the world's largest energy companies.

Koonin, who spent three decades serving on the faculty and as provost at Caltech before joining BP, will discuss the major forces shaping the world's energy future and the technologies required to respond to them in his talk, “Energy for the Coming Decades: Trends and Technologies.”

MIT President Susan Hockfield established the Energy Research Council in June to spearhead efforts to address the world's mounting energy problems. The council is co-chaired by Chevron Professor Robert C. Armstrong, head of the Department of Chemical Engineering, and Ernest J. Moniz, the Cecil and Ida Green Professor of Physics and co-director of the Laboratory for Energy and the Environment (LFEE).

Moniz was undersecretary for the U.S. Department of Energy from 1997 to 2001 during the Clinton administration.

Koonin earned his undergraduate degree at Caltech and his Ph.D. in theoretical physics from MIT in 1975. His research interests have included global environmental science, nuclear astrophysics and theoretical nuclear, many-body and computational physics. He is engaged in a program of systematic observations of earthshine reflected from the lunar surface to determine variations in the global albedo, or reflectivity, an important parameter of the climate system. In 1998, he received the E.O. Lawrence Award in Physics from the Department of Energy.

The lecture, co-hosted by LFEE and the Energy Research Council, will take place in the Stata Center, Kirsch Hall 32-123, at 4 p.m. It is free and open to the public.

A reception will follow in the Student Street outside Kirsch Hall.

## UROP pay on the rise

The Undergraduate Research Opportunities Program (UROP) has increased its minimum hourly wage to \$9 effective Sept. 2, according to Melissa Martin-Greene, program coordinator.

The new hourly wage affects all fall UROPs. For students awarded direct funding from UROP, stipends will rise to \$1,250 for fall 2005 and spring 2006. UROP summer 2006 stipends will be \$4,275.



PHOTO / L. BARRY HETHERINGTON

### 147 retirees honored

At a dinner honoring newly retired MIT employees on Sept. 14, Barbara Peacock-Coady, pictured above, far left, shares a story with her husband, Joe Coady, left, and Barbara Penfield, right, wife of Paul Penfield Jr, far right.

President Susan Hockfield and her husband, Dr. Thomas Byrne, hosted the dinner at Walker Memorial Morss Hall. In her remarks, Hockfield recognized the retirees' varied talents, interests and dedicated long-term service — this year's class of 147 retirees

spent a combined 3,977 years at the Institute.

Vice President of Human Resources Laura Avakian joined Hockfield and Byrne in presenting each MIT retiree with a certificate of appreciation. Also participating in the celebration was Bob Blake, co-chair of the Association of MIT Retirees, who encouraged new retirees to participate in the association's activities. For more information, e-mail [retirees.assoc@mit.edu](mailto:retirees.assoc@mit.edu) or call 617-253-7910.

## Handbook out on academic integrity

MIT has produced a new handbook on academic integrity in an effort to provide the community guidance on issues associated with giving proper credit for creative contributions by others. Such issues can be especially challenging in today's world, since use of the Internet is widespread.

The handbook, which has already been distributed to faculty members and first-year students, was created under the sponsorship of Robert P. Redwine, dean for undergraduate education, and Margery Resnick, the current chair of the faculty Committee on Discipline. The handbook will be sent to the rest of the undergraduate and graduate student body as well.

Redwine and Resnick formed an ad hoc faculty committee last January to examine questions of academic integrity across the Institute. The committee received input from a wide range of community members

before putting the handbook together.

“We as an institution have not recently made it clear that [academic integrity] is a fundamental value,” Redwine said. Students, who arrive on campus from a wide variety of backgrounds, may not have a full understanding of what is acceptable in the scholarly community, he said.

“I believe it will be useful to many members of our community,” he said.

The 24-page handbook explains what violations of academic integrity are, including details on what constitutes cheating and plagiarism. It also outlines the consequences violators face, which may be as severe as suspension or expulsion.

The handbook also offers a roadmap to the tricky questions surrounding the citing of electronic sources and avoiding plagiarism when writing code.

For more information, contact Dean Redwine's office at x3-6056.

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# Faculty pool ideas for Katrina assistance

Sarah H. Wright  
News Office

The MIT faculty has responded to the crises left in Hurricane Katrina's terrible wake with many ideas for the immediate relief and long-term recovery of the Gulf Coast.

To make the best use of Institute resources and to nurture the spirit of collaboration across disciplines, Chancellor Philip Clay launched an initiative this week to canvass the faculty for their individual interests, areas of expertise and projects that relate to any aspect of recovery for the devastated areas of Louisiana, Mississippi and Alabama.

Clay's initiative is a primary task of the Katrina Response Advisory Group, which

was appointed by MIT President Susan Hockfield, and is convened by Vice President Kathryn Willmore.

"MIT's mission is grounded in service to society, and in the weeks and months ahead, we will be looking to our faculty for ideas and ways to bring our talents to bear on the enormous challenge of rebuilding these communities," Hockfield wrote in a Sept. 15 letter to the community.

Clay described his goal as coordinating information about "professional interests or expertise related to the hurricane and its aftermath and making this information available within the MIT community so that we can make the most effective use of our knowledge and skills."

The chancellor is seeking information from faculty members in four main areas — personal expertise and interests; ongoing

research or service activities relating to the hurricane and its aftermath or ideas for such activities; courses, workshops, symposia or ideas for ongoing educational activities on topics related to Katrina; and contacts with organizations or academics in the Gulf Coast communities with whom MIT might collaborate.

Faculty responses will be posted on a section of the Katrina web site that will be accessible only to members of the MIT community.

"Our intent is to make it easier for people with similar interests to more easily find each other and develop joint projects. This is really an opportunity for 'mind and hand' to come together in helping our society recover and learn from this extraordinary event," Clay wrote in his letter to the faculty, distributed by e-mail on Sept. 15.

For more information on MIT's activities on behalf of the Gulf Coast's recovery, go to the Katrina response web site, [web.mit.edu/katrina/](http://web.mit.edu/katrina/), which is updated on a continuing basis.

Katrina Response Advisory Group members are Clay, Rafael Bras (professor of civil and environmental engineering), Louis Fouche '07, Alice Gast (vice president and associate provost for research), Rachel Glennerster (executive director of the Policy Action Lab), Lorna Gibson (chair of the faculty), Daniel Hastings (director, Engineering Systems Division), Monty Krieger (professor of biology), Suzana Lisanti (publisher of the MIT homepage), Sally Susnowitz (director of the Public Service Center), Lawrence Vale (department head, Urban Studies and Planning) and Albert Wei (graduate student).

## Professor offers lesson from storm response

Sarah H. Wright  
News Office

Resilient corporations — those that have survived and flourished despite disruption and disaster — have much to teach government agencies about how to prepare for crises like Hurricane Katrina, according to Yossi Sheffi, director of the MIT Center for Transportation and Logistics and professor of engineering.

Sheffi, who has a new book out, "The Resilient Enterprise: Overcoming Vulnerability for Competitive Advantage" (MIT Press), outlined the lessons business could teach government in an op-ed article published by The Boston Globe on Monday, Sept. 19.

In the Globe article, titled "Fixing Government After Katrina," Sheffi contrasted organizational breakdown during the "largely avoidable tragedy" of the hurricane's aftermath with corporate successes following similar disasters.

"Instead of taking decisive actions, city, state and federal officials argued with one another, communications broke down, and too many civil servants, from New Orleans police officers to Louisiana state officials to FEMA directors, did not have the urgency or passion required," he wrote.

By contrast, some companies that took decisive action have enjoyed business victories in the face of crisis and supply disruption, he noted. Dell Computers increased its market share while Apple "stumbled" after the 1999 Taiwan earthquake, and Chiquita recovered much faster than Dole after Hurricane Mitch, which devastated Latin America in 1998.

Both Dell and Chiquita were prepared with flexible supply chains, Sheffi wrote. But resilience is more than that. An MIT team studying resilient companies found "something in their DNA ... a certain corporate culture that helped them survive and even thrive."

According to Sheffi, the three major aspects of crisis-ready corporate culture are empowerment of front-line employees, constant communications and a company-wide sense of the "big picture."

Front-line employees in business and in government should be empowered, just as sailors on the deck of any U.S. aircraft carrier are empowered to stop flight operations when they detect a problem.

"Front-line employees are close to the action and can assess what is needed; as a disruption develops there is usually not enough time to go through the usual chain of command," Sheffi wrote.

And that chain must be both fluid and transparent. "Resilient enterprises communicate obsessively and ensure that they can communicate in a disaster. Thus, Intel keeps an emergency center in each region of the world where it is doing business," he wrote.

Sheffi's essay ends on a note of limited hope that the lessons of Katrina will lead to changes. "What has to be done is strikingly obvious — instill a radical change in organizational culture," Sheffi declared.



PHOTO / DONNA COVENEY



PHOTO / DONNA COVENEY

Senior Lesley White, above, of the University of New Orleans, is studying at MIT this semester because her school was damaged by Hurricane Katrina. She and freshman Luke Harris, left, are among 10 undergraduates accepted as special visiting students from the Gulf Coast region. Harris, who was to have started at Tulane, has a room in Baker. White is staying in Bexley.

## STUDENTS

Continued from Page 1

ily behind, White said her parents encouraged her. "They told me I need some consistency," she said.

For White, coming to MIT made sense. A close high school friend is a senior at the Institute and White had visited her several times over the years.

White arrived on Sept. 11, moved into Bexley Hall and started her classes on Sept. 14. Since MIT classes started Sept. 7, White felt a little behind. "I think I am really going to enjoy my classes," she said. "But it has been a lot of work just learning the lay of the land."

Sophomore Shir Elany, a special visiting student from Tulane, arrived on Sept. 9. A mechanical engineering major from Lexington, Mass., Elany is familiar with Boston.

Still, the transition has not been easy. Missing the first couple of classes was stressful, he said. Initially he was behind. "Things have started to get better, though," Elany said after his first full week of classes.

Socially, the transition has been less jarring. Currently living in the Zeta Psi fraternity house, Elany has been impressed by the warmth of MIT students. "Everyone has been very welcoming," he said.

Though he expects to see a number of differences between Tulane and MIT — "It will certainly be colder," he said with a laugh — Elany said he expects to gain a lot from his brief time at the Institute. "This is a good opportunity for engineering," he said.

Harris' adjustment has been slower. "The classes are going to be pretty tough," he said.

Since he arrived weeks after orientation, meeting people has been challenging. "People have been friendly," he said. "But it is still a little rough."

Despite the challenges, Harris is relieved that he has been able to stay in school for the semester and is grateful to MIT. "MIT is a great school," said Harris. "I guess it had to take a hurricane for me to get in."

## Did you know?

Vice Adm. Thad W. Allen, who is now heading up the federal disaster relief effort in the wake of Hurricane Katrina, is an MIT graduate. Allen, who is chief of staff of the Coast Guard, received his M.S. from the Sloan School of Management in 1989.

# Freshmen bring MIT ties to Kyrgyzstan, Mongolia

This is the second in a series of profiles of members of the freshman class.

Sasha Brown  
News Office

Just five years ago, freshman Meder Kamalov of Kyrgyzstan viewed coming to MIT as an impossible dream.

"I thought there was no way for a normal person to come to MIT," Kamalov said. "I thought only geniuses got in."

When Kamalov met a group of MIT students from Kazakhstan two years later, he listened to them talk about the campus. The more he heard, the more he liked it. But he still was not sure he would get in. "I didn't think that people from our country could be accepted," he said.

After applying, Kamalov waited anxiously for news. He knew that acceptance letters were mailed via DHL while the rejection letters came via regular mail. When he called DHL and confirmed that a package was on its way to his address, he was elated.

"I was just staring and holding the phone," he said. "I knew so many who applied and were rejected. I was prepared for that."

Both Kamalov and Enkhmunkh Zurgaanjin, from Mongolia, hail from Central Asian countries that are new at the Institute. Both members of the class of 2009, they are proud to be the first citizens from their countries to attend MIT.

"There are a lot of people who don't know about Mongolia," said Zurgaanjin. "It is a big responsibility."

Though he had never been to the United States before, Zurgaanjin attended high school in England. He said the boarding school prepared him well for the challenges of studying at MIT.

Zurgaanjin spent a couple of days at the international student orientation prior to



PHOTOS / DONNA COVENEY

Freshmen Enkhmunkh Zurgaanjin, above, and Meder Kamalov, left, are the first citizens from their countries to attend MIT. Zurgaanjin is from Mongolia. Kamalov is from Kyrgyzstan.

freshman orientation. "It was a nice way to start meeting people and be able to talk with them," he said.

Some of the challenges Zurgaanjin sees in the year ahead are the same ones any college student faces.

"I am going to have to learn how to cook," he said. Living in Senior House, there will be plenty of opportunities for him to make his own food.

For Kamalov, who had also never visited the States, the food has been one of the biggest surprises. "When I tried it, I was surprised, but I really liked it," said Kamalov, who said he has mostly eaten at Anna's Taqueria and the food court in the student center.

Even before classes started, Kamalov knew he wanted to major in chemistry. "It's my favorite subject," he said.

Though English is his fourth language

## Class of 2009 by the numbers

Most represented countries:

Korea - 8  
Canada - 8

— he also speaks Russian, Turkish and Kyrgyz — Kamalov was not especially nervous about classes held in English. "I don't feel like I am different from the other students," he said.

And, neither Zurgaanjin nor Kamalov said he'd had a bout of homesickness yet.

"It is hard sometimes," said Kamalov. "But I am just so happy to be here."

# Seashells offer a lesson in armor design

Eve Downing

Institute for Soldier Nanotechnologies

The ocean is a perilous environment for a soft-bodied creature like a sea snail, so nature gives it an advanced nanostructured armor system that is stiff and strong yet lightweight. It's called a shell.

Understanding the fundamental design principles of natural armor systems like shells may help engineers design improved body armor systems for humans in perilous situations, like soldiers and police officers. At MIT's Institute for Soldier Nanotechnologies, researchers are studying the structure and mechanics of the tough inner layer of mollusc shells, called "nacre" or mother-of-pearl, at extremely small, nanometer-length scales (a nanometer is a billionth of a meter).

In an upcoming issue of the *Journal of Materials Research*, Professor Christine Ortiz of the Department of Materials Science and Engineering, Professor Mary Boyce of the Department of Mechanical Engineering and doctoral student Benjamin Bruet of materials science report their results. They show that nature is indeed an expert nanoengineer.

"The complexity we have observed in nacre at the nanoscale is quite amazing and seems likely to be a critical determinant of the toughness of the material," said Ortiz.

Nacre is composed of two relatively weak materials: 95 percent calcium carbonate, a brittle ceramic, and 5 percent flexible biopolymer. These materials are organized into a "brick-and-mortar" structure with millions of ceramic plates, each a few thousand nanometers in size, that are stacked on top of each other like rolls of coins. Each layer of plates is glued together by thin layers of the biopolymer. The MIT team has focused its studies on small nanometer-sized regions of the individual tiny plates.

"Even though the calcium carbonate is very weak and brittle on its own, one

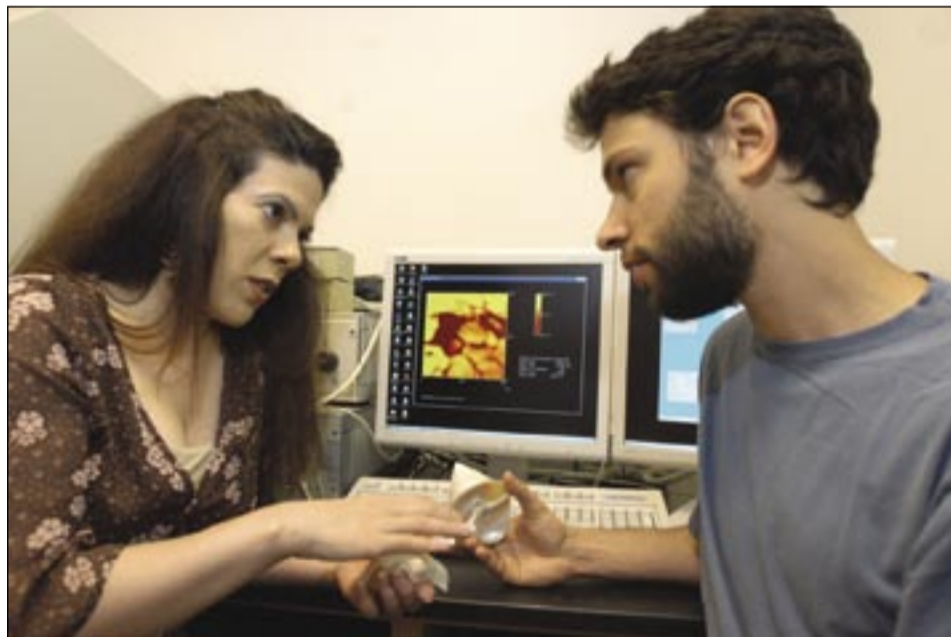


PHOTO / DONNA COVENEY

Professor of Materials Science Christine Ortiz, left, examines a seashell with graduate student Benjamin Bruet. Samples of the shell's makeup appear on the screen. Ortiz and Bruet are researching the natural armor system used by shells.

can get enormous increases in toughness through design at multiple-length scales," said Ortiz. "Understanding how the material is designed and functions at the smallest-length scales will be critical to learning how to create tough biomimetic synthetic composites."

Replacing the weak building blocks of nacre with stronger materials — in a similar design — has the potential to yield much tougher composites for use in armor systems or structural applications like automobile panels or plane wings.

Although scientists have studied the properties of nacre at the macroscale and microscale, Ortiz says that very little is known about its behavior at the nanoscale, which is where structure and properties set the foundation for the material's overall behavior.

The team is currently studying the

nanoscale adhesion forces that exist between the ceramic plates and flexible biopolymer in the nacre, as well as the single molecule nanomechanical properties of the biopolymer. This research may shed light on the longstanding question of how to create durable interfaces in synthetic composites that can withstand high forces in water environments. Ortiz's group is also studying the nanostructure and nanomechanical properties of other natural materials, such as bone and cartilage.

"Nature uses nanoscale structural design principles to produce materials with superior mechanical properties," said Ortiz. "In many aspects, human engineers have yet to achieve the same skill. However, as nanotechnology methods advance, the creation of artificial nacre — and other kinds of high-performance armors — is becoming a more and more realistic goal."

# BRAIN

Continued from Page 1

maintain good health and well-being."

The conference's dozen speakers and four panelists described the challenges facing the diagnosis, treatment and fundamental molecular and genetic basis of depression. Writer, composer and musician Elizabeth Swados and Susanna Kaysen, author of "Girl, Interrupted," described their personal experiences with depression. "It never feels like it will pass," Swados said, but when it does, she said she works frenetically to use what she observed about



Elizabeth Swados

her agony to inform her art. "I transform a hateful monologue in my head — screams from my heart and my head — and turn them into melodies," she said. "Depression has taught me to know myself," Kaysen said. "I thank it for that."

The next CIGNA-sponsored conferences in the Open Mind Series at MIT are expected to focus on childhood learning; addiction, considered a powerful form of memory; and learning and memory in an aging population.



PHOTO / DONNA COVENEY

Dr. Peter D. Kramer, author of 'Listening to Prozac,' served as moderator at Monday's conference, 'On Depression.'

# APPRENTICE

Continued from Page 1

entrepreneurial career. My company, BCT Partners, is a multimillion dollar company. I want to learn from Mr. Trump what it means to run a multibillion dollar company. Second, I think the opportunity to showcase my talents and experience on a nationally televised program focused on business will open new doors for me and my colleagues. Third and finally, I welcome the opportunity to be challenged, to learn and to have some fun."

Pinkett brings a significant amount of education and business experience to the game. He earned his B.S. in electrical engineering from Rutgers University and became the first African-American at Rutgers to receive a Rhodes scholarship. At Oxford, Pinkett received a master's in computer science. He then headed to MIT for three more degrees. He earned a master's in electrical engineering from the School of Engineering and an M.B.A. from the Sloan School of Management in the Leaders for Manufacturing Program. His dissertation for his Ph.D. from the Media Laboratory explored the role of high technology in improving the quality of life for low-income residents.

BCT Partners is Pinkett's fifth business venture. He previously launched four social enterprises, including the Inner City Consulting Group, a firm specializing in the needs of inner city communities, and MBS Educational Services & Training, which provided training and development for professionals from businesses such as General Motors, the United Negro College Fund and Citigroup.

Currently, Pinkett lives in New Jersey with his wife, Zahara, and devotes time to speaking to corporate, youth and community groups. His numerous accolades include MIT's MLK Leadership Award in 2002 for service to the community, a Leadership New Jersey Fellowship and the National Society of Black Engineers' National Member of the Year award.

# MIT shines in Tech Review innovators list

Elizabeth Thomson  
News Office

Three MIT faculty, one scientist and 11 alumni are among the TR 35, Technology Review's compilation of the 35 best innovators worldwide under age 35.

The honorees were selected by a panel of leading scientists and technology experts for their potential to profoundly impact the world. "The TR35 is among the most prestigious honors that can be bestowed on a young innovator," said Jason Pontin, editor in chief of Technology Review.

This year only 35 awardees were chosen worldwide, down from the 100 chosen in previous years. They will be featured in the October issue of the magazine; the story is currently available online.

The MIT faculty to receive the award are Regina Barzilay and Samuel Madden, both assistant professors of electrical engineering and computer science, and Francesco Stellacci, an assistant professor in materials science and engineering. Shilditya Sengupta, a scientist at the Harvard-MIT Division of Health Sciences and Technology, was also honored.

Barzilay, 34, was cited for inventing Newsblaster, a "computer program able to recognize stories from different news services as being about the same basic subject, and then paraphrase elements from all of the stories to create a summary," Technology Review reported.

She is currently working to apply Newsblaster to spoken language, "which could yield applications that range from summarizing recorded lectures to handling airline reservation calls."

Madden, 29, won for his work on simplifying the wireless sensor networks key to the remote monitoring of "everything from the habitat of an endangered bird species to a building's response to an earthquake," according to the magazine.

He is currently applying the software developed to that end, called TinyDB, to "sensors in cars to monitor operating conditions and figure out faster routes."

Stellacci, 32, was honored for developing a quicker way to produce microarrays, the nanodevices used to diagnose and understand genetic illnesses such as Alzheimer's and certain types of cancer.

"In his approach, a single strand of DNA 'stamps' genetic information into a slide, which can then serve as a master template for the production of multiple identical arrays," wrote Technology Review. The resulting arrays could cost as little as \$50,

compared to the \$500 price tag today.

Sengupta, 33, was cited for a drug-delivery device composed of novel particles; each particle is essentially a balloon within a balloon, resembling an actual cell.

According to Technology Review, "These nanocells home in on cancers based on the unique characteristics of tumor blood vessels. The outer shells then dissolve, releasing a drug that destroys the vessels. As the cancer cells starve for oxygen, they secrete enzymes that break up the inner spheres, dispensing a standard chemotherapy agent." Sengupta also has an appointment through Harvard Medical School.

MIT alumni among the TR 35 are Madden, Martha Bulyk, Kevin Eggan, Trey Ideker, Hang Lu, Daniel Riskin, Yael Maguire, Tracy Ho, Saul Griffith, George Candea and Anita Goel.

## Architecture students build on history

### Ancient method used for wall

Denise Brehm  
News Office

Local architects looking for sustainable building materials might try the dirt under their feet, says a team of architecture students at MIT, who built a garden wall using an ancient construction technique called "rammed earth" to test the method with New England soils.

The team built its test wall behind the MIT Museum on Massachusetts Avenue in Cambridge using a combination of 30 percent Boston Blue Clay mixed with sand and gravel. Twelve tons of this clay, common at depths of 30 to 60 feet in the metropolitan Boston area, came from the excavation site of a new building at Harvard. The excavation firm, J.F. White, donated the clay to the MIT crew.

"The wall will serve as a long-term test of rammed earth in New England, allowing us to observe the way various soil types used in construction stand up to the climate," said Joseph Dahmen, a graduate student in architecture who is leading the project. Dahmen has traveled extensively worldwide to study traditional and contemporary rammed-earth architecture, which is gaining popularity in many regions of the industrialized world, including the southwestern United States, California and even in areas with high rainfall and freezing temperatures like Boston, Dahmen said.

Rammed earth can be used as a substitute for concrete in structures that don't need to withstand high forces. A rammed earth structure can withstand material stresses of up to 700 pounds per square inch, while standard concrete can take more than four times that, about 3,000 psi. Even so, Dahmen says a rammed earth wall can withstand centuries of wear and tear, as proved by numerous extant buildings, including the Alhambra, a Moorish fortress in Spain built 650 years ago.

The MIT team's finished wall is 70 feet long, 6 feet tall and 1.5 feet thick, with a steel and wood gate in the middle to allow vehicular and pedestrian access. It will be covered with a cap made of weathering steel to shelter it from direct precipitation from above. The wall helps form a courtyard that can be used for other large-scale architectural and art installations.

Dahmen and undergraduate Teagan Andres, technical instructor Charles Mathis, graduate student Shuji Suzumori and a number of student volunteers worked on the wall for about one and a half months this summer, putting in 800 hours of labor. The project grew out of conversations between Dahmen and his advisor, Professor John Ochsendorf of architecture, whose research focuses on traditional building methods.

To build the wall, the workers densely packed layers of the clay mixture into the cavity of a wooden form with the help



PHOTO / DONNA COVENEY

Architecture graduate students Joseph Dahmen, foreground, and Shuji Suzumori, rear, shovel and 'ram' a clay-gravel mixture between wooden forms in back of the MIT Museum, where they were building a wall using an ancient technique called 'rammed earth.'

of a pneumatic compactor. (In traditional construction techniques, workers used a large wooden block mounted on a handle.) Once the clay has been fully packed and the form removed, a solid, monolithic wall remains. In "slip forming," the wooden formwork can be moved, enabling construction of large walls with a minimum amount of formwork, Dahmen said.

The earthen wall has one primary advantage over concrete — environmental sustainability, according to Dahmen and Ochsendorf, who say that a conservative estimate attributes 7 percent of carbon dioxide emissions worldwide to the production of cement, the primary ingredient in concrete. By contrast, preparation of a rammed earth mixture produces very little carbon dioxide and uses no toxic chemicals. And, they point out, a building made of rammed earth creates no disposal haz-

ard when demolished.

The technique results in a wall with an "aesthetic beauty that reflects its natural origins," said Dahmen, who hopes the blue-gray wall will last indefinitely. "The texture contains subtle variations in color and density corresponding to the layering of soil during compaction, almost like sedimentary stone. Part of the appeal is that the material is massive but rather delicate; we expect that the surface will erode somewhat over time, registering the elements acting upon it. But it's thick enough that this should not pose a problem.

"Parts of the Great Wall of China, which has been around for over 2,000 years, are built of rammed earth. Our project attempts to update this ancient environmentally sustainable building technique to test its relevance in the industrialized world," said Dahmen.

## Muslim identity inspires new series of talks

The Center for Bilingual/Bicultural Studies (CBBS) is hosting a series of talks and events that explore the experience of "hyphenated" Muslim identities.

The overarching topic of the year's offerings is "Emerging Muslim Identities in Diasporic Communities," and the series begins with a panel discussion by the same name on Friday, Sept. 23, from 3 to 5 p.m. in Room 3-343.

Arundhati Banerjee, lecturer in foreign languages and literature, will moderate. Panelists are Nilüfer Göle, École des Hautes Études en Sciences Sociales, MIT visiting professor and author of "Europe and Islam: Lost in Translation"; Moustafa Bayoumi, Brooklyn College, City University of New York and author of "When Islam Was All the Rage"; and Miriam Cooke, Duke University, author of "Networking for Power and Change: Muslim Women's Transnational Activism and the Construction of Alternative Identities."

"We are extremely fortunate to benefit from Nilüfer Göle's expertise at a particularly challenging moment in terms of the Muslim presence in Europe, and we hope that by focusing on a new generation of hybrid identities, we can expand the dialogue and foreground the complexity of this situation," said Isabelle de Courtivron, Ann F. Friedlaender Professor of the Humanities, MacVicar Faculty Fellow and CBBS director.

Göle, an expert on the subject of Islam and modernity, is teaching a weekly seminar at MIT this semester titled "Close Encounters: Gender, Islam and the West."

Filmmakers from Spain, Germany and England have begun to explore generational differences in immigrant Muslim communities, de Courtivron noted, and CBBS will showcase some of these works in the "Diaspora" series.

On Oct. 4, Franco-Moroccan filmmaker Ismael Ferroukhi will present his film, "Le Grand Voyage" (in French and Arabic with English subtitles). Ferroukhi's film portrays a traditional North African father and his French-raised, thoroughly Westernized son as they travel from Europe to Mecca and reconcile their differences en route.

There will be a question and answer session with Ferroukhi after the film, which will screen at 7 p.m. in Room 26-100.

Other films in the CBBS series include "The Fond Kiss" (British/Pakistani) on Wednesday, Nov. 2, at 7 p.m. in Room 2-105; "Head On" (Turkish/German/Muslim) on Thursday, Nov. 17, at 7 p.m. in Room 56-114 and "Poniente" (Spanish/Muslim) on Thursday, Dec. 1, at 7 p.m. in Room 56-114.

The identity issues that arise from belonging to at least two cultures and speaking two or more languages inspired the founding of CBBS in 1998. "Thinking about and analyzing the implications of these issues is the realm of the CBBS," de Courtivron said.

— Sarah H. Wright

# ESD launches new engineering center

**Lois Slavin**  
Engineering Systems Division

Professor Daniel Hastings, director of MIT's Engineering Systems Division (ESD), has announced the formation of the Center for Engineering Systems Fundamentals, effective Sept. 1. The new center will focus on pulling together the elements that will eventually define the new field called engineering systems.

Hastings noted that the need for the center was identified in ESD's strategic plan and endorsed by the faculty, adding that the new center is crucial to the long-term intellectual development of engineering systems at MIT.

The Center for Engineering Systems Fundamentals (CESF) will be engaged in several areas, among them developing seminars and other ways to discuss engineering systems fundamentals; collaborating with faculty to bring in resources and shape the center's relationships with ESD's other research centers — the Center for Technology, Policy and Industrial Development and the Center for Transportation and Logistics; and sponsoring an engineering systems book series and a biannual international symposium.

CESF will be led by Professor Richard Larson and report to ESD in MIT's School of Engineering.

Larson holds a dual appointment in civil and environmental engineering and engineering systems, and is founder of the Learning International Networks Consortium, which will hold its third conference at MIT in October. He also served as co-director of MIT's Operations Research Center for over 15 years, as director of MIT's Center for Advanced Educational Services, and was the founding director of the Forum on the Internet and the University.

Larson said, "The field of engineering systems looks at engineering design and analysis of large-scale systems broadly, incorporating important aspects of the social sciences into more usual technical engineering considerations. It will also re-examine the culture of engineering design, for instance, in the use of uncertainty. Instead of the usual engineering approach to minimize risk due to uncertainty, we also need to examine how to maximize opportunity created by uncertainty. We have an intellectually diverse set of faculty members looking at all of the relevant issues, and we should have some exciting times ahead of us!"

CESF will be housed in E40 and nearby buildings.

## Forum set to bring space down to earth

**Nancy DuVergne Smith**  
MIT Alumni Association

Space exploration calls for developing bold new concepts, which is just what entrepreneurial businesses need, according to the organizers of the MIT Enterprise Forum of Cambridge's broadcast event slated for Thursday, Sept. 22.

"The Power of Revolutionary Thinking: What Today's Scientists Can Teach You About Driving Innovation in Your Organization" will be broadcast live by Atlanta public television to MIT and 33 other worldwide sites from Tampa, Fla., to Tokyo. The panel begins at 7 p.m. in the Stata Center's Kirsch Auditorium. Entrance is free with an MIT ID, \$30 for the public.

Panelists include Robert Cassanova, director of the NASA Institute for Advanced Concepts; Bradley Carl Edwards, development leader for the space elevator project; Penelope Boston, director of research for Complex Life Systems Research; and Dava Newman, MIT associate professor of aeronautics and astronautics.

The MIT event kicks off at 5:30 p.m. with refreshments and includes a 6:15 p.m. keynote by Joe Parrish, president of Payload Systems, which provides science and engineering services for spaceflight and terrestrial applications.

The broadcast is one of many educational programs fostered by the MIT Enterprise Forum Inc., an MIT Alumni Association department, and its 23 chapters. For more information, visit [enterpriseforum.mit.edu/](http://enterpriseforum.mit.edu/).



PHOTO / DONNA COVENEY

### Hanging around

Physics graduate students Sihui Tan, left, and Christopher Wipf explore the art lottery exhibit at the MIT List Visual Arts Center in early September. Each year, MIT students can enter a lottery to borrow art from the List's collection. Students can pick up their works today and tomorrow. The final distribution of artwork will take place Friday, Sept. 23.

## Bustani seminars focus on Middle East

The Emile Bustani Middle East Seminar at MIT will celebrate its 20th anniversary this fall with three lectures on contemporary Middle Eastern affairs. On Sept. 27, Professor Nilüfer Göle, visiting professor in the Foreign Languages and Literatures Section, from Ecole des Hautes Etudes en Sciences Sociales in Paris will speak on "Europe's Encounter with Islam: What Future?" On Oct. 18, Ambassador Barbara Bodine, executive director of the Middle East Governance Initiative at the Harvard Kennedy School of Government will deliver a lecture titled "Reflections on the Arab World: From Baghdad to Sanaa and Back." On Nov. 8, Professor Fatma Müge Göçek of the Department of Sociology at the University of Michigan, Ann Arbor, will deliver a lecture titled "Turkey and the Armenian Question: Are Recognition and Reconciliation Possible?"

The seminar is funded by the Bustani family of Beirut, Lebanon, in memory of the late Emile M. Bustani, who received the S.B. in civil engineering in 1933. "Mr. Bustani was one of the Middle East's most prominent businessmen and philanthropists until his premature death in 1963. He was the founder and chairman of the Contracting and Trading Co., a leading construction and engineering firm with projects in the Middle East, Africa and the Far East," said Philip S. Khoury, Kenan Sahin Dean of the School of Humanities, Arts, and Social Sciences and chair of the Bustani Seminar, which is sponsored by the Center for International Studies.

Sessions take place at 4:30 p.m. in Room E51-095 and are open to the public. For more information, contact Laurie Scheffler at 3-3121 or the SHASS dean's office at 3-3450.

### NEWS YOU CAN USE

#### Grant proposals sought

The Task Force on the Undergraduate Educational Commons, in collaboration with the Office of the Dean for Undergraduate Education and the d'Arbelloff Fund for Excellence in Education, is calling for preliminary proposals for ambitious projects to enhance the first-year educational experience of undergraduates.

The deadline for grant proposals is Sept. 26. All proposals should be submitted to the d'Arbelloff Grants Committee in care of Peggy Enders, [peggy@mit.edu](mailto:peggy@mit.edu).

The d'Arbelloff Fund for Excellence in Education was established through a \$10 million grant from Brit d'Arbelloff (S.M. '61) and Alex d'Arbelloff '49 and focuses on projects that will enhance the experience of MIT's undergraduates.

Dean for Undergraduate Education Robert P. Redwine chairs the d'Arbelloff Grants Committee. For more information, visit [web.mit.edu/darbelloff](http://web.mit.edu/darbelloff).

#### Mileage rate increases

Effective Sept. 1, the mileage reimbursement rate at the Institute for the use of private automobiles for business travel increased from \$0.40 to \$0.48 based on IRS regulations. Travel ending on or after Sept. 1 will be reimbursed at the new rate. Travel ending on or before Aug. 31 will be reimbursed at the old rate.

## William Bottiglia dies at 92

William Bottiglia, former head of the Department of Foreign Literatures and Linguistics and a distinguished scholar of French and Italian literature, died Aug. 19 at Avery Manor in Needham. He was 92.

Bottiglia, who joined the MIT faculty in 1956, specialized in Dante, the French Enlightenment and the philosophy of civilization. He was head of foreign literatures and linguistics from 1964 to 1973, when he transferred to the Sloan School of Management. At Sloan he was a professor of management and humanities until his retirement in 1991.

He was the author of "Voltaire's Candide: Analysis of a Classic," and an article called "Dante at MIT: A New Pedagogical Approach," published in the journal *Italica*. He also edited and contributed an article to a book of essays called "Voltaire: Twentieth Century Views." His last work was a four-volume philosophical novel titled "Heroic Symphony."

Before coming to MIT, Bottiglia taught at Princeton University and at Ripon College. He worked in industry from 1942 to 1947 and was general manager of J&S Tool Co. in East Orange, N.J., from 1946 to 1947.

Born in Bernardsville, N.J., he was elected to Phi Beta Kappa during his junior year at Princeton and graduated summa cum laude in 1934. He earned his M.A. and Ph.D. from Princeton in 1935 and 1948, respectively, and belonged to the Phi Beta Kappa Society and the Dante Society of America. Bottiglia was appointed an Officer in the Société des Palmes Académiques by the French government and has been listed in *Who's Who in America* since 1966.

He was an avid reader and writer and enjoyed classical music, opera, ballet and taking long walks.

Bottiglia was the husband of the late Mildred (MacDonald) Bottiglia. He is survived by his daughter, Janet Bottiglia of Needham; a stepdaughter, Martha Morris of Ripon, Wis.; a sister, Adele Molinaro of Bernardsville, N.J.; three grandchildren and three great-grandchildren.



William Bottiglia

### 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. 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

Hitachi 21" SuperScan 813 CRT-type monitor, \$75. Moving to smaller digs & must give up supersize monitor. Call Cliff or Leslie 978-256-3419.

Snowblower, Craftsman, 9 horsepower, 6 speeds forward, 2 speeds reverse. \$400 firm (cash or cashier's check). Call Anne at 258-8780.

Four black ladder-back chairs with woven seats from Sturbridge Yankee Workshop. Excellent condition, \$175/bst. Call Carol at 781-981-7750.

Frigidaire upright freezer, 12 cu ft, 5 yrs old, excellent condition. \$100. Contact [acentor@mit.edu](mailto:acentor@mit.edu).

1967 Gretsch Nashville elec guitar, professionally refurbished w/ new paint, Setzer Gretsch pickups, Grover Imperial Tuners, back pad and Nashville pickguard. Original knobs/switches/wiring. Bigsby Vibrato & OHSC. Great looking, playing, sounding. \$1550/bst. [bjmagoon@mit.edu](mailto:bjmagoon@mit.edu).

Artwork by Raoul Dufy. Professionally framed & matted prints: "La vie en rose" (12" x 16"), \$20; oceanside scene in blues & purples (22" x 28"), \$30. [cavril@mit.edu](mailto:cavril@mit.edu) or 253-9411.

Moving sale, Fieldstone Drive, Winchester: kitchen table, desk, chairs, small dresser, large fridge, bike, etc. Call 258-7372 or 781-729-4591.

#### VEHICLES

1993 Camry LE 4-dr, automatic, A/C, power dr/window, cruise, 99K, alarm, good condition, \$2800. 253-4972.

2002 Acura TL, 4-dr, 6-cyl, automatic, 76K, gold with gold package, loaded, with spoiler, leather,

and remote starter. Immaculate, must sell! N.A.D.A. \$18,300, SELL \$16,300/bst. [tartag@mit.edu](mailto:tartag@mit.edu) or 253-0564.

1993 Mercury Grand Marquis LS Sedan, good condition, 150K, air conditioning, power steering/seats, leather interior, cruise control, dual air bags, 4-wheel ABS, four snow tires, \$2250. 253-8253 or 508-655-1666.

#### HOUSING

2 BR/1 bath for rent in two-family Watertown/Cambridge Line (Coolidge Square-shops, restaurants, etc.). Hrdwd flrs, EIK, D/D, W/D. On bus route #71, easy commute to MIT. \$1500/mo. + utilities. Avail. 10/1. 617-924-8944.

House for sale in Lexington, 6 rm contemporized Cape, \$599,000, master BR suite, study, 2 BR and bath upstairs, skylights, hrdwd flrs, AC, 2 car gar. 781-981-2671.

Two furnished BR in 3BR West Cambridge apart-

ment, on bus line to Harvard Square. Avail. now, 8-mo. commitment. Prefer mature people, no smokers, no pets, no overnight guests. Security deposit req., \$600/mo. inc. utilities. Call Trisha at 617-792-9499 after 9 p.m.

#### STUDENT POSITIONS

##### Positions for students with work-study eligibility

Work one-on-one with students from Cambridge and the surrounding communities. Seeking tutors to work directly with students working towards a GED or diploma, and to tutor in math and general reading and writing. \$10-\$12/hour. Contact Maria Balestrieri at [maribalestrieri@justastart.org](mailto:maribalestrieri@justastart.org).

Cambridge School Volunteers seeks two or more part-time Program Assistants. Duties include light administrative/office support, assistance w/ event coordination, tutoring and outreach to schools. Based at Cambridge Rindge and Latin School (near Harvard Yard). 10-15 hours/week; \$10-\$12/hour. Contact Laura Margosian at [lmargosian@cpsd.us](mailto:lmargosian@cpsd.us).



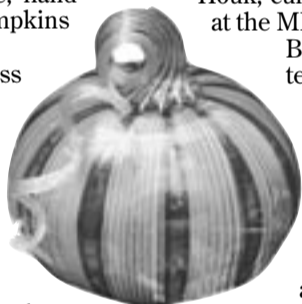
## Oh my gourd!

Lynn Heinemann  
Office of the Arts

It's a bumper crop, but if you bump these veggies too hard, they'll break.

The MIT Glass Lab's fifth annual Great Glass Pumpkin Patch will sprout Sept. 23-24 on Kresge Oval with more than 1,000 unique, hand-blown glass pumpkins and gourds.

The Great Glass Pumpkin Patch begins with a preview reception (no sales) on Friday, Sept. 23, from 5 to 8 p.m. On Saturday, Sept. 24, between 10 a.m. and 5 p.m., visitors of all ages are invited to stroll through the "pumpkin patch" and pick favorites to purchase. In case of rain, the sale will be held on Sunday, Sept. 25. The glass pumpkins were



created by students and instructors in MIT's Glass Lab, where members of the MIT community learn and practice the art of glass blowing. Proceeds from the event benefit the lab, an art program connected with MIT's Department of Materials Science and Engineering. Pumpkin-making is overseen by glass artist Peter Houk, currently in residence at the MIT Glass Lab.

Blowing pumpkins teaches basic glass-blowing skills and the importance of teamwork, Houk says. But it's also a lot of fun, with food and music helping to create a party atmosphere. "Everyone gets a kick when the whole team's working well," says Houk. "It's fun to see another pumpkin appear every five minutes or so."

For more information, call x3-5309.

### Glass pumpkins now in season

**1,000**

Pumpkins to be made for this year's sale



**5**

Hours it took for pumpkins to sell out last year

**12**

Pumpkins broken last year



**\$25**

Cost of least expensive pumpkin

**\$500**

Cost of most expensive pumpkin

# Vietnamese guitar show strikes at '5 Venoms'

Lynn Heinemann  
News Office

Dang Vu, a senior studying biology, will present "An Evening of Vietnamese Guitar" on Friday, Sept. 23, at 8 p.m. in the MIT Coffeehouse on the third floor of the Student Center.

His band, Living Incense, will perform "The Five Venoms Style," an original piece composed by Vu for electric "Vietnamized" guitar, drums and electronics. There will also be a demonstration of classical guitar by Vo Thanh Binh and friends.

Vu, the 2004 recipient of the List Foundation Fellowship for his project entitled "The Five Venoms Style: A Celebration of Mutant Culture," pays homage to the late Hong Kong film director Chang Cheh, best known for the martial arts film "Five Deadly Venoms" (1977). The film was influential for both its artistry and its unusual mystery plot, which featured five suspects who can only be identified through their kung fu styles: Centipede, Snake, Scorpion, Lizard and Toad.

Vu's "The Five Venoms Style" consists of five movements, each characterizing one of these animals and martial arts styles.

Vu's project goals, he says, are twofold. He aspires to celebrate the global exchange of culture and to find his own musical voice, one that Vu calls "identifiably Vietnamese regardless of the many other influences that are present."

"Rarely independent, often invaded and dominated, [the Vietnamese have] faced long periods ... of concerted efforts by foreign powers to subvert our culture," Vu writes. "However, because we have always found a way to remain defiantly Vietnamese, however covertly, we always eventually regained our sovereignty."

In the United States, there is more benign pressure to assimilate, and less of a connection with his cultural roots. He says "we have to work with what is available and familiar to us" — electric guitar, rock music and interaction with cultural products from around the world. But, ultimately, he says his aim is to "produce something that is Vietnamese but honest to the community of which we are a contributing part."

Vu, who rediscovered Vietnamese music a few years ago, wanted to learn how to perform it and to compose songs that have recognizable elements of the form. As a guitarist, Vu was excited when he realized there was a Vietnamese tradition of guitar. "I liked how the instrument was actually converted for Vietnamese music," he says.

To "Vietnamize" his guitar, Vu carved out the spaces between the frets to create a deep indentation. "This gives the space to really push on the string and change the pitch of the note after it is plucked to perform the ornamentations necessary for Vietnamese music," he says.

The List Foundation Fellowship Program (LFFP), established by the MIT Office of the Arts in 1992 with support from the Albert A. List Foundation, is granted annually in support of personal artistic expression coupled with racial and cultural exploration. The LFFP awards up to \$5,000 to one undergraduate for a yearlong project in the performing, literary, visual or media arts. The program has continued with support from the James L. Knight Foundation in 1999 and the Office of the Provost in 2000.

"An Evening of Vietnamese Guitar" is free and open to the public. For more information, call x3-2341.



Dang Vu

## ARTS NEWS

### Lecturers work on play

Music and Theater Arts lecturer **Kim Mancuso** will direct the Pilgrim Theater Company's production of "N (Bonaparte)," a play by fellow lecturer **Laura Harrington**, at the Plaza Theatre, located in the Boston Center for the Arts (539 Tremont St., Boston), through Saturday, Oct. 8. The phantasmagorical tragicomedy centers on Napoleon's final days in exile on St. Helena. He confronts his legacy and crafts his future legend while guarded by 2,000 British soldiers, surrounded by sycophants, toadies and an unforgiving sea, and plagued by rats. Performances are Thursday through Saturday at 8 p.m., Sunday at 2 p.m. Tickets cost \$22; \$16 for students, seniors and groups of more than 10; student rush \$10. Full-price advance tickets are available by calling (617) 933-8600 or visiting [www.BostonTheatreScene.com](http://www.BostonTheatreScene.com).

### Wodiczko named finalist

**Krzysztof Wodiczko**, professor of visual arts in the Department of Architecture, has been selected (with his artistic collaborator Julian Bonder) as one of six finalists

for the Flight 587 Memorial in Queens, N.Y. That crash, which occurred on Nov. 12, 2001, was the second deadliest aviation accident in American history, killing all 260 on board plus five on the ground.

Wodiczko and Bonder are also currently working on the Memorial to the Abolition of Slavery in Nantes, France, which was commissioned by the city after a competition. It is the first national memorial in France (and in Europe) dealing with slavery and abolition of this scale. This project is slated to be built by 2007-2008.

### Design magazine launched

Former Media Lab denizens **Charlotte Burgess Auburn** and **Wendy Ju** (S.M. 2001) have launched a new design magazine, *Ambidextrous*, at the Stanford Design School. Conceived as a journal for the wider design community, including engineers and ethnographers, psychologists and philosophers, *Ambidextrous* provides a forum for people with an academic, professional or personal interest in design. For more information, visit [www.ambidextrousmag.org/](http://www.ambidextrousmag.org/).

## Novelist Mirsky to read works

Mark Jay Mirsky, novelist and founding editor of *Fiction Magazine*, will read from his works on Thursday, Sept. 22, at 7 p.m. in Room 14E-304.

Mirsky, who is also a professor of English at City College of New York, has written 'Diaries: Robert Musil 1899-1942'; 'Dante, Eros and Kabbalah'; 'My Search for the Messiah: Studies and Wanderings in Israel and America'; 'Blue Hill Avenue: A Novel'; 'The Red Adam'; and 'Absent Shakespeare.'



Mark Jay Mirsky

## 'Translations' offers new view of New York

"Time Translations," an interactive installation by **Nell Breyer**, research affiliate at the Center for Advanced Visual Studies, is at the World Financial Center South Bridge (Liberty and West streets, New York, N.Y.) through Sunday, Oct. 16. Cameras capture the constant movements along the bridge in real time. The images are then pro-

cessed by computer and projected as ephemeral drawings on the walls to the bridge. "Time Translations" is on view daily from 8 a.m. to 8 p.m.

A reception for the installation will be held on Thursday, Sept. 22, from 5-7 p.m. at One World Financial Center Lobby (200 Liberty St., N.Y.). To attend, e-mail [events@brookfieldproperties.com](mailto:events@brookfieldproperties.com).

MIT EVENT HIGHLIGHTS SEPTEMBER 21-25

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




PHOTO COURTESY / www.sitarschool.com/ustadji.html

Sitar star

Shahid Parvez, a world-renowned sitar player, will perform at Wong Auditorium at 4 p.m. Sunday. Tickets are \$18, \$14 for members of MIT Heritage of South Asia, \$10 for students and free for MIT students.

WEDNESDAY  
September 21


 **Sanskrit Class**  
Learn some of the ancient language. Noon. Room 5-234. 258-0385.


 **Fall Gallery Tour: "Mind and Hand"**  
Deborah Douglas leads a lunchtime tour. Noon. MIT Museum. 253-5927.

 **"Is There a Global Communication Culture?"**  
Panel discussion on the impact of globalization on communication flow in business, media, education and cultural production. 1-3 p.m. Room 16-628. 258-0385.

 **MISTI Week Soccer Tournament**  
MIT soccer teams play off against each other in a three-part tournament during MISTI Week. 7-9 p.m. Barry Astro turf. 258-0385.

THURSDAY  
September 22


 **"Leadership in an International Company"**  
Lecture by Kennett Burnes, chairman and CEO of Cabot Corporation. 4-5:30 p.m. Wong Auditorium. 258-9419.


 **"The Future of the Car - The Car of the Future"**  
Panel with John Heywood, Dan Roos, Erica Fuchs and Will Lark. 4-6 p.m. Room 4-237. 258-0385.

 **Writer's Series: Mark Jay Mirsky**  
Reading by Mirsky, a writer and founding editor of Fiction Magazine. 7 p.m. Room 14E-304. 253-7894.


 **Indian Movie: Veer Zaara**  
8-10 p.m. Room 56-114. 258-0385.

FRIDAY  
September 23

 **"Emerging Muslim Identities in Diasporic Communities"**  
Panel presentation moderated by Arundhati Banerjee. 3-5 p.m. Room 3-343. 253-4771.


 **"Scientific Settings: Photos of MIT Labs"**  
Opening reception for the photographs of Scott Globus, MIT Class of 1984. 4 p.m. Room 10-150. 253-4444.


 **The Great Glass Pumpkin Patch@MIT**  
Opening reception for the annual event benefiting the MIT Glass Lab. No sales at reception. 5-8 p.m. 253-5309.

 **"An Evening of Vietnamese Guitar"**  
The band Living Incense performs the Five Venoms Style, an original composition for electric guitar, drums and electronics. 8 p.m. MIT Coffeehouse. 253-2341.

SATURDAY  
September 24

 **Varsity Sailing - Women's Dinghy Clinic**  
9 a.m. Charles River. 258-5265.


 **Varsity Football vs. Worcester State College**  
2 p.m. Steinbrenner Stadium. 258-5265.

 **"Mondovino"**  
LSC Movie. \$3. 7 p.m. Room 26-100. 253-3791.



The Great Glass Pumpkin Patch@MIT. See Editor's Choice, Sept. 24.

SUNDAY  
September 25

 **F.A.S.T. Program: "The Wonders of Electricity and Magnetism"**  
Demonstration by Professor Walter Lewin. Free with an MIT ID. 2-4 p.m. Meet at MIT Museum to walk over to off-site physics laboratory. 452-2111.

 **MITHAS Concert**  
Shahid Parvez, sitar. Presented by MITHAS (MIT Heritage of South Asia) in cooperation with Sangam. \$18, MITHAS members \$14, students \$10 and MIT students free. 4 p.m. Wong Auditorium. 258-7971.

 **International Folk Dancing (participatory)**  
8-11 p.m. Lobdell Dining Hall. 253-FOLK.

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

HURRICANE KATRINA BENEFIT

Concert to benefit victims of Hurricane Katrina — donations encouraged.

*Sept. 24*

Lobdell Dining Hall  
9 p.m.

GREAT GLASS PUMPKIN PATCH

1,000 handblown glass pumpkins, created by artists from the MIT Glass Lab. Proceeds benefit the MIT Glass Lab.

*Sept. 24*

Kresge Oval  
10 a.m.-5 p.m.

SUDAN CRISIS AND HUMAN SECURITY

Talk by Francis Deng, Center for Displacement Studies at Johns Hopkins University.

*Sept. 27*

Wong Auditorium  
7-8:30 p.m.


MIT EVENT HIGHLIGHTS SEPTEMBER 26-OCTOBER 2

MONDAY  
September 26


 **"Scientific, Health and Political Implications of an Avian Flu Pandemic"**  
Journalist Laurie Garrett discusses the scientific, health and security implications of an avian flu pandemic. 3-4:30 p.m. Dibner Institute. 253-8306.

 **Class, Case, & Company**  
Real estate development class. 4-5:30 p.m. Room W31-301. 253-4373.


 **MIT-India Program Student Orientation**  
For all students interested in learning more about the MIT-India Program. 5-7 p.m. Building E38, 7th floor conference room. 253-3121.

 **Introduction to Self Defense**  
Jiu-Jitsu class covering the basic self-defense skills. 9-11 p.m. DuPont Wrestling Room.

TUESDAY  
September 27

 **"Europe's Encounter with Islam: What Future?"**  
Talk by Professor Nilufer Gole. 4:30-6:30 p.m. Room E51-095. 253-8961.


 **MIT-Germany Program Student Orientation**  
Sigrid Berka speaks to students interested in learning more about the MIT-Germany Program. 5-7 p.m. Building E38, 7th floor conference room. 253-6982.


 **"Kunsthau Graz"**  
Architecture lecture by Peter Cook. 6:30 p.m. Room 10-250. 253-7791.


 **Equinox Festival Contra Dance**  
Music by Victor & Emily Troll, friends & sit-ins. 8-10:30 p.m. Student Center, room 407. 354-0864.

WEDNESDAY  
September 28


 **"Europe and the Future of American Grand Strategy"**  
Talk by James McAllister of Williams College. Noon. Room E38-615. 253-7529.

 **A.D. Little Lecture in Physical Chemistry**  
Talk by Lou Brus of Columbia University. 4 p.m. Room 6-120. 253-1803.


 **Depression Screening Day**  
Talk by health educator Zan Barry. 4-7 p.m. Bush Room. 253-3646.


 **"Busting Vegas" — Ben Mezrich Talk**  
Ben Mezrich, author of "Bringing Down the House," and MIT blackjack whiz Semyon Dukach will discuss their new book, "Busting Vegas." 7-10 p.m. Room 10-250.

THURSDAY  
September 29


 **Islamic Information Table**  
Free information about Islam and students on hand to answer any questions. 10 a.m.-5 p.m. W20. Thursdays through December 8.


 **"Innovation Everywhere"**  
Talk by Ray Kurzweil, chairman and CEO, Kurzweil Technologies, Inc. 3:30 p.m.-5 p.m. W16. 253-0108.


 **Varsity Women's Tennis vs. Tufts University**  
Kickoff for Derby Days  
4 p.m. Du Pont tennis courts/JB Carr tennis bubble. 258-5265


 **Derby Days 2005 Kickoff**  
Kickoff for Derby Days  
2005, including performing groups from MIT and Wellesley and a speaker from the Children's Miracle Network. \$5, proceeds to the Children's Miracle Network. 7-9 p.m. Room 54-100.

FRIDAY  
September 30

 **MIT Chemical Oceanography Seminar**  
Talk by Marco Coolen. 3-4 p.m. Room E34-430.

 **Derby Days 2005 Casino Night**  
High-class casino night featuring blackjack, poker, roulette, live music and food. 7 p.m. Johnson Athletic Center.

 **Natyanjali**  
MIT Natya's annual program showcases the variety and beauty of traditional classical Indian dance. \$7, \$5 with MIT ID. 7:30 p.m. Kresge Little Theater.

 **St. Petersburg String Quartet**  
Mozart's Quintet in B flat with Professor Marcus Thompson, viola. 8 p.m. Kresge Auditorium. 253-9800.

SATURDAY  
October 1

 **Videos by Christian Jankowski**  
Presented in conjunction with "Everything Fell Together," German artist Christian Jankowski's first major museum retrospective at the List Visual Arts Center. 24 hours. Media Test Wall, Whitaker Building 56. 253-4400.


 **Derby Days 2005 Competition**  
BBQ at Kresge, followed by competition at Kresge Oval. Noon.

 **MITHAS Concert HeARTbeat (Indian classical ensemble).**  
Presented by MITHAS (MIT Heritage of South Asia) in cooperation with Sangam. \$50, \$35, and \$25. 7:30 p.m. Kresge Auditorium. 258-7971.

SUNDAY  
October 2

 **"Tu eres mi colonia"**  
Video and photography installation by Luis Berrios-Negrón (G), first-prize winner of the 2005 Schnitzer Prize in the Visual Arts. 24 hours. Wiesner Student Art Gallery 253-7019.

 **"Mind & Hand: The Making of MIT Scientists & Engineers"**  
MIT Museum exhibit. Noon-5 p.m. MIT Museum. 253-4444.

 **"Iquarium"**  
A virtual fluid flow display. 9-8 p.m. Hart Nautical Gallery. 253-5942.

 **"MIT Flutings & Floatings: Flute Music by MIT Composers"**  
Sue-Ellen Hershman-Tcherepnin, flute and guest musicians perform Peter Child's Duo for flute and percussion. 7:30 p.m. Killian Hall. 253-9800.