



OMARI STEPHENS—THE TECH

At the MIT Cogeneration Plant, Rich Hagar (bottom right) pumps a hydraulic jack piston as (top, left to right) Donny Warner, Denis Tebo, and Ricky Parker keep a close eye on the operation. The contractors inserted a 20-ton generator part this past Wednesday, Sept. 12 after it returned from repair.

Errors, Ambiguities Plague U.S. News Rankings; Data Uncertain

By Gregory N. Price

MIT's fall from fourth to seventh place in this year's *U.S. News and World Report* college ranking was

News Analysis

driven in part by changes in how MIT defines and computes class sizes. Corrections in how MIT reports its entering class's SAT scores also contributed to the drop.

"The language is muddy," Director of Institutional Research Lydia S. Snover said of the class-size definition used by *U.S. News*. "We've been having these debates on and off over what is a class." Ambiguities in MIT's

administrative databases, resolved differently from year to year, also affect the data.

Similar errors and uncertainties affect data reported by other colleges. Schools' reported numbers changing with interpretation from year to year "happens regularly, but not too often," said Robert J. Morse, director of data research at *U.S. News*, who manages the rankings. As for outright errors, "There are many, many schools that make mistakes in their data" and correct them privately, Morse said, but "there are so many schools and so many pieces of data that [the fraction of schools making mistakes] is probably under 1 percent."

Since 1994, MIT's ranking in the annual survey has ranged as high as third, in 1999, and as low as seventh, in 2005 and this year. (See table on page 17.) The precise formula is not published, but the rankings are based on measures of admissions selectivity, reputation among other schools' administrators, faculty and financial resources, graduation rates, and alumni generosity.

SAT scores omitted

In the admissions process, MIT ignores certain standardized-test scores from some students — the SAT ver-

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Sodium Still Under Investigation

No Suspects Have Been Named by Suffolk County District Attorney

By Nick Semenkovich

NEWS EDITOR

The Massachusetts State Police continue to investigate last week's Charles River accident involving a block of sodium. No suspects have yet been named in the investigation, and MIT has only been associated with the event by Boston media sources who speculate that the traditional East Campus sodium drop caused the injuries.

It has become increasingly appar-

ent, however, that the well-known East Campus drop may not be responsible for the incident.

A volunteer crew cleaning the Charles River last Thursday, Sept. 6, picked up a block of sodium near the Boston side of the Harvard Bridge and threw it into a container with other debris. The sodium then exploded, thermally and chemically burning two volunteers. Three paramedics responding to the explosion suffered chemical burns.

Jake Wark, spokesperson for the Suffolk County District Attorney's Office, said that the police are continuing to investigate the source of the sodium block, which was found near the granite steps at Gloucester Street, approximately 350 meters east from the Boston end of the Harvard Bridge.

Wark would not comment on specifics of the investigation but stressed that MIT had not been identified as

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UA President Tells of Goals, Daily Tasks

By Nick Semenkovich

NEWS EDITOR

This is the final interview in a seven-part series introducing incoming students to some of MIT's faculty, staff, and student leaders. Today, *The Tech* interviews Martin F. Holmes '08, president of the Undergraduate Association. Holmes talks about the UA and his goals for the upcoming year.

The Tech: Tell me about your role with the MIT undergraduate community.

Martin Holmes: I am the president of the Undergraduate Association. In that role, I administer the internal UA functions and work to represent student interests to the administration, protect the values and traditions of students, and that kind of stuff.

TT: For those who don't know, can you give a brief synopsis of what the Undergraduate Association does?

MH: Our basic goal is to represent student interests to the administration. The UA is broken up into the Senate, which consists of representatives from each of the different dormitories. They write bills, pass legislation, and allocate money to student groups. The UA also has different committees. There are around a dozen of them which focus on issues, specific topics — things like Orientation, Housing, Dining. It really runs the gamut of anything that would affect students here at MIT.

TT: So you mentioned that the UA Senate writes bills. Can you give me an example of some of the

bills or legislative issues that they've taken up in the past?

MH: One of the big ones we did towards the end of last year was to really research the issue of Boston Daytime funding. We wrote up a bill about that and how funding was running out. We researched statistics about usage, costs, efficiency — all kinds of stuff — put that together in a resolution which we got passed and were able to take to the administration so that we were able to secure

funding for this entire academic year as well.

TT: What are some of your upcoming goals this year as UA president?

MH: The big ones that I'm dealing with right at the moment are hacking, Dining, and the Career Fair. It looks like there will be revisions to the stated MIT hacking policy. There is a committee of pretty high-level

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ERIC D. SCHMIEDL—THE TECH

Undergraduate Association President Martin F. Holmes '08 speaks with *The Tech* about his goals for the year and gives advice to freshmen about how to get more involved.

Bedbug Infestation Irks Ashdown House Students

By Danielle Piskorz

A bedbug problem that has been plaguing Ashdown since last spring is close to being resolved. An exterminator contracted to MIT has been visiting rooms several times a week over the course of the summer, and sticky-trap style bug monitors newly installed in each room show no sign of new activity.

According to Anurag Bajpayee G, president of the Ashdown House Executive Committee, the source of the bedbug problem "has been traced to used furniture," purchased by residents in two separate suites. When a

student reported waking up with bite marks, Housing initiated extermination procedures.

Ashdown is not alone; bedbugs were found in another graduate residence last year. "Bedbugs are a popular college problem," said Director of Housing Dennis J. Collins, citing a recent case at Emmanuel College, where students are no longer allowed to bring in used furniture where the insects could reside. In the past few years, bedbugs have become an increasing problem across the United

Bedbugs, Page 21

In Short

¶ **The MIT endowment** grew by \$1.6 billion this year, bringing the endowment to a total of \$9.98 billion. MIT reported returns of 22 percent. Harvard's endowment grew by \$5.7 billion, to a total of \$34.9 billion. Harvard reported returns of 23 percent.

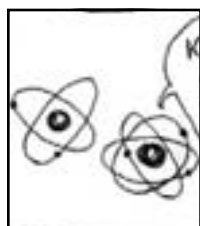
¶ **The Dormitory Council** elected Burton-Conner President Colleen P. Mosley '09 as their vice president Wednesday. Fun fact: Voting at DormCon is by residence size; East Campus gets 374 votes and Random Hall gets 93.

¶ **The Air Force** is hosting a free concert at Kresge Auditorium this Saturday, Sept. 15 starting at 7 p.m. The concert commemorates the 60th anniversary of the Air Force, and features the Air Force Band of Liberty

and singer Maureen McGovern. Tickets are available today, from 9:30 a.m. – 3:30 p.m. in W59-114.

¶ **Lockers in the Student Center** are available for registered students. The Campus Activities Complex has 48 lockers in the Student Center game room and reading room available for rent at \$20 per semester. To obtain a locker, apply online at <http://web.mit.edu/campus-activities/www/>. The deadline for applications is today.

¶ **A blood drive** will take place Monday through Friday next week in La Sala in the Student Center. The blood drive will be open every day from noon–6 p.m., except Thursday, when it will be open 8 a.m. – 2 p.m. All donors will receive a free shirt and pizza.



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D-Lab courses, research center targets problems of developing world.

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NEWS

Master's degrees abound as universities and students see a windfall.

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WORLD & NATION

Number of Soldiers to Be Left In Iraq Remains Unclear

By David S. Cloud

THE NEW YORK TIMES

WASHINGTON

Though President Bush said he would withdraw five Army combat brigades and several Marine units from Iraq by next summer, as the top commander in Iraq had recommended, the White House was careful Thursday not to be pinned down on just how many soldiers would remain.

There are about 169,000 American troops in Iraq — that includes 20 combat brigades, a number that is to drop to 15 under the new plan — as well as a roughly equivalent number of support forces.

The announced withdrawals would remove the same number of combat units sent to Iraq as part of the increase in forces ordered by President Bush this year. But the White House said troop totals may not return to exactly 133,000, the number deployed before the so-called surge began early this year, because of the need to keep in place specialized units, like military police and helicopter squadrons.

"It's not a fixed number, because things change over time," said a senior administration official, briefing reporters before the speech on the condition of anonymity.

San Francisco Will Guarantee Health Care to All the Uninsured

By Kevin Sack

THE NEW YORK TIMES

SAN FRANCISCO

An initiative here known as Healthy San Francisco is the first effort by a locality to guarantee care to all of its uninsured, and it represents the latest attempt by state and local governments to patch a inadequate federal system.

The new program offers free or subsidized health care to all 82,000 San Francisco adults who lack insurance. It is financed mostly by the city, which is gambling that it can provide universal and sensibly managed care to the uninsured for about the amount being spent on their treatment now, often in emergency rooms.

After a two-month trial at two clinics in Chinatown, the program is scheduled to expand citywide to 20 more locations on Sept. 17.

Whether such a program might be replicated elsewhere is difficult to assess. In addition to its unique political culture, San Francisco, with a population of about 750,000, has the advantages of compact geography, a unified city-county government, an extensive network of public and community clinics and a relatively small number of uninsured adults. Virtually all the city's children are covered by private insurance or government plans.

Abe Hospitalized; Election of Successor Postponed

By Norimitsu Onishi

THE NEW YORK TIMES

TOKYO

A day after abruptly announcing his resignation, Prime Minister Shinzo Abe was hospitalized with gastrointestinal problems Thursday morning, and the governing Liberal Democratic Party pushed back the date to choose his successor.

Abe is expected to stay in the hospital at least three days because he is suffering from digestive problems and a lack of appetite brought on by fatigue and stress, according to his doctor at Keio University Hospital here. Party officials had cited Abe's poor health as one reason behind his resignation.

Worsening the political vacuum, party officials announced that they would hold an election to choose a new leader Sept. 23, not Sept. 19, as they had said Wednesday.

Apparently worried about giving the impression that the next prime minister would emerge from backroom deals, the officials said the extra time would allow more candidates to campaign before the general public.

Success Allows Limited Troop Cuts, Bush Says in Nat'l Address

By Steven Lee Myers and Carl Hulse

THE NEW YORK TIMES

WASHINGTON

President Bush contended on Thursday night that his plan to begin withdrawing some troops from Iraq gradually was based on a principle he called "return on success," saying that progress made so far could be squandered by the deeper and speedier reductions that the war's opponents have demanded.

At the same time, Bush called for an "enduring relationship" with Iraq that would keep American forces there "beyond my presidency," saying a free and friendly Iraq was essential to the security of the region and the United States. He cast the war in Iraq as a vital part of a strategy in the Middle East to defeat al-Qaida and counter Iran.

Evidently sensitive to how lower troop levels might be seen — by enemies abroad and critics at home — he emphasized in his address that early drawdowns were now possible only because the strategy of sending more troops to Iraq eight months ago had worked. He did not once use the word withdrawal.

"The more successful we are, the

more American troops can return home," Bush said, trying once again to win support for a war in Iraq that remains deeply unpopular.

The speech was the first time since the war began four and a half years ago that Bush outlined a plan for troop reductions, to bring levels down from the current high of 169,000. He held out the prospect of more reductions but committed only to a plan that would withdraw by next July the additional combat units he ordered there in January, leaving a main body of more than 130,000 troops intact.

In the Democratic response, Sen. Jack Reed of Rhode Island, a West Point graduate, said that Bush was making the case for an "endless and unlimited military presence in Iraq," and he vowed that Congress would prevent it.

"Once again, the president failed to provide either a plan to successfully end the war or a convincing rationale to continue it," said Reed, an author of a Democratic proposal to withdraw most combat troops by next spring but still leave a significant force in Iraq to provide training and security.

Bush's 18-minute address culminated several weeks of political stage-

craft that included several speeches and a presidential trip to Iraq but also heavy reliance by the White House on Gen. David H. Petraeus, the top American commander in Iraq, to make the public case for a strategy overseen by the commander in chief.

While promoting progress in Iraq, Bush conceded that his vision for Iraq would be a difficult one to achieve. That acknowledgment was punctuated with macabre timing by the assassination in Anbar Province, west of Baghdad, on Thursday of a Sunni sheik, Abdul Sattar Buzaigh al-Rishawi, who had led a group of tribal leaders into an alliance with the United States and who had met the president during his trip to Iraq only 10 days ago.

The White House clearly sought to maximize the political benefits from the announcement of a troop reduction, which some military officials said would have had to happen anyway unless the administration took the politically unpalatable step of extending troops' tours in Iraq to longer than 15 months. The first 5,700 troops affected by the pullback would leave Iraq this year — "by Christmas," Bush said — and roughly 18,000 more would do so by mid-July 2008.

Sunni Sheik Who Backed U.S. In Iraq Killed in Bomb Attack

By Alissa J. Rubin

THE NEW YORK TIMES

BAGHDAD, IRAQ

A high-profile Sunni Arab sheik who collaborated with the American military in the fight against jihadist militants in western Iraq was killed in a bomb attack on Thursday near his desert compound. The attack appeared to be a precisely planned assassination meant to undermine one of the Bush administration's trumpeted achievements in the war.

Two guards were also killed in the attack on the sheik, Abdul Sattar Buzaigh al-Rishawi, who just last week shook hands with President Bush during Bush's surprise visit to Anbar, in which he extolled the cooperation with Sunni clans that has made the province, once Iraq's most dangerous, relatively safe.

Iraqi and American officials were stunned by the assassination, which

came just hours before Bush was to address the American people about his plans for Iraq. But they said it would not derail the collaboration of the alliance of Sunni clans, known as the Anbar Salvation Council.

Abdul Sattar, 35, who was also known as Abu Risha to Iraqi and American commanders, had become the public face of the Sunni Arab tribes in lawless Anbar province that turned against the Sunni jihadists of al-Qaida in Mesopotamia and began to fight on the side of the Shiite-led Iraqi government and the American military. The Salvation Council was formed one day short of a year ago.

Local papers often featured photographs of the robed sheik talking with the American commander in Iraq, Gen. David H. Petraeus, with other American generals and with the Shiite prime minister, Nouri

Kamal al-Maliki. But he was not unequivocally supportive; he often complained about the government's failure to give his men the arms and support they needed.

He had credibility with the tribal leaders because he and his family had suffered so much loss at the hands of the jihadi extremists. In an interview earlier this year, Abdul Sattar said that his father had been killed in an attack by al-Qaida of Mesopotamia in 2004 and two of his brothers were abducted and never heard from again; a third was shot dead. He had survived three car bombs outside the Anbar home he shared with his wife and five children.

On Thursday, the American military said a bomb destroyed the vehicle he was in, but it was unclear whether it was a roadside bomb or a suicide bomber.

WEATHER

Pleasant Weather to Continue

By John Williams

September is typically one of the most comfortable (and easy to forecast) months in the New England year. Last year, the warmest days during September were in the low 80s°F while the coolest were generally in the mid 60s°F. In addition, nearly two-thirds of the days featured sunshine. By contrast, this month we have already experienced two days with highs in the mid 90s°F. However, those days were quite anomalous and most likely we are done with such hot weather for 2007. Already the fall march of cool Canadian high pressure areas towards the south has begun, with the first hard freeze since the spring being felt in the Upper Midwest earlier this week. This time of year marks the peak of Atlantic Hurricane season and there are two systems currently of note. After making landfall in east Texas Wednesday, the remains of Hurricane Humberto may add some moisture to a cold front for us over the weekend, and Tropical Depression 8 east of the Virgin Islands bears watching.

Most states in the area would probably welcome a weak tropical storm landfall or a few more soakers like Tuesday's frontal passage to help with recent dry conditions, but the immediate future looks predominantly storm-free. Today will be very nice with some late day clouds. Some storminess moves in for Saturday morning but moves out just as quickly. Afterwards, expect stiff winds to bring cooler air by later Saturday and Sunday. Temperatures could even bottom out near 40°F by Monday morning. Daytime temperatures look to stay in the upper 60s°F and low 70s°F throughout the period.

Extended Forecast

Today: Mostly sunny. High 75°F (24°C).

Tonight: Clouds increasing, some rain by morning. Low 59°F (15°C).

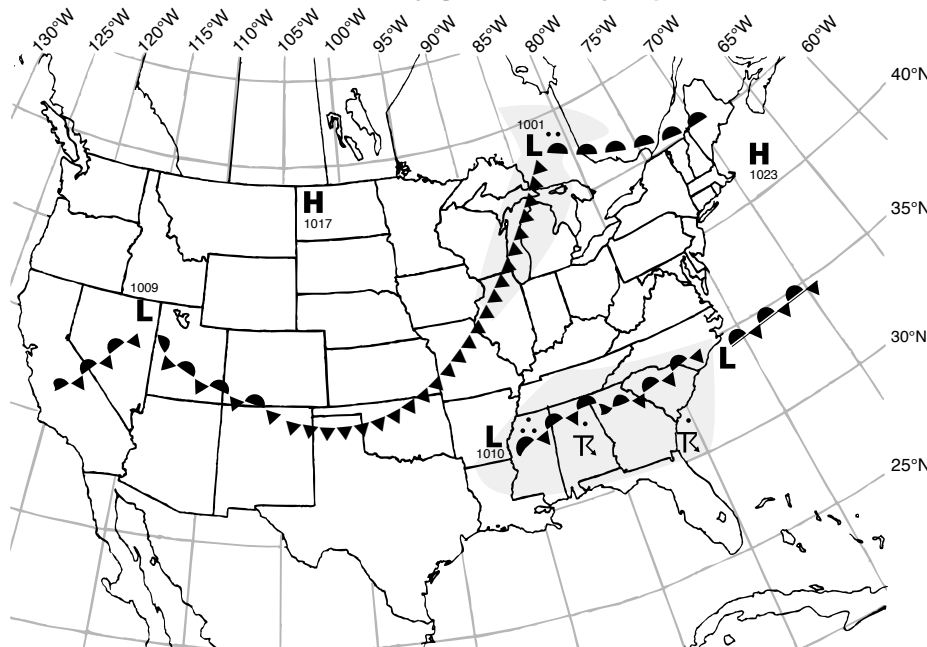
Tomorrow: Clouds and showers in the morning, clear and breezy afternoon.

High 71°F (22°C).

Sunday: Sunny. High 65°F (18°C).

Monday: Mostly sunny. High 68°F (20°C).

Situation for Noon Eastern Daylight Time, Friday, September 14, 2007



Weather Systems	Weather Fronts	Precipitation Symbols	Other Symbols
H High Pressure	- - - Trough	Snow *	Fog ☁
L Low Pressure	—••• Warm Front	Rain ∇	Thunderstorm ⚡
§ Hurricane	▲▲▲ Cold Front	Light *	Haze ☁
	▲▲▲ Stationary Front	Moderate **	
		Heavy ***	

Compiled by MIT Meteorology Staff and The Tech

Aug. Fires Change Outlook For Greek Parliamentary Elections

By **Anthee Carassava**
THE NEW YORK TIMES

ATHENS, GREECE

Just a month ago, Prime Minister Kostas Karamanlis called for early parliamentary elections, when his center-right New Democracy party seemed a shoo-in for victory.

Greece's moribund economy was on the rebound. After three and a half years of sometimes painful changes, the nation had one of the fastest rates of growth in Europe.

But much has changed since then, and that is affecting the elections on Sunday. Fires in August tore through forests parched by two months of intense heat, killing at least 65 people, charring half a million acres of farmland, and throwing the government's reflexes into question.

"The fires shocked the nation," said Theodore A. Couloubis, vice president of Eliamep, a research organization in Athens. "They left many Greeks wondering 'if neither the conservatives nor socialists can prevent such calamity, then who can we turn to?'"

With polls indicating that as many as 12 percent of Greece's 10 million

voters are undecided, Karamanlis' conservatives and Pasok, the socialist party he defeated in 2004 after almost 20 years of uninterrupted socialist rule, appear to be in one of the toughest races in recent memory. But in those surveys, neither New Democracy nor Pasok polled more than 40 percent, raising the likelihood that the winner will have to share power in a coalition or struggle to govern with a thin majority in the 300-seat parliament.

Karamanlis and his change-minded administration have built a record of economic discipline, slashing the budget deficit. A sharply reduced majority for the conservatives may imperil their hopes to make other changes, including privatizing ailing state enterprises and revamping the social security system.

Yet discontent with the government's handling of the fires has given little help to the socialists, despite the thumping campaign style of the party's usually mild-mannered leader, George A. Papandreou.

The standoff offers the chance for a far-right party to break into parliament by amassing more than 3 percent

of the vote, the threshold for entering the legislature. The Popular Orthodox Rally, which was founded by a politician whom Karamanlis expelled in 2000 for his extremist statements, has struck a chord among disgruntled voters with a medley of xenophobia, nationalism and anti-American views.

Last week, the party leader, Giorgos Karatzaferis, softened his stance, denying accusations of racism and of sympathy for anti-American terrorists at large in Greece.

He and the socialists have accused the prime minister of covering up a bond-trading scandal, of tolerating cronyism and of responding ineptly to the fires.

But Karamanlis responded with handouts to fire victims, and by offering packages of higher pensions and tax breaks. He also has threatened to hold new elections this fall if his party fails to win an outright majority.

"Voter frustration may continue to linger," said Anthony Livianos, president and chief executive of Alpha Metrics, a polling agency in Athens. But, he said, "Most voters will have to size up to reality and pick the best show of leadership before them."

Fifteen Pakistani Commandos Killed in Apparent Suicide Blast

By **Salman Masood**
and **Ismail Khan**
THE NEW YORK TIMES

ISLAMABAD, PAKISTAN

At least 15 soldiers from an elite commando unit were killed Thursday evening when a blast, apparently set off by a suicide bomber, tore through the dining hall of a military installation in northwestern Pakistan, military officials said.

At least 27 soldiers were wounded; six were in critical condition.

The soldiers killed belonged to a unit of Special Services Group, commonly known as commandos, of the Pakistani military. Pakistan's president, Gen. Pervez Musharraf, who is also the military chief, belongs to the SSG.

The attack took place about 50 miles outside the capital, Islamabad, in the cantonment area of Tarbela Ghazi at the brigade headquarters of the Special Operation Task Force. The unit has been set up with American aid to flush out al-Qaida from the semiautonomous tribal areas straddling the border with Afghanistan.

A security official, who spoke on the condition of anonymity, said that

the blast was the work of a suicide bomber, adding that the bomber could have been one of the civilian workers at the brigade headquarters.

"This is a high security zone," the official said. "Obviously, this was someone who was known and familiar to the soldiers there and it could be one of the civilians working at the base."

Government officials would not publicly confirm that it was a suicide attack, however, and there were no immediate claims of responsibility. Maj. Gen. Waheed Arshad, the spokesman for the Pakistani military, said the cause of the explosion was still being investigated.

The attack on the military installation coincided with a visit to Islamabad by the U.S. deputy secretary of state, John D. Negroponte, who met Thursday with Musharraf.

Pakistan has been raked with surging violence as the military battles fighters sympathetic to the Taliban and al-Qaida, with a rising number of deadly attacks on military targets.

The attack on Thursday was the second time this month that a high-security installation had been hit, point-

ing to the ease with which terrorists have been able to inflict maximum damage after penetrating seemingly secure military areas.

On Sept. 4, at least 25 people were killed when two suicide bombers blew themselves up in the garrison city of Rawalpindi. Many of the victims belonged to the country's powerful intelligence agency, known as Inter-Services Intelligence, or ISI.

The blast on Thursday occurred around 8 p.m., as soldiers were having dinner in the mess hall, the military spokesman said.

Afterward, security officials cordoned off the area and the wounded were ferried to the military hospital in nearby Attock and Rawalpindi.

A kind of rapid reaction force, the Special Operation Task Force has conducted raids in the restive South and North Waziristan tribal region, where Taliban and al-Qaida militants are based.

The unit's operations have included the late 2003 operation in a border village in South Waziristan to track down Abu Abdur Rehman Khidr al Canidi, whom intelligence officials believed was a key Qaida operative.

Two More Earthquakes Hit Indonesia; Strongest Shock Was 8.4 in Magnitude

By **Peter Gelling**
and **Seth Mydans**
THE NEW YORK TIMES

PADANG, INDONESIA

Two more strong earthquakes shook the coast of the Indonesian island of Sumatra on Thursday, after the powerful quake that hit on Wednesday, but the area escaped a major tsunami like the one that devastated the region in 2004.

More than a dozen people were reported to have died in the earthquakes, and hundreds of buildings were damaged in the coastal cities of Padang and Bengkulu in western Sumatra.

The shaking continued through the day Thursday, keeping residents on edge. Some fled to higher ground away from the coastline; many more camped outdoors in the streets and parks.

The first and biggest of the shocks, with a magnitude of 8.4 on Wednesday evening, was the third in a cluster of earthquakes in the area in the past three years of a magnitude of more than 8.0.

That cluster could be a signal that the western coast of Sumatra, which

stretches 1,100 miles, could face still more danger, scientists say.

"I am more convinced than ever that we are going to be seeing a significantly larger earthquake in the area," said Kerry Sieh, a seismologist from the California Institute of Technology who has spent several decades studying earthquake risk around Sumatra.

"These three big earthquakes, they just encircle this big patch that has not failed, a big strong part of the fault that hasn't broken yet," he said. "The million-dollar question is: Is it over?"

Bengkulu, a city of 1.2 million, was the closest large community to the latest earthquakes, and it had the most damage. The epicenter of the first quake was about 60 miles southwest of the city; the second was about 125 miles to the northwest.

The major earthquake on Wednesday was followed by a series of aftershocks, and one of them, on Thursday morning, was a serious earthquake on its own. It struck almost 200 miles northwest of the epicenter of the earlier earthquake and had a magnitude of 7.8. It was followed shortly before

noon by another significant earthquake, with a magnitude of 7.1.

As the earth shook along the Sumatran coast, tsunami warnings were repeatedly issued and then withdrawn by governments in Asian and African countries along the Indian Ocean.

The range of nations on the alert reflected the damage done in December 2004, when a tsunami took an estimated 230,000 lives on the Indian Ocean rim, with the heaviest death toll in Aceh province in northern Sumatra.

In recent months, Padang had stepped up a public education campaign, drawing on the lessons of Aceh. Residents there headed for higher ground in a relatively orderly way after the latest quakes, one earthquake monitor said.

"A few people panicked, but the city is under control," said Patra Rina Dewi, who leads an organization called Kogami, which has been educating residents about earthquakes and tsunamis. "Our mayor was on the radio giving instructions to the community and to agencies about what they should do."

Prize of Up To \$25 Million Is Offered For Unmanned Moon Shot

By **John Schwartz**

THE NEW YORK TIMES

The group whose \$10 million prize spurred privately financed rocketeers to send a small piloted craft to the cusp of space in 2004 has issued a new challenge: an unmanned moon shot.

With the audacious new contest comes a much bigger prize — up to \$25 million, paid for by Google, the ubiquitous Internet company.

The "Google Lunar X Prize" was announced Thursday in Los Angeles at the Wired Magazine's NextFest. The contest calls for entrants to land a rover on the moon that will be able to travel at least 500 meters and send high-resolution video, still images and other data back home.

The X Prize Foundation saw the new contest as one of "the grand challenges of our time that we can use to move people forward," said Peter H. Diamandis, chairman and CEO of the foundation.

The prize for reaching the moon and completing the basic tasks of roving and sending video and data will bring the winner \$20 million, according to the contest rules. An additional \$5 million would be awarded for other tasks that include roving more than 5,000 meters or sending back images of man-made artifacts like lunar landers from the Apollo program.

Witness Says Jeffs Pressed Her To Consummate Marriage to Her

By **John Dougherty**

THE NEW YORK TIMES

ST. GEORGE, UTAH

The prosecution's star witness in the trial of the fundamentalist Mormon polygamist leader Warren S. Jeffs testified Thursday that she was taught to obey church leaders without question or face dire consequences.

"We would forfeit our chance at the afterlife" by disobeying religious leaders, testified the woman, who in 2001 at age 14 married her 19-year-old first cousin in a religious ceremony performed by Jeffs.

Identified as Jane Doe, the woman told the jury that the fundamentalist Mormon religious leaders are considered by church members to be "gods on earth."

How much control Jeffs had over the girl is crucial to the outcome of the case, which has drawn international attention to the fundamentalist Mormon polygamist community based in the adjacent towns of Hildale, Utah, and Colorado City, Ariz., about 50 miles east of St. George.

Jeffs, 51, is charged with rape as an accomplice. The prosecution says he coerced the girl to unwillingly consummate a "spiritual marriage," while the defense argues that she was not raped and that Jeffs never encouraged her to submit to unwanted sexual relations.

Jeffs is the self-proclaimed prophet of the Fundamentalist Church of Jesus Christ of Latter-day Saints, a breakaway sect of the mainstream Mormon Church with about 10,000 followers across the West. The sect practices polygamy in defiance of state and federal laws, and its adherents believe a man must have three wives to reach heaven's highest realms.

Fed Likely to Reduce Rates, But by How Much Is Unclear

By **Edmund L. Andrews**

THE NEW YORK TIMES

WASHINGTON

When policymakers at the Federal Reserve meet to set interest rates next Tuesday, their debate is likely to be less about whether to reduce rates than about how much.

The meeting is also likely to be a defining moment for Ben S. Bernanke, who has not had to wrestle with a major economic upheaval since he took over as Fed chairman in February 2006. Wall Street, frightened by the turmoil in credit markets and in housing, is betting on the Fed to cut rates deeply. But Bernanke wants to know if the overall economy is on the brink of a recession, and the evidence on that is far from decisive.

Investors now assume that the central bank will reduce the overnight federal funds rate by at least one-quarter of a percentage point, to 5 percent. Fed officials have not tried to dissuade that assumption. But there is a possibility that the central bank will go further, reducing its benchmark rate by half a percentage point and signaling further reductions later this year.

Bernanke and other Fed officials have said they do not want to be rescuers of last resort for investors or real estate speculators who made bad decisions.

GOP Presidential Hopefuls Toughen Talking Points on Iraq

By **Michael Luo**
and **Marc Santora**

THE NEW YORK TIMES

For months, the Republican presidential candidates have awaited the report to Congress by Gen. David H. Petraeus, often deferring more pointed questions on the specifics of their views about the way forward in Iraq until his testimony.

Now that his presentation has come and gone, their talking points on the war have only seemed to toughen. They have seized on the moment to amplify a connection between the Iraq war and the global battle against terrorism and to warn of serious consequences in the region of a precipitous withdrawal.

But they are also showing subtle differences in the way they talk about withdrawing troops and what they emphasize when they discuss the difficulties that lie ahead and the consequences of leaving too early.

Sen. John McCain of Arizona has taken on the war in Iraq most directly among the Republican contenders, speaking on the trail in the most detailed way about the conflict. And he is embarking on a "No Surrender" campaign tour this week in Iowa and New Hampshire to underscore his contention that withdrawing troops now would be a mistake.

"This strategy is working, it is succeeding and it must be given a chance to succeed," McCain said in Iowa. But unlike the other top Republican candidates, he also expressed some concern about beginning to draw down even some troops, as Petraeus has suggested, if the strategy was making progress.

OPINION



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Corrections

The Sept. 7, 2007 news article, "Free Wireless Access Points Placed Across Cambridge," misspelled the name of one of the pilot programs. It is in Newtowne Court, not NewTown Court. The article also gave the wrong location of the pilot program. It is located on Main St. between Windsor St. and Portland St., not on Massachusetts Ave. Additionally, the article misspelled a company name. It is Meraki, not Maraki.

Oliver Thomas, manager of the Computing Help Desk in Information Services & Technology, clarified that the city has been evaluating both using the open-source Roofnet code developed by MIT and using Meraki's commercial solution that is loosely based on the Roofnet code. Earlier deployments such as the one in Newtowne Court were based on the Roofnet Project and later deployments such as the Harvard Square Project were built on Meraki solutions.

Letters To The Editor

MIT Should Take Responsibility For Sodium Incident

As an alumna of MIT I am embarrassed and outraged at MIT's "not me" behavior regarding the sodium drop and the injury of workers and damage to the river clean up boat. What kind of example is this administration setting for students by failing to compensate a struggling non-profit reeling from expenses incurred due to negligence with hazardous materials? I don't accept this "you can't prove it and you can't make me" attitude from my nine-year-old — why should I think it appropriate from an institution supposedly run by adults?

When I was at MIT in the late 1980s, the filth in the river was horrendous. We frequently rowed through rafts of debris and garbage that concentrated as one moved upstream. The general lack of cleanliness of the river and the area in general was very off-putting to prospective freshmen and their families. For the last few years, the "future of MIT" has encountered a much cleaner river during

campus visits, one that makes MIT more welcoming. MIT shouldn't just compensate those who were injured by this "mystery" sodium; MIT and Harvard and BU and Emerson should be bankrolling the entire cleanup effort on a regular basis!

Kate Adams '89

Institute Has Duty To Keep Charles Safe

The connection to an MIT tradition may not have been entirely proven, but I would like to join a fellow alumnus who 10 years ago called for the abolition of this destructive and unnecessary custom (<http://www-tech.mit.edu/V117/N39/halle.39l.html>). He is right, even more so now than at the time. Millions of dollars have been spent in a large scale effort to restore the ecological health of the Charles River and it is now considered swimmable most summer days. MIT has actively participated in these efforts and there is even talk that the required swimming test some day may be held in the Charles, all of which makes it even more curious that the Institute has not done anything

about the annual sodium drop. Yes, it looks fun. But surely our students, who I hope are much more environmentally educated and conscious than previous generations, can create new traditions that don't spoil the beautiful natural resource right in our backyard?

The future of Tom McNichol's Charles River Cleanup Boat is now uncertain, as the volunteer organization may not have the financial resources to repair the damage to the boat. Whether the connection between the sodium drop and this incident is proven beyond doubt or not, I believe that it is MIT's responsibility to pay for the damage and to ensure that the Charles River continues to benefit from the service provided by the clean-up boat. It is impossible to compensate the volunteers for their injuries, but the least an institution like MIT can do is ban any further littering and compensate the Charles River Clean-Up Boat for the damage done. It's a drop in the bucket for the Institute and not doing it would have a significant impact on the health and aesthetics of the Charles River and, for whatever it's worth, would lower my respect for this truly amazing institution of learning.

Ursula Hester MCP '04



Opinion Policy

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Dissents are the opinions of signed members of the editorial board choosing to publish their disagreement with the editorial.

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Letters, columns, and cartoons must bear the authors' signatures, addresses, and phone numbers. Unsigned letters will not be accepted. *The Tech* reserves the right to edit or condense letters; shorter letters will be given higher priority. Once submitted, all letters become

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Guest columns are opinion articles submitted by members of the MIT or local community and have the author's name in italics. Columns without italics are written by *Tech* staff.

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ARTS

CONCERT LISTINGS

September Shows

Friday, Sept. 14

Noisettes (with Turbo Fruits)
Middle East (Downstairs), 18+, \$12

Bust out your hipster pants for this show — or did your hipster radar tell you about this concert before you read the listing? Sure to be hip.

Saturday, Sept. 15

The Receiving End of Sirens
Avalon, all ages, \$15

True Bostonian hardcore act TREOS ends their national tour right at home.

Tuesday, Sept. 25

Devendra Banhart *
The Roxy, all ages, \$18

You could love him for combatting the ever-irritating new term “freak folk,” or you could love him for his endless support of his contemporaries, but mostly love him for his wonderful acoustic folk songs, which he constructs with all the care of a fine artist.

Wednesday, Sept. 26

Rocky Votolato
The Middle East (Downstairs), 18+, \$12

If you're into new folk music, check out Rocky Votolato. His simple melodies and pure voice make his smooth but sad songs a real treat.

Thursday, Sept. 27

MFA College Night, 7 p.m. to midnight
Museum of Fine Arts, free with college ID

The annual MFA College Night brings together live music, DJs, dancing, and art for area college students. This year's main act is Thurston Moore on his “Trees outside the Academy” Tour. And it's all FREE with a college ID. The concert is first come first serve.

Freeze-pop

The Middle East (Downstairs), 18+, \$12

Less talk, more rock! Bust out your Guitar Hero axe and celebrate these Steer Roast alums' album release party featuring Ad Frank and the Fast Easy Woman as well as Provocateur.

Saturday, Sept. 29

Fujiya & Miyagi
Middle East (Downstairs), 18+, \$12

NME called them “brilliant,” and Time Out lamented them as “criminally overlooked.” So be an upstanding citizen and check out this electronic rock trio as a final hoorah for the month of September.

—Jillian A. Berry and Sarah Dupuis

Check back in the Arts section regularly for recommendations and updates of the best things coming to Boston. Know of an upcoming concert you would like to see listed? E-mail arts@tech.mit.edu.

RESTAURANT REVIEW

Tavern Too Tame

Central Square Eatery Is Nothing Special

By Jillian A. Berry

ARTS EDITOR

Tavern in the Square
730 Massachusetts Avenue
Cambridge, Mass.

(617) 868-8800
<http://www.thetavernandwish.com/>

After seeing Tavern in the Square in Central Square (on Massachusetts Ave. just past Prospect St.) multiple times over the course of the summer, I was finally able to visit the restaurant a few weeks ago.

What initially drew me to the eatery was the outdoor seating, which is enclosed by small fencing so a patron would not feel as though he were in the middle of the sidewalk. Ironically, though, during my visit to the restaurant, it was a bit too hot to eat outside. My group ended up choosing the air conditioned interior seating, which afforded us a view of the sidewalk.

The restaurant had a modern and sophisticated feel, with rich woods and clean lines. Unfortunately, the food did not match the level of the décor.

The restaurant had a modern and sophisticated feel, with rich woods and clean lines. Unfortunately, the food did not match the level of the décor.

The menu of Tavern in the Square is best described as American. There are a wide variety of options, including appetizers, pizzas, salads, sandwiches, and full-sized entrees. Meals are moderately priced, with most lunch options around \$10. For appetizers, the chicken fingers (\$6.99, lunch price) are listed as either available plain with a honey mustard dipping sauce or buffalo-style with blue cheese dressing. They can also be ordered with a side barbecue sauce, which we did.

The plain-style chicken was crispy with a thin crust that did not suffer from the common problem of excessive grease. But while the white meat of the chicken was tender, it was a little dry. The barbecue sauce added some flavor and moisture, and I liked the thick and sweet flavor of the brown concoction; however, it obviously wasn't homemade. Maybe I'm just spoiled, but I think restaurants should have their own barbecue sauces.

For entrees, we tried the pistachio encrusted tuna salad (\$11.99) and the arugula and goat cheese pizza (\$9.99). The tuna salad consisted of greens, cucumbers, wasabi peas,

and crispy wontons tossed in a light lemon vinaigrette topped with medium-rare tuna slices. The entire dish is wrapped in zucchini strips which made for a pleasing presentation. The tuna was fresh and well prepared, and the warm fish pieces provided a nice contrast to the cool vegetables. The salad was certainly the best dish of the day (though I would have liked some of the dressing — or plain lemon juice — drizzled on the fish to accentuate the flavors).

The arugula and goat cheese pizza was a white pizza (i.e. without red sauce) with goat and mozzarella cheeses, leeks, arugula, and topped with a balsamic vinegar reduction. The balsamic reduction was a satisfying mix of tang and sweetness, and it acted as a sauce for the otherwise sauce-less pizza. In addition, the balsamic reduction provided some necessary moisture for the somewhat dry crust. Luckily, the crust was not very thick so its dryness did not completely ruin the dish.

Overall, the portions at Tavern in the Square are all large. And the food is, well, OK; it wasn't terrible, it wasn't noteworthy. Sure, the outdoor seating option is nice, but Central Square is not exactly the most picturesque area. If you want a place where everyone can find something, the restaurant's extensive menu will do the trick. Otherwise, I would recommend trying a more diverse option in Central Square, Harvard Square, or Boston.

MOVIE REVIEW ★★★

None of That Pesky Plot

'Shoot 'Em Up' Chooses Violence Over Substance

By Alice Macdonald

STAFF WRITER

Shoot 'Em Up
Written and directed by Michael Davis
Starring: Clive Owen, Paul Giamatti, and Monica Bellucci
Rated R
Now Playing

Shoot 'Em Up' definitely surprised me. Every time I thought that this uber-violent flick couldn't possibly get any more ridiculous, the film managed to take it to the next level. The title pretty much says it all — this is a violent action movie that is all about violence and action ... and very little else.

The movie stars Clive Owen as the mysterious Mr. Smith, Paul Giamatti as the mysterious and ruthless bad guy, and Monica Bellucci as the mysterious lactating prostitute. Even with all this star power, the numerous fight scenes are the real stars of the film, and I have to admit that some of the action sequences were very creative and officially merit the title of badass. The plot is completely stupid, but that is sort of what writer and director Michael Davis was going for. Without giving too much away, the story centers around a Mr. Smith who comes to the rescue of a young mother in need, only to get

swept up in a large conspiracy where many, many people want him dead. The bad guys, led by Paul Giamatti's character, proceed to try to kill Smith at various locations — an empty warehouse, an apartment building, a public park, a gun factory, in a car, in an airplane, and yes, in midair.

The movie is overstocked with action clichés, but on purpose. It is like the creators were hoping their extreme lack of originality would somehow make the film creative. I am not sure that they totally succeeded — the film is not mocking the action genre so much as trying to outdo it. “Shoot 'Em Up” never crosses the line into total farce but is much too self-conscious to ever be taken seriously.

This summer, cinemas saw some awesomely terrible scenes thanks to blockbusters such as “Live Free or Die Hard” and “Transformers.” These films had scenes that were equally over the top as those in “Shoot 'Em Up”; however, they were way more hilarious. These films were made to be action

movies; “Shoot 'Em Up”, on the other hand, was made to be excessive in every way possible. When something completely crazy happened, it was less of a surprise than it could have been.

A piece on this movie really isn't complete without a mention of the puns. In the style of James Bond movies, after every killing spree, someone has to make a bad joke about what just happened. A classic example from the Bond flick “Thunderball” is when Bond exclaims, “I think he got the point,” after shooting someone with a spear gun. Personally, I can't ever get enough of this sort of thing.

Even though the entire audience groaned after each bad joke, the movie wouldn't have been the same without them. I will let you guess what happened before the following were said in “Shoot 'Em Up”: “Nothing like a good hand job” and “Talk about shooting your load.”

In the end, I give “Shoot 'Em Up” three out of four stars. Sure, it has its flaws, but it is still entertaining.

Even with all this star power, the numerous fight scenes are the real stars of the film, and I have to admit that some of the action sequences were very creative and officially merit the title of badass.

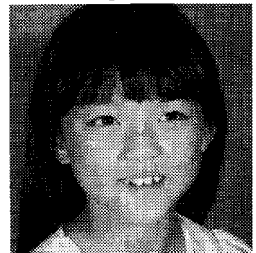
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Join us for a dinner of Korean Bibimbap and Bulgogi
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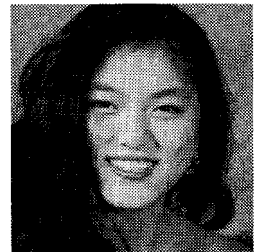
Friday, September 14
Student Center PDR 1&2 @ 6 PM



Age 7, 1982



Age 18, 1993



Elizabeth Suto.

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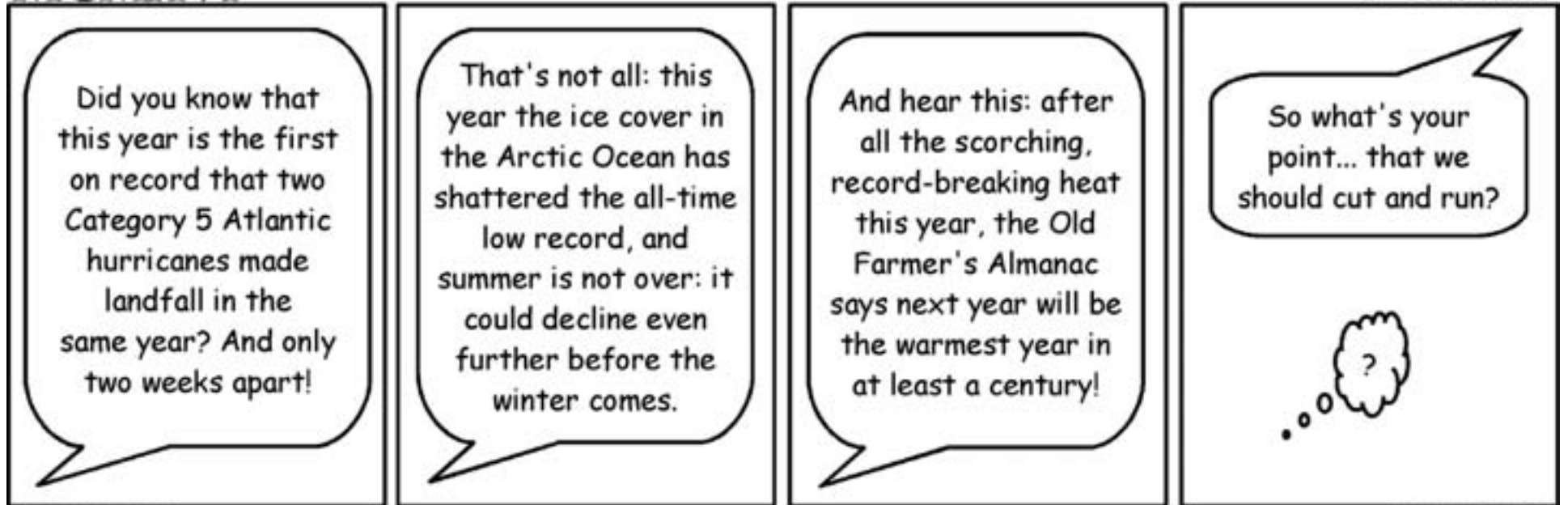
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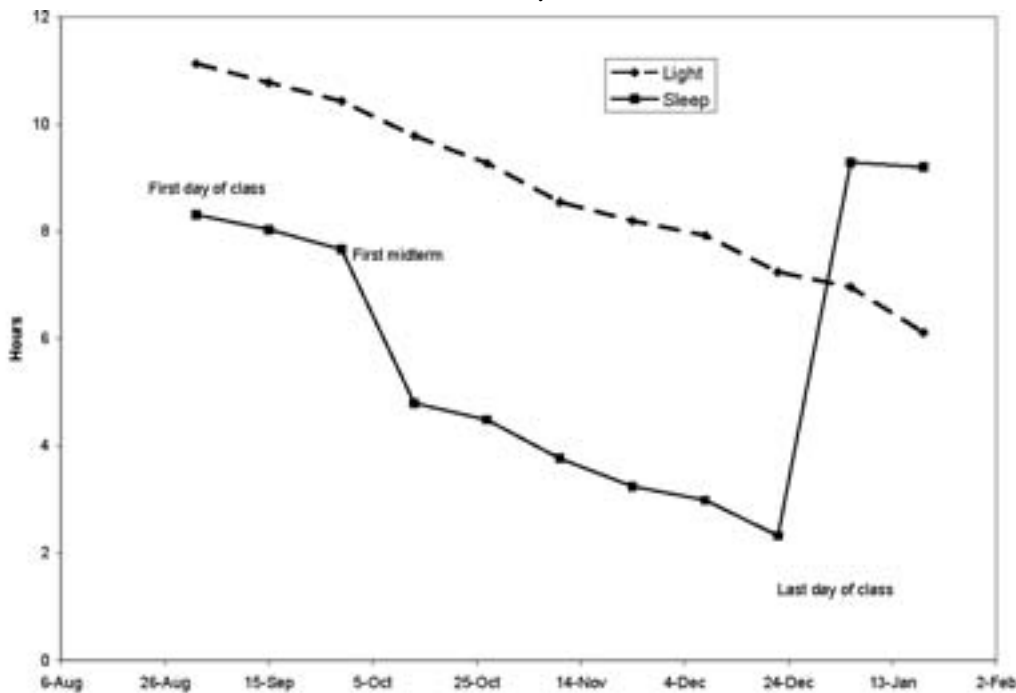
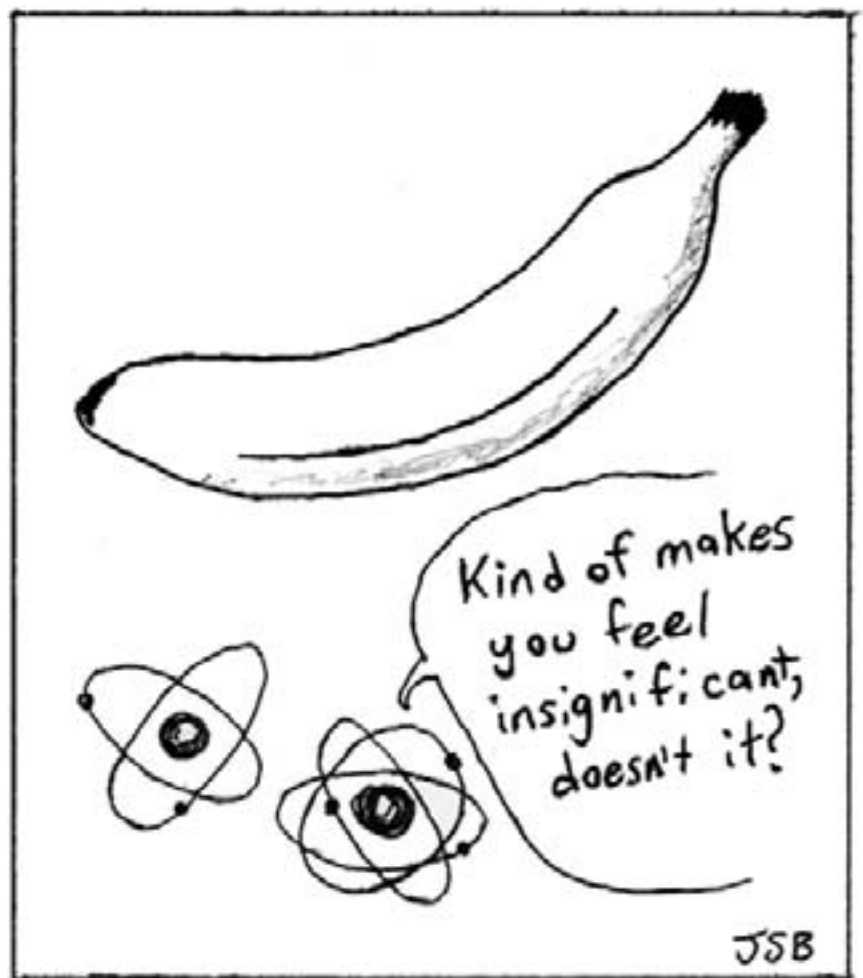


Figure 14. Average hours of daylight and of sleep per student during the fall semester. Even though the graph shows an initially linear decrease of both daylight and sleep time, the correlation is lost after the first midterms. A healthy sleep cycle is not recovered until the semester ends. A more efficient use of daylight is ensured by the "daylight saving time", whereas no such policy has been implemented to increase the efficiency of sleep. Several options in this regard have been proposed; for example, (explicitly) allowing students to sleep during lectures, cancellation of classes beginning before 10 am, and re-scheduling of television shows that air after midnight.



Crossword Puzzle

Solution, page 22

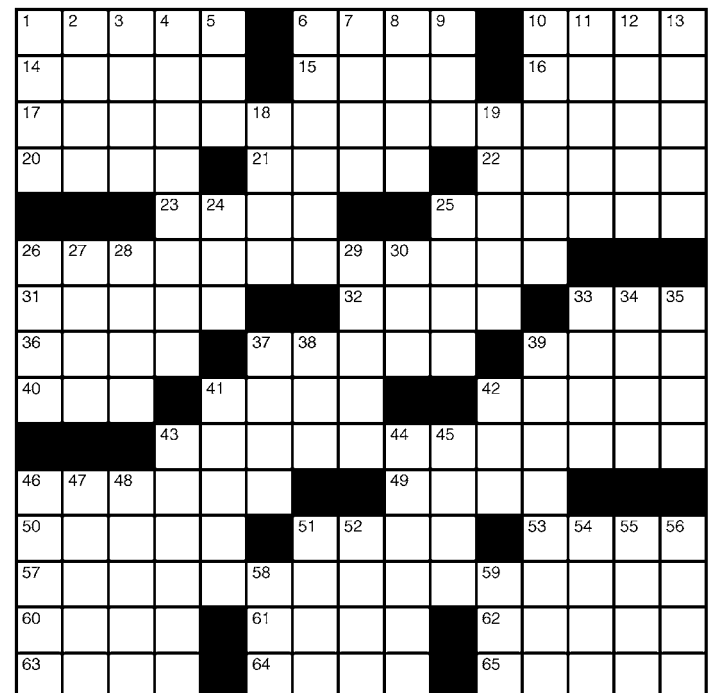
ACROSS

- 1 Dish in a lab
- 6 Eurasian vipers
- 10 Sink alternative
- 14 Bitter
- 15 Takei's "Star Trek" role
- 16 Mexican menu item
- 17 Start of Evan Esar quote
- 20 Stockings
- 21 Bohemian
- 22 Johnnycakes
- 23 Casa part
- 25 Supermarket adjunct
- 26 Part 2 of quote
- 31 Second showing
- 32 Ireland, poetically
- 33 "Xanadu" band
- 36 Bridge position
- 37 Gulls' cousins
- 39 Distinctive flair

- 40 Before, to bards
 - 41 Black and Red
 - 42 Stage whisper
 - 43 Part 3 of quote
 - 46 Merging
 - 49 Book after Neh.
 - 50 Dwelling place
 - 51 Nemesis
 - 53 Cote residents
 - 57 End of quote
 - 60 Highlands hats
 - 61 Actor Sharif
 - 62 Actress Tea
 - 63 Leave text in!
 - 64 Long-snouted fish
 - 65 Ran in place
- ### DOWN
- 1 Maze solution
 - 2 Canyon rebound
 - 3 Most on the Moselle
 - 4 Weathers, as a storm

- 5 A mean Amin
- 6 Off the mark
- 7 Long or strong follower
- 8 Gambit
- 9 Soak up some rays
- 10 Golf shot
- 11 John known as Duke
- 12 More frigid
- 13 Lichen-covered
- 18 Phone
- 19 Swiftly
- 24 Arbor of Michigan
- 25 Taverns
- 26 Shade provider
- 27 Now __ this!
- 28 Gaelic of the Highlands
- 29 Intrinsically
- 30 Vietnam Memorial artist
- 33 Writer Wiesel
- 34 Young men

- 35 Entities
- 37 Adolescent
- 38 Serving of corn
- 39 Avoided
- 41 Pumps and flats
- 42 Do something
- 43 Broadest
- 44 Mexicali misters
- 45 PC operator
- 46 Information
- 47 Undersea menace of WWII
- 48 French river
- 51 Synagogue platform
- 52 From a great distance
- 54 Eye cover?
- 55 Donegal Bay feeder
- 56 Low wooden platform
- 58 Cranberries site
- 59 Samuel's teacher



Doonesbury

BY GARRY TRUDEAU

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Bonus Crossword

Solution, page 20

ACROSS

- 1 Explorer Tasman
- 5 Stage backdrops
- 9 January in Oaxaca
- 14 Arias for one
- 15 Criminal, to a cop
- 16 Sub finder
- 17 Banks
- 20 King of the Visigoths
- 21 Tourney type
- 22 Old wives
- 24 Small viper
- 25 Appropriate
- 28 Banks
- 32 Roman household god
- 33 Munro in print
- 34 Colonel's insignia
- 35 Heraldic border
- 37 Artifact
- 40 North Carolina school
- 41 Long, thin ridge
- 43 Felipe or Moises of baseball
- 45 UFO personnel
- 46 Banks
- 50 Observe
- 51 Inmate, briefly
- 52 Blue dye
- 53 Select few
- 55 Son of Daedalus
- 59 Banks
- 63 Apothecary weights
- 64 Pugilist's garb
- 65 Give off
- 66 Concur
- 67 Bro's bros
- 68 Impertinence

1	2	3	4	5	6	7	8	9	10	11	12	13		
14				15				16						
17				18				19						
20						21								
22			22			23		24			25	26	27	
28	29						30				31			
32				33						34				
35			36			37		38	39		40			
41				42			43			44		45		
46						47	48				49			
50				51				52						
53							54		55			56	57	58
59	60	61						62						
63							64				65			
66								67						68

DOWN

- 1 Movie pooch
- 2 Heat to vaporization
- 3 Raines of old films
- 4 Metric units
- 5 Keyboard feature
- 6 Hallow ending?
- 7 Golf hazard
- 8 Staircase type
- 9 One on the lam
- 10 Par for the course
- 11 Doe in "Bambi"
- 12 Brit. flyboys
- 13 Table scrap
- 18 Boxcars in Vegas
- 19 Patriot Betsy
- 23 For Pete's ___!
- 25 Fisherman
- 26 Cockpit honchos
- 27 Time between 12 and 20
- 28 "Peter Pan" author
- 29 Actress Dahl
- 30 Purple hue
- 31 "Norma ___"
- 32 Bums around
- 36 Airport info
- 38 Ends of small intestines
- 39 Cooperates by tacit consent
- 42 Fence in
- 44 City on the Mohawk
- 47 Hairdo
- 48 Goes in
- 49 Makes joyous
- 53 Salinger title girl
- 54 "The Time Machine" people
- 56 Capital of Italia
- 57 "Battle Cry" writer
- 58 Fast jets, for short
- 59 Vitamin letters
- 60 OAS word
- 61 Simple card game
- 62 Decline time

su | do | ku

© Puzzles by Pappocom

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9. Solution, tips, and computer program at <http://www.sudoku.com>; see also solution, page 22.

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D-Lab Research Center Targets Developing Countries

By Andrew C. Revkin
THE NEW YORK TIMES

CAMBRIDGE, MASS.

Beneath the bustling “infinite corridor” linking buildings at the Massachusetts Institute of Technology, just past a boiler room, an assemblage of tinkerers from 16 countries welded, stitched and hammered, working on rough-hewn inventions aimed at saving the world, one village at a time.

MIT has nurtured dozens of Nobel Prize winners in cerebral realms like astrophysics, economics and genetics. But lately, the institute has turned its attention toward concrete thinking to improve the lives of the world's bottom billion, those who live on a dollar a day or less and who often die young.

This summer, it played host to a four-week International Development Design Summit to identify problems, cobble together prototype solutions and winnow the results to see which might work in the real world.

Mohamed Mashaal, a young British engineer headed for a job with BP on the North Sea this fall, poured water into a handcrafted plastic backpack worn by a design partner, Bernard Kiwia, who teaches bicycle repair in rural Tanzania and hopes to offer women there an easier way to tote the precious liquid for long distances.

Sham Tembo, an electrical engineer from Zambia, and Jessica Vechakul, an engineering graduate student at MIT, slowly added a cow manure puree to a five-gallon bucket holding charcoal made from corncobs. In the right configuration, the mix might generate enough electricity to charge a cell-phone battery or a small flashlight for a year or more.

The summit (www.iddsummit.org) was the brainchild mainly of Amy Smith, a lecturer at MIT who received her master's there in 1995 and in 2004 won a MacArthur Foundation “genius” award, and Kenneth Pickar, an engineering professor at the California Institute of Technology. Faculty and students from Olin College, an engineering school near Boston, were also involved.

The flurry of activity was taking place at D-Lab, a research center and set of courses at MIT devoted to devising cheap technologies that could have a big effect in impoverished communities. In homage to Ms. Smith's passion for attacking poverty from the ground up, the lab is nicknamed “Amy's World.”

Typically, D-Lab sends students abroad in midwinter breaks to work with people who are struggling with a lack of clean water, electricity, cooking fuels or mechanical power

to turn crops into products. For four weeks, though, the real world had come to MIT.

Throughout the workshop, Ms. Smith served as scoutmaster, cheerleader, cook and personal shopper (when work flowed deep into the night), and she provided periodic reality checks.

She seemed dazed at times, but never fazed. “Everyone calls this an experiment,” Ms. Smith said of the workshop, the first of its kind. “I call it the realization of a vision.”

The work itself was often two steps back, not one step forward. As Lhamotso, a young woman from Tibet, and Laura Stupin, who just graduated from Olin, wrestled with a whirring Rube Goldberg mash-up of bicycle and grain mill, the chain slipped with a loud clang.

“We have a real friction problem,” Ms. Stupin yelled.

The workshop was developed over the last year by Ms. Smith, Dr. Pickar and others after a meeting to discuss a “design revolution” — a shift in focus among companies, universities, investors and scientists toward attacking problems that hamper development in the world's poorest places.

“Nearly 90 percent of research and development dollars are spent on creating technologies that serve the wealthiest 10 percent of the world's population,” Ms. Smith said. “The point of the design revolution is to switch that.”

She added: “There are several different places where that revolution has to take place. We started thinking, ‘How do we train engineers so they might start thinking of this as a field of engineering they'd want to pursue?’”

Developing a pedal-powered grain mill or a backpack for water, as workshop participants did, was only a first step. The teams also had to be sure that their creations could be built of local materials cheaply enough to be bought by the world's poorest people, that they could be fixed easily and fit ways of living that have deep-rooted rhythms.

The workshop began in mid-July, with the arrival of nearly 50 visitors from Brazil, Ghana, Guatemala, Tanzania, Tibet and other countries.

Most of the \$200,000 budget was provided by donations from individuals and private groups, including the National Collegiate Inventors and Innovators Alliance, which supports university programs to develop commercially viable products that advance society.

The workshop began with a lecture by Paul Polak, a psychiatrist turned entrepreneur, who develops simple solutions for the problems

of the poor. Dr. Polak, who has become something of a guru to the design revolution movement, railed against conventional charity and insisted that the route to prosperity lies in inventions that improve lives but mesh with existing lifestyles.

He laid out the principles of development from the bottom up, including the importance of first listening and watching, then following the old dictum “small is beautiful” with another, equally important one: “cheap is beautiful.”

The goal, he said, should be to improve a million lives, and to make technologies that can be sold and bought in increments — like a drip-irrigating system that can expand as a farmer's income rises. Dr. Polak said in an interview that at least in the classroom, the push for such initiatives was coming from young people.

Ms. Smith said she wanted to avoid having the workshop end up as yet another academic exercise where the only outcome is often a set of paper proceedings or pledges. This time, she said, the goal was “no paper, just prototypes.”

In fact, in the first days of the workshop, it seemed that the only paper in evidence was an ever-spreading, flower-petal array of blue, green, pink and yellow sticky notes on walls and blackboards. The notes charted the progression from basic needs (water, food, energy, health) to specific issues (a three-mile hike to and from the nearest water supply in a Tanzanian village, the lack of a well-testing kit that a Bangladeshi village clinic could afford).

Ms. Smith placed participants in project teams. Then came round-table discussions, rough sketches, technical drawings and the first three-dimensional models.

Half a dozen volunteer mentors

helped the participants make their ideas more concrete. Some were academics, like Ariel Phillips of Harvard, whose specialty is group dynamics. Others were drawn from Ms. Smith's black book filled with an array of fixers and crafters — people whose careers have been spent solving problems by turning metal, plastic, wood, circuitry and motors into working devices. They included Dennis Nagle, a former weapons designer who abandoned the profession, he said, during the Summer of Love and turned to lighting design and other things, like the 24-ton array of speaker cabinets for a Guns N' Roses concert.

The mentors' task was making things work. “Ladies and gentlemen, we're on the verge of a Home Depot run,” announced Jock Brandis, who had driven to the workshop from Wilmington, N.C. After a career building contraptions on movie sets, Mr. Brandis now helps run the Full Belly Project, which develops machines to simplify village work.

Mr. Brandis noted that the budget for developing a peanut sheller for a Malian village was far different from that for building a camera-toting vehicle in rural Mexico to film Antonio Banderas galloping through the desert as Zorro. But the challenge of filling a niche with limited materials and tools is similar.

The other similarity is that both kinds of design begin with a blank slate. As Mr. Brandis put it: “It's, ‘Here's the model high-rise made of Styrofoam, and then the flying saucer has to fly into it, and we need to shoot it three times from three different angles, and next Tuesday it's got to happen.’”

At the workshop, Mr. Brandis examined with approval one group's design for an oven with three grates of progressively finer mesh to hold

charcoal fuel, so that big pieces that have not burned down stay separate from more fully consumed fuel, limiting harmful smoke.

“What you try to do in virtually every situation is make their lives more efficient,” he said. “That's what the big revolution in America was between 1860 and 1960 — that a person doing a day's work can produce a lot more product. And that means time is more valuable and that means he has more time to do other things.”

Ashley Thomas, an entering senior at MIT, explained the appeal of such work while struggling with a teetering metal frame for a cooler that uses evaporation from wet fabric instead of electrical components to draw heat from its contents. The idea was conceived with participants from Tibet, where meat must be stored for weeks in isolated rural areas, and India, where heat can quickly ruin a vendor's inventory.

“Imagine a fruit vendor in a rural area or the slums,” explained Deepa Dubey, a partner of Ms. Thomas, who studies product design as a graduate student in Kanpur, India. “He comes with all his fruit and vegetables. At the end of the day he makes one dollar, and whatever is left he has to throw it away because he can't store it.”

Ms. Thomas said, “Amy's class is about the hardest class to get into at MIT, including at the Sloan School, which is basically about how to make a million dollars after you graduate.”

She added: “It's taking industrial design theory and applying it to where you can have the greatest impact. Here, \$5 worth of angle iron and towels could mean a month's supply of food. To me, that's just worth so much more than spending that amount of time working on designing a slick new computer.”

Challenges to the Scholars of This Age:

- 1) Find the “Platonist forms” for solution to the problems of “structural development of personality”, the “unified field theory”, and the question(s) of “free will”.
- 2) Recognize that those “Platonist forms”, or truths, are language related in expression but have real “forms” that determine description, once language is fixed.
- 3) Make those true “forms” the generally accepted descriptions of “reality” for all educated persons, regardless of their language.

Duplicities Currently Accepted:

- 1) “Personality” is the result of adoption of the “super-ego” or “world view” of parents and is “identification with an aggressor” parent in the “Oedipal complex” or “personality” is indistinguishable from the “genetic” person.
- 2) The “particle” of energy is the “photon” and equals a unit quantity of energy times its' frequency (hf). Energy and mass are interchangeable and not different “forms”.
- 3) “Free will” is the ability to choose good from evil, without making the self, evil with the wrong choice.

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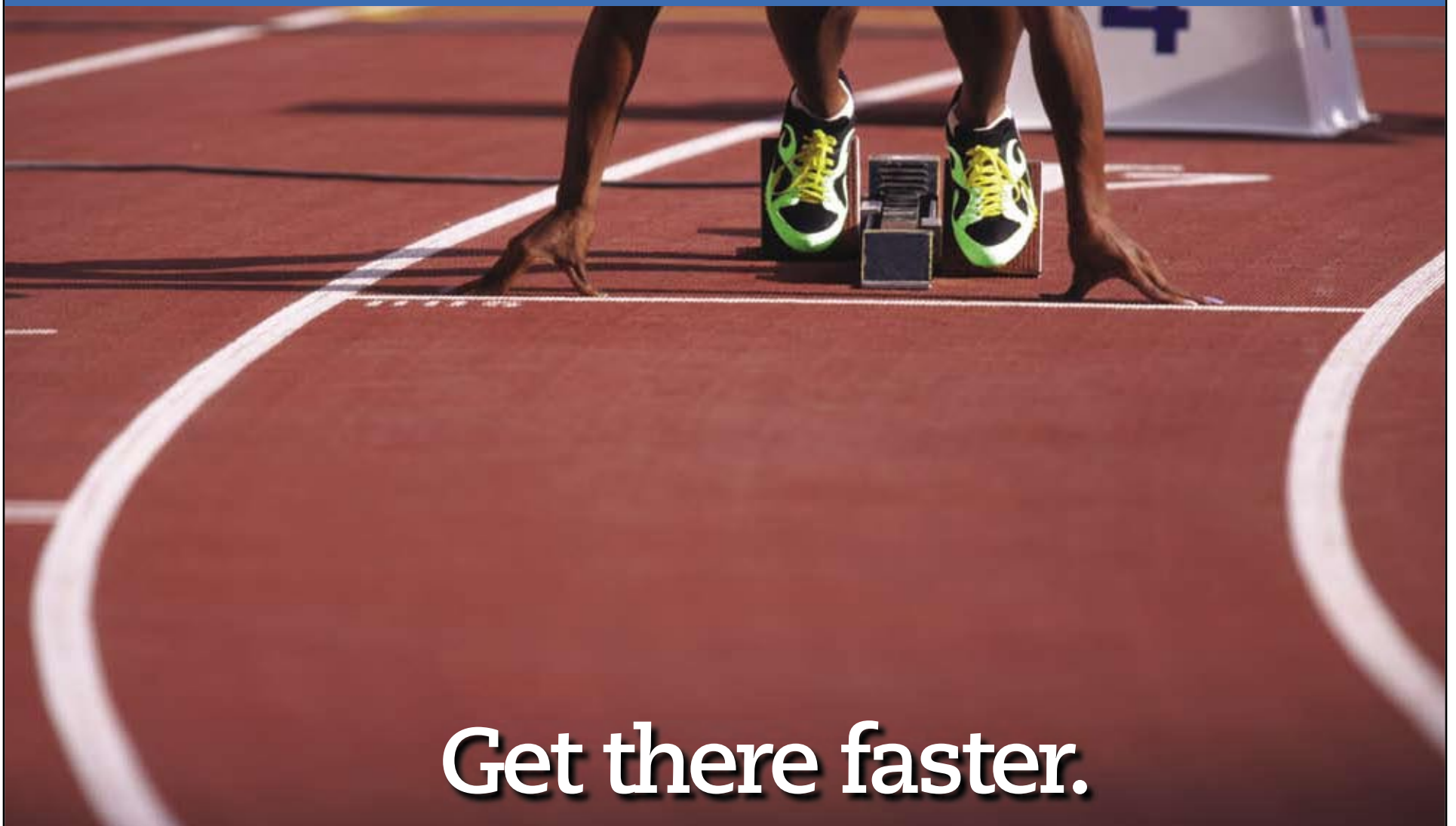
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Cambridge Marriott
6:00 pm – 8:00 pm**



Other Living Groups Have Sodium Drops

MIT Police Not Involved in Investigation

Sodium, from Page 1

a focus of the investigation. "At this point, we have not named anyone," said Wark. "The media has made those conclusions."

The East Campus drop took place this year at the 620-meter long Harvard Bridge in the early morning hours of Friday, Aug. 31, according to a sophomore who attended the event. That would leave roughly six-and-a-half days for the sodium to remain unreacted.

In past years, the East Campus drop has taken place on the Longfellow Bridge. This year, the venue may have changed due to construction on the Longfellow.

The sodium was thrown from "maybe 150 smoots in [roughly 250 meters]" and was closer to the Cambridge side than the Boston Side, said the sophomore attendee. "The audience was stationed along [the bridge] and Memorial Drive," the student said.

The sophomore did not observe any sodium chunks traveling toward the Boston shore.

The Tech was unable to reach organizers of the East Campus sodium drop for comment.

While most students associate the idea of a sodium drop with the East Campus drop, in past years, there have been multiple sodium drops by a variety of groups.

Most notably, the fraternity Tau Epsilon Phi has previously dropped both sodium and potassium into the Charles River.

According to a participant in some of TEP's rush events, the fraternity planned a drop this year for early Monday morning on Sept. 3, 2007 approximately three-and-a-half days before the incident. The participant

said it was possible the drop had been delayed.

This year, TEP may have dropped sodium into the Charles River. "I heard many people say [sodium], but I don't know if ... that was just a way of saying some Group I metal," wrote the participant in an e-mail.

A male individual who answered the TEP house phone declined to personally comment on the matter. *The Tech* was unable to reach other house members for comment.

MIT Police Chief John DiFava said that the investigation was out of the hands of the MIT Police and that state police were in charge of the matter.

Asked about possible fraternity involvement, Senior Associate Dean for Students Barbara A. Baker said that MIT would wait for the Massachusetts State Police investigation to finish. "Right now, it's a police matter," Baker said.

Baker would not comment on the culpability of organizers of a sodium drop or of bystanders at the event. "We're waiting for information ... but we're very concerned about safety — anything that jeopardizes safety ... or impacts the environment," Baker said.

David Deegan of the U.S. Environmental Protection Agency said the agency was aware of the sodium fire but declined to comment as to whether an EPA investigation was ongoing.

Joe Ferson, media contact for the Massachusetts Department of Environmental Protection, said that the department was aware of sodium drops and was not investigating further. MassDEP "determined that [the sodium] was below reportable quantities," Ferson said. Section 311 of the Clean Water Act defines reportable quantities of sodium as those exceeding 10 pounds (roughly 4.5 kg).



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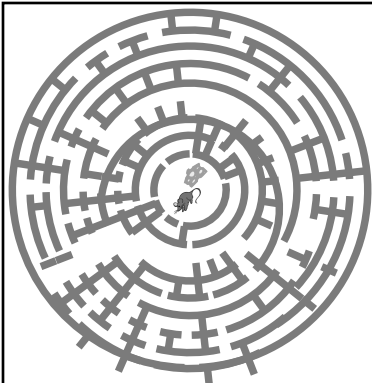
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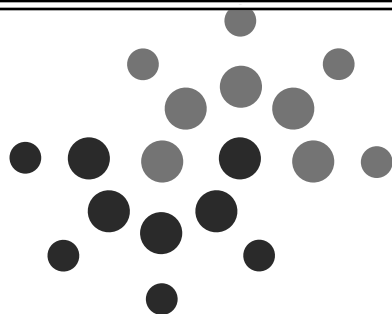
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Inconsistent Data Common in College Ranking Stats

U.S. News, from Page 1

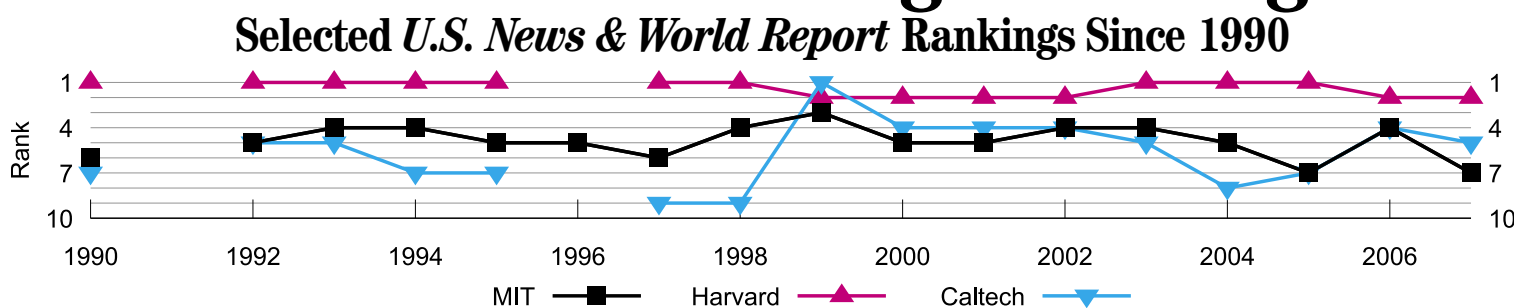
bal score of an international student who also took the Test of English as a Foreign Language, or the less favorable score of a student who took both the SAT and the ACT. Interim Director of Admissions Stuart Schmill '86 explains that, in past years, "if we didn't use a student's score ... we didn't report it. This year we did." The Common Data Set definition, used by U.S. News, calls for SAT and ACT quartiles based on "all enrolled, degree-seeking, first-time, first-year [freshman] students who submitted test scores."

The errors are "really surprising," said Morse. "It's very rare that a school admits to something like this." On his blog on the U.S. News Web site, Morse describes a five-step process of checking the data. This process includes pointing out big changes and asking the schools to acknowledge them, and making sure the schools report the same data to U.S. News as to other sources. To critics of the rankings' accuracy, Morse has responded, "U.S. News does verify the data."

For this year's ranking, MIT's reported first-quartile SAT scores for the 2006 incoming class totalled 1380 between the verbal and math exams, a drop of 50 points from 2005 and 30 from 2004 and 2003. The lower scores place MIT well below the California Institute of Technology, which edged ahead of MIT in this year's ranking, and in line with Princeton, Harvard, and Yale, which occupy the top three overall spots. (See table on page 17.) With this year's corrected data, MIT dropped from second to third in "selectivity," one of the seven components of the rankings.

'The language is muddy'

For the class size distribution, MIT's Student Information System central database lacks information required to precisely answer the Common Data Set questions, leaving the



In reporting rankings, U.S. News bases its recommendations for the next year on the previous year's data. The "America's Best Colleges 2008" list is based on data from 2007. All dates in these tables and this article refer to the data, not the date U.S. News uses in advertising its ranks.

various offices that have prepared different years' data to fill in the gaps differently and produce the more favorable numbers reported in 2006 than in 2007, 2005, and 2004.

In the 2006 data, MIT reported 68 percent of its classes to have fewer than 20 students and only 11 percent to have 50 or more; the other years' numbers ranged from 60-63 percent of classes with fewer than 20 students and from 14-16 percent with 50 or more. (See table on page 17.) The 2007 class-size proportions place MIT below all other schools in the top 10; the 2006 numbers would place MIT in line with Harvard University, the next lowest on this scale of the overall top 10.

"That class size data played a factor in why MIT fell in the rankings this year," Morse said.

The variation from year to year arises because MIT class numbers do not always correspond to the units in which instruction is actually held — one class number may correspond to multiple sections meeting at different times and places. In this case, the Common Data Set requires these multiple sections to be treated as separate classes for the purpose of reporting class size.

"The idea is to let students know what to expect in terms of how many students will be the classroom with them at any one time," Snover explained. But two problems arise, Snover said. First, in some classes,

most instruction may take place in small sections but occasional lectures or demonstrations occur in the larger group. In these edge cases, the Common Data Set definition may be interpreted in different ways.

Second, for some classes, the administration may not know whether the class or the sections are the locus of instruction, or just how many students are in each section. "MIT does not keep track of this centrally," Snover said. "There's a lot of unknowns in the data."

Filling in the unknowns requires a mixture of estimation, use of other data sources, and guesswork. In some past years, Snover's Institutional Research office has prepared the reported numbers. For the data reported in 2006, which ended up differing in MIT's favor from other recent years, Snover said she called up instructors across the Institute to resolve ambiguities and fill in gaps. "I supplied the data," she says, "but it took a month. You can't have people calling up every year."

For this year's data, the Registrar's Office took over, employing their access to a broader set of databases. But even so, Snover said, "The way the database is set up, it's very difficult right now, and really subject to the interpretation of the people doing the analysis."

Schmill said that the use of class-size data leaves MIT "somewhat disadvantaged. ... The rankings are geared

MIT-Reported SAT Scores For Freshmen

Year	25th percentile			75th percentile		
	Reading	Math	Sum	Reading	Math	Sum
2004	680	730	1410	760	800	1560
2005	680	730	1410	760	800	1560
2006	690	740	1430	770	800	1570
2007	660	720	1380	760	800	1560

SOURCE: MIT INSTITUTIONAL RESEARCH

MIT-Reported Class Size Distributions

Year	Total # Classes	Percent < 20 students	Percent ≥ 50 students
2004	738	63%	15%
2005	709	61%	16%
2006	1056	68%	11%
2007	897	61%	14%

SOURCE: MIT INSTITUTIONAL RESEARCH

towards what [its authors] consider an ideal education to be." In a humanities class, he explains, it's important to have a small class for discussion with the instructor, and MIT's humanities classes are comparable in size to those at other institutions. But in an engineering class, Schmill said, "Personally, I'd rather be in a large course with a great faculty member than a small course with a mediocre one."

Variations in how a school interprets such ambiguous data are not uncommon, Morse said. "Different people are assigned the external reporting of the data, and then the person in the most recent year will say we can't speak for how it was done last year, all we know is this year's is right, and we can prove that," Morse said.

Associate Registrar Ri Romano, who prepared the data that were reported this year, said, "U.S. News is very specific about what to count and

what not to count. I know that I can reproduce the numbers that I gave." Romano said she does not know how the data have been prepared and reported in past years by the Institutional Research office.

Just how often differences in reporting affect the rankings is not easy to determine. "I don't have time to do [a close review] for each school," Morse said. "We don't have time to spend, if we spend as much time as [a reporter has] to understand it, to challenge to get to the right person, to get the explanation, we'd never finish."

In reporting rankings, U.S. News bases its recommendations for the next year on the previous year's data. The "America's Best Colleges 2008" list is based on data from 2007. All dates in this article refer to the data, not the date U.S. News uses in advertising its ranks.

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Holmes Discusses Textbook Pricing, UA Involvement

Holmes, from Page 1

administrators together working on that, and since Ali [S. Wyne '08, UA vice president] and I have returned to campus we're going to be joining them and members of the hacking committee to really try to come up with a good solution or some type of a better answer to how MIT deals with hacking.

Dining obviously was a huge issue last year with Pritchett, Baker, all kinds of disasters. So we've really been working to pull that together. We were able to close Pritchett which was just a sinkhole for money. We've revamped a few things: the Dining program — the cost of that went down from \$325 to \$300 — and the administration is putting together some type of blue ribbon committee that's going to have outside consulting and lots of student and administrator representation to really focus on the long term future and how we create a sustainable dining program. So, basically it's all up for grabs; anything and everything is on the table. There may be some huge changes there.

And, lastly, with the Career Fair, we've made very good progress in

terms of getting administrator support, faculty support, and student support for moving this to an Institute holiday. We were facing a minor administrative or bureaucratic problem. It basically had to do with icing Johnson, the ice rink, so that the ice hockey season can begin in time. We've met with [the Department of Athletics, Physical Education, and Recreation] and this no longer appears to be a major issue.

TT: I understand you've also been working with the MIT Coop involving textbook pricing. Can you tell me something about that?

MH: This is one of the huge undertakings we've been working on all summer, which was actually finally semi-successful, I'd say. We were able to bring together the UA, the Dean for Undergraduate Education, [Information Services & Technology], as well as the Coop, in order to ... finally convince the Coop that it's in the best interest of students, of the Coop, and everyone involved to sell textbooks online.

What we'll be doing is trying to make it a little more efficient for students, give them a bit more options, a little bit more time to shop around and select their books so they can re-

ally figure out what's best for them. We've got an initial agreement from the Coop that they're willing to work with us on the textbook issue. We're not exactly sure how the details will be hammered out yet, but we have some meetings. ... Hopefully, by the spring semester, we'll have the Web site up and running so that you can just go online and figure out what books you need.

TT: What would you suggest are ways for incoming freshmen who are concerned about something on campus to get involved with student government and the community?

MH: There are lots of ways you can get involved on a lot of different levels. If you're interested in the UA you could run for UA senator. Each of the different dormitories and living groups has senators. So you'd come together in our big meetings and discuss legislation, write bills, and be involved that way.

There are lots of committees that you can be involved with — just join a committee and work on some specific issue. There are also class councils which serve more of a social function in terms of bringing the class together, giving them the opportunity to relax, meet new people.

They throw all kinds of events — it really runs all the gamut from ski trips to formals. ...

There are lots of leadership roles that people can take on, from within their dorm or living group, to the larger Dormitory Council, to the Interfraternity Council and the Panhellenic Association. ... There is also the [Association of Student Activities] and plenty of student groups. There are leadership opportunities everywhere. It's really smart to be involved in some type of leadership activity on campus.

TT: Any general advice you'd share with freshmen?

MH: ... You're really not going to be successful at MIT if you focus on extracurricular activities. And you're really not going to be happy at MIT if you focus on academics. So you really need to come up with a good balance. You need to get yourself in a routine, a schedule, so that everyday there's some type of consistency. [There should be] some level of academics that goes on everyday, whether or not something is due the next day. [There should be] some level of stress reliever, whether it's exercising, going for a run, reading a book. ... Just form some kind of

Martin F. Holmes '08

Educational Background: working toward a BS in Aerospace Engineering in 2008
Previous UA Experience: 2008 Class Council President, UA Senator
Hometown: Machias, Maine
Years at MIT: three
Age: 21
UA Office: W20-401
E-mail: goholmes@mit.edu

consistency so that there is balance in your life — so that you really have a way to relax when things do get stressful. And feel free to seek help because there are a lot of opportunities and resources here at MIT, and a lot of people do find themselves in trouble; it's not atypical.

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On-campus interviews September 26

Application deadline September 16

The D. E. Shaw group will conduct on-campus interviews September 26. To apply for an interview, log on to MonsterTrak. If this isn't possible, please send a resume and cover letter stating your GPA and standardized test scores, broken down by section where applicable, to jobs@deshaw.com. All applications must be received by September 16.

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(left to right) Co-Producer Christopher Riley, Director David Sington, Former NASA Deputy Administrator Robert C. Seamans, Jr. PhD '51, Jeffery A. Hoffman, and panel moderator MIT Professor David A. Mindell '96 spoke after a sneak preview of "In the Shadow of the Moon," sponsored by the Program in Science, Technology, and Society last Monday. More information about the movie can be found at <http://www.intheshadowofthemoon.com/>.

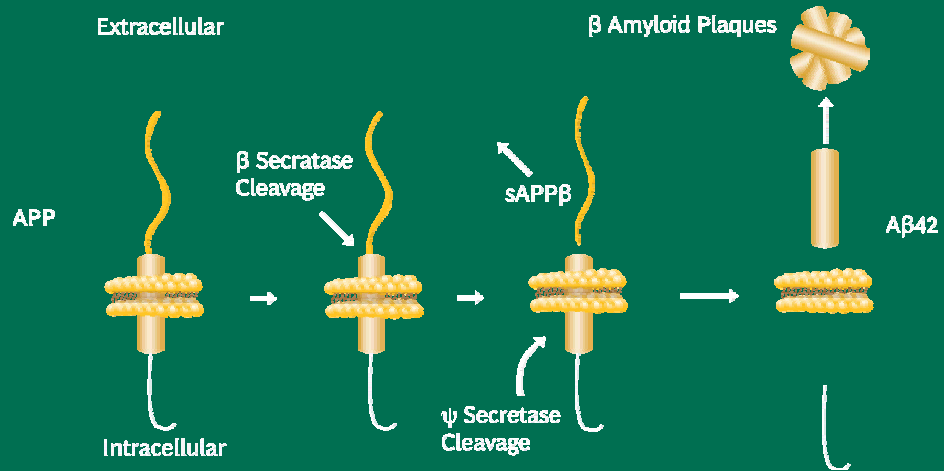
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Solution to Bonus
 from page 10

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MIT Housing May Consider Banning Used Furniture

Bedbugs, from Page 1

States, from a much-publicized outbreak in New York City last year to several outbreaks in the Boston area the previous summer. Collins suggested travel as one cause, adding that the insects hitch rides easily, on anything from cuffs of clothing to old furniture.

Bedbugs are small, flightless insects that come out at night to bite. At full growth they can reach several millimeters in length and are visible to the naked eye. They live in mattresses, sofas, and upholstery. In old buildings such as Ashdown, cracks in the walls, ceilings, and floors make it easy for the insects to establish themselves once introduced.

In Ashdown, the residents of the infested suites were required to have

their rooms and clothes cleaned entirely to rid the area of bugs. They were also given new mattresses with covers to prevent the bedbugs from finding a new place to live. The contracted exterminator used "a clear, odorless, safe treatment" to kill the bedbugs, according to an e-mail sent to Ashdown residents from Denise Lanfranchi, Ashdown's house manager.

According to Bajpayee, exterminating procedures ran in cycles, with the first spraying killing the adults and the second killing their offspring. A problem arose when the original floor was sprayed for bedbugs and the surviving insects ran up to the next. The total number of rooms affected was eight or nine, said Bajpayee. Ashdown has a total of 264 rooms.

To reduce the probabilities of

bedbug problems in the future, MIT Housing may consider banning students from bringing used furniture

into the dorms, Collins said. Until then, students should "be conscious of who and where they are buying

[their used furniture] from." "Everybody should be careful," Bajpayee said.

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Master's Degree Programs Expanding Nationwide

By Hannah Fairfield
THE NEW YORK TIMES

The number of students in the University of Chicago program that bestows a Master of Arts degree in social sciences has quadrupled since 1989, jumping to 160 from 40, and despite a tuition price tag of \$37,000, every year more students clamor for admittance.

"It's an expensive degree, but students have calculated how fast they get their investment back," said John J. MacAloon, an associate dean at the University of Chicago and director of the program. "And it is beneficial for the university because there is a lot of tuition income to be had."

More students than ever have started master's programs this fall, and universities are seeing those programs as potentially lucrative sources of revenue. The number of stu-

dents earning these degrees around the country has nearly doubled since 1980. Since 1970, the growth is 150 percent, more than twice as fast as bachelor and doctorate programs.

"Master's programs are the most obvious targets of opportunity," said George L. Mehaffy, a vice president of the American Association of State Colleges and Universities. "The degrees are in high demand, and this is an optimal time to enter or expand the market."

For students, the degrees are often expensive; at private universities, many students take out \$50,000 in loans for every year of school. And scholarships and fellowships are rare, unlike doctoral programs, which are usually fully financed by universities.

Still, many say the price is worth it. In his two-year master's program in science technology and environ-

mental policy from the University of Minnesota Craig Nelson had \$35,000 in loans. Now, he works in regulatory affairs at the 3M Company.

"Without the degree, I wouldn't have the job," he said. "So even though I'll be paying the loan for 10 years, it was a good move for me."

Getting into the business of offering these degrees can be a good move for universities, too, with some that have traditionally focused only on undergraduate students now entering the master's market. The California State University system, for example, has introduced many new applied master's degrees and is expanding its master's of business administration programs.

"We are really conscious of the fact that master's degrees are becoming the coin of the realm," said

Gary W. Reichard, the executive vice chancellor and chief academic officer for the California system. "And because MBA's can offer tremendous salary boosts down the road, we can charge higher tuitions to students."

Universities also do not have to provide dormitory rooms and dining halls for master's candidates, because graduate students typically do not live on campus.

Some university officials say the explosion of these programs has less to do with revenue than it does with the marketplace pressures on students to get higher degrees and credentials.

Thomas Ehrlich, a senior scholar at the Carnegie Foundation for the Advancement of Teaching and a former president of Indiana University, said that although many master's programs could be good revenue streams for universities, "We're not

in the business of making money." He added, "We're in the business of educating students."

But some schools are in the business of both. The University of Phoenix, a commercial institution with 60 branch campuses and around 200,000 students, awarded 24,788 master's degrees last year, mostly for work completed online in business and education. That was at least a thousand more than the number of bachelor's degrees it awarded.

Many university provosts say a graduate education can be more expensive to provide than an undergraduate degree, merely because class sizes are usually smaller in graduate courses. But for universities that already have established doctoral programs, adding paying master's students to the mix means they get a bump in tuition dollars without a heavy outlay of resources.

"Sometimes there is unused capacity in graduate classrooms," Mr. Mehaffy said. "If there are 10 people in a graduate course one year and 15 the next, there is a 50 percent growth but no real drain on the institution."

Universities are also luring master's students into staying for multiple years by offering dual-degree programs: two master's degrees at twice the cost. Some programs join international affairs and journalism, science and public policy, business and education. Other schools extend programs; for example, the University of Wisconsin's two-year master's degree in anthropology can be lengthened to three years if students want to add a museum studies concentration.

And many students believe that these multiple degrees are highly valuable in today's competitive job market.

Rey A. Phillips Santos has three graduate degrees gracing his résumé: two master's and one in law. After completing the master's of arts program in the social sciences from the University of Chicago, he decided to go on to the Chicago-Kent College of Law, in a joint-degree program in environmental management with the Stuart Graduate School of Business.

"There is a huge demand for credentials in high-level jobs now," said Mr. Phillips, who is a lawyer for the Chicago city government. "Each of my degrees helped me to get a leg up in the job market, and earn higher salaries than I would have otherwise. They were great investments."



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Solution to Crossword

from page 9

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Solution to Sudoku

from page 10



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MIT Career Fair 2007 Information Sessions



Day	Time	Location	Company
Tuesday, 09/18	7:00-8:00PM	4-237	BBN Technologies
	7:00-8:00PM	6-120	Procter & Gamble
	7:00-8:00PM	32-141	Exxon Mobil Corporation
	7:00-9:00PM	32-155	AQR Capital Management
Wednesday, 09/19	6:00-7:00PM	4-163	Corning Incorporated
	6:00-7:00PM	32-144	Spansion Inc.
	6:00-8:00PM	56-154	Next Jump, Inc.
	7:00-8:00PM	26-204	DC Energy
	7:00-8:00PM	4-370	Shell Oil
	7:00-8:00PM	1-190	Susquehanna
	7:00-8:00PM	36-153	Citadel Investment Group
	8:00-9:30PM	37-212	Schlumberger
Thursday, 09/20	8:00-9:00PM	4-270	Bridgewater Associates
	5:30-7:00PM	1-190	Naval Sea Systems
	6:00-7:00PM	4-146	Palantir Technologies
	6:00-7:00PM	26-210	Merck & Co, Inc.
	7:00-8:00PM	4-159	Expedia, Inc.
	7:00-8:00PM	4-163	Netezza
	7:00-8:00PM	36-153	Marvell Semiconductor
7:00-8:00PM	56-114	Allstate Insurance Company	
Friday, 09/21	6:00-7:00PM	32-141	Boston Scientific
Tuesday, 09/25	6:00-7:30PM	32-155	Oracle

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SPORTS

Ludlum Nets Four Goals in 6-1 Victory Over UMass Dartmouth

By James Kramer
DAPER STAFF

Amy S. Ludlum '08 delivered a four-goal, 10-point performance that propelled the Engineers to a 6-1 victory over University of Massachusetts Dartmouth on Tuesday at Steinbrenner Stadium. Ludlum, the reigning NEWMAC Player of the Year, scored four times in the first 37 minutes and assisted on another first-half finish as MIT (3-1-0) cruised to its third consecutive win.

The Engineers' strikers grabbed command of the match early in the tilt as Jean E. "Liz" Theurer '10

scored on the first shot of the game, just three minutes into play. Despite a steady rain, Ludlum raced down the left side nearly untouched before delivering a near-perfect cross that Theurer knocked home while sliding to the ground.

Ludlum added her first goal of the afternoon in the 23rd minute on a strong individual effort. After flipping the ball through two defenders in the middle of the pitch, Ludlum planted a 15-yard goal in the top corner of the net. MIT struck two more times over the next six minutes on nearly identical plays. Theurer, who set a personal record on Tuesday with six points, set up Ludlum on

both scores with perfectly executed through balls.

UMass Dartmouth (2-2-1) answered MIT's swarming attack in the 37th minute. Two goal-line saves by Stephanie V. Brenman '09 and a goal-line block by Jodie Z. Wu '09 earlier in the match prevented the Corsairs from lighting the board, but Katlyn Duarte finally broke through the Tech defense with her second goal of the season. Despite slimming MIT's lead to 4-1 with an unassisted finish, the Corsairs quickly lost the momentum as Ludlum responded with her fourth goal of the half 40 seconds later.

The pace of the game slowed considerably in the second half, with neither team able to secure a good chance for most of the half. In the 84th minute, MIT capped the scoring on Theurer's second strike of the day as Kathryn A. Pesce '10 and Ludlum each secured a point for assisting Theurer.

Ludlum closed the day with a program-record 10 points, reestablishing her own existing record of nine points, set last season against Emerson. The four goals tied the Engineers' single-game mark, while Ludlum's final point of the afternoon moved her into sole possession of second place on the Institute's all-time scoring list.

Once again, Brenman played well in net for the Engineers and made six saves en route to the win. Despite being shouldered with the loss, UMass Dartmouth freshman Tanya Braga played admirably in goal. The rookie keeper made 11 stops in the match, including several diving saves. MIT outshot UMass Dartmouth, 20-10, and finished with a 6-3 edge in corner kicks.

MIT returns to the field in an away match against Salem State on Saturday, Sept. 15 at 4 p.m.



Amy S. Ludlum '08 dribbles in space in the women's soccer game against the University of Massachusetts Dartmouth Tuesday. The Engineers triumphed over the Corsairs 6-1, despite the heavy rain.

ANDREA ROBLES

UPCOMING HOME EVENTS

Saturday, Sept. 15, 2007

Sailing, Hatch Brown Trophy	9 a.m., Charles River
Men's Soccer vs. Clark University	10:30 a.m., Steinbrenner Stadium
Women's Tennis vs. Mount Holyoke	1 p.m., duPont Tennis Courts
Football vs. Framingham	2 p.m., Steinbrenner Stadium

Tech Places Second in Hiram College Tourney

Buchanan Named to All-Tournament Team

By Mindy Brauer
DAPER STAFF

The women's volleyball team continued its successful season this past weekend with a second-place finish at the Hiram College Invitational in Hiram, Ohio. MIT opened the weekend by blanking Geneva College 30-22, 30-20, 30-21, but then fell to the host Terriers 30-19, 30-23, 31-29. The Engineers bounced back by outlasting Saint Mary's College (Ind.) 29-31, 30-23, 30-25, 21-30, 15-13 and sweeping Thiel College 30-24, 30-22, 30-28. Senior defensive specialist Carrie C. Buchanan '08 represented MIT (6-1) on the All-Tournament Team.

Katherine C. Rowe '10 recorded a solid hitting performance against Geneva, as she amassed 13 kills and just one error on 25 attempts for a .480 hitting percentage. Rose Zhong '08 notched her third career double-double with a team-high 20 digs to go along with 11 kills. Katrina M. Ellison '10 added eight kills with one error on 18 tries (.389), while Jennifer Li '11 contributed seven kills. Buchanan and Lindsay E. Hunting '09 reached double-figures in digs, finishing with 20 and 17, as Amanda J. Morris '08 dished out 36 assists.

In Friday's nightcap versus Hiram,

Rowe and Ellison each posted nine kills while Zhong and Li tallied eight apiece. Buchanan collected 20 digs and accounted for four of the Engineers' five aces. Zhong and Hunting bolstered MIT's defense with 16 and 12 digs, respectively, as Morris notched another 36-assist outing.

Emily Obert '11 paced the Engineers' attack with 18 kills in their five-game thriller against Saint Mary's. Rowe added 16 kills and a .441 hitting performance, as Li tallied 11 kills and three blocks. Buchanan anchored the defense with 28 digs, while Zhong picked up her second double-double of the weekend with 13 digs and 10 kills. Catherine Melnikow '10 totaled a career-high 13 digs, and Morris collected 60 assists and 12 digs.

MIT carried the momentum into its final match of the weekend versus Thiel. Rowe and Li were dominant at the net as they each totaled five blocks and notched 11 and 10 kills, respectively. Buchanan led the charge from the back row with 14 digs, while Hunting, Morris, Zhong, and Melnikow each added eight. Morris and Ellison both contributed four blocks, and Morris tallied 36 assists.

Women's volleyball continues conference play in an away match against Clark University on Saturday, Sept. 15 at 1 p.m.

Overtime Goal Lifts MIT In 2-1 Victory Over Lasell

By Mindy Brauer
DAPER STAFF

The field hockey team picked up its first home win of the season following a 2-1 overtime victory against Lasell College on Tuesday night. Ashley N. Mobbs '11 converted a feed from Jessica M. Oleinik '11 with 5:52 remaining in overtime to give the Engineers (2-2) their second win in a row. With the loss, the Lasers' ledger dropped to 0-3 on the year.

The opening half was a defensive battle, as neither side found the back of the net. Lasell registered the first shot of the contest, but MIT countered with nine unanswered shots of its own. Laser goalkeeper Laura Gallagher withstood the Engineers' assault in collecting seven of her 11 saves in the first half, including a diving stop midway

through the half.

MIT eventually ended the deadlock just 56 seconds into the second half. After the Engineers' first three shots were denied, Ekavali Mishra '10 corralled a rebound and found Oleinik for the score. Lasell tallied the equalizer in the 50th minute on its second penalty corner of the night. Kristen Moran took the corner and directed her pass to Caitlyn Walker, who quickly sent the ball into the cage. The game became a midfield struggle as the clock wound down.

Lasell had a chance to capture the win early in the overtime period when it was awarded a penalty corner, but the scoring threat ended when the ensuing shot sailed wide.

In net, Alexa C. Herman '08 finished with one save for MIT.

The Tech women play an away game against Nichols College on Tuesday, Sept. 18 at 7 p.m.

DAVID M. TEMPLETON—THE TECH

Carrie C. Buchanan '08 bumps the volleyball during the second game of the Engineers' sweep of Smith College Tuesday evening in Rockwell Cage.

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