



The Weather
Today: Thunderstorms in the afternoon, highs in the 80s°F (28°C)
Tonight: Clear, lows near 60°F (16°C)
Tomorrow: Sunny, highs in the lower 70s°F (22°C)
Details, Page 2

First-Years Explore Campus, Community During Orientation

By Ryan Ko
ASSOCIATE NEWS EDITOR

Incoming first-year undergraduate and graduate students descended upon the MIT campus as orientation activities officially started on Sunday.

About 550 families from the incoming class of 1,049 freshmen are expected to attend this year's undergraduate Orientation, whose theme is "TechTube," according to Elizabeth C. Young, assistant dean for the Office of Undergraduate Advising and Academic Programming.

"From all of us to all of you, welcome!" President Susan Hockfield said at Convocation in Killian Court yesterday, speaking for a stage assembly which included prominent MIT administrators and housemasters of the undergraduate dormitories.

Hockfield praised the merits of the incoming Class of 2012, and using the 16th-century scientist, engineer, and artist Leonardo da Vinci, shared her vision of MIT culture through three points: multi-disciplinary thinking, respect for and fascination with the natural world, and the hands-on engagement embodied in MIT's motto "mens et manus," which translates to "mind and hand."

Encouraging the incoming students to meet and get to know the faculty, Hockfield closed with a quote from Da Vinci, entreating them

to make the most of their "four very short years" at MIT: "It had long since come to [Da Vinci's] attention that people of accomplishment rarely sit back and let things happen to them. They go out and happen to things."

Carol Chester, parent of David A. Chester '12, said that she "liked how Hockfield tied all the [themes] together with Da Vinci."

The message was not lost on the incoming class. Nicholas A. Pellegrino '12 called the speech "inspiring" and said that he planned on pursuing a UROP as Hockfield had suggested.

During Convocation, the Orientation coordinators presented Hockfield with the Convocation Book, which contains the names of the new class.

A total of 19 Freshman Pre-Orientation Programs were held this year, according to Young. New this year were Discover Urban Studies and Planning and Discovering Brain and Cognitive Sciences. The number of freshmen participating in FPOPs increased from 468 for the Class of 2011 to 560 freshmen this year.

The schedule of events is similar to last year's, with a few more programs for parents. One student event is a diversity lecture by Eddie Moore Jr., a professional speaker who will

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MBTA Sues Three Students to Stop Speech on Subway Vulnerabilities

By Michael McGraw-Herdeg and Marissa Vogt
STAFF REPORTERS

An MIT student project showing how anyone with a magnetic card writer can ride the Boston subway for free was not presented at this summer's DEF CON hacker convention because of an emergency court order. But details sufficient to repeat the attack were published in open court documents by the Massachusetts Bay Transit Authority in its request for a restraining order.

On Aug. 19, a federal judge dissolved the gag order against three MIT students. The students' legal counsel, the Electronic Frontier Foundation, called the decision a victory for free speech and a sign that a federal state does not prohibit talking about security vulnerabilities.

The MBTA said in court that they would need five months to fix the security flaws and asked for a court order to silence the students during that period. They argued that if they students discussed their research, they would violate the National Information Infrastructure Protection Act, which prohibits knowingly causing "the transmission of a program, information, code, or command" that intentionally damages a computer used in interstate commerce.

The students — legally represented by the EFF — argued that PowerPoint presentations and cards with magnetic stripes do not represent the kind of "program, information, code, or command" whose misuse the law was meant to prevent.



DAVID M. TEMPLETON—THE TECH

The inbound gates of the Kendall/MIT subway stop are seen on Sunday evening.

Judge George O'Toole Jr. sided with the students; he denied the request for a five-month injunction and dissolved the existing order.

Zackary M. Anderson '09, Russell J. Ryan '09, and Alessandro Chiesa '09 planned to present research on Sunday, Aug. 10 that would have shown how the MBTA's CharlieTicket could be reprogrammed to contain up to \$655.36 using an inexpensive magnetic stripe writer. The students would also have discussed weaknesses in the CharlieCard.

The CharlieTicket vulnerabilities were discovered in the spring by a team of four Computer and Network Security (6.857) students working on a final project; the MBTA was not notified at the time. Three of the students are those named in the MBTA's suit. The fourth student, Samuel G. McVeety G, did not participate in the DEF CON preparation, Anderson said, and was not named in the MBTA's complaint. Anderson, Ryan,

Subway, Page 14

Students' Presentation Shows How to Get Free T Fare

By Michael McGraw-Herdeg
EXECUTIVE EDITOR

Documents made public by an MBTA lawsuit against MIT undergraduates show how anyone can get free T fare by copying an existing CharlieTicket or by making their own.

It is not clear what, if anything, a restraining order issued by the Federal District Court of Massachusetts on behalf of the Massachusetts Bay Transit Authority served to protect. That restraining order had the effect of cancelling the students' presentation at the annual DEF CON hacker

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Dean for Graduate Education Steven Lerman '72 Shares Thoughts on MIT

By Keone Hon

This is the first interview in a five-part series introducing incoming students to some of MIT's faculty, staff, and student leaders. Today, The Tech interviews Steven R. Lerman '72, Dean for Graduate Education, who offers advice for incoming students, discusses his work with graduate students, and shares his

memories of being an undergraduate at MIT.

The Tech: You've been at MIT since you came here for your undergrad. What about this place keeps you here?

Steven Lerman: I love the interplay among technology, science and education. For me the exciting part of my work is educating a new gen-

eration that's going to invent the future. Being at MIT is the merger of the two things that excited me when I was young: teaching and science.

TT: What's a typical day like for you?

SL: Lots of time in meetings. I mostly deal with questions of two types. One type is from individual students. Some amount of my work is helping students resolve individual problems: problems with funding, problems with their research supervisors, et cetera.

The other issues I deal with are about setting new programs and policies. For example, we're about to roll out a new dental plan for grad students. Another example from last year is a new policy that gives graduate students a P/D/F grading option for courses outside their majors. Policies such as graduate financial aid — how do we support more grad students — are also important.

Aside from that, my wife and I are housemasters at one of the graduate dormitories ... The Warehouse

Lerman, Page 16



ERIC D. SCHMIEDL—THE TECH

MIT students fight the annual East vs. West Water War on Kresge Oval on Sunday afternoon. See page 11 for more photos from Orientation and Residence Exploration.

Out in the Open: Some MIT Scientists Sharing Results, Posting Unpublished Data

By Carolyn Y. Johnson
THE BOSTON GLOBE

Barry J. Canton, a 28-year-old biological engineer at the Massachusetts Institute of Technology, has posted raw scientific data, his thesis proposal, and original research ideas on an online Web site for all to see.

To young people primed for openness by the confessional existence they live online, that may not seem like a big deal.

But in the world of science — where promotions, tenure, and fortune rest on publishing papers in prestigious journals, securing competitive grants, and patenting discoveries — it's a brazen, potentially self-destructive move. To many scientists,

leaving unfinished work and ideas in the open seems as reckless as leaving your debit card and password at a busy ATM machine.

Canton is part of a peaceful insurgency in science that is beginning to pry open an endeavor that still communicates its cutting-edge discoveries in much the same way it has since Ben Franklin was experimenting with lightning. Papers are published in research journals after being reviewed by specialists to ensure that the methods and conclusions are sound, a process that can take many months.

"We're a generation who expects

Open Science, Page 8

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WORLD & NATION

On TV, Timing Is Everything At the Olympics

By Bill Carter

THE NEW YORK TIMES

In mid-2005, Dick Ebersol, the chairman of NBC Sports, had secured the support of the International Olympic Committee for the critical move of the finals of the key television sports of swimming and gymnastics to morning hours in China so they could be shown live in prime time in the United States. But he had one more person he needed to consult: Michael Phelps.

"Michael was the first outsider I talked to about it," Ebersol said in an interview from Beijing, where he wrapped up NBC's coverage of the games Sunday. He said he wanted to make sure that competing in the morning would not harm the performance of the likely American star of the games.

Ebersol had already developed a close relationship with the swimmer, so much so that Phelps and his mother had attended the funeral of his young son Teddy after a plane crash that also seriously injured Ebersol.

Competing in the morning, Phelps said, was no problem.

Prospectors Rush To A Boom in Natural Gas

By Clifford Krauss

THE NEW YORK TIMES

HOUSTON

American natural gas production is rising at a clip not seen in half a century, pushing down prices of the fuel and reversing conventional wisdom that domestic gas fields were in irreversible decline.

The new drilling boom uses advanced technology to release gas trapped in huge shale beds found throughout North America — gas long believed to be out of reach. Natural gas is the cleanest fossil fuel, releasing less of the emissions that cause global warming than coal or oil.

Rising production of natural gas has significant long-range implications for American consumers and businesses. A sustained increase in gas supplies over the next decade could slow the rise of utility bills, obviate the need to import gas and make energy-intensive industries more competitive.

While the recent production increase is indisputable, not everyone is convinced the additional supplies can last for decades. "The jury is still out how big shale is going to be," said Robert Ineson, a natural gas analyst at Cambridge Energy Research Associates, a consulting firm.

Delegates for Clinton Ready to Back Obama

By John M. Broder and Dalia Sussman

THE NEW YORK TIMES

Delegates to the Democratic National Convention arrive in Denver having largely put aside the deep divisions of the primary fight between Sen. Barack Obama and Sen. Hillary Rodham Clinton, although some hold lingering concerns about Obama's level of experience, according to a New York Times/CBS News poll.

More than half of the delegates that Clinton won in the primaries now say they are enthusiastic supporters of Obama, and they also believe he will win the presidential election in November, the poll found. Three in 10 say they support Obama but have reservations about him or they support him only because he is the party's nominee. Five percent say they do not support him yet.

The poll, which was taken before Obama selected Sen. Joseph R. Biden Jr. of Delaware as his running mate, also suggests that Clinton's 1,640 pledged delegates are evenly split over whom they plan to vote for on the floor of the convention during the roll call vote on Wednesday evening.

Georgian President Vows To Rebuild Army, Unite Enclaves

By C.J. Chivers

THE NEW YORK TIMES

TBILISI, GEORGIA

President Mikheil Saakashvili of Georgia said Sunday that he planned to rebuild his country's shattered army, and that even after its decisive defeat in the war for control of one of Georgia's two separatist enclaves he would continue to pursue a policy of uniting both enclaves under the Georgian flag.

"It will stay the same," he said of his ambition to bring the two enclaves, South Ossetia and Abkhazia, under Georgian control. "Now as ever."

Also on Sunday, France called an emergency summit meeting of the European Union for Sept. 1 to discuss "the future of relations with Russia" and aid to Georgia, according to a statement from the French president, Nicolas Sarkozy.

The meeting was framed as a response to Russia's failure to meet the terms of the cease-fire agreement that Sarkozy negotiated between Moscow and Tbilisi. Sarkozy, in a statement, said he was responding to the demands of "several states" for the summit meeting, which will deal

with "the crisis in Georgia" and take place in Brussels, Belgium.

According to senior French officials who helped negotiate the cease-fire agreement, the Russians must pull all their troops back to positions before the crisis began on Aug. 7. The Russian troops stationed in South Ossetia and Abkhazia before that date may stay, and may continue to send out patrols into a "security zone," a thin buffer zone roughly five miles beyond the enclaves' borders. But the Russians are not allowed to set up fixed positions in the security zone — an agreement that Russia has not adhered to, Sarkozy said Friday in a telephone call with President Bush.

In the Georgian Black Sea port of Batumi, the first American naval vessel arrived Sunday to distribute humanitarian aid.

A train carrying oil cars exploded while traveling near Gori, the city in central Georgia that Russia had occupied for about 10 days. Georgian officials said the train had struck a mine left behind by Russian troops. No one was reported killed in the blast and the raging fire that followed, which sent thick plumes of

black smoke across the countryside.

With the bulk of Russian troops now withdrawn to the enclaves or to Russian soil, Saakashvili framed the war against South Ossetia and Russia — a military defeat that imperiled his government and threatens Georgia's fragile economy — as a seminal moment that offered the seeds of political and national success.

In an interview in his office that stretched until nearly 2 a.m., Saakashvili said that Georgia had gained allies in the world and would embark upon a campaign of rebuilding. He predicted continued American support, and noted that he spoke by phone with the presumptive Republican nominee for president, Sen. John McCain, as often as twice a day, and said that he was in regular contact with Joseph R. Biden Jr., who has been picked to run for vice president on the Democratic ticket.

Saakashvili also said that the Bush administration had not communicated disappointment or signaled a decline in its support for him since he gave the order late at night on Aug. 7 to attack Tskhinvali, the South Ossetian capital.

At U.S. Prodding, Switzerland Destroyed Kahn Network Data

By William J. Broad and David E. Sanger

THE NEW YORK TIMES

The president of Switzerland stepped to a podium in Bern in May and read a statement confirming rumors that had swirled through the capital for months. The government, he acknowledged, had indeed destroyed a huge trove of computer files and other material documenting the business dealings of a family of Swiss engineers suspected of helping smuggle nuclear technology to Libya and Iran.

The files were of particular interest not only to Swiss prosecutors but to international atomic inspectors working to unwind the activities of Abdul Qadeer Khan, the Pakistani bomb pioneer-turned-nuclear black marketeer. The Swiss engineers, Friedrich Tinner and his two sons, were accused of having deep asso-

ciations with Khan, acting as middlemen in his dealings with rogue nations seeking nuclear equipment and expertise.

The Swiss president, Pascal Couchepin, took no questions. But he asserted that the files — which included an array of plans for nuclear arms and technologies, among them a highly sophisticated Pakistani bomb design — had been destroyed so that they would never fall into terrorist hands.

Behind that official explanation, though, is a far more intriguing tale of spies, moles and the questionable compromises that governments make in the name of national security.

The United States had urged that the files be destroyed, according to interviews with five current and former Bush administration officials. The purpose, the officials said, was less to thwart terrorists than to hide

evidence of a clandestine relationship between the Tinners and the CIA.

Over four years, several of these officials said, operatives of the CIA paid the Tinners as much as \$10 million, some of it delivered in a suitcase stuffed with cash. In return, the Tinners delivered a flow of secret information that helped end Libya's bomb program, reveal Iran's atomic labors and, ultimately, undo Khan's nuclear black market.

In addition, U.S. and European officials said, the Tinners played an important role in a clandestine U.S. operation to funnel sabotaged nuclear equipment to Libya and Iran, a major but little-known element of the efforts to slow their nuclear progress.

The relationship with the Tinners "was very significant," said Gary S. Samore, who ran the National Security Council's nonproliferation office when the operation began.

WEATHER

Thunderstorm Today, But Sunny Stretch to Continue

By Cegeon J. Chan

STAFF METEOROLOGIST

Welcome Class of 2012! From moving into to your dorm to outdoor events, the weather (so far) has shown its sunny side. The weather machine (the dome ball atop the Green Building) has provided five straight virtually cloud-free days. However, this afternoon will mark a short disruption to this pattern (a reboot), in the form of a cold front.

Today will start off slightly humid and cloudy. The approaching cold front will sweep through the Boston area this afternoon. The good news is that afterwards, behind the cold front, the dew point (a measure of the humidity) will quickly drop. However, there is slight uncertainty in the timing of the thunderstorm. The later it arrives, the more heat that gets accumulated at the surface, which in turn, gives the thunderstorms more strength. Alternatively, the earlier it arrives, the weaker any showers will be. After that, a high pressure system will build in and a new streak of sunny weather will begin.

Extended Forecast

Today: Thunderstorms in the afternoon. Humid with highs in the lower 80s°F (28°C).

Tonight: Mostly clear. Lows near 60°F (16°C).

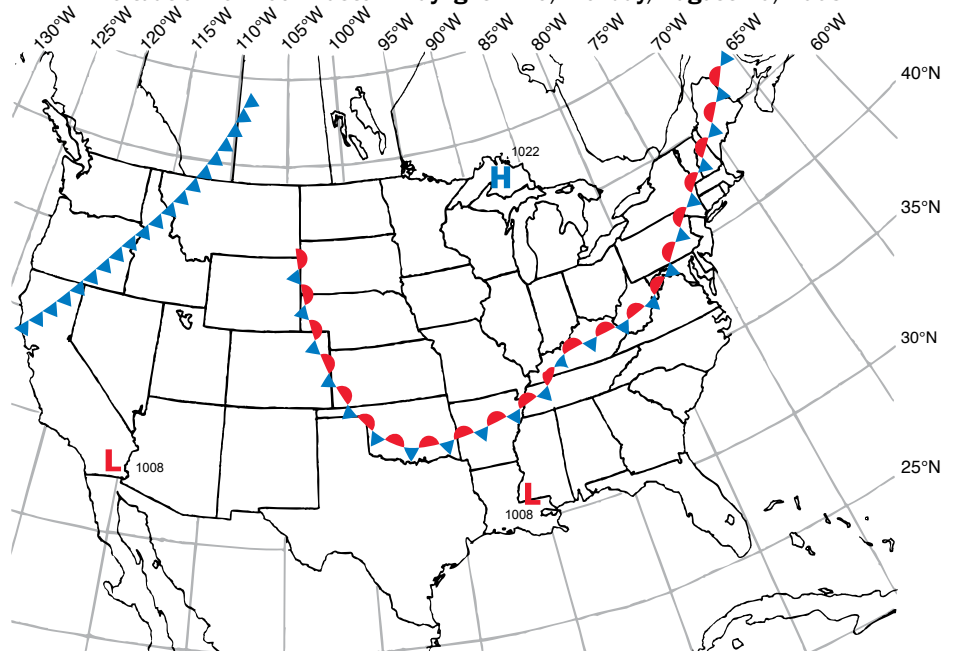
Tomorrow: Sunny. Highs in the lower 70s°F (22°C).

Tomorrow Night: Mostly clear. Low in the lower 50s°F (11°C).

Thursday: Sunny again. Highs in the lower 70°F (22°C).

Friday: Sunny still. Highs in the upper 70s°F (26°C).

Situation for Noon Eastern Daylight Time, Monday, August 25, 2008



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

Compiled by MIT Meteorology Staff and The Tech

After Glow of Olympic Games, China Faces Uncertain Future

By Jim Yardley
THE NEW YORK TIMES

BEIJING

The elaborate closing ceremony that ended the Beijing games on Sunday also ended nearly a decade in which the ruling Communist Party had made the Olympics an organizing principle in national life. Almost nothing has superseded the Olympics as a political priority in China.

For Chinese leaders, all that effort paid off. The games were seen as an unparalleled success by most Chinese — a record medal count inspired nationwide excitement, and Beijing impressed foreign visitors with its hospitality and efficiency. And while the government's uncompromising suppression of dissent drew international criticism, China also demonstrated to a global audience that it is a rising economic and political power.

But a new post-Olympic era has begun. The question now is whether a deepening self-confidence arising from the Olympic experience will lead China to further engagement with the world and domestic political reform or if the success of the games

and the muted Western response to repression will convince leaders that their current model is working.

"China was eager to present something that shows it is a new power that has its own might," said Shen Dingli, a professor at Fudan University in Shanghai. "It has problems but it is able to manage them. It has weaknesses in its institutions but also strengths in those same institutions."

Jacques Rogge, the president of the International Olympic Committee, declared on Sunday afternoon that choosing Beijing as a host had been the "right choice" and that the event had been a bridge between China and the rest of the world. "The world has learned about China, and China has learned about the world," Rogge said. "I believe this is something that will have positive effects for the long term."

To a large degree, the Beijing games reflected the might of the centralized power of China's authoritarian system: The stunning sports stadiums contributed to a \$43 billion price tag for the Games that was almost completely absorbed by the

state. China's 51 gold medals, the most of any nation, were the product of a state-controlled sports machine. Those successes are one reason that some analysts doubt Chinese leaders will rush to change the status quo.

"They have earned a tremendous amount of face because of the Olympics," said Hung Huang, a media executive in Beijing. "They are going to ride on that for a while. We don't have a culture that is pro-change. China, by nature, has got to be provoked to make changes. The economic reforms came about because we were desperately poor."

Indeed, for all the attention to the Olympics, 2008 also marks the 30th anniversary of China's initial embrace of the market reforms that have powered the country's rapid economic rise. Liberals in China have hoped this anniversary would inspire new reforms, especially to a political system still marred by corruption and a lack of transparency and accountability.

But critics say that the Olympics have underscored the deep resistance within the Communist Party to becoming more tolerant of dissent.

Democrats Convene in Denver To Plan Election Strategies

By Adam Nagourney
THE NEW YORK TIMES

DENVER

Democrats gathering here for their nominating convention are significantly more nervous about Sen. Barack Obama's prospects this fall than they were a month ago, and are urging him to use the next four days to address weaknesses in his candidacy and lingering party divisions from the bitter primary fight.

Obama's aides said they had learned from what they described as the mistake of the 2004 Democratic convention — when aides to Sen. John Kerry's campaign sought to forbid convention speakers from going after President Bush — and would use these four days to draw sharp contrasts with Sen. John McCain, particularly on the economy and McCain's opposition to abortion rights.

"The stakes of this election will be made very clear," said David Axelrod, Obama's chief strategist. "We are going to define the choice."

At the same time, acknowledging persistent voter unease with Obama, his aides said they would use speeches and presentations over

the next four days, including having Al Gore introduce Obama for his acceptance speech Thursday night, to offer a fuller biography and a more detailed plan of what he would do as president.

They said they were looking to 1992 as a model, when Bill Clinton successfully used his convention to address persistent questions about his personal life and what he would do as president.

In interviews, Democrats arriving here said they remained confident that Obama would leave Denver at the end of the week in a strong position to beat McCain. But many Democrats made clear that a convention they had once anticipated would be a breezy celebration of Obama had turned into a more sober and consequential event.

This reflected a summer that they said demonstrated Obama's vulnerabilities and McCain's resilience, and the signs of lingering divisions between some supporters of Sen. Hillary Rodham Clinton and Obama.

"Back in June and July, I truly thought he was going to blow McCain out of the water and carry 30 or 40

states," said Donald Fowler, a former national Democratic chairman who supported Clinton in the primary. "What has happened is that Republicans — McCain specifically — have really twisted his great charisma, this electric personality, to discredit his ability, his experience, his capacity, his judgment. I fear they are about to do to him what they did to Gore."

Discussing the days ahead, Fowler continued: "Obama has got to do some things that will shore up his ability to lead — not just to charm, but to lead. They've got to give credibility to his understanding of foreign policy, his ability to deal with tough people and tough questions, and his ability to be more explicit and convincing on his health care policies and energy policies."

Doe Trippi, who ran the presidential campaign of one of Obama's rivals, John Edwards of North Carolina, said: "He has still got to get to the meat-and-potato, blue-collar workers. This is a big opportunity for him."

There are some things that may be beyond the control of the Obama campaign.

Russian Actions Reignite Tensions Over Strategic Port in Ukraine

By David L. Stern

THE NEW YORK TIMES

SEVASTOPOL, UKRAINE

Russia's guided missile cruiser Moskva appeared suddenly on the horizon, dark and imposing like a fortress in the twilight, and steamed on Saturday into this Black Sea port, where its sailors were given a hero's welcome.

"Russia! Russia!" chanted hundreds of supporters from the embankment, as fireworks burst.

The ship, more than 600 feet long and bristling with guns and missile launchers, was one of several from the Black Sea Fleet that patrolled the coast of Georgia during the conflict between it and Russia. The fleet — which the Russians say sank a Georgian gunboat that fired on them — is based here in Sevastopol, a city populated mainly by ethnic Russians.

The next day, in the Ukrainian capital, Kiev, President Viktor A. Yushchenko presided over the first military parade in years — with a massive display of tanks, armored personnel carriers and missile launchers — to celebrate his country's 17th year of independence from the Soviet Union. Russia's willingness to send troops into Georgia, another former Soviet republic, to settle their territorial dispute this month has made Ukraine jittery, and the pro-Western Yushchenko used the celebration to again push for inclusion in the North Atlantic Treaty Organization.

"We must speed up our work to achieve membership of the European system of security and raise the defense capabilities of the country," Yushchenko said in a televised speech to thousands gathered in the city's main Independence Square. "Only these steps will guarantee our security and the integrity of our borders."

For Kennedy, An Unexpected Role in Finding the No. 2

By Jeff Zeleny

THE NEW YORK TIMES

CHICAGO

Yes, Caroline Kennedy says, she was taken aback when Sen. Barack Obama asked her in the late spring to play a primary role on his vice-presidential search team.

"I was surprised and really honored," Kennedy said Sunday in a telephone interview. "I thought it would be incredibly interesting and obviously important."

When Kennedy endorsed Obama's candidacy in January, making a considerable foray onto a political stage she has sought to avoid, she thought her announcement would be the extent of her public role in his campaign.

But for the past two months, she has been a detective, gathering information, asking questions and learning exhaustive details about some of the nation's top Democrats. (No, she said, she would not share anything.) Either alone or with her co-chairman of the search team, Eric Holder, she sat with senators and members of Congress, governors and other party leaders to listen and gather their comments.

"It was very thorough — and it was wide," she said of the net that was cast for Obama. "His goals and values were really clear from the way he approached it. He wanted somebody who was an independent thinker."

They presented the information to Obama at a handful of private sessions, typically at Holder's law office a few blocks from the White House. It was there, Kennedy said, that she watched Obama work his way down the path to selecting Sen. Joseph R. Biden Jr.

Bomb Kills 25 at Baghdad Dinner

By Erica Goode
and Stephen Farrell

THE NEW YORK TIMES

BAGHDAD

Sheik Ayed Salim al-Zubaie held a large dinner party at his house in Abu Ghraib on Sunday evening to celebrate the release of a family member who had been imprisoned by American forces for three years.

But as the guests sat in the garden waiting for dinner to be served, one of them, a man wearing a yellow dishdasha, detonated explosives hidden inside the long robe. The bombing killed at least 25 people and wounded at least 29 others, according to Iraqi police.

Witnesses speculated that the target of the attack was a group of sheiks attending the dinner who were working with the Americans to fight insurgents.

"The smoke was everywhere mixed with blood and pieces of flesh," said Yaseen Ahmed, 35, a guest who was wounded in the explosion and taken to a hospital in nearby Fallujah. "I went unconscious after that."

Abu Ghraib, notorious for its prison, is a Sunni area about 18 miles west of Baghdad where local forces known as Awakening Councils are paid by the American military to protect their neighborhoods. Many of them are former Sunni insurgents who have incurred the wrath of al-Qaida in Mesopotamia for turning on them.

Three Years After Hurricane, The Backup Is a Fixture

By Dan Barry

THE NEW YORK TIMES

NEW ORLEANS

On the seventh-floor parking garage of a Holiday Inn that calls itself the "jazziest hotel in New Orleans," soldiers dressed for combat wait for the evening's call to fall in. They chat, smoke and gaze out upon an American city still in need of their armed presence.

At a sergeant's bark, these two dozen men and women, all members of the Louisiana National Guard, stand at attention for their nightly pep talk. The sergeant instructs them to drive carefully, to be alert, to keep an eye out for a hyperactive band of armed robbers and to remember: "We're not here to make friends."

They slap clips into their 9 mm pistols and climb into decade-old white sedans no longer of use to the state police. Then out they go, on patrol, their flashlight beams skimming like the nation's eye across shotgun houses achingly abandoned and beautifully restored, down streets named St. Maurice, and Piety, and Elysian Fields.

On this night the shift supervisor is Sgt. Robert Barthelemy, 28, a brawny sawmill worker from Natchitoches, more than 200 miles to the northwest. But he has earned his street stripes, first as an Army tank commander in Baghdad and for the last 18 months as a soldier in New Orleans. He wants to be a police officer someday; maybe here.

Biden's Son Drew Consulting Fees While Senator Pushed for Bill

By Christopher Drew
and Mike McIntire

THE NEW YORK TIMES

During the years that Sen. Joseph R. Biden Jr. was helping the credit card industry win passage of a law making it harder for consumers to file for bankruptcy protection, his son received more than (\$400,000) in consulting fees from one of the largest companies pushing for the changes, aides to Sen. Barack Obama's presidential campaign acknowledged Sunday.

Biden's son, Hunter, received the fees from MBNA Corp. from 2001 to 2005 for consulting work on online banking issues. Aides to Obama, who chose Biden as his vice-presidential running mate on Saturday, said the younger Biden, who works as both a lawyer and lobbyist in Washington, never lobbied for MBNA and that there was nothing improper about any of the payments.

But campaign officials acknowledged that the connection between the Bidens and MBNA, the enormous financial services company then based in their home state of

Delaware, was one of the most sensitive issues they examined while vetting the senator for a spot on the ticket.

Biden's support for the bankruptcy changes, which were signed into law in 2005, puts him at odds with Obama of Illinois, who opposed the bill and has criticized the presumptive Republican nominee, Sen. John McCain of Arizona, for supporting it. Consumer advocates and other Democratic allies remain sharply critical of Biden's actions, saying in recent days that they could hamper the campaign's efforts to attack the Republicans over their handling of the nation's credit crisis.

The financial services industry began seeking relief from Congress in the mid-1990s from an increase in bankruptcies that was cutting into its profits. Its initial support came from Republican lawmakers, who repeatedly introduced bills to make it more difficult for consumers to erase their debts. During that time, executives at MBNA, which was bought in 2006 by Bank of America, began donating heavily to both major political par-

ties and many national politicians, including Biden.

In late 1996, the company hired the younger of Biden's two sons, Robert Hunter Biden, known as Hunter, who had just graduated from Yale Law School, as a lawyer. The company promoted Biden to senior vice president by early 1998. And after the younger Biden worked at the Commerce Department on electronic commerce issues from 1998 to 2001, MBNA hired him back on a monthly consulting contract to advise it on such issues, aides said.

Consumer advocates say that Sen. Biden was one of the first Democratic leaders to support the bankruptcy bill, and he voted for it four times — in 1998, 2000, 2001 and in March 2005, when its final version passed the Senate by a vote of 74 to 25.

Travis Plunkett, legislative director of the Consumer Federation of America, a consumer group that opposed the bill, said that Sen. Biden had provided a "vener of bipartisanship" that eventually helped the credit card companies win over other Democrats.

OPINION



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ARTS

MOVIE REVIEW ★★

*Spanish Summer Vacation**Woody Allen's Latest is Breezy, Romantic, and Decidedly Unfunny*

By Praveen Rathinavelu

ARTS EDITOR

Vicky Cristina Barcelona

Written and Directed by Woody Allen

Starring Scarlett Johansson, Rebecca Hall, Javier Bardem, and Penelope Cruz

Now Playing

More than those of probably any other working director, Woody Allen's films are released with the paralyzing burden of expectation. Woody Allen is supposed to be, without exception, funny. The expectations extend further; his films must carry a sense of humor that fits with the public perception of Allen himself: anal, narcissistic, self-deprecating. When Allen releases films that don't really fit this mold, people tend to freak out.

Allen did his best to cripple expectations with his dark, fantastic film *Match Point*. Like *Match Point*, his latest film, *Vicky Cristina Barcelona*, employs a soberer European setting and a subtle social exploration. But while *Match Point* was tight, brooding, and sexual, *Vicky Cristina* is young, breezy, and romantic. *Match Point* was a stronger, more complete film, but *Vicky Cristina Barcelona* is vibrant and cool.

Allen moves through an idyllic, richly colored Barcelona with his two female protagonists: Vicky (Rebecca Hall) and Cristina (Scarlett Johansson), two mildly clueless American women, ready to absorb the considerable amounts of art, music, and wine that Barcelona has to offer. As the cheesy, but fit-

ting, voice-over narration informs us, Vicky is a steady pragmatist — engaged to a practical, successful douchebag — while Cristina is an aimless romantic, who has barreled through a series of men. Both actresses feel a little lifeless and stiff — particularly Johansson — and the film never really takes off until the entrance of their incomparable Spanish colleagues.

Javier Bardem enters first, as the mysterious, charming painter, Juan Antonio. His role as the steamy Spanish lover is such a stereotype, it should just make the film feel staler, but Bardem delivers a smooth, effortless performance as Juan Antonio attempts to (and succeeds in) seducing Vicky and Cristina simultaneously.

The interactions between Juan Antonio, Vicky, and Cristina are sharp, fun, and interesting, but the film shifts gears entirely when Maria Elena (Penelope Cruz) surges onto the screen. Cruz displays an overpowering wit and presence that diminishes Johansson entirely. With the entrance of Maria Elena, the film forges a web of complex sexual interactions between the characters, built around the seemingly endless series of outbursts and



PHOTO COURTESY OF THE WEINSTEIN COMPANY

Javier Bardem and Rebecca Hall star in Woody Allen's *Vicky Cristina Barcelona*.

breakdowns of Maria Elena (who also has the tendency to assault the characters with various weapons and objects).

Vicky Cristina doesn't rise to a bold, explosive climax but ends with an inconclusive sort

of melancholy. We are left incapable of making any overarching assumptions about the film or characters (despite the narrator's attempt to in the beginning) except that everything, particularly love, is transient.

ALBUM REVIEW

*Modern Guilt Far From Mellow**Newest Beck Anxious and Spooky, Despite Danger Mouse's Production*

By Sarah Dupuis

SENIOR EDITOR

Beck

"Modern Guilt"

Produced by Danger Mouse and Beck

Interscope Records

Between his unpredictable album content and hush-hush ties to Scientology, it's hard not to speculate about just what's going on in Beck Hansen's brain. His most recent opaque interviews leave out most details of his personal life, and so the truest glimpse we get of his personality comes direct from the records. Alternating between funky nonsense (Mellow Gold, Odelay, Midnite Vultures) and sonically rich emotion (particularly the Nigel Godrich-produced albums *Mutations*, *Sea Change*, and *The Information*), Beck proves adept at showing off his polar-opposite profiles, but never facing the world with his full-on façade.

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But it seems the more obfuscated and media-shy Beck becomes, the more honest he gets, because *Modern Guilt* — appropriately released on the artist's thirty-eighth birthday — may just be the truest self-portrait Beck's given us.

From the album artwork — shadowy

images of players' feet backed by loose cables — to the vocals — shy falsettos buried under church-echo harmonies — *Modern Guilt* certainly doesn't flaunt its openness. Danger Mouse's work also seems to obstruct the emotion behind the songs; the chopped beats and erratic sounds come suspiciously and inappropriately close to Gnarls Barkley territory ("Walls" in particular bears a resemblance to St. Elsewhere track "Smiley Faces"). But beneath the production and between the lines of the lyrics lies a not only revealing but also revelatory record that leans towards paranoia, sadness, and discomfort.

This uneasiness is present throughout the album. "Modern guilt, I'm under lock and key / It's not what I have changed / Turning into convention / Don't know what I've done, but I feel ashamed," Beck groans over the two-step rock of the titular track that sets the pace for the sound-word discrepancy of the album. Perfect summer single "Gamma Ray," (which easily recalls the bass line of Le Tigre's danceable "Deceptacon") and likely chart candidate "Profanity Prayers" (a fun handclap number) offer up a great beachside soundtrack, but also contain a severe duality: Beck sings of "ice caps melting down" on the former, and on the latter, "you wait at the light and watch for a sign that you're breathing." The eeriness continues with punchy, grooving "Youthless" (featuring Self's Matt Mahaffey on bass), and the self-descriptive line "they tried to turn emotion into noise."

The real standouts, however, come when Beck's sound matches his meaning. Closing track "Volcano" has percussion just like the chugging of a freight train pulling away from a station. Beck's low voice is mournful, slow and grounded as he tells of sorrow — both his and others. "I don't know if I'm sane / But there's a

ghost in my heart / That's trying to see in the dark / I'm tired of people / Who only want to be pleased / But I still want to please you / And I heard of that Japanese girl / Who jumped into the volcano / Was she trying to make it back / Back into the womb of the world?"

And in what just might be the song of the year, Beck releases any self-conscious irony and delves into a gorgeous, over-the-top number. That track is "Chemtrails," notably different from the rest of the album because of Joey Waronker's unrelenting, bone-chilling drum fills and Godrich-protégé Darrell Thorp's three-dimensional, spooky mixing. The song is ostensibly about the chemtrail conspiracy theory, or the belief that trails appearing behind flying aircraft are actually government chemicals being released on humans for an unknown purpose. But Beck's poetic lyrics are much more beautiful and complex than the namesake theory. In an honest and vulnerable falsetto (unlike the comical croon on *Midnite Vultures* track "Debra") Beck delivers a frightening and captivating image: "I can't believe what we've seen outside / You and me watching the jets go by / Down by the sea / So many people / They've already drowned" and "The chemtrails is where we belong / That's where we'll be when we die in the slipstream / We'll climb in a hole in the sky."

Though fans of Beck's humorous side may be just as turned off as some die-hard *Sea Change* fans seeking a new breakup anthem, *Modern Guilt* puts the self-proclaimed *Perdedor* in a brand new role. He's a whispering prophet who inspects his own life and the world around him through a magnifying glass with a storm-grey lens. It's a new Beck, and it's a Beck to watch in coming years — provided he doesn't withdraw into the chemtrails completely.



XUEYAN ZHANG

An origami butterfly, designed and built by Michael G. LaFosse and Richard L. Alexander, is seen hanging on display August 8 in the Stata Center.

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Theory of Pete

by Cai GoGwilt



su | do | ku

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 on page 14.

© Puzzles by Pappocom

	4		1	9				
8			6				4	
		5					2	8
	5		7					
2			4	9				1
				6			9	
5	3					2		
	9			1				4
		7	6				8	

Solution, tips, and computer program at <http://www.sudoku.com>

ACROSS

- 1 Male turkey
- 4 Use a razor
- 9 Postage
- 14 __ pro nobis
- 15 Spiral form
- 16 Hot chocolate
- 17 Mutually beneficial event
- 20 Encore!

DOWN

- 21 Concluded
- 22 Wedding token
- 23 Backbones
- 26 Bar bill
- 29 Forensics letters
- 30 Modernist poet Ezra
- 31 Andean country
- 32 Word with sienna or umber
- 33 Waist cincher

- 35 Croupier's line
- 38 Salespeople
- 39 Forest units
- 40 Cooking vessels
- 41 Smacking of the sea
- 42 Short-order order
- 45 Classified __
- 46 Implicit warning
- 48 Length x width
- 49 Mothered overly
- 51 Shaq's surname
- 52 Display in the best light
- 57 Comic Mandel
- 58 Back-comb
- 59 Baltimore paper
- 60 Deed holder
- 61 City near Limerick
- 62 Asian holiday

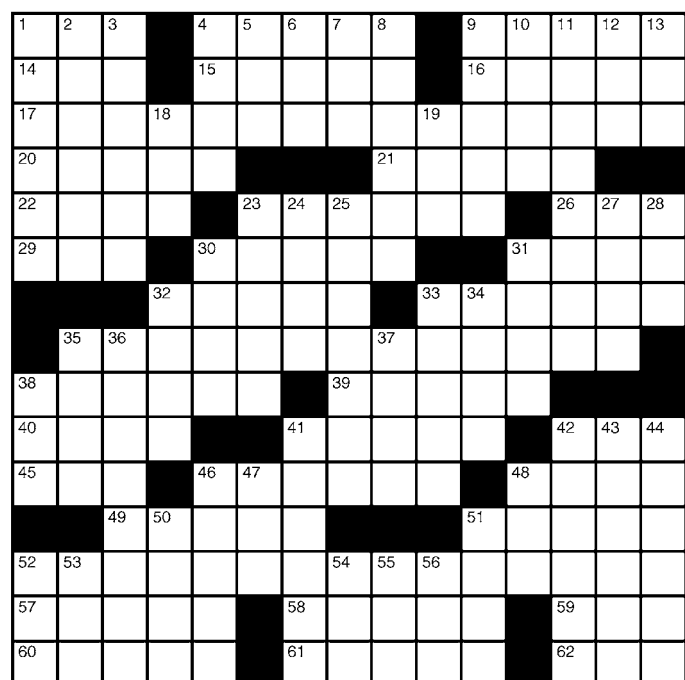
DOWN

- 1 In the direction of
- 2 Genesis
- 3 Tijuana tomorrow
- 4 Part of the leg
- 5 Female quail
- 6 Gore and Franken
- 7 Number of Roman hills
- 8 Put forth
- 9 Oodles
- 10 Open-topped purse
- 11 Rigorous appraisal
- 12 Dairy farm sound
- 13 Forest deity
- 18 Hair purchase
- 19 One for Pierre
- 23 Blisters and bruises
- 24 Weak

Crossword Puzzle

Solution, page 14

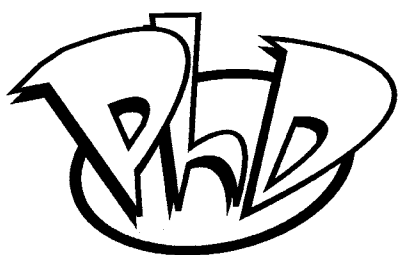
- 25 All together
- 27 God of war
- 28 Except
- 30 Hockey projectile
- 31 White House res.
- 32 Keeps out
- 33 Mediterranean island
- 34 Mind
- 35 Trudge
- 36 Disappoints
- 37 Web sites
- 38 Tax preparer
- 41 Solemn
- 42 Confront boldly
- 43 Sports conference
- 44 Knack
- 46 Aquatic mammal
- 47 Classic Olds
- 48 Opp. of syn.
- 50 Boo-boo
- 51 Small bills
- 52 HBO rival
- 53 By what means
- 54 Cozy room
- 55 Pianist Cliburn
- 56 Pilot's gauge: abbr.



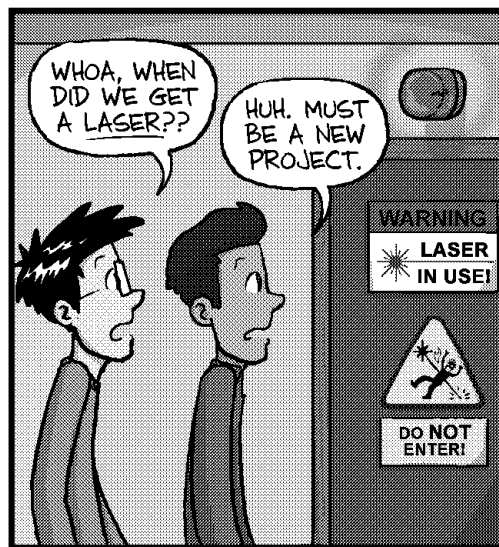
Doonesbury

BY GARRY TRUDEAU

Dilbert® by Scott Adams



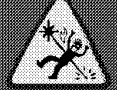
PILED HIGHER AND DEEPER



WHOA, WHEN DID WE GET A LASER??

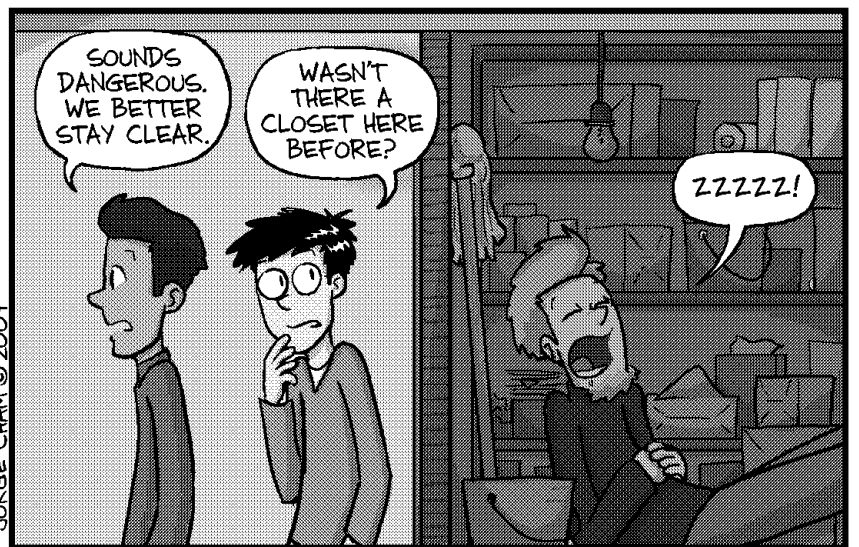
HUH. MUST BE A NEW PROJECT.

WARNING LASER IN USE!



DO NOT ENTER!

JORGE CHAM © 2007

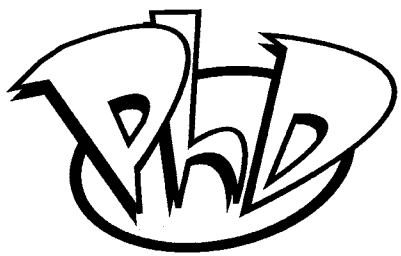


SOUNDS DANGEROUS. WE BETTER STAY CLEAR.

WASN'T THERE A CLOSET HERE BEFORE?

ZZZZZ!

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HI, CAN I HELP YOU?

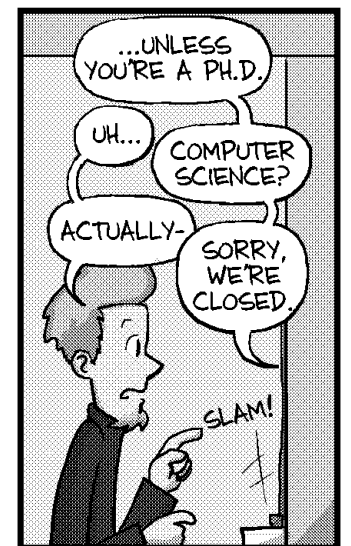
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UH...

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ACTUALLY-

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SLAM!

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MIT Scientists Are Promoting Open Science Movement

Open Science, from Page 1

all information is a Google search away," Canton said. "Not only is it a Google search away, but it's also released immediately. As soon as it happens, the video is up on YouTube and on all the blogs. The old model feels kind of crazy when you're used to this instant information."

Openness has always been an integral part of science, with scientists presenting findings in journals or at conferences. But the open-science movement, with many of its leaders in the Boston area, encourages scientists to share techniques and even their work long before they are ready to present results, when they are devising research questions, running experiments, and analyzing data. In such open forums, the wisdom of the crowd could offer the ultimate form of peer review. And scientific information, they say, should be available without the hefty subscription fees charged by most journals.

It is an attempt to bring the kind of revolutionary and disruptive change to the laboratory that the Internet has already wrought on the music and print media industries. The idea is that opening up science could speed discoveries, increase collaboration, and transform the field in unforeseen ways.

On the other side are people who see the benefits of the status quo. For

centuries, scientific discoveries have occurred at a steady clip, without the help of wikis or Web tools. Journals publish papers that have been scrutinized by specialists, ensuring that bad research doesn't mislead other scientists or the public.

Scientists who plunge into openness also risk giving a competing lab a leg up.

"Maybe somebody has discovered some interesting gene and doesn't want to blab to the whole world about why it's interesting," said Michael T. Laub, an assistant professor of biology at MIT. He says his lab is not overly secretive, but does not post "all the gory details of what someone is working on, because I don't want my grad students necessarily to be scooped by someone else."

More broadly, the entire system of credit in science is based on being the first to publish a finding in a reputable journal; there's no incentive to post on blogs or community Web sites. Scientists try to get their findings published in the top journals in their fields, and major scientific prizes are awarded to those who make breakthroughs.

Despite these concerns, the counterculture scientific movement is gathering steam, and not just among junior researchers.

For example, OpenWetWare.org started out in 2005 as Endipedia, a

Web site that scientists in Thomas F. Knight '79 and Andrew D. Endy's labs at MIT used to share information. But today the Web site is backed by a National Science Foundation grant, and more than 4,000 biologists and bioengineers from across the world have signed up to share techniques, get practical tips, and even detail their day-to-day work if they choose.

Science Commons, a nonprofit group based at MIT, works to Web-enable the scientific enterprise by working on other aspects of openness: trying to find ways to make inaccessible journals broadly available and developing Internet tools to ease sharing of information.

"In the same way you couldn't get to Facebook until you had the Web for 10 years — all sorts of stuff had to happen to the Web itself to support the emergence of something like Facebook," said John T. Wilbanks, executive director of Science Commons. "I think the tipping point will come when scientists look at someone next to them using the open system and getting more discoveries, and saying 'I want that.'"

Another local effort, Somerville's Journal of Visualized Experiments, is an open-access video journal that seeks to increase transparency in the how-to part of science, since researchers often waste time trying to replicate another team's experiment.

The Web site, with tutorials from top researchers on subjects from basic stem cell techniques to dissecting mosquitoes' salivary glands, is informed by the experience of its cofounder, Moshe Pritsker. Pritsker recalls how he as a graduate student spent more than a month unsuccessfully trying to replicate a two-year-old stem cell technique; eventually he flew to Scotland to learn firsthand.

It's hard to say which, if any, of these forms of openness will gain traction in the wider community. But the ethos of the Internet, where people are used to getting everything from television shows to news articles without paying, is already challenging the scientific publishing industry.

There are open-access journals, such as those published by the Public Library of Science, but scientific journals usually require a paid subscription to get access. But in February, Harvard's largest division, the Faculty of Arts and Science, voted unanimously to make scholarly papers authored by faculty available free in an online repository, which will begin beta-testing this fall. The National Institutes of Health began an open-access policy this year requiring that NIH-funded research be posted online for free, within a year of publication.

Just as giving content away for free on the Internet has proved troublesome for newspapers as they try

to adapt to a new business model, scientific publishers worry that open access could undermine the foundation on which scientific communication is built. Journals typically make money through a combination of subscription fees paid by individuals or by universities and advertising, which support its editorial and peer-review process.

"The bottom line is it's a wonderful experiment, but it needs to be approached carefully, or you go out of business," said Fred Dylla, executive director of the American Institute of Physics, which publishes 11 of its own journals.

Eventually, the success of open science hinges on utility: If research improves, scientists will have to adopt it or fall behind.

Canton, working in the relatively new field of synthetic biology, has seen the benefits firsthand. He and colleagues devised a bit of genetic material that could be inserted into a cell to let it communicate with other cells.

They posted their work online, but also submitted it to a journal over a year ago to be formally presented to the world's scientific community. Meanwhile, their work was incorporated into 18 different projects by other labs. Canton was invited to workshops.

Last month, it came out in the journal Nature Biotechnology.

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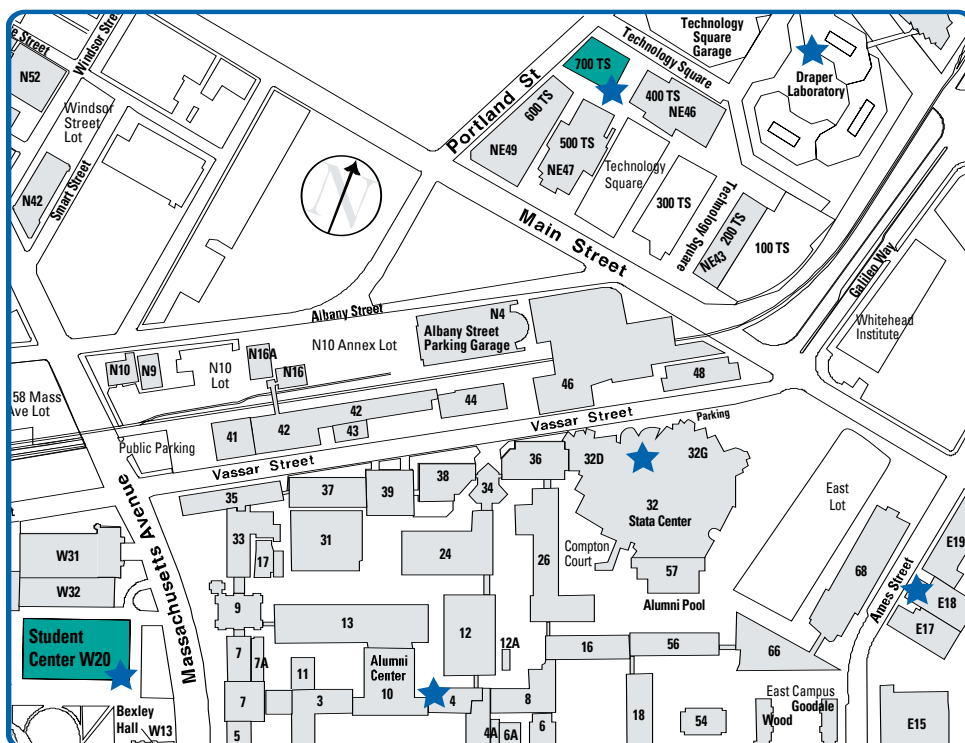
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Orientation and REX Kick Off With A Bevy of Activities

(clockwise from top left)

Ahmed M. Hussain '12 plays frisbee with some friends out on Kresge Oval on Sunday afternoon.

(left to right) Kahlil A. Dozier '12, Tanmay Kumar '12, and Joseph W. Colosimo '12 are seen soldering circuit boards as part of Residence Exploration at East Campus on Saturday.

A wooden roller coaster is seen erected in East Campus' courtyard Saturday as part of their annual Residence Exploration activities.

(left to right) Elena A. Tatarchenko '11, Chao Xue '12, and Jamie K. Huang '11 tie dye shirts in front of Simmons Hall on Saturday.



Grad Students Have Packed Orientation, New Lab Open House

Orientation, from Page 1

talk about ethnic, racial, and sexual diversity in society. This event was first included in freshman Orientation last year.

Giveaways this year include T-shirts, as well as an emergency preparedness backpack from the Security and Emergency Management Office.

"No question is a foolish question," advised Young. "Go to most of the programs. ... Take this week as an opportunity to meet new people."

Undergraduate Orientation will officially close on Friday, Aug. 29 at the Greek Grill, at which point fraternity rush and sorority recruitment begin.

The coordinators of this year's Orientation are Chris J. Peters '10, Kelli B. Pointer '10, Arti V. Virkud '11, and Andreas Wallendahl '11. A new Orientation blog site (<http://mitorientation.org/>) was set up in June, with the four student coordinators and three UAAP staff members answering Orientation-related questions.

First-year grad students learn about MIT

Graduate orientation, hosted mainly by the Graduate Student Council, kicked off on Sunday as well with a welcome barbecue at the Thirsty Ear Pub. It continues to-

day and tomorrow with "Graduate School 101," which will help new students learn about life at MIT, according to Ying Diao G and Kai Liao G, the graduate orientation coordinators.

President Hockfield's welcome address to graduate students will take place on Thursday, Aug. 28 in Kresge Auditorium.

New events for this year's graduate orientation are Lab Open House, sponsored by TechLink, which will allow students to get to know labs from different departments, and MIT Photo Safari, a combination treasure hunt, campus tour, and photo contest that will encourage students to explore the campus.

Other highlights include Orientation Olympics, a joint effort of Tang Hall, the Chinese Student and Scholar Association, and the GSC; a Boston Harbor Cruise; and the relatively new International Culture Festival (iFest). iFest, which was new at last year's orientation, will include performances from more than 12 cultural groups, food from around the world, and a cultural fashion show.

Graduate Orientation ends on Sept. 14, with the majority of events occurring between Aug. 24 and Sept. 6. For a schedule of events, see: <http://gsc.mit.edu/index.php/orientation/schedule/>.

Angeline Wang contributed to the reporting of this story.

Researchers Question Long-Term Effect of Cervical Cancer Vaccines

By Elisabeth Rosenthal
THE NEW YORK TIMES

Two vaccines against cervical cancer are being widely used without sufficient evidence about whether they are worth their high cost or even whether they will effectively stop women from getting the disease, two articles in last week's New England Journal of Medicine conclude.

Both vaccines target the human papillomavirus, a common sexually transmitted virus that usually causes no symptoms and is cleared by the immune system, but which can in very rare cases become chronic and cause cervical cancer.

The two vaccines, Gardasil by Merck Sharp & Dohme and Cervarix by GlaxoSmithKline, target two strains of the virus that together cause an estimated 70 percent of cervical cancers. Gardasil also prevents infection with two other strains that cause some proportion of genital warts. Both vaccines have become quick best sellers since they were licensed two years ago in the United States and Europe, given to tens of millions of girls and women.

"Despite great expectations and promising results of clinical trials, we still lack sufficient evidence of an effective vaccine against cervical cancer," Dr. Charlotte J. Haug, editor of The Journal of the Norwegian Medical Association, wrote in an editorial in Thursday's issue of The New England Journal. "With so many essential questions still unanswered, there is good reason to be cautious."

In her article, Dr. Haug points out the vaccines have been studied for a relatively short period — both were licensed in 2006 and have been studied in clinical trials for at most six and a half years. Researchers

have not yet demonstrated how long the immunity will last, or whether eliminating some strains of cancer-causing virus will decrease the body's natural immunity to other strains.

More to the point, because cervical cancer develops only after years of chronic infection with HPV, Dr. Haug said there was not yet absolute proof that protection against these two strains of the virus would ultimately reduce rates of cervical cancer — although in theory it should do so.

Dr. Richard Haupt, medical director of Merck, called these concerns "very theoretical," noting that continuing research and monitoring suggested that immunity would be long lasting and that the vaccine would not lead to problems with other strains.

He added that cervical cancer was "just the tip of the iceberg" and that HPV caused a huge amount of expensive and stressful testing in developed nations that could be avoided with vaccination.

The vaccines, which require three shots for a complete series, cost about \$400 to about \$1,000, depending on the country and the fees for doctors' visits. Unlike older vaccines that save money by preventing costly disease, these vaccines cost health systems money.

The second paper published this week, a study by Jane J. Kim and Dr. Sue Goldie of Harvard, looks at the issue of costs and concludes that the vaccines will be cost effective only if used in certain ways. In particular, the researchers say the vaccines will be worth the cost only if they prove to protect girls for a lifetime, and if current methods for screening for cervical cancer using Pap smears can be safely adjusted to reduce

costs there. Further research is required in both areas.

"I believe the vaccine is a great advance, but we have to implement it properly to get the benefits, and that hasn't happened," said Dr. Philip Davies of the European Cervical Cancer Association.

In developed countries, Pap smear screening and treatment have effectively reduced cervical cancer death rates to very low levels already. There are 3,600 deaths annually from cervical cancer in the United States, 1,000 in France and 400 in Britain.


Cervical cancer, like skin cancer, can generally be caught at precancerous or non-invasive stages and treated. Because the vaccine prevents infection with only some of the cancer-causing strains, Pap smear screening must continue even in those who are vaccinated.

The Harvard study concluded that giving the vaccine to 12-year-olds would cost \$43,600 for every "quality adjusted year of life" it saved by preventing a cancer death; that price would often be considered acceptable by health officials in wealthy countries, experts say.

Dr. Haupt said the study proved that it was best to vaccinate early. "It underscores the value of vaccinating pre-adolescent girls," since the vaccine works fully only in girls who have not been exposed to HPV.


But if the vaccine were given to all girls and women up to age 21, the cost per year of life saved would be far higher — \$120,400, the Harvard study concluded. And if the vaccines prove to require a booster shot, as many critics believe, that cost rises to \$140,000. In such cases it might make more economic sense to rely on Pap smear screening alone, the researchers said.


<http://tech.mit.edu>



Morris on Campus

Life According to an Upperclassman






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Monday, August 25, 2008

08:00

08:00—**Burton Conner**—Miss the cartoons and sugary cereal of your youth? We do. Come join us for some toons and a sugar rush to start off the day!

08:00—**Next House**—Woeful Waffles (Next Dining and TFL): Ease the pain of an early Monday morning (and looming ASEs) with freshly-made waffles and other breakfast-like foods in our dining hall.

09:00

09:00—**Baker House**—Breakfast @ Baker — Early to bed, early to rise makes a person healthy, wealthy and wise! So come on down to grab a bite of breakfast before another big day begins!

10:00

10:00—**EAsT campUS**—East Campus: Distilled and bottled in New Zealand by Lion Nathan Wines & Spirits New Zealand Limited. 111 Carlton Gore Td. Newmarket Auckland, New Zealand

10:00-18:00—**EAsT campUS**—we're in our dorm, tourin our frosh. Today our caged guides are tamer after last night's party. You might have to shake them until they wake up, but we're still giving tours. It's one of your last chances to explore before the housing lottery closes, so, as JoeG says, GET ON IT!

10:00—**Ashdown House**—Every hour, on the hour, a tour guide will be waiting for you at the student center (with a big sign that says NW35) to take you to NW35, the new dorm.

10:00—**Senior Haus**—BACON BACON BACON BACON BACON? BACON, BACON BACON! BACON. (BACON BACON.)

10:00—**Next House**—Boston Walking Tours (Next House Lobby to ... Who knows?): Come with resident experts from Next to see the city near which you'll be spending the next 4 years of your life. See the hot spots for food, fun, and entertainment ... all within the limits of your little frosh feet.

10:15—**MacGregor**—Charles River Kayaking Trip! We will meet in front of MacGregor at 10:15 AM and take a quick bus trip upriver. Explore the Charles with adventurous MacGregor residents for an hour and a half before returning to campus. (Note: you had to have signed up on Sunday!)

10:31—**EAsT campUS**—When you pee on the wall, it's basically a urinal

11:00

11:11—**EAsT campUS**—East Campus: More American than Michael Phelps

11:17—**Random Hall**—Picture Scavenger Hunt - Boring campus tour or interactive puzzle challenge extravaganza? Difficult decision, we know. *Meet in Lobby 7 any time during this block.*

12:00

12:00-18:00—**EAsT campUS**—OMGWTFBQBQ. Your mother always told you to clean your plate. Come to the courtyard and we'll pile it full of greasy grilled goodness. Listen to your mother and chow down.

12:00-21:00—**EAsT campUS**—Salon du Campus d'Est. Trying to catch the eye of that special someone? With our help and hair dye, you won't just catch their eye, you'll blind them. In a good way...?

12:00-00:00—**EAsT campUS**—

Rides of Skill and Chance. See frosh. See frosh ride. Ride frosh ride.

12:00—**Ashdown House**—Tired from an amazing weekend? Come relax with some smoothies and soothing music. Relaxing events run throughout the day-see the schedule for details.

12:00—**Baker House**—Finger lickin' good - If breakfast wasn't enough, let's go for lunch too! We will be ordering carryout from your favorite restaurants. Swing on by for some more, very excellent free food!

12:00—**Burton Conner**—Food, water guns, slip-and-slide, and our famous Jell-O Wrestling. A BC tradition, join us while we duke it out in a tub 'o goo.

12:01—**EAsT campUS**—You'd better hope that you don't collide with an H2 in your economy car. You can kiss your ass goodbye thanks to the H2's massive weight and raised bumpers.

12:06—**EAsT campUS**—It's not about what the lulz can do for you, it's about what you can do for the lulz

12:17—**Random Hall**—Minihunt Have you ever looked Death square in the eye and shouted, "Lo, Evil One! I fear thee not!"? Well, the MIT Mystery Hunt is nothing like that. Come take a bite-sized taste of what it's actually like.

13:00

13:00—**MacGregor**—BBQ! Visit MacGregor's barbecue pits and fill your stomach while the food's still free. We'll have burgers, hot dogs, and vegetarian options hot off the grill. Finish it off with some watermelon and good company.

13:00—**Senior Haus**—HAIR DYEING color your hair awesome colors. never get a job.

14:00

14:00—**Senior Haus**—T SHIRT DESTRUCTION + SILK-SCREENING cut shit up. tie it back together. spray shit on it. ????? profit. (bring your own, or we have shirts for you.)

14:00—**Next House**—Back to Kindergarten! (Next Courtyard & TFL): As you start college, you'll find the experience very similar to another first day of school... so join us for snacktime, finger and face painting, naptime, and a MOONBOUNCE — all the great things about being 5 all over again!

14:17—**Random Hall**—Bacon, Onion, Garlic - You know what goes really well with garlic? Your mom. Join us for a delicious and healthy feast of four of nature's finest ingredients.

15:00

15:00—**La Casa**—Join Spanish House in this traditional Hispanic cook out. Not hungry? Don't worry, a quick match of soccer before lunch will help. Join the members of Spanish House as we remember a little bit of home and share with you our culture. Don't miss out!

15:00—**Ashdown House**—Much more fun than the Boston Tea Party, the NW35 Tea Party is a great time to relax, sip some tea, and savor some scones.

15:00—**Burton Conner**—Old School TV Afternoon.

Whoooooo loves orange soda?

15:00—**Senior Haus**—HAUS TOURS all day, but especially now! learn about haus history, see murals, pet our cats, meet weird residents.

15:15—**McCormick Hall**—Crafts and cookies! Come relax and decorate whiteboards for your door after an afternoon at the Philanthropy Event! Also, decorate some delicious cookies to

eat while you're at it and enjoy a gorgeous view!

15:17—**Random Hall**—Speed Diplomacy - A two week long tabletop strategy game compressed into two hours. Stab all your new friends in the back every 5 minutes.

15:17—**Random Hall**—Tie Dying — Turn that boring white shirt into a psychedelic extravaganza. Look at all the pretty colors.

15:33—**Senior Haus**—DROWNING PUPPIES 101 in the bathtubs.

16:00

16:00-01:00—**EAsT campUS**—Tonight's your last chance!

Express your eternal affections for East Campus, or that other cute frosh you just met, by drawing them on a building with laser light.

16:00—**Senior Haus**—REAL BARBECUE WITH A REAL TEXAN: REAL FUCKING MEAT, ALL MEAT, NO HIPPIE VEGGIE BULLSHIT.

16:01—**EAsT campUS**—Did you know that 2% of America's Most Wanted live at East Campus?

16:04—**La Maison Française**—Cooking: Viens à La Maison Française and hang out, chat, chop, and sauté as we prepare one of our fantastic dinners, which will be followed by eating of said dinner. All skill levels sont bienvenues.

16:04—**EAsT campUS**—joeg's on it

16:17—**Random Hall**—Duct Tape Construction — Duct tape is like the force; it has a light side and a dark side and it binds the Universe together.

16:20—**EAsT campUS**—East Campus: where our president flies in a roflicopter

17:00

17:00—**Senior Haus**—BE YOUR OWN MESSIAH denounce the false saviors that have been fed to you by society. great photo op!

17:17—**Random Hall**—Juggling in Closed Spaces - Things that are more challenging in narrow hallways, partial list: juggling, poi, diablo. Random Hall: attempting to keep things airborne since January 7, 1717.

17:55—**EAsT campUS**—Mario's entries are a lot more emo than mine. Makes me want to cut myself.

18:00

18:00—**Senior Haus**—ALTER-NATIVE SEX SEMINAR learn all the tricks you'll never use, you fucking freshmen. direct to you from our resident experts about bondage, buttsex, and most all fetishes.

18:00—**EAsT campUS**—Pick a winner

18:15—**La Maison Française**—Dinner: Come see for yourself why everyone says French House has the best food on campus. Vegetarian options aussi.

18:17—**Random Hall**—Truffle Making - Come to Random Hall and make your own delicious chocolates! Our trained chocolatiers will be on hand to help you create some tasty treats.

19:00

19:00—**Senior Haus**—MAKE YOUR OWN SEX TOYS because November is so far away. (for boys, girls, trannies, and Milena.)

19:00—**Burton Conner**—Come on down! You're our next contestant! Show off your knowledge of useless trivia in Jeopardy, or your best pickup lines in the Dating Game. We know some of you are eyeing each other

already ...

19:17—**Random Hall**—Anti RPG — Bonfire floor's fierce reaction to the way you played D&D in your basement. Join us for a game of cthuloid horror without the complicated rules, improbable heroics, and chain-mail bustiers typical of tabletop role playing. Munchkins will be extradited.

19:30—**Das Deutsches Haus**—Come enjoy a tasty meal prepared by our skilled chefs and experience one of the greatest joys of living in a cultural house. Enjoy meat and veggie options in our New House 6 2nd floor lounge.

19:30—**Senior Haus**—SUPER SMASH BROTHERS TOURNAMENT FALCON . . . PUNCH!!!!!!! in the basement. snax provided.

20:00

20:00—**Next House**—House of Cards (Next House TFL & Dining): Ever wanted to try out for the MIT Blackjack Team? Now's your chance, with poker, blackjack and other card games. A chocolate fountain and desserts fill out the evening's program.

20:00—**New House**—New House Movie Marathon: Enjoy a night of some of the best action movies, complete with your favorite movie theater treats.

20:00—**Ashdown House**—Have your weariness massaged away and feel refreshed after a week-end of events.

20:00—**EAsT campUS**—Express your eternal allegiance to East Campus, or that other cute frosh you just met, by drawing it on a building with laser light.

20:00—**Simmons Hall**—Chick Flick and Baking Simmons Hall, Country Kitchen & Lounge Miss the girls from home or just want to get in touch with your feminine side? Whip up a batch of baked goods to enjoy with one of your favorite chick flicks.

20:00—**EAsT campUS**—youtube marathon. We are slaves to the internet. oh em gee squee roflicopter.

20:16—**EAsT campUS**—When we do stupid shit, we think it's really awesome.

20:17—**Random Hall**—Chain Mail - Come meet some of Random Hall's amateur maillesmiths. See some impressive works and learn a few basic weaves yourself.

20:30—**Senior Haus**—COFFEE + POLITICAL DISCUSSION with our resident course 17 major, NICK WANG. libertarians are encouraged to come, but be prepared for ridicule.

21:00

21:00—**Ashdown House**—Join the frenzy of Advanced Pillow King of the Hill! If you have pillows, feel free to bring them along. Otherwise, we have a few extras.

21:00—**Baker House**—Movie Night and Desserts - Seven nights of partying makes one weak. Ok ok fine, it's only been two days but you get the point. We'll be having a chill, laid-back movie night following two days of some intense east-side and west-side bashing.

21:00—**Burton Conner**—Break out your Day-Glo shorts, it's Hammertime.

21:09—**La Maison Française**—La vache mâche sans relâche dans le champ où le chien niche tout en léchant son chiot naissant.

21:17—**Random Hall**—Heart Attack Food - I didn't ask if you were a vegetarian, I asked if you wanted some f*%@\$! bacon.

21:47—**Random Hall**—Origami Architecture — folding of paper/

establishment of structure/ they go together

22:00

22:00—**Senior Haus**—S'MORES AND STORIES OF SENIOR HAUS PAST what does SPORT DEATH mean? oldfags and some alums (WHY HAVEN'T YOU LEFT YET) reminisce about the fucked up shit they've seen and done in the haus. courtyard.

22:00—**MacGregor**—Movie Night! You choose the movie from MacGregor's extensive movie collection and then sit back and enjoy. We'll provide all the candy and popcorn you can eat, while telling you how residents can rent movies from MacGregor desk during term... for free!

22:17—**Random Hall**—Nerf Shotgun Showdown — Our main lounge is a war zone, and your weapon is a nerf shotgun. Boom! Headshot!

23:00

23:11—**Senior Haus**—11 11 PM SUPER GAY EROTIC BOOTY DANCING courtesy of Neal.

23:17—**Random Hall**—Culinary Construction - Ever made famous landmarks out of food? Neither have we. There's a first time for everything.

23:58—**EAsT campUS**—TWO! MINUTES! TO MIIIIIIIDDDDN-IGHHT!

23:59—**EAsT campUS**—Look around you. Just look around you.

Tuesday, August 26, 2008

00:00

00:00—**Next House**—Make Your Own Pizza (Next House Basement/Country Kitchen): Learn to fight off those midnight hunger pangs with the most complete food group ... pizza! Bring Your Own Appetite.

00:00—**Senior Haus**—CULT MOVIE NIGHT kicks off with "Live Freaky! Die Freaky!", a musical, claymation re-telling of the Charles Manson murders. goes on all night.

00:00—**Ashdown House**—Celebrate the birth of our new dorm in style as we serve cocktails and hors d'oeuvres. Suave and chill is the name of the game at this posh new place.

00:00—**Burton Conner**—Action Movie Marathon. Explosions are cool.

03:00

03:17—**Random Hall**—RHOP - Breakfast at 4 AM. Question is, is it really early or really late?

07:00

07:30—**EAsT campUS**—WHY SO SERIOUS? Heath Ledger is dead, so come to East Campus

08:00

08:00—**Next House**—Weary Waffles (Next Dining): Tired of REX yet? If not, come to Next Dining and grab some breakfast before another busy day- more fresh waffles!

08:00—**Burton Conner**—They're magically delicious.

09:00

09:00—**New House**—Waffle Breakfast: Drop by and start your day off with a delicious waffle breakfast, complete with your favorite toppings.

09:00—**Baker House**—Breakfast @ Baker - If you need any more convincing as to why Baker House is the best, most social, and friendliest dorm, stop by once again for a fabulous breakfast!

Students Surprised by MBTA's Last-Minute Lawsuit

MBTA Argues Students' Presentation Was Not 'Responsible Disclosure,' Affording Little Time to Fix Subway

Subway, from Page 1

and Chiesa continued to research the CharlieCard and submitted their findings to DEF CON.

After the presentation was canceled, the presentation slides and a confidential report the students wrote for the MBTA became widely available online. This information, made public by the MBTA in open court filings, seems to show how anyone could copy a CharlieTicket or create a new one. It is unclear whether the students managed to copy or edit the content of the CharlieCard.

According to the presentation, the students wrote software to generate and analyze cards like the CharlieCard to crack encryption keys on those cards, and they wrote software to read and duplicate cards like the CharlieCard if their encryption key is known. That software was never put online.

For court documents and a copy of the presentation, which was distributed to all DEF CON attendees, see <http://www-tech.mit.edu/V128/N30/subway/>.

Did students get free T fare?

The MBTA's original complaint says that they intend to sue the students on several charges. In "Count III: Conversion," the complaint alleges that "the MIT Undergrads exerted dominion over MBTA's property by traveling on the MBTA lines without paying fares."

Anderson said in an e-mail that "we never rode the T for free." But MBTA system logs showed that someone with a CharlieTicket "obtained MBTA transit services without proper payment," according to a declaration filed by project manager Scott Henderson, who based his analysis on a photograph of a CharlieTicket in the students' presentation that revealed identifying features.

If this MBTA court filing is accurate, then the students have discovered a genuine weakness in the system, and the MBTA's system is capable of revealing fraud after the fact but does not prevent fraud.

Lawsuit surprised students

The lawsuit surprised many DEF CON attendees, who are accustomed to relatively cordial relations with software companies who are informed of security holes. It also surprised the students, who said they had until then gotten positive reactions from the MBTA.

The lawsuit was filed late on Friday, Aug. 8. But MBTA officials had been aware of the talk since at least July 30, when a vendor's marketing representative told them about a description of the talk online at defcon.org.

The students were in contact with the MBTA since July 31 through Ronald L. Rivest, the 6.857 professor who oversaw their project. They had asked him about a week earlier to help them contact the MBTA about the vulnerabilities. According to the MBTA, Rivest did not know the students had submitted their research to DEF CON. Rivest could not be reached for comment.

On Monday, Aug. 4, an MBTA transit police officer and an FBI agent met with Rivest, two of the students, and an MIT staff attorney to discuss the planned presentation. According to a declaration filed by the transit police officer, Sergeant Detective Richard Sullivan, the students said they did not hack into the MBTA's system, they did not defraud the MBTA, and their presentation would withhold information necessary to let other people repeat their findings.

The detective asked the students to summarize in writing all the weaknesses they found and explain how to fix those vulnerabilities. They promised to supply this writeup within two



(from left) Alessandro Chiesa '09, Russell J. Ryan '09, and Zackary M. Anderson '09 appear at a press conference held by the Electronic Frontier Foundation to discuss their canceled presentation titled "The Anatomy of a Subway Hack" in Las Vegas, Nevada on Aug. 9.

weeks.

"I did not request any other documents from the MIT Undergrads, and they did not offer to provide me with any other documents," Sullivan said in his declaration.

Leaving the Monday meeting, the students felt that the issue had been resolved based on verbal comments and that they would not face legal action, Anderson said.

But on Friday afternoon, around the time the students delivered a confidential five-page vulnerability report, they learned the MBTA had filed a complaint in the Massachusetts federal district court. They then received legal representation from the EFF.

The students were not provided notice until the MBTA had already sent lawyers to the court to file the complaint, said Kurt Opsahl, a senior staff attorney for the EFF. EFF staff and the students worked throughout Friday night to prepare a response. "We

haven't slept since Thursday," Anderson said Saturday afternoon. EFF attorneys participated in a Saturday morning hearing via teleconference.

On Saturday afternoon, Judge Douglas P. Woodlock issued an order prohibiting the students and "all persons in active concert or participation with any of them" from "providing program, information, software code, or command that would assist another in any material way to circumvent or otherwise attack the security of the Fare Media System."

The slides and the vulnerability assessment report, made available in the MBTA's complaint, revealed enough information to duplicate the students' attack on CharlieTickets.

"The court's order is an illegal prior restraint on legitimate academic research in violation of the First Amendment," Jennifer Granickpeech, an EFF representative, said in a press release issued by the EFF. Nevertheless, the students cancelled their talk on the EFF's advice.

The complaint lists Anderson, Ryan, and Chiesa as defendants. Early court documents listed MIT and numerous Institute administrators as defendants, but the court action to date has only considered the three students to be defendants. MIT attorneys have nevertheless paid close attention to the proceedings and have attended hearings. "We have aligned interests, but they're not representing us," Anderson said.

"We can't comment on pending litigation," said Pamela D. Serfes, an MIT News Office representative.

Responsible disclosure?

The students did not successfully talk with the MBTA about the problems they discovered until July 31, only 10 days before the research was to be proposed. (They tried to contact the MBTA through Rivest about a week earlier, but he did not get in touch until July 31.) Computer security researchers traditionally tell companies about problems they find, give them some time to correct the problems, and only then disclose the vulnerabilities in public, in a process called "responsible disclosure" within the community.

Security expert Phil Zimmerman said that traditionally researchers give at least a month after notification before they disclose a vulnerability in a software system. In hardware systems such as the MBTA's magnetic-stripe and RFID card system, where fixing

the vulnerability could possibly take more time, researchers usually offer more time, he said. "If it was me, I would've tried to give them more time to fix it," Zimmerman said. But, he said, "public disclosure is a good thing," because intense public scrutiny can help force people to fix systems.

Should security researchers explore systems which could be critical to security, like public transportation? Well, Zimmerman said, "try not to do anything that involves hiring a criminal defense lawyer."

When an important problem has been discovered with little time until it is publicly announced, Zimmerman said, an organization like the MBTA should fix it immediately. Because lawsuits generally result in security vulnerabilities becoming even more visible, the MBTA should "be thinking a lot about engineering right now and not litigation," in terms of loss mitigation, he said. If the system is irreparably broken, Zimmerman said, the MBTA might consider switching back to an older form of subway authentication: tokens.

"It's very easy to fix," said Brenno de Winter, a Dutch journalist and security analyst. "In the Netherlands, we've got a system that works. It's called paper," he said.

Dan Kaminsky, a security researcher who recently discovered a serious vulnerability in the domain name system underlying the Internet, said that the students' disclosure could have been handled more gracefully. But the MBTA also responded inappropriately, he said, by suing the students instead of just asking for time.

Many computer software vendors are accustomed to learning of security vulnerabilities from researchers in the responsible disclosure model, Kaminsky said. "You can expect cooperation from software vendors in a way that you could not expect six years ago," Kaminsky said. But the MBTA is not a software company, Kaminsky noted. They may never have before encountered people interested in testing their security for free, a common occurrence outside of the software realm, Kaminsky said. This was an unpredictable "first-contact scenario," he said.

"If your goal is to limit discussion, this [restraining order] is not the way," Kaminsky said. "Suppressing talks in a culture that values freedom of speech just highlights the speech you're trying to suppress."

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Solution to Crossword

from page 6

T	O	M	S	H	A	V	E	S	T	A	M	P		
O	R	A	H	E	L	I	X	C	O	G	O	A		
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Solution to Sudoku

from page 6

3	4	6	8	1	2	9	5	7
8	2	9	6	7	5	1	4	3
1	7	5	3	9	4	6	2	8
9	5	1	7	3	8	4	6	2
2	6	3	4	5	9	8	7	1
7	8	4	1	2	6	3	9	5
5	3	8	9	4	7	2	1	6
6	9	2	5	8	1	7	3	4
4	1	7	2	6	3	5	8	9

Many Colleges Join Petition to Lower Legal Drinking Age to 18

By Shaila Dewan
THE NEW YORK TIMES

ATLANTA

Two college presidents, both in Georgia, have withdrawn their names from a petition to reconsider the legal drinking age after it drew blistering criticism last week from Mothers Against Drunk Driving, safety experts, transportation officials, and politicians.

But 15 more from across the country have signed on, and the organizers said Thursday, Aug. 21.

All told, 123 presidents from colleges including Dartmouth, Duke, Ohio State, and Tufts are supporting the petition, which says that raising the drinking age to 21 has fostered a culture of clandestine binge drinking and that students' use of fake identification has eroded their respect for the law.

"Twenty-one is not working," the statement reads.

But critics have accused the presidents of misleading the public, shirking their responsibility to enforce the law and trying to dodge the problem of student drinking.

The Governors Highway Safety Association has promised to hold at its national meeting next month "a workshop to help highway safety agencies counter any effort in their states to lower the drinking age."

Kendall Blanchard, the president of Georgia Southwestern State University in Americus, said he had pulled his name off the list in part because critics had misunderstood the petition's intent. "It was clear to me that they didn't see this as a dialogue; they saw this as some kind of effort on our part to turn our schools into party schools," he said.

The other president who withdrew from the petition was Robert M. Franklin of Morehouse College in Atlanta.

Many critics said they objected to the suggestion that studies did not conclusively show a benefit to raising the drinking age, particularly the reduction of alcohol-related traffic deaths among young drivers.

"Why would you take the one thing that has been tried in the last 30 years that has been shown to be most successful and throw that out the window and say, 'I have a better idea?'" said Alexander C. Wagenaar, an epidemiologist at the College of Medicine at the University of Florida.

But college presidents say they are fighting a losing battle with binge drinking and alcohol poisoning.

"Many of our university presidents are doing as good a job as they can at enforcing the drinking age," said John M. McCardell Jr., the former president of Middlebury College in Vermont and a leader of the petition effort, which began last month. "They're doing all the right things, and what is the result? Well, young people are moving beyond the view of the college officials and often beyond the boundaries of the college campuses, and campus officials have no authority there."

S. Georgia Nugent, the president of Kenyon College in Ohio, who signed the petition, said, "I think there's a direct connection between this law and this pattern of secret, fast consumption of high-octane alcohol. It's much more dangerous than the traditional great big, loud keg party because it happens quietly, out of view."

Mr. McCardell is the founder of Choose Responsibility, an organization that advocates lowering the drinking age, but the petition drive, called the Amethyst Initiative after the gemstone that the Greeks believed would ward off intoxication, calls only for "dispassionate public debate" of the issue. The drinking age has been 21 across the country since 1988.

In a written statement that Mr.

McCardell called "intimidation bordering on bullying," Laura Dean-Mooney, the president of MADD, asked the public to call the signers and demand that they remove themselves from the list.

"As the mother of a daughter who is close to entering college, it is deeply disappointing to me that many of our education leaders would support an initiative without doing their homework on the underlying research and science," Ms. Dean-Mooney said in the statement. "Parents should think twice before sending their teens to these colleges or any others that have waved the white flag on under-age and binge drinking policies."

College presidents should focus on changing the culture on campus, Ms. Dean-Mooney said. She cited efforts like requiring alcohol education, scheduling more Friday classes to cut down on Thursday night parties, fighting marketing efforts like drink specials and ladies' nights near campuses and coordinating with local law enforcement agencies.

But students said they were not getting drunk in bars.

"From freshman year on, I hardly ever went out on the weekends without having four or five shots

of vodka beforehand," said Diane Bash, a senior at Ohio State University. "You've got to preload before you get to a bar because you can't drink once you go in. I definitely drink a lot less now that I'm 21, and so do all my friends."

Despite such tales of excess, experts said there was little hard evidence that binge drinking became more prevalent after the drinking age was raised to 21. One of the most comprehensive studies shows that heavy drinking among college students, defined as five or more drinks in a row, peaked in 1984.

Other studies by Henry Wechsler, a retired professor at the Harvard School of Public Health, show that binge drinking remained steady, with about 44 percent of college students doing it, from 1993 to 2001.

The controversy shines a light on the culture gap between college students and their nonstudent peers, who drink less.

Chuck Hurley, the chief executive of MADD, acknowledged that widespread drinking on campus fostered a distinct set of problems. "The drinking age is working far better in blue-collar America, or community college America, than in Ivy League America," he said.

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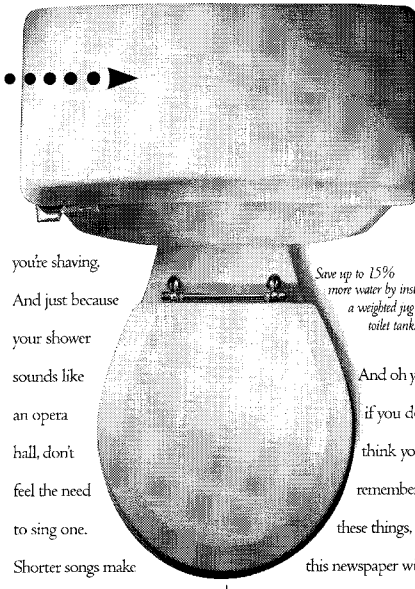
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Lewis Music 14E-109

Lindgren 54-200

Rotch 7-238

Science 14S-100



Dean Lerman Offers Advice for Incoming Students

Lerman, from Page 1

... so I spend a lot of time working with students there: everything from helping in the dorm government to participating in social activities. Privately, I love the theater, music, and books of various sorts, both technical and non-technical.

TT: What advice do you have for new students (both freshman and incoming grad students) regarding adjusting to MIT?

SL: One of the most important things is that MIT works best for those who exert their own control over their lives. People aren't necessarily going to come up and ask you if you want things. MIT works best when you come and ask, when you say 'I need this, I have this problem, help me solve it.' It's a place that can be incredibly responsive when you can articulate something that makes educational or research sense and you want to work to achieve it. It doesn't work nearly as well for the student who is more passive. MIT is tremendously flexible if you ask, but isn't going to find you and lead you by the hand.

...
TT: As Dean for Graduate Education, one of your roles involves working with the GSC. How would you define that relationship? What happens when interests collide?

SL: We talk about it. Once in a while we disagree, but it's always about finding a middle ground. They're helping express what the priorities are from the infinite number of things we can do, and they have been very helpful with that.

Most of what they want makes pretty good sense; my job is translating their desires into decisions by the senior administration ... helping them find solutions and implementing them in a way that makes sense.

The graduate student dental plan is a great example. The impetus came from the GSC. We've always known it would be great to have a dental plan for grad students, but the real energy came from the GSC. At some point in a student initiative they need an administrative unit to run it, advocate for it, negotiate a contract, and it's unreasonable to expect students to do all that.

Another example is the P/D/F option for grad courses; that originated from them. Still another example is the GSC's work to collect the data that made grad student stipend increases happen.

TT: I understand that you're director of the Center for Educational Computing Initiatives ... so you spend a lot of time thinking about effective ways of teaching and learning?

SL: Well, about finding ways to use technologies to improve teaching.

TT: Fair enough. So what do you think about TEAL? I know a lot of students have pretty strong opinions ...

SL: TEAL in the long term is the correct direction for MIT to be going. It's something that diverges from the dominant culture of learning and teaching at MIT, the lecture format. And although students have mixed opinions, almost all of the studies that have been done suggest that well-constructed and active learning is the better way to teach. Of course, there are always some students for whom one teaching method works better than others, so we have to provide for other options, but by and large the evidence is overwhelming that the more you, as a learner, are actively engaged, the better you learn.

Some students found the change hard to adapt to, and there are certainly parts of TEAL that change the culture of learning, but overall I've been a strong supporter. By the way,

the project was mostly done in my center, led by John Belcher.

TT: So what's the future of TEAL? Is there a TEAL 2.0 coming out of CECI?

SL: Well, although TEAL migrated from 8.02 to 8.01, whether it makes sense to create its counterparts in other GIR components of the curriculum is less clear to me ... maybe it doesn't make sense in math, for example. So the plan is to let TEAL continue, observe how it gets changed; let individual faculty adjust it.

There are other classes that are not TEAL, but use TEAL ideas. One example is the class I have been teaching up until this year, 1.00. Instead of lecturing for an hour, we alternate between short lecture sessions and active learning sessions. This is not quite the same structure as TEAL, but uses the idea of active learning in class. Most students find that a more interesting class section.

But overall, the evolution of teaching styles has to happen organically, not by one person dictating the change.

TT: To change gears a bit, how has MIT changed since you first came here?

SL: It's changed in some obvious ways, and in some more subtle ways. The most obvious is composition of student body; we are much more diverse ... by gender, ethnically, racially, religiously, however you measure it. MIT was a much more homogenous sliver of the American population than it is today. Today the MIT population looks a lot like America; half women, 25 percent underrepresented minorities. When I was a student we were very white male, and to a lesser extent Asian male. My years as an undergrad were about the time the shift started to occur. As a result of our diversity, today's students are much more qualified. The most obvious way is looking at verbal SAT scores (our math scores were always high).

At the graduate level, the most noticeable change is internationalization. While we're not as good of a representation of the American population, we're an interesting representation of the world's population. Nearly forty percent our graduate students are neither permanent residents nor citizens of the U.S.

We are, as always, very dependent on research. The endowment has grown much faster than inflation, and so we're able to do many things to support undergrad and grad students, with a range of fellowships and scholarships. That is due to the generosity of our alumni and the extraordinary performance of our endowment. That's all good for the students. In the end that makes MIT more accessible financially than it was previously.

And the life sciences over the years have grown from a rather small group to something that permeates the Institute. More and more faculty are either using tools or methodologies in life sciences than has ever been the case.

TT: What are your most and least favorite parts of MIT?

SL: I have two favorite parts: the students and the faculty.

They go together. The faculty want to be here because of the quality of the students. And most of the students want to be here because of the faculty. As important as facilities and all those things are, the faculty and students are most important. As soon as you lose either part, you tend to go into a downward spiral. The preservation of this excellence is the single most important goal when running this university.

TT: How about student health? To what extent is this a priority when running MIT? Does [the Office of the Dean for Graduate Education]

deal specifically with it?

SL: Things like both mental and physical health are important in and of their own right ... so my office definitely supports the changes at MIT that have made health services better and more accessible. We're not the health department, but we do try to contribute to grad student life more generally. Students can apply for funding to grad activities, for example.

The biggest single thing [MIT has done recently] has been the growth of a large residential graduate population. In the past eight years we have opened three new graduate dorms; the residential population of grad students on campus is now close to 2500 students. That's had a tremendous positive effect on community, and it produces interesting activities, things that grad students can do together. For instance, participation in club and IM sports is much higher.

TT: Speaking of community, what do you think about dining at MIT? What's the solution?

SL: I think it's fair to say we still don't have dining completely right here. The symptoms are so obvious: students aren't happy, and the senior administration is not happy. We're still struggling to find the right dining model that works well for our students and our culture. We're experimenting, which is healthy, but we need to learn from that.

If you go back to the 1960s and 1970s, we built a number of dorms without thinking through what the long term vision for dining at MIT would be. It was an era of extreme individualism, with students not wanting and not advocating for dining options. We're still unwinding the consequences of those decisions, trying to find a new model that will serve today's students. We want good quality food, reasonable costs, and an environment that students want to be in. I think that if we provide the right dining options, today's students would be interested.

TT: What are your short-term and long-term goals as the Dean for Graduate Education?

SL: There are four main areas my office focuses on. One is working with academic departments to achieve a greater level of diversity in the departments. This can only be accomplished by partnering with departments, and helping to find students, recruiting, and convincing them to come here rather than to one of our competitors.

The second area is increasing financial support for students. We do this by increasing the number of fellowships for grad students, raising money for supporting students over their entire time here, and making students aware of other funds. I also work with the Resource Development office on fund raising, particularly with donors who are interested in providing support to students.

The third area is improving graduate community and expanding support for student activities. This year we piloted the Graduate Community Fellows program, where students are funded to undertake work that helps the graduate community. This year we funded five fellows, and next year hope to fund ten to twenty. Each works with a staff member to do various projects.

The fourth area is business processes, and this is sort of a catch-all. We are working on ways to make things that students have to do easier. Petitioning, for example, is currently all paper-based. Standard things, such as making sure we understand our financial resources in order to increase fellowship support also fall into the category of improving business practices with the ODGE [Office of the Dean for Graduate Education].

Steven R. Lerman '72

Educational Background: SB 1972, Masters '73, Ph.D. '75. Dissertation in transportation systems, a branch of CEE.

Hometown: Elmont, Long Island, New York

Years at MIT: 39 (Since 1969)

Office: 3-138

E-mail: lerman@mit.edu

Some Hats Worn: Professor (Course 1; 1975-present); Director of Project Athena (1983-88); Director, Center for Educational Computing Initiatives (1991-present); Vice Chancellor; Dean for Graduate Education; Housemaster of The Warehouse.

Favorite MIT Building: Baker House ("The architecture, furnishings, everything gave the sense of it being very classy, very traditional, like it's going to last forever but also is very functional.")

As an Undergrad, Lived In: Bexley (1 year), Eastgate (married student housing)

Office Hours: Not kept, but always happy to talk to students if they set up an appointment



MARTIN SEGADO—THE TECH

Steven R. Lerman '72 is the Dean for Graduate Education.

TT: As an undergraduate, what was your favorite class?

SL: It was my first introduction to computing ... actually, it was really two classes. One is, interestingly enough, the one I've been teaching over the past 10 or more ... 1.00! The other was an operating systems course that at the time was the equivalent today of 6.01 or 6.001 — a big undergraduate course in CS. I think it was 6.251, but I wouldn't swear to that.

TT: What sort of activities did you do as a student?

SL: UROP was a huge deal for me. I UROPed for pay because I needed the money. I mostly developed software for a project being run in the Civil Engineering department. I did that up until I started graduate school, almost every summer.

I also did odd jobs; the most interesting was that I used to drive a handicapped person from Lincoln, MA. In the morning, I'd drop my wife off at Tufts, drive out to Lincoln, drive him into town, and in the

afternoon, I'd reverse the route ...

TT: Including picking up your wife?

SL: Of course; she needed to get home too! I had a Volkswagen Beetle, one of those old, noisy 4 cylinder, run-down cars that were popular with college students in the '70s. I put an incredible number of miles on that car ... [The man I drove] was a lawyer. He got polio as an adult, just before the Salk vaccine was available. He was handicapped as a result of that.

TT: Anything else? Do you have any other advice for new students?

SL: I'd just like to reiterate that MIT works best for those who are proactive rather than passive. It's amazing what can get done here by students, faculty or staff when they can articulate what they want.

MIT is not particularly hide-bound to tradition; we're open to change. But it's best when the change originates from students advocating for what they need or what students collectively need.

Thoughts?

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Class Project Shows Problems With Boston Subway

Vulnerabilities, from Page 1

presentation.

MBTA spokesman Joe Pesaturo characterized documents available online and in court filings as "harmless information that is now public" in an e-mail.

But that public information shows how to get free rides with a CharlieTicket, leaving open the possibility that the MBTA suspects an even more serious compromise of its CharlieCard system. In partial response to a request for information about their research, the students submitted a 30-page sealed report to the MBTA last week; its contents are not known but might include some vulnerability even more serious than the ones which are now public.

Numerous ways to get unpaid-for T fare are clearly laid out in the DEF CON presentation, available online at http://www-tech.mit.edu/V128/N30/subway/Defcon_Presentation.pdf; in a report the students gave to the MBTA, available at <http://www-tech.mit.edu/V128/N30/subway/10-declaration-henderson-vulnerability.pdf>; and in prior research on similar systems.

Anyone with a magnetic card writer can repeatedly copy a CharlieTicket onto another card, never having to pay for a ticket again, if the students' "Vulnerability Assessment Report" is accurate. In the T's system, a CharlieTicket is worth as much as its magnetic stripe says it is, and no central computer tracks the tickets' values, according to the report.

A single \$25 ticket could be copied onto hundreds, if not thousands of blank cards, providing free travel forever.

A ticket's identification number or value can also be easily changed, the report says. A \$5 card can be made to say it is worth up to \$655.36.

A thief could take a 5 cent CharlieTicket, rewrite it so that its value is \$99, insert it into an MBTA ticketing kiosk along with a dollar, and receive \$100 in T fares on a fresh card, purchased for \$1.05, the report says. The ticket would have "\$100.00" printed on the front and would appear identical to a legitimate CharlieTicket. The report suggests that an attacker might resell tickets.

Three people arrested in New York are said to have exploited a vending machine bug to get \$800,000 worth of Long Island Rail Road tickets and MetroCard fares for free. The New York Times reported Tuesday. They allegedly sold much of that fare — suggesting that someone with similar profit motives might try to operate in Boston.

Magnetic card writers go for \$173 on eBay, but they can be made for as little as \$5 in parts, according to slides the students were to present at this weekend's DEF CON hacker convention. Discarded CharlieTickets are available in many subway stations' trash cans; other cards with magnetic stripes can also be found for less than a dollar online.

The information on the ticket includes a checksum, a six-bit number calculated from the rest of the information on the card, which is used to detect errors in the card's data. There are only 64 six-bit numbers. If you do not know how the checksum is generated, you need only create 64 tickets,

each with a different checksum value, and test each. One will work, according to the report.

The report does not say whether the students have successfully written software to generate forged CharlieTickets without having to try all the possible checksums. The final presentation in the spring 2008 subject Computer and Network Security (6.857) was based on guessing the checksum value by making many cards, a "brute force" approach. That work was done by four students: Samuel G. McVeety G, who did not participate in the DEF CON presentation, along with the three students who did, Zackary M. Anderson '09, Russell J. Ryan '09, and Alessandro Chiesa '09. The project earned an A, according to the MBTA.

Students recommend system changes

A central system should store the current value of all tickets so that people cannot forge new CharlieTickets, the students' confidential report recommends. An "auditing system" should also be used to detect copied or forged tickets, the report recommends.

The MBTA apparently has a way to track all transactions and trips made on every CharlieCard and CharlieTicket and to associate each transaction with a card's identification number. MBTA court filings allege that the system showed CharlieTickets depicted in the students' presentations were used to get unpaid-for travel. But the MBTA system apparently does not prevent unpaid-for travel and is unclear what, if anything, is done to prevent it.

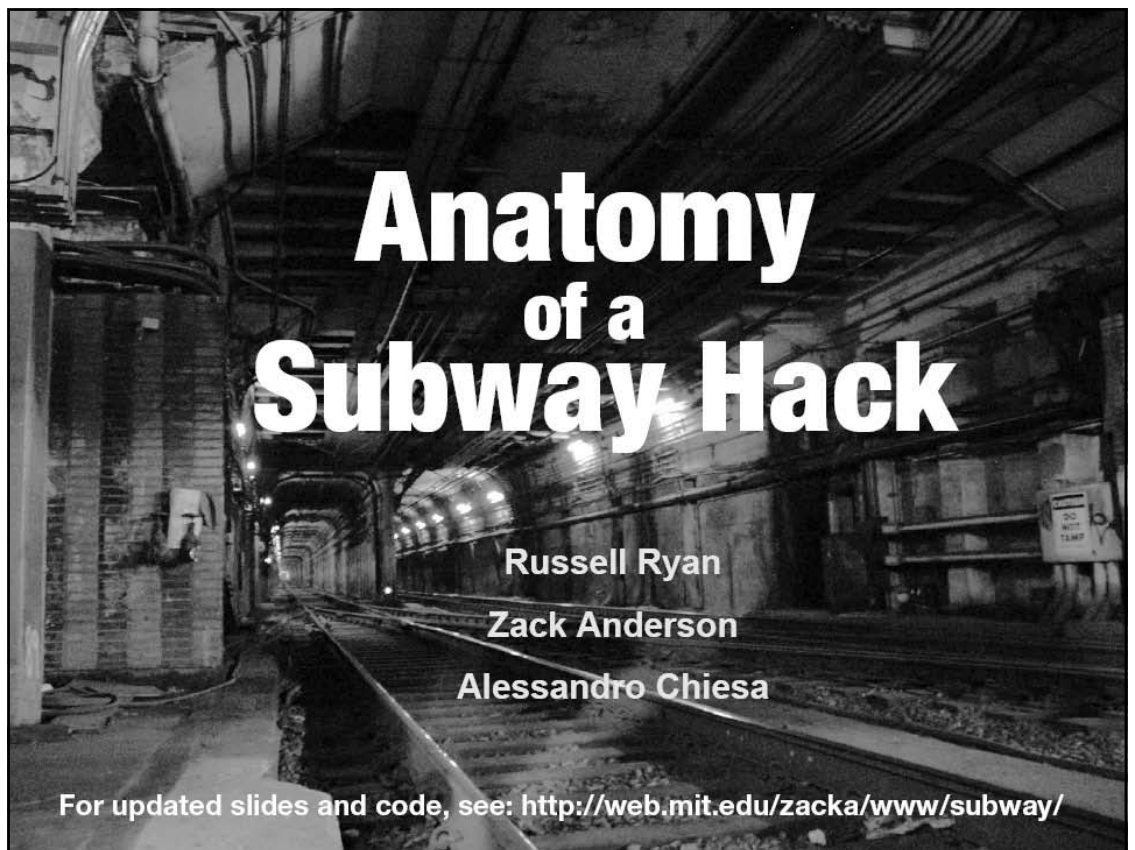
The CharlieTicket and CharlieCard should both include additional encryption to make them hard to duplicate or forge, the students' report says. The report recommends an auditing system be installed to detect cloning of RFID cards. It also recommends that the CharlieTicket's checksum be replaced with a cryptographically secure signature which would be harder to duplicate.

The DEF CON presentation highlighted fixable weaknesses in "physical security." The presentation includes photos of unlocked doors into subway stations, pictures of open "turnstile control boxes" accessible "almost everywhere," a picture of a "door key" found in an open box, and a photo of a computer screen in the MBTA's operations center. (That picture was taken from an adjacent building with a telephoto lens, according to Tech photographer Eric Schmiedl, who gave a presentation on physical security at DEF CON.)

CharlieCard may be insecure

In place of the students' talk on Sunday, Dutch journalist Brenno de Winter gave a talk describing vulnerabilities in the MIFARE classic card, made by NXP Semiconductors, which is used worldwide and is called a CharlieCard by the MBTA. He described NXP's unsuccessful attempts to silence Dutch researchers who found vulnerabilities in the system.

Research results to be published in October will show how the card can be cloned in a few seconds, he said. "If anyone in the room is using MIFARE Classic at this moment, this is your final wakeup call," de Winter



STUDENTS' DEF CON PRESENTATION

This is the first slide of the canceled DEF CON presentation on subway vulnerabilities. The students performed their research as part of 6.857 (Computer and Network Security).

said. "This is your final heads-up. You've got two months left, and then you're screwed."

The students' report suggests that all CharlieCards may be protected against duplication by a single encryption key, but the report is unclear on whether they have decoded that key. If they have found this key, this could be what the MBTA's restraining order seeks to protect. CNET reported on Thursday that the students gave the MBTA "particular information to complete the Charlie card hack which they say they had no intention of revealing in the Defcon discussion," which could be this key.

The students' report discusses

possible ways to decode the encryption key that protects CharlieCards. It also suggests that the key may be the same on every card, rather than differing from card to card — which could be a serious problem if true. But in a court filing, security consultant Eric Johanson said that the publicly available information about the students' findings describes an "aspirational" attack on the key rather than a functional one.

NXP's MIFARE Classic card has undergone worldwide security analysis because it is used, not only in Boston, but also in London's transport system and in the Dutch transport system. The London system is

known to be vulnerable to a cloning attack — by standing near someone, you can decrypt their card and copy its identity and value. A NXP lawsuit against security researchers which sought to keep research details from being presented in public was dismissed in Dutch courts.


An NXP Semiconductors employee advised the MBTA on July 30 about the upcoming DEF CON presentation. "Of special concern is the announced intent to release open source tools required to perform the attacks," wrote Manuel Albers, director of regional marketing for NXP. "Please let me know if we can support you in any way," he wrote.

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DEPRESSION**

#1 Cause of Suicide

Public Service message from SAVE (Suicide Awareness Voices of Education) <http://www.save.org>

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SPORTS

MIT Dragon Boat Team Takes Gold Medal at Annual Festival

By Tanguy Chau
and Emily Craparo

TEAM MEMBERS

On Sunday, June 8, 2008, thirty-two teams of paddlers from greater Boston, New York, and as far away as Canada, raced down the Charles River at the annual Hong Kong Dragon Boat Festival. Despite the blistering heat, the MIT Eager Beavers, sponsored by United Commercial Bank and the MIT Chinese Students and Scholars Association, paddled to victory, winning the gold medal in the festival's recreational division.

The day-long festival, held between the Weeks and Magazine Street bridges, consisted of a series of 500-meter races to determine rankings in the club, corporate and recreational divisions. In their second year of racing and with only six practices behind them in the 2008 season, MIT arrived with little experience but plenty of spirit. The Eager Beavers consisted of drummer Yuhua Hu PhD '08, whose job was to provide instructions and motivation to the crew; steerer Steve Lin, who was responsible for the boat's course; and paddlers Tanguy Chau G, Xiangqiang Chu, Emily Craparo PhD '08, Wenjun Ge G, Carol Huang, Dazhi Liu G, Kesheng Liu, Tiejun Meng, Lixin Qin, Jinbo Wang G, Kailiang Wu G, Ning Wu G, Sa Xiao G, Qiong Yang G, Weijia Zhang, Xinying Grace Zheng G, and Haining Zheng G.

The team began its weekend with time trials on Saturday, June 7, in which the team showed both its inexperience and its promise: in the first heat, the team floundered and posted a time of 3:08.84, well above their goal time of three minutes. However, the team rallied in the second heat, posting a time of 2:52.28.

The team's mediocre performance in the time trials resulted in a relatively poor starting position in Sunday's races. However, the low seeding enabled the Eager Beavers to capture early victories against slower teams, bolstering their confidence. As the team advanced in competition, drummer Hu provided words of motivation both on and off the water, and each of the team's races was faster than the last. The day culminated with a close race against the Descendants of the Dragon (from the Greater Boston Chinese Cultural Association and the New England Chinese Youth Summer Camp) in which MIT achieved a time of 2:43.85, edging the Descendants of the Dragon's time of 2:44.30 and clinching the gold medal.

Zheng recounted the final moments of the last race: "At the end of race, I was really tired and could hardly lift my left hand, but I knew we had to win. I could not help shouting out 'Go! Go! Go!' ... Immediately I heard guys in front of me shouting out

continuously too. At that moment I really felt good, and I knew I was in a great team which I will be proud of forever."

Ning Wu echoed Zheng's spirit and expressed optimism for the future of the young team. "I think we are a really amazing team ... We actually had only very few times of practice ... I believe we can do better next year!"

Dragon boat races are traditionally held on the fifth day of the fifth month of the lunar calendar (usually falling in June). The races originate from ancient China, where in 278 B.C. the famous poet Qu Yuan committed suicide by jumping into a river to protest the government corruption that led to the invasion and devastation of his home state of Chu by the neighboring Qin state. Locals rushed out on the water and raced in their fishing boats in a vain attempt to rescue him. To commemorate this event, dragon boat races are held on the day of Qu Yuan's death to honor his memory, and zongzi (sticky rice wrapped in leaves) is thrown into the river to prevent fish from devouring the poet's body.

Dragon boat racing is practiced at a competitive level in 62 countries, 13 fewer countries than necessary for consideration for inclusion in Olympic Games. Dragon boats were used in the 2008 Summer Olympic torch relay for the first time to carry the torchbearer in sections of the relay.

Volleyball Programs Receive AVCA Team Academic Awards for Second Consecutive Season

MIT joined Vassar College as one of the only institutions to have both its men's and women's volleyball teams qualify for the American Volleyball Coaches Association (AVCA) Team Academic Award. Initiated in the 1992-93 academic year, this award honors collegiate and high school teams that display excellence in the classroom by maintaining at least a 3.30 cumulative GPA on a 4.0 scale or a 4.10 mark on a 5.0 scale.

Sports Shorts

The college ranks produced 212 programs that met the requirements, including a record-setting 62 among Division III women's teams. Joining MIT on the list from New England were conference foes Mount Holyoke College and the Worcester Polytechnic Institute along with Bowdoin College, Maine Maritime Academy, Middlebury College, Roger Williams University, Wesleyan University, and Williams College. On the men's side, which included all three divisions, Stanford University and Vassar made the cut in addition to MIT.

—Mindy Brauer, DAPER Staff

MIT Collects Eight Individual NACGC/W Academic Awards

The MIT women's gymnastics team registered the second-highest GPA among Division III institutions while ranking tenth overall for the National Association of Collegiate Gymnastics/Women (NACGC/W) Academic Award. Southeast Missouri State University captured the top spot with a 3.8200 total as Ithaca College led Division III squads with a 3.5933 GPA to earn fifth place.

The Engineers' mark of 3.4938 beat out academic peers Brown University (11th), Stanford University (15th), Yale University (16th), Cornell University (48th), UC Berkeley (52nd), and the University of Pennsylvania (53rd).

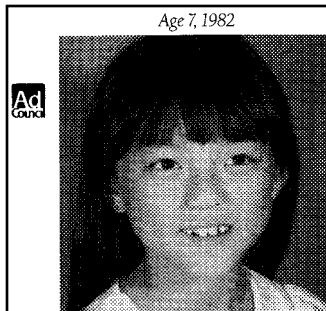
In the individual awards, Southeast Missouri State was the pacesetter once again with 16 honors while Ithaca led Division III with 12 nods. MIT totaled eight awards with Alison M. Barnard '09, Marie S. Heglund '10, Laura E. Kelly '09, Katie M. Mingo '10, Gina M. Policelli '10, Sarah N. Trowbridge '08, Kristen D. Watkins '11, and Julia C. Zimmerman '09 making the list.

—Mike Stoller, DAPER Staff



COURTESY OF THE DRAGON BOAT TEAM

The MIT Eager Beavers (front) race against the Harvard Crimson (back) during the annual Hong Kong Dragon Boat Festival held June 8, 2008 on the Charles River.



Age 7, 1982



Age 18, 1993

Elizabeth Suto.

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<http://web.mit.edu/arts/do/funding/grantguide.html>

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