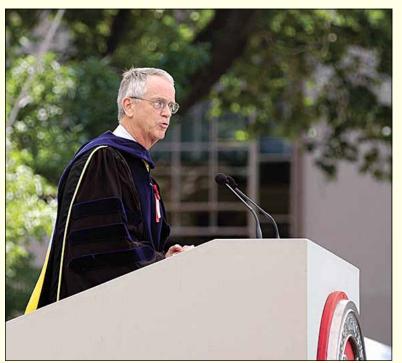
WEATHER, p. 2 THU: 29°F | 30°F Sunny FRI: 38°F | 32°F Partly cloudy

Volume 133, Number 61 Wednesday, January 8, 2014



Charles M. Vest speaking at MIT's Commencement.

Charles M. Vest, champion of diversity and openness

By Steve Bradt MIT NEWS OFFICE

Former MIT president Charles M. Vest — a tireless advocate for research and science, and a passionate supporter of diversity and openness — died of pancreatic cancer at his home in the Washington area on Dec. 12. He was 72.

As MIT's 15th president, serving from 1990 to 2004, Vest led the Institute through a period of striking change and growth. A mechanical engineer by training, Vest was president of the National Academy of Engineering from 2007 until earlier this year.

During Vest's presidency — the third-longest in the Institute's 152-year history — MIT renewed its commitment to education and research through major innovations in both areas; developed strong ties with academic, government, and industry partners around the world; broadened the diversity of its people and programs; and transformed its campus with dramatic new buildings. MIT's endowment nearly quadrupled during Vest's tenure, growing from \$1.4 billion to \$5.1 billion.

"Through its own work, and especially through the lives and works of its graduates, a great university can strive to make the world well," Vest wrote in 2004. "The knowledge we generate, the things we come to understand, and the devices we build can improve health, economies, security and the quality of life. MIT must continue to be optimistic in its vision of why we are here and what we can do."

An era of multifaceted growth

Consistent with Vest's optimistic interest in the

Charles Vest, Page 13

MIT's Ludwig Center receives \$90 million for cancer research

Ludwig Cancer Research gifts \$540 million to 6 centers

By Anne Cai

MIT's Ludwig Center for Molecular Oncology, housed within the Koch Institute for Integrative Cancer Research, has received a gift of \$90 million from Ludwig Cancer Research to study metastasis, the spread of cancer from a primary tumor to other parts of the body. In FY2013, MIT received \$58 million research funds from non-profits, according to the treasurer's report.

MIT is one of a group of six institutions that received a total of \$540 million to fund cancer research on behalf of late American shipping magnate Daniel K. Ludwig. This sum completes the Ludwig gifts to the endowment, bringing Ludwig

Cancer Research's total gifts to the Ludwig Centers to \$900 million since their establishment in 2006. The other Ludwig Centers are located at Harvard University and the Dana-Farber Cancer Institute, Johns Hopkins University, the University of Chicago, the Memorial Sloan-Kettering Cancer Center, and Stanford University. The gift is the largest ever given to Harvard Medical School, according to HMS's cell biology department chair Joan Brugge, and is "one of the largest in the Institute's history," according to an MIT press release.

This funding will enable the centers to continue their pursuit of groundbreaking cancer discoveries," said Ed McDermott, Ludwig trustee and president and CEO of the Ludwig Institute for Cancer Research. "It is our hope that this new funding - which is long-term and flexible in nature — will contribute in some small way to new discoveries."

The philanthropic gift comes at a timely moment, said Weinberg, describing federal funding as "in freefall."

'We're in critical times for American biomedical research," said Weinberg. "Research funding in the federal level has decreased, and in certain cases, effectively collapsed."

"Having a permanent endowment that will support research in perpetuity will allow us to take on high-risk, high-reward research strategies, to take a long view and

Ludwig, Page 12

Hazel Sive steps down as assoc. dean of science

Addressed education, diversity, community

By Anne Cai

Hazel L. Sive stepped down as the associate dean of the School of Science on Dec. 16. Sive, who has served in the position since its inception in 2007, has returned to her post as a professor of biology.

"[Professor Sive] has taken the lead in the School's efforts to increase diversity, and she has represented the School well in all Institute-wide educational activities, especially MITx," said Marc A. Kastner, who stepped down in December as dean of the School of Science, in a statement. "I have greatly enjoyed working with her and I am deeply grateful for her partnership during my years as dean."

A biology professor and a member of the Whitehead Institute for Biomedical Research since 1991, Sive will be working on an MITx course for next year tentatively entitled "Frontiers and Fundamentals of Development Biology." She will also continue co-chairing and serving on several committees and task forces, such as the Institute-wide Task Force on the Future of MIT Education.

Sive began her tenure as associate dean of science focusing on educational issues and initiatives, but went on to address issues of diversity and fair treatment, as well as develop the postdoctoral and junior faculty communities.

"My goals as associate dean were

Sive, Page 14

IN SHORT

The UROP deadline for IAP sponsored research, credit, and volunteer is Thursday, Jan. 9. There is no direct funding during IAP.

The last day to petition for January Advanced Standing Exams is Friday,

Don't have any plans for IAP? Check out all of the different noncredit offerings at student.mit.edu/iap.

The final reports from the Kendall Square and Central Square Advisory Committees have been released and are available for download at http://www.cambridgema. gov/CDD/News/2013/12/k2c2finalreportsreleased.aspx. Zoning discussions based on the reports will continue in 2014.

Send news information and tips to news@tech.mit.edu.

Admissions says yes to 9 percent of early applicants

More apply early, but most must wait until March; application debuts 'Maker Portfolio' section

By Kath Xu

ASSOCIATE NEWS EDITOR

MIT admitted 612 students for the Class of 2018 under its early acprogram this year. This number represents a record low early acceptance rate of 9.0 percent, a decrease from the 9.9 percent admittance rate last year.

Of the 6,820 applicants, 4,538 students were deferred, and 1,403 were rejected. The rest of those not admitted either withdrew before decisions were released or submitted incomplete applications.

Hundreds of applicants showcased projects done outside of school in a new optional section of the application, the "Maker Portfolio," according to Dean of Admissions Stuart Schmill '86.

MIT's early action applicant pool has grown over the past few

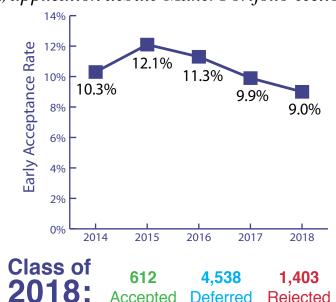
years: slightly over 6,000 students vied for an early spot in the Class of 2016, 6,500 for the Class of 2017. and now almost 7,000 for the Class of 2018.

Unlike the eight Ivy League in stitutions, MIT allows students to also submit early applications to other institutions with no penalty. Harvard, Yale, and Princeton all saw slight increases in their singlechoice early action acceptance rates this year - Harvard admitted 21.1 percent of its applicant pool; Yale, 15.5 percent; and Princeton, 18.5 percent.

On the other hand, Stanford's early acceptance rate of 10.8 percent was the lowest in several admissions cycles.

According to Schmill, women make up 49 percent of this round's

Early action, Page 12



INFOGRAPHIC BY WILL CONWAY AND ARICA WYCHE

Accepted Deferred Rejected

LATEST FROM THE COEN BROTHERS

Inside Llewyn Davis is a beautifully scored trip back to the 1960s. ARTS, p. 8

WORK DONE FOR HIRE

MIT's Joe Haldeman's science fiction war memoir. ARTS, p. 10

SECRET LIVES OF RESEARCHERS

Navigating the landscape of knowledge, meerkat-esque. CAMPUS LIFE, p. 15



THE DESOLATION **OF SMAUG**

Part two of The Hobbit is an adventure worth watching.

ARTS, p. 9

A SOLUTION: **BETTER BULLETS**

In the debate over gun control, a bullet solution is often overlooked.

OPINION, p. 4

SECTIONS

World & Nation 2
Opinion 4
Fun Pages 5
Arts 8
Campus Life 15
Sports 16

Al-Qaida leader in Syria seeks to halt rebel infighting

BEIRUT — The leader of the Nusra Front, an affiliate of al-Qaida in Syria, on Tuesday proposed an initiative aimed at halting the worst infighting yet between the armed opponents of President Bashar Assad since the start of the conflict nearly three years ago.

Deadly battles have raged in recent days across northern Syria between rebel forces and another al-Qaida affiliate, known as the Islamic State of Iraq and the Levant, or ISIL, that also wants to end Assad's government, but aims to replace it with a monolithic Sunni extremist government that rules both countries.

Angered by what they call ISIL's tendency to take over resources, impose strict social codes and kidnap and kill opponents, rebel groups have been attacking ISIL bases and trying to drive out the group's fighters from towns and villages where they once held sway.

More than 270 people have been killed in four days of fighting as of Monday, according to the Syrian Observatory for Human Rights, an opposition group based in Britain with a network of contacts in Syria. The dead include 46 civilians, 129 rebel fighters and 99 ISIL fighters. Both sides have also executed prisoners, the Observatory said.

—Ben Hubbard and Anne Barnard, The New York Times

House Financial Services Chairman to seek change to Volcker Rule

When Zions Bank announced last month that it expected to take a big loss because of the Volcker Rule, it set off alarms all over Washington. Regulators scrambled to say they were considering changing the rule, but that was evidently not enough for some legislators.

Rep. Jeb Hensarling, R-Texas, chairman of the House Financial Services Committee, is expected to propose a bill that could open up a huge loophole in the rule. The proposed change could allow banks to create and own securities with many types of investments that are barred under the Volcker Rule, which is intended to prohibit speculative trading by banks while letting them both make markets for customers and hedge other investments.

The proposed legislation, notable for its brevity, provides that nothing in the Volcker Rule "shall be construed to require the divestiture of any collateralized-debt obligations backed by trust-preferred securities issued before December 10, 2013."

The wording appears to indicate that new collateralized-debt obligations could be created that banks could hold and trade, as long as they contained at least one TruPS security issued before Dec. 10. The vast bulk of the assets in the collateralized-debt obligation could be other securities.

—Floyd Norris, The New York Times

Boston Globe hires journalist to focus on Roman Catholicism

The Boston Globe announced Tuesday that it would hire John L. Allen Jr., a journalist for the National Catholic Reporter, and explore starting a freestanding publication dedicated to Roman Catholicism.

"There is a resurgence of global interest in the Catholic Church, inspired by the words and deeds of the newly installed leader, Pope Francis," Brian McGrory, the editor of The Globe, said in a statement.

Allen, 48, who has reported on the Vatican from Rome, has written nine books and is a senior Vatican analyst for CNN, "is basically the reporter that bishops and cardinals call to find out what's going on within the confines of the Vatican," McGrory said.

—Ravi Somaiya, The New York Times

Another worryingly low inflation rate for the eurozone

By David Jolly

THE NEW YORK TIMES

PARIS — Consumer prices in the eurozone barely increased last month, raising fears of deflation and putting pressure on the European Central Bank to take further action.

Inflation in the 17 European Union member states that were using the euro in 2013 rose in December at an annual rate of only 0.8 percent, Eurostat, the EU statistical agency, reported Tuesday in a first estimate that will be subject to revision in the weeks ahead. The December figure, which did not include Latvia since it adopted the euro Jan. 1, was slightly lower than the 0.9 percent annual inflation rate for November.

The European Central Bank seeks to keep price growth steady at about 2 percent. The situation now, in which the rate of inflation is falling, is known as disinflation. If the situation continues in this direction, Europe could face outright deflation — a debilitating economic condition in which prices actually decline across the board. As long as hints of deflation remain, the ECB faces a

difficult challenge.

Economists do not, for the most part, expect the ECB to take action when its Governing Council meets Thursday in Frankfurt, Germany. But the issue is certain to figure prominently in discussions between the bank's president, Mario Draghi, and his colleagues.

Most worrisome to economists assessing the data released Tuesday is the "core" inflation rate, which strips out volatile food and energy prices. It dipped to 0.7 percent — a record low since the advent of the euro currency. The core number for December was equivalent to the broader, overall figure for October that led the ECB to cut its benchmark interest rate to a record low of 0.25 percent, down from 0.5 percent.

Clemente De Lucia, an economist at BNP Paribas, said Tuesday that the December consumer price data might have been affected by a change in the way Germany calculated its inflation, so another month or two might be needed to be certain of the trend.

"Yet, the level of inflation remains dangerously low," he wrote in a note.

"Survey data show that the recovery is gaining some momentum. Yet its pace will remain rather low and it needs to be sustained by policy maker actions."

Data for all of the eurozone members is not yet available, but there is significant variation in price trends within the zone. Germany, for example, posted inflation of 1.2 percent in December. But Cyprus, hammered by the collapse of its financial industry, is already experiencing deflation, as prices slipped 2.3 percent in December.

Spain's consumer prices rose just 0.3 percent, while Italy's rose only 0.2 percent, as those two countries' troubled economies teetered near a deflationary cliff.

Deflation would add to the broader economic malaise in the region, by hurting corporate profits and by leading consumers to delay purchases in anticipation of better deals in the future. It would also weigh heavily on borrowers, making loan repayments more expensive in real terms — a particular danger for Europe's already fragile financial sector.

Hundreds of police officers are reassigned in Turkey

By Dan Bilefsky and Sebnem Arsu THE NEW YORK TIMES

PARIS — About 350 police officers in Ankara, the Turkish capital, were removed from their posts overnight, Turkish news outlets reported Tuesday, the largest single purge of the police force since a corruption investigation plunged the government into crisis last month

The dismissals were seen by analysts in Turkey as part of a continuing effort by Prime Minister Recep Tayyip Erdogan's government to marginalize those it believes are driving the investigation. The government has already dismissed more than a dozen high-ranking police officials, prompting accusations of interference in the judicial process.

The intervention in the ranks of law enforcement for what appear

to be political motives, analysts said, underlines Erdogan's encroaching authoritarianism after nearly a decade in power as well as his sense of panic ahead of pivotal local elections in March.

Once a darling of the West committed to linking Turkey's future to the European Union, Erdogan has since sought to fashion Turkey as a regional power in the Middle East, while the European Union's influence in Turkey has waned.

"This is a panic attack by a government acting in haste to prevent further corruption probes," Kadri Gursel, a columnist for Milliyet, a daily Turkish newspaper, said in an interview. "By law, the government has no jurisdiction to remove judges or prosecutors, so it is cracking down on the police force, which falls under its authority."

The reshuffle affected at least 80 directors and other senior officers in the intelligence, orga-

nized crime, fiscal crime and cybercrime units of Ankara's police force. Among those reassigned was Mahmut Azmaz, who led the anti-riot police division that critics accused of using excessive force during anti-government protests in June.

The removed officers were reassigned to traffic police departments and district police stations, and about 250 replacement officers, mostly from outside Ankara, have been appointed to take their place, the broadcaster NTV reported.

The corruption inquiry, focused on Cabinet ministers' sons, municipal workers and a major construction tycoon with links to Erdogan, has already prompted the resignation of three Cabinet ministers and spurred a Cabinet reshuffle. At the center of the inquiry are allegations that officials accepted bribes to bend zoning rules.

WEATHER

What is a polar vortex?

By Vince Agard

STAFF METEOROLOGIST

The weather has been a major news story this week across much of the United States, as extraordinarily cold weather has swept the central and eastern parts of the country. Temperatures well below 0°F combined with blustery winds to create dangerous conditions, forcing the closings of schools and businesses as people were advised to stay indoors. Many recent news reports have attributed the extreme cold to a "polar vortex"— but what exactly does that mean?

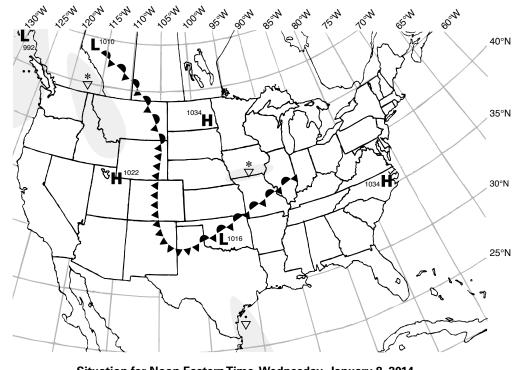
The polar vortex is not actually a unique weather event. Instead, it is a persistent feature

of the upper atmosphere in the winter hemisphere. The vortex and therefore less dense than the air at mid-latitudes. This creates what can be thought of as a planetary-scale low pressure system that is permanently centered over the pole. At the boundary between cold polar air and warmer air from lower latitudes is the jet stream, in which air flows in a cyclonic sense around the pole, thus forming the "vortex." Occasionally, the jet stream is deflected further south than usual, extending the reach of the polar vortex. An extreme case of this extension was responsible for the recent cold event in North

Extended Forecast

Today: Sunny, high 20°F (-7°C). Winds W at 10–15 mph. Tonight: Clear, low 13°F (-11°C). Winds W at 5–10 mph. Tomorrow: Sunny, high 29°F (-2°C). Winds NW at 8–12 mph. Friday: Partly cloudy, highs in the upper 30s °F (3°C). Saturday: Cloudy with a chance of rain or snow showers,

turday: Cloudy with a chance of rain or snow showers highs near 50°F (10°C).



Situation for Noon Eastern Time, Wednesday, January 8, 2014

weather Systems	weather Fronts	recipita	mon 5	1110013	Other Symbols
			Snow	Rain	Fog
High Pressure	Trough	CI	*	•	
	Warm Front	Showers	∇	∇	Thunderstorm
Low Pressure		Light	*	•	O Haze
	▲ ▲ ▲ ▲ Cold Front	Moderate	**	·	
Q		Moderate	ጥጥ	•••	Compiled by MIT
§ Hurricane	Stationary Front	Heavy	**	:.	Meteorology Staff and The Tech

Obama lost faith in his Afghan strategy, Gates' memoir asserts

By Thom Shanker
THE NEW YORK TIMES

WASHINGTON — President Barack Obama eventually lost faith in the troop increase he ordered in Afghanistan, his doubts fed by top White House civilian advisers opposed to the strategy, who continually brought him negative news reports suggesting it was failing, according to his former defense secretary, Robert M. Gates.

In a new memoir, Gates, a Republican holdover from the Bush administration who served for two years under Obama, praises the president as a rigorous thinker who frequently made decisions "opposed by his political advisers or that would be unpopular with his fellow Democrats." But Gates says that by 2011, Obama began expressing his own criticism of the way his strategy in Afghanistan was playing out.

At a pivotal meeting in the situation room in March 2011, Gates said, Obama opened with a blast of frustration over his Afghan policy — expressing doubts about Gen. David

H. Petraeus, the commander he had chosen, and questioning whether he could do business with the Afghan president, Hamid Karzai.

"As I sat there, I thought: The president doesn't trust his commander, can't stand Karzai, doesn't believe in his own strategy and doesn't consider the war to be his," Gates writes. "For him, it's all about getting out."

"Duty: Memoirs of a Secretary at War" is the first book describing those years written from inside the Cabinet. Gates offers more than 600 pages of detailed history of his personal wars with Congress, the Pentagon bureaucracy and, in particular, Obama's White House staff over the 4 1/2 years he sought to salvage victory in Iraq and Afghanistan.

The "controlling nature" of the Obama White House and the national security staff "took micromanagement and operational meddling to a new level," Gates writes.

Under Obama, the national security staff was "filled primarily by former Hill staffers, academics and political operatives" with little experience in managing large organizations. The national security staff became "increasingly operational," which resulted in "micromanagement of military matters — a combination that had proven disastrous in the past."

A former CIA director who served eight presidents in all, Gates is most critical of what he views as the inappropriate growth in size and power of the National Security Council staff.

Gates describes his running policy battles within Obama's inner circle, among them Vice President Joe Biden; Tom Donilon, who served as national security adviser; and Douglas E. Lute, the Army lieutenant general who managed Afghan policy issues at the time.

Gates calls Biden "a man of integrity," but he questions the vice president's judgment.

"I think he has been wrong on nearly every major foreign policy and national security issue over the past four decades," Gates writes.

He discloses that he almost quit after a dispute-filled meeting with these advisers over Afghan policy in September 2009.

New Jersey enticing businesses with revamped tax credit program

By Julie Satow

THE NEW YORK TIMES

The tax break wars are heating up again, as New Jersey aggressively pushes a revamped program to encourage businesses to stay or move within its borders.

The retooled tax credit is called Grow New Jersey, a consolidation and expansion of several previous programs. Some companies, even those already in the state, might be eligible for as much as \$300 million in tax credits per project

in tax credits per project.

The state's neighbors, particularly
New York and Pennsylvania, are not
taking the competition lightly, their
officials say, particularly at a delicate time when certain regions are
still struggling to climb out of the

So while New York City recently saw a major tax credit program expire that could put it at a disadvantage, Gov. Andrew M. Cuomo has been promising that he wants to push a new set of incentives for businesses — especially in beleaguered upstate New York — to try to stave off business flight.

Pennsylvania has been successful at wooing e-commerce companies and their enormous distribution centers to the state, although it too could face tougher challenges given how high the stakes are for economic investment.

"States are facing a Darwinian struggle for jobs, and New Jersey is using these incentives aggressively, and they are using them frequently," said Joseph J. Seneca, a professor at the Edward J. Bloustein School of Planning and Public Policy at Rutgers University.

The New Jersey tax program allows any company to apply for the 10-year credits, regardless of its size or type, as long as it is considering leaving the state or moving there. The amount of the credit depends on location, the size of its workforce, wages and other criteria. For example, a company relocating from another state that would move to a depressed

urban area and would hire hundreds of people could earn as much as \$300 million in credits.

For years and years, tax breaks for major companies have been heavily criticized as corporate welfare by government reform groups, which argue that extremely well-off businesses are rarely penalized with a loss of credits if they fail to produce jobs. And fiscal conservatives often warn that the loss of millions of dollars in tax revenue year over year hampers a state from shoring up funds for the next possible downturn.

But the lure of bigger and broader protections keeps companies jockeying for the incentives. And the states have tried to work in provisions to keep the companies in check. In the case of Grow New Jersey, for example, recipients must certify they have created or maintained the specified number of jobs, and if they fail to meet the requirements, the state could withhold the credits or even require the companies to reimburse them.

In about-face, Sudan denies talking with South about a joint force

By Isma'il Kushkush
THE NEW YORK TIMES

KHARTOUM, Sudan — Sudan on Tuesday backed away from its assertion that it had held discussions with South Sudan about creating a joint force to safeguard oil fields in the South, an economic lifeblood for both countries that is being threat-

ened by the fighting in South Sudan.

"It is not true that during the visit of the president and his delegation to Juba, discussions were held on creating a joint force to protect oil fields in South Sudan," Sudan's Foreign Ministry said in a statement, referring to a visit to South Sudan's capital by Sudan's president, Omar al-Bashir, and other top government officials the day before.

On Monday, Sudan's foreign minister, Ali Ahmed Karti, told reporters upon his return from Juba, "Sudan and South Sudan are in consultations about the deployment of a mixed force to protect the oil fields in the South."

The foreign minister's announcement was a surprise given the decades of war and animosity between the people of what is now South Sudan and the Sudanese government in Khartoum. It seemed to reflect the degree to which both nations rely on oil from the South to keep their economies afloat.

But the suggestion of sending Sudanese troops to help South Sudan while it is descending into civil war provoked criticism.

"It showed that Sudan is on one side against the other," said Sudanese columnist Faisal Mohammad Salih. "It is in Sudan's strategic interest to see a settlement in South Sudan and build trust with all sides, especially if you don't know what the outcome of the talks will be."

The ministry's statement Tuesday reiterated another one of the announcements made the day before: that 900 Sudanese technicians were being sent to South Sudan to help run the oil fields, at the request of the South Sudanese government and under its administration.

Conflict broke out in South Sudan last month when its president, Salva Kiir, accused his former vice president, Riek Machar, of plotting a coup against him, an allegation that Machar has denied. Machar has since fled into the bush and is leading a rebellion against Kiir.

The conflict has killed well in excess of 1,000 people, has displaced around 200,000 and has disrupted oil production in South Sudan, as many foreign oil company workers have been evacuated. South Sudan's oil runs northward through Sudan to be exported, for a fee.

The opposing sides in the South Sudanese conflict are in talks in the Ethiopian capital, Addis Ababa.

Before Karti's statement, Sudan's official position on the fighting in South Sudan had been to support regional efforts to bring both sides to the negotiating table.

308 Thai lawmakers face anticorruption inquiry

BANGKOK — Anti-corruption authorities in Thailand announced Tuesday that they were opening investigations against 308 lawmakers, most of them from the governing party, on suspicion of "malfeasance in office," in connection with a constitutional amendment that was later ruled by a court to have been enacted illegally.

The investigations, which critics called highly political, could destabilize the governing party, Pheu Thai, because of the number of prominent lawmakers involved.

The constitutional amendment in question was approved by parliament, but was struck down by the constitutional court in November on the ground that amendment procedures were not properly followed. The amendment would have made the Thai Senate a directly elected body; currently about half its members are appointed by a committee of officials and judges. The court also found that the amendment would have upset the country's system of political checks and balances.

—Thomas Fuller, The New York Times

First batch of deadly chemicals exported from Syria

The first batch of the most dangerous materials in Syria's banned chemical weapons stockpile was exported from the country Tuesday, loaded onto a Danish commercial vessel in the Syrian port of Latakia in an operation overseen jointly by the United Nations and the group responsible for ensuring the arsenal's destruction.

In a statement, the United Nations and the Organization for the Prohibition of Chemical Weapons, The Hague-based group that monitors the treaty Syria agreed to join in September, said the Danish vessel had departed Latakia and would remain at sea until the second cargo of chemicals reaches Latakia, when it will return to load them.

The export and destruction of the most dangerous substances in the Syrian arsenal, which the statement called "priority chemical materials," has long been considered the trickiest and most hazardous part of the operation, which Syria agreed to carry out as part of its pledge more than three months ago to renounce chemical weapons and join the treaty that bans them.

—Rick Gladstone, The New York Times

Lindsey Vonn to skip Olympics over knee injury

On Tuesday, a devastated Lindsey Vonn conceded that she could not safely compete in the 2014 Winter Games in Sochi, Russia, and withdrew, a departure that will rob the United States of much of its star power next month.

One of the best known winter sports athletes in the world, a celebrity enhanced by her yearlong relationship with the golfer Tiger Woods, Vonn said through her publicist that she would have surgery soon to repair the knee damage, sidelining her for the rest of the ski racing season.

Vonn's exit will deprive the U.S. broadcaster NBC of one of its best story lines — the against-the-odds comeback of a telegenic star with crossover appeal.

Adding to the drama would have been Vonn's previous travails at the Olympics. She had a horrific crash in training days before the start of the 2006 Torino Olympics and limped out of the hospital with multiple injuries only to fall short of a medal. In 2010, despite a painful leg injury, she became the first American to win the women's downhill and added a bronze medal in the super-G.

—Bill Pennington, The New York Times

US charges 4 companies with deception in weight-loss products

WASHINGTON — The Federal Trade Commission on Tuesday charged four companies with deceptively marketing products, saying they made "unfounded promises" that consumers would lose weight by using their food additives, skin creams and other dietary supplements.

As part of the settlement, the four companies — Sensa Products, L'Occitane, HCG Diet Direct and LeanSpa — will pay a total of \$34 million. The companies neither admitted nor denied fault in the case.

The case is part of a broader crackdown by the government on companies that it says "peddle fad weight-loss products." The commission is also proposing new guidance for media outlets to help them catch potentially fraudulent claims. The commission said it would urge media companies not to accept advertisements for companies or products that make dubious weight-loss

—Edward Wyatt, The New York Times

Los Angeles sheriff, under fire, is stepping down

LOS ANGELES — The embattled sheriff of Los Angeles County, Lee Baca, announced Tuesday that he will retire at the end of the month and not seek re-election. His announcement ends weeks of speculation about his future amid federal investigations and accusations of widespread misconduct in his department.

"I will go out on my own terms," Baca said during an emotional news conference Tuesday, flanked by dozens of top deputies and civilian officials. "I know I turn 72 in May. I don't see myself as the future, I see myself as part of the past. I see it as important to allow the future to run"

Baca was expected to face a fierce battle for re-election for a fifth term this year. Last month, 18 officers and deputies were indicted on federal charges of abusing inmates and visitors in county jails. When it became clear the FBI was investigating the problems in the county jail system, the largest in the country, several high-ranking officials tried to cover up the actions, federal authorities say. Baca has also come under fire recently for hiring practices that favored those with special connections to him.

—Jennifer Medina, The New York Times



Chairman Sarah Ritter '14 **Editor in Chief**

Anne Cai '14 **Business Manager**Joyce Zhang '16

Managing Editor Ian M. Gorodisher '15

Executive Editor Deborah Chen '14

NEWS STAFF

News Editors: Stan Gill '14, Bruno B.F. Faviero '15, Austin Hess '15; Associate News Editors: Stephanie Holden '14, Jaya Narain '15, Tushar Kamath '16, Leon Lin '16, Kath Xu '16; Staff: Sara Hess G, Isabella Wei '14, Adisa Kruayatidee '15, Janelle Mansfield '15, Xin Chen '17, Alexandra Delmore '17, Omar Ibarra '17, William Navarre '17; Meteorologists: Allison A. Wing G, Vince Agard '11, Roman Kowch '12, Shaena Berlin '13.

PRODUCTION STAFF

Editors: Annia Pan '15, Anthony Yu '16; Associate Editors: Judy Hsiang '12, Esme Rhine '15, Will Conway '16; Staff: Aislyn Schalck '13, Tiffany A. Chen '17, Lutong Tracy Cheng '17, Xin He '17, Colleen Madlinger '17, Lenny Martinez '17, Aaron Rose '17.

OPINION STAFI

Editors: Andy Liang '14, Jacob London '15; Staff: Keith A. Yost '08, Ryan Normandin '13, A.J. Edelman '14, Kristian Fennessy '14, Sam Shames '14, Feras Saad '15, Aaron Hammond '17.

SPORTS STAF

Editors: Sarah Weir '14, Austin Osborne '15; Associate Editor: Katie Bodner '15; Staff: Michael Gerhardt '12, Zach Hynes '12, Nicholas Myers '12, Carlos Greaves '13, Nidharshan Anandasivam '14, Shri Ganeshram '15, Felicia Hsu '15, Nick Lopez '15, Ali C. Soylemezoglu '17.

Editors: Angelique Nehmzow '14, Grace Young '14; Staff: Ian Matts G, Edwina Portocarrero G, Kristen Sunter G, Bogdan Fedeles PhD '09, Roberto Perez-Franco PhD '10, Rex Lam '14, Alex McCarthy '14, Natthida Wiwatwicha '14, Carolyn Zhang '14, Denis Bozic '15, Chennah Heroor '15, Karleigh Moore '16, Attila Forruchi.

PHOTOGRAPHY STAFF

Editors: Jessica L. Wass '14, Tami Forrester '15, Christopher A. Maynor '15; Staff: Ekaterina Botchkina G, Kailiang Chen G, David Da He G, Arthur Petron G, Melissa Renée Schumacher G, Manohar Srikanth G, Scott Johnston '03, William Yee '10, Nicholas Chornay '12, Meng Heng Touch '12, Ho Yin Au '13, Akimitsu Hogge '13, Tiffany Ira Huang '13, Jaswanth Madhavan '13, Vanessa Trevino '13, Vivek Dasari '14, Jennifer Wang '14, Priya Garg '15, Jared L. Wong '15, Emily Kellison-Linn '16, Sarah Liu '16, Rachel E. Aviles '17, Skanda Koppula '17, Helen Nie '17, Henry Tareque '17, Andrew Swayze.

CAMPUS LIFE STAFF

Editor: Kali Xu '15; Associate Editor: Deena Wang '14; Staff: Stephanie Lam G, Emily A. Moberg G, Davie Rolnick G, Victoria Young G, Jacqueline Durazo '14; Cartoonists: Letitia W. Li G, Amanda Aparicio '14, Paelle Powell '15, Stephanie Su '15, Steve Sullivan '15, Erika S. Trent '15, Timothy Yang '15, Dohyun Lee '16.

COPY STAFF

Copy Chief: Laura E. Forte '15; Associate Copy Chief: Madeline J. O'Grady '16; Staff: Jacob Austin-Breneman '13, Sylvan Tsai '15, Aidan Bevacqua '16, Gustavo H. Braga '16, Christina Curlette '16, Jake H. Gunter '16, Julia M. Longmate '16, Alyssa Napier '16, Liana Banuelos '17.

BUSINESS STAFF

Advertising Manager: Nayeon Kim '16; Operations Manager: Maria I. Fabre E. '16; Staff: Joseph Maurer '12, Arturo Gonzalez '14, Sarine Shahmirian '14, Rachel Agyemang '16, Marie E. Moudio '16, Michelle Chao '17, Casey Crownhart '17, Meiling Cui '17, Fiona Lam '17.

TECHNOLOGY STAFF

Director: Greg Steinbrecher G; **Staff:** Alex Chernyakhovsky '14, Alexander C. Bost.

ONLINE MEDIA STAFF

Editors: Lourdes D. Bobbio '15, Stephen Suen '15; Staff: Aaron L. Scheinberg G, David J. Bermejo '13, Aakanksha Sarda '14, Clara Liu '15, Vivian Liu '15, Mario Martínez '15, Jake Barnwell '16, Sarah Coe '16, Emilio Pace '16.

EDITORS AT LARGE

Contributing Editors: Joanna Kao '13, Jessica J. Pourian '13.

ADVISORY BOARD

Paul E. Schindler, Jr. '74, V. Michael Bove '83, Barry S. Surman '84, Deborah A. Levinson '91, Jonathan E.D. Richmond PhD '91, Karen Kaplan '93, Saul Blumenthal '98, Frank Dabek '00, Satwiksai Seshasai '01, Daniel Ryan Bersak '02, Eric J. Cholankeril '02, Nathan Collins SM '03, Tiffany Dohzen '06, Beckett W. Sterner '06, Marissa Vogt '06, Andrew T. Lukmann '07, Zachary Ozer '07, Austin Chu '08, Michael McGraw-Herdeg '08, Omari Stephens '08, Marie Y. Thibault '08, Ricardo Ramirez '09, Nick Semenkovich '09, Angeline Wang '09, Quentin Smith '10, Jeff Guo '11, Ethan A. Solomon '12, B. D. Colen.

PRODUCTION STAFF FOR THIS ISSUE

Editors: Esme Rhine '15, Annia Pan '15, Anthony Yu '16 , Will Conway '16; Staff: Arica Wyche '16, Lutong Tracy Cheng '17

The Tech (ISSN 0148-9607) is published on Tuesdays and Fridays during the academic year (except during MIT vacations), Wednesdays during January, and monthly during the summer by Ihe Tech, Room W20-483, 84 Massachusetts Avenue, Cambridge, Mass. 02139. Subscriptions are \$50.00 per year (third class). POSTMASTER: Please send all address changes to our mailing address: The Tech, P.O. Box 397029, Cambridge, Mass. 02139-7029. TELEPHONE: Editorial: (617) 253-1541. Business: (617) 253-8324. Facsimile: (617) 258-8226. Advertising subscription, and typesetting rates available. Entire contents © 2014 The Tech. Printed on recycled paper by Mass Web Printing Company.

GUEST COLUMN

A bipartisan solution to gun violence — better bullets

Emerging technologies could save lives and transform the debate over gun control

By David Warsinger

Set phasers to stun — technology like Star Trek's phasers lies under the radar and behind red tape, but it has the potential to solve a problem that has afflicted America for decades: gun violence. Unfortunately, solutions to gun violence discussed in mainstream politics have only brought limited effectiveness and intense partisan gridlock. Fortunately, other solutions have tremendous potential, and they are politically feasible.

While the focus thus far has largely been on limiting guns themselves with more screening and red tape, banning certain makes, etc., a critical element has been ignored — the bullets themselves. A pro-market approach to enabling bullets that are less lethal but that have more stopping power can reduce gun violence while pleasing gun owners, safety advocates, and even the NRA to boot.

It's worse to think we've made progress when we haven't than it is to do nothing at all. Assault rifles only account for 2-8 percent of gun deaths; how much can a ban of new ones achieve? Will opposing factions ever stop fighting and disabling new restrictions? Can we ever reach the low homicide rates of other first world countries in a nation where guns outnumber people? How much progress can we claim when suicides — the majority of gun deaths — would have failed in over 70 percent of cases if other methods were used?

The outlook may look bleak, but not if we refocus our methods. While we have a 200-year supply of guns in this country, we have a 3-year supply of bullets. Here, it is important to recognize the difference between lethality and stopping power: stop-

ping power is neurological while lethality is physical. This means that by legalizing and encouraging bullet markets to pursue non-lethal technologies, we can vastly reduce gun deaths.

How do these traits differ? Lethality, or killing ability, is largely related to internal organ damage and bleeding, while stopping power is based on shock. Getting shot will ground an attacker not because it will kill them (we live for minutes even when our heart stops), but because it hurts. The pain doesn't have to be in internal organs. Unfortunately virtually every option on the market relies solely on causing shock and pain through deep penetration. In contrast, many other technologies such as electric shock, safe chemicals like salts, or surface-damaging bullets, have superior stopping power but are less lethal. Design matters too. High-fragmentation technology like hollow point bullets can have incredible stopping power at low depth of penetration, but are very lethal at full depth. In addition, an overlooked niche includes less lethal bullets such as those made of low-density material for target

So what can be done? A whole lot. Low-lethality bullets can immediately gain exemptions from bullet taxes, waiting times, and other restrictions. Laws must be revised to make exceptions for and legalize high stopping power technologies such as safe salts for low-lethality bullets. Subsidies and funding can be considered for producing, creating awareness for, and marketing safe technologies. Scientific metrics for rating bullet lethality must be developed, possibly by the defense department. Research funding for low lethality bullets must be pursued. At this point NRA

members should be drooling dollar signs, and that's perfectly fine if it saves lives.

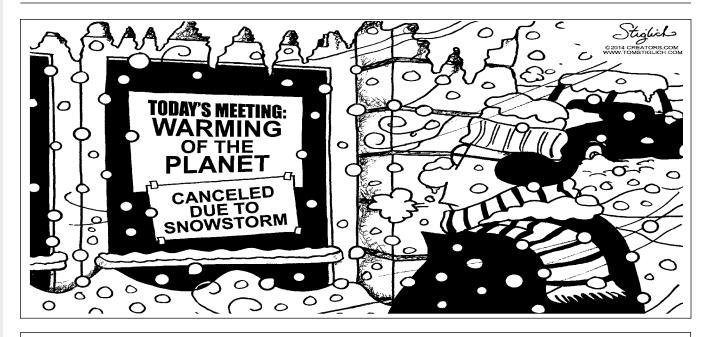
Others can help too. Advocacy groups can provide for bullet exchange programs and create marketing campaigns. Companies can start producing bullets for this underserved market. Local governments can spearhead modifying regulations and creating incentives. Perhaps most crucially, the consumer can vote with their wallet by buying bullet types that keep their families safer.

The potential impact is huge. Only 4 percent of murders are premeditated, so modifying the tools affects almost all cases. Fear of painful failed suicides can discourage using guns or encourage abstaining, potentially reducing two thirds or more of lost vulnerable and usually young minds. And unlike the controversial debates happening right now, both parties can sign on.

However, conflict in politics is inevitable. Some may push for heavy use of restrictions on bullets rather than promarket approaches. Some may fight certain high stopping power technologies since they're painful. Some may fight any change whatsoever, even if it means fewer choices for self-defense. But ultimately, there is plenty of middle ground.

Americans demand a comprehensive solution to the problem of gun violence. We want to retain our second amendment rights and the ability to defend ourselves without suffering the lethal consequences of firearms. New bullet technologies offer a way to achieve this goal, but the silence regarding their use has been deafening. It's time to be loud.

David Warsinger is a graduate student in the Department of Mechanical Engineering.



CORRECTIONS

An article on 2.009 presentations in the Dec. 10 issue mistakenly referred to the Silver Team as the White Team.

An article on MBTA hour expansions in the same issue mistakenly indicated the days of extended service. The expanded hours will be until 3 a.m. Saturday and Sunday mornings.

OPINION POLICY

Editorials are the official opinion of *The Tech*. They are written by the Editorial Board, which consists of Chairman Sarah Ritter, Editor in Chief Anne Cai, Managing Editor Ian M. Gorodisher, Executive Editor Deborah Chen, and Opinion Editor Jacob London.

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

Letters to the editor, columns, and editorial cartoons are written by individuals and represent the opinion of the author, not necessarily that of the newspaper. Electronic submissions are encouraged and should be sent to *letters@tech.mit.edu*. Hard copy submissions should be addressed to *The Tech*, P.O. Box 397029, Cambridge, Mass. 02139-7029, or sent by interdepartmental mail to Room W20-483. All submissions are due by 4:30 p.m. two days before the date of publication.

Letters, columns, and cartoons must bear the authors' signatures, addresses, and phone numbers. Unsigned letters will not be accepted. *The Tech* reserves the right to edit or

condense letters; shorter letters will be given higher priority. Once submitted, all letters become property of *The Tech*, and will not be returned. Letters, columns, and cartoons may also be posted on *The Tech*'s Web site and/or printed or published in any other format or medium now known or later that becomes known. *The Tech* makes no commitment to publish all the letters received.

Guest columns are opinion articles submitted by members of the MIT or local community.

TO REACH US

The Tech's telephone number is (617) 253-1541. Email is the easiest way to reach any member of our staff. If you are unsure whom to contact, send mail to <code>general@tech.mit.edu</code>, and it will be directed to the appropriate person. You can reach the editor in chief by emailing <code>eic@tech.mit.edu</code>. Please send press releases, requests for coverage, and information about errors that call for correction to <code>news@tech.mit.edu</code>. Letters to the editor should be sent to <code>letters@tech.mit.edu</code>. The Tech can be found on the World Wide Web at http://tech.mit.edu.

Q.E.D. (QUITE EASILY DONE)

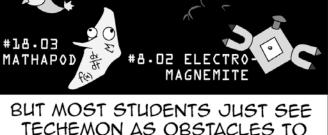
HOW WAS YOUR WINTER BREAK? I ACHIEVED MY ONE AND ONLY GOAL...



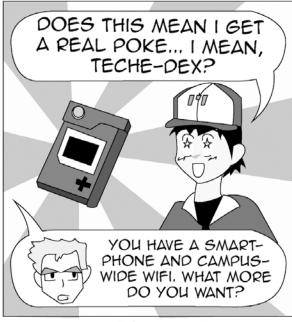








THEIR TECHE-MASTER DEGREE



TO BE CONTINUED



by Jorge Cham





- Eat better
- Sleep more
- Get more exercise
- See friends

Graduate. or





WWW.PHDCOMICS.COM

Genie-ology by Sally R. Stein

Solution, page 13

ACROSS

- 1 Junk email 5 Top poker cards
- 9 Billiards bounce
- 14 Roll of cellophane 15 Spicy Asian cuisine
- 16 Really like
- 17 Neck of the woods 18 Diplomacy
- 19 Gotten up
- 20 Cordial statement
- 23 Winter driving hazard
- 24 __ Angeles
- 25 Caravan beasts
- 29 Pack on pounds
- 31 Crunchy sandwich, for short
- 34 Antitheft device
- 35 Crease
- 36 Theater production 37 Tanning-parlor device
- 40 Gets the point
- 41 Responsibility 42 Juliet's love
- 43 Finish up

- 44 Mom's sister
- 45 Provides food for
- 46 List-shortening abbr. 47 __ Baba
- 48 Annovs
- 57 Up in arms
- 58 Vietnam neighbor
- 59 "Yikes!"
- 60 Cruel ones
- 61 Silent performer
- 62 Christmas season
- 63 Principle of faith
- 64 Head the cast

65 Stare in wonder

- DOWN 1 Wild guess
- 2 Remove, as a rind
- 3 Chimps and gorillas
- 4 Vegetarian's no-no 5 Houses' storage areas
- 6 Pursue
- 7 Per person 8 Locale
- 9 Egg box

- 10 Mexican farewell
- 11 Optimistic
- 12 Triple-decker cookie 13 Diner's list
- 21 Mrs. Flintstone
- 22 Lose traction
- 25 Bring about
- 26 Director Woody
- 27 Defeated in chess
- 28 Makes a mistake
- 29 Leave the house
- 30 "__ fair in love . . ."
- 31 Hold responsible
- 32 Less plausible, as an excuse
- 33 Mistakes in print
- 35 Huckleberry of fiction
- 36 Essence of a novel
- 38 __ for (verify) 39 Conductor's workplace
- 44 Give testimony
- 45 Not as remote 46 Lauder of cosmetics
- 47 Fragrance
- 48 Very funny one

18 20 25 | 26 | 27 | 28 29 | 30 31 | 32 | 33 40 43 48 49 50 51 |52 58 60 61 62 63 64 65

- 49 Craving
- 50 Farm shelter 51 Shade trees
- 52 "Be patient!"
- 53 | 54 | 55 | 56
- 53 Cymbal cousin
 - 54 Horse-stopping shout
 - 55 All over again
 - 56 Center of an egg

19

All Talk by Lonnie Burton

ACROSS

- 1 Put it to 6 Somewhat off
- 11 Email or ltr.
- 14 This and that
- 15 Offend
- 16 Grazed, perhaps
- 17 Bunch of, so to speak
- 18 Fluffy feather
- 19 Humdrum pattern
- 20 Start of a quip
- 23 Dollar stretcher
- 24 Outdo
- 25 Clerical garment
- 27 Vibration
- 29 Clad like Claudius
- 30 Newspaper space
- 34 Airport info
- 35 Middle of quip
- 38 Spice in some sauces
- 40 Family member
- 41 Strut
- 43 Did once

- 48 Campout snack
- 49 KGB creator
- 52 Part of speech
- 53 End of quip
- 56 Crispy lunch
- 57 Clown employer 58 German exports
- 59 One-quarter of quadri-
- 60 Brief cybercomment
- 61 Certain OPEC minister
- 62 Short time
- 63 Concert instruments
- 64 Home for some houseplants

DOWN

- 1 Ultimately
- 2 Synagogue ram's horn
- 3 Water heater
- 4 Admire
- 5 Kind one 6 Pie filling
- 7 Paper producers

- 8 Cry of surrender
- 9 Basic math 10 Handles properly
- 11 Soak, as a steak
- 12 Well-thought-out
- 13 Pick up on
- 21 Condense 22 Boring tool
- 26 Music media
- 28 Outmoded
- 29 Japanese entrée
- 31 "... __ a lender be" 32 Santa __ winds
- 33 Any birthstone
- 35 Quote puzzle
- 36 Converges on
- 37 Alliance based in DC 38 UK lawmakers
- 39 Eeyore creator
- 42 Insufficiency
- 44 Hold out
- 45 Thingy
- 46 What a certain fork is for

60

17



18

- 47 Infant wear
- 49 Milking-machine
- attachment 50 Sharply sloped
- 51 Attempts
- 54 29th state
- 55 Polish destination 56 Motor coach

Stangers to Fiction by Deena Wang





by Randall Munroe

CODE URITTEN IN HASKELL IS GUARANTEED TO HAVE NO SIDE EFFECTS.



SATURDAY MORNING BREAKFAST CEREAL BY ZACH WEINER [3228]









A Challenge

Solution, page 13

25+	 	1 1 1 1	5-	 	2×	 	15×	
60×	1 1 1 1	<u> </u>	45×	 	336×	1	8×	<u> </u>
4×	┪	336×			┪	9	-	3
		3	-	3–	<u> </u>	26+		
41+	<u> </u>		┨	23+			-	- 48×
	3+	 	3	-	9+		270×	
	5-	60×		-	12×		-	7
3	┨		 	189×	<u> </u>	8	-	- 6+
30×	<u> </u>	56×		┨	· - 	- 2×	<u> </u>	<u> </u>

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–9. Follow the mathematical operations for each box.

Sudoku

Solution, page 13

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

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.

Techdoku

Solution, page 13

24×		5–	240×		
3				2–	
40×	1 1 1 1 1		12×		6
120×				10×	
	90×		2×		1–
		12×			

Wednesday, January 8, 2014 8 THE TECH

MOVIE REVIEW

Ear candy

Coen brothers' latest film is a stylish and beautifully scored trip back to the 1960s

By Chennah Heroor STAFF WRITER

Inside Llewyn Davis focuses on the life of a young folk singer in Greenwich Village during 1961. But the titular Llewyn Davis (Oscar Isaac) is extremely unlikable. He is a homeless travelling musician, dependent on his successful friends who allow him to sleep on their couches. Yet he believes it is his right to lecture them on selling out. At times he's so cruel that I couldn't help feeling repulsed by his narcissism and neediness.



Llewyn Davis (Oscar Isaac) in Inside Llewyn Davis, a film about a folk singer-songwriter in New York in the 1960s.

The film does tease at his comically tragic life that caused his attitude. For example, he signs away his royalties on a song likely to become a hit to get money to pay for marine union dues, only to find out that he needs more money for a pilot's license. Repeat misfortunes ad

But the thing that truly redeems him is his music. His beautiful voice and the mournful tunes paint a picture of a man whose been shaken up by the times. He's so talented and persistent that I began to believe he deserved my sympathy because he's a genius who truly deserves recognition he is unlikely to ever earn. Throughout the film, the songs are the only touches of elegance in Davis' life. Without auto-tune, the music has this sense of gritty realness about it that makes me wistful for a time I never knew (and probably never existed).

In essence, Inside Llweyln Davis is story with more style than substance. The film's dark, monochromatic colors underline the grimness of the time. Whenever the music stops, all the characters are forced back into their difficult, mundane lives, without the embellishment of their songs. Some characters regress to shrill stereotypes, while others simply seem like punch lines for the Coen brothers to reinforce their themes about the randomness of life.

There isn't much of a plot, just a test of how awful a man can be and still be sympathetic. Luckily Llewyn Davis is fully dimensional. Thanks to Oscar Isaac's expressiveness and amazing voice, the film succeeds at holding our attention.

Inside Llewlyn Davis is a good, but not great movie. It's one without a lesson, but not devoid of hope or hilarious comic irony. It's the kind of pensive movie that you really need to watch intently to eniov, as distractions will keep you from feeling the subtler emotions

★★★☆

Inside Llewyn Davis

Directed by Joel and **Ethan Coen**

Starring Oscar Isaac, Carey Mulligan, John Goodman, Garrett Hedlund, and Justin Timberlake

Rated R

Now playing

throughout the movie. But if you can't muster the energy to watch the entire movie, at least make sure you listen to the hauntingly beautiful soundtrack (especially "Fare

MOVIE REVIEW

Too emotionally cold-blooded for a mammalian audience

Beautiful animation tells a story without heart

By Kristen Sunter STAFF WRITER

Walking With Dinosaurs draws on what is currently known in paleontology to tell a coming-of-age story about a young Pachyrhinosaurus named Patchi (Justin Long), who tries to win over his crush, Juniper (Tiya Sircar), while being bullied by his brother, Scowler (Skyler Stone). The directors, Barry Cook, who is best known as an effects animator with Disney, and Neil Nightingale, who was the executive producer of several nature documentaries, teamed up to create a fictional extension of the acclaimed BBC miniseries of the same title. The 3D computer animated dinosaurs roam a beautiful live background filmed in Alaska and New Zealand while they face predators, fires and teenage drama.

"For the first time in movie history, audiences will truly see and feel what it was like when dinosaurs ruled the Earth," claims the website for the film, so audiences are bound to compare the technical aspects of this film to what was cutting edge in Jurassic Park. While tropical mists in *Jurassic Park* cloaked any less than perfect CGI, Walking With Dinosaurs shows us everything they could

- and couldn't - do. The movements and musculature of the dinosaurs are superbly animated, so some of the uncanny aspects can be forgiven, such as how the dinosaurs don't squash the soil where they step, making them seem weightless. However, some of the humor betrays the otherwise painstaking realism with gags that are not physically possible: it's hard to explain how the sapling gets threaded through the hole in Patchi's bony frill as he tries to bend it to the ground and it springs back on him. Less realistic animation can rely on exaggerated slapstick humor, but here it only breaks our suspension of disbelief.

The dinosaurs interact with each other, but their mouths do not move, which preserves the dignity of the animation style and also probably avoids landing the characters in the uncanny valley. Instead, the voice actors say what the animals are communicating in some other way, much like other animal films like Milo and Otis. The body language of the dinosaurs is well animated, but the voice actors are so talented that they could have almost done the story as a radio program, especially John Leguizamo as Alex, the Alexornis (an ancestor of modern birds). Leguizamo absolutely nails an extended cutaway about the Gorgosaurus. There are also cutaways to introduce the other dinosaurs that are educational without being intrusive, and anyone who loved learning about dinosaurs in elementary school will enjoy them. But the quality of acting and animation makes the lack of heart in the story and dialogue all the more obvious.

It's almost unbelievable how emotionally flat Walking With Dinosaurs is in contrast to another movie that comes to mind when tracing the cultural heritage of this film. *The* Land Before Time tells a story of dinosaur friends fighting to survive famine and has a heartbreaking scene where Littlefoot's mother dies. But here, nothing is said after Patchi and Scowler witness their father's death except "he's not coming back", and nothing at all is said of their mother or siblings. It's as though they couldn't remember that they had any. Perhaps the filmmakers gave the dinosaurs only the emotional range appropriate for species with brains of their size. It might have been too much to show the gutted corpse of their father being pecked over by scavengers, but they could have done something to convey the loss to us, perhaps letting a shadow fall across Patchi and Scowler as they come out of hiding. The film cer**★★★☆☆**

Walking With Dinosaurs

Directed by Barry Cook and Neil Nightingale

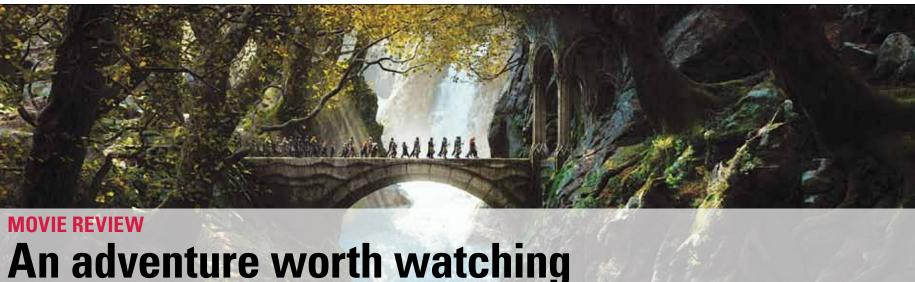
Starring John Leguizamo, Justin Long, Tiya Sircar, Skyler Stone

Rated PG

Now playing

tainly doesn't shy away from gross-out gags with feces and vomit, but it shies from death even while showing predators hunting and killing. Perhaps showing death but otherwise avoiding the subject was meant to create an ambiance of danger for what is otherwise a "boy meets girl, boy loses girl, boy wins girl back" plot. The overarching message of the story is never give up, but, if you must die, die for a reason, but the film never makes an emotional connection that can truly deliver that message.





Part two of *The Hobbit* in theaters now

COURTESY OF WARNER BROS. PICTURES

Silvan Elves leading their captives, Thorin Oakenshield's dwarves, in The Hobbit: The Desolation of Smaug, the second installment in The Hobbit Trilogy.

By Karleigh Moore
STAFF WRITER

Tolkien fans have been eagerly awaiting the release part two of *The Hobbit*, and that day has finally come. *The Desolation of Smaug* was as exciting, funny, and adventurous as to be expected from a Tolkien universe brought to life by Peter Jackson. The main cast from the first movie returns so this movie is as full of great actors as before. Of course the scenery is breathtaking, featuring incredible spans of mountains and forests — just as magical as Tolkien describes in his series.

For those of you who are Legolas fans, you will be pleased to know that Orlando

Bloom does get quite a bit of screen time. He leads some pretty epic and strangely hilarious battle and fight sequences. We get to see a bit of the forest elves and we learn even more about the dwarves. The film includes references to *The Lord of the Rings* future story and we get to watch as Middle Earth approaches terrifying times with the rise of Sauron's armies. The movie is packed with personality from the dwarves in the company and their humorous interactions.

While there were many amusing scenes, the movie was definitely suspenseful and action-packed. Bilbo and the dwarves are separated from Gandalf and must continue the journey alone. They quickly discover that overcoming the obstacles in their path is not

so easy without the wizard. The company is in a rush to make it to the Misty Mountains before Durin's Day so that they can find the Secret Door and reclaim their home. But finding the door is only their first problem, because what awaits them in the Mountain is the terrifying dragon Smaug. Benedict Cumberbatch makes a convincing Smaug, adding an eerie hiss to the dragon's booming voice. As usual, all of the monsters are incredibly creepy and grotesque, ensuring that the protagonists will have their work cut out for them.

Will the dwarves and Bilbo escape the Mountains unscorched and intact? Start your year on an enjoyable note — get to the theaters as soon as possible to find out!

★★★☆

The Hobbit: The Desolation of Smaug

Directed by Peter Jackson

Starring Martin Freeman, Ian McKellan, and Richard Armitage

Rated PG-13

Now playing

MOVIE REVIEW

A spoonful of saccharine

PL Travers would not have approved of this film either

By Kristen Sunter

It should come as no surprise that a movie with the Walt Disney Company imprimatur shows their founder as a kindly fellow, who insists that he only wants to make a film adaptation of *Mary Poppins* to fulfill a promise he made to his daughters when they were children.

Played by the ever likeable Tom Hanks, Disney invites PL Travers (Emma Thompson), the author of the popular children's books about the magical governess, to the Walt Disney Studios to convince her to sign away the movie rights, which he has been after for twenty years. He caters to the irritating whims of "Mrs. Travers", as she insists on being called, while showing nothing but support for the team that must work through the script with a wet blanket like

her. If you do not leave the theater wishing that you too could have had a guided tour of Disneyland with Walt, this film has simply failed in its mission.

The story of Travers' two-week visit to Disney's Los Angeles studios in 1961 is interwoven with flashbacks to her childhood, which will presumably show us how an imaginative young girl in Australia grew into a bitter British woman who corrects everyone's manners. In one especially well-wrought scene, the Sherman brothers (B.J. Novak and Jason Schwartzman) play the song "Fidelity Fiduciary Bank," and the lyrics are superposed on a drunken speech her alcoholic father (Colin Farrell) gives at a fair that utterly humiliates his family.

It doesn't take much knowledge of pop psychology to see that working on the script with Disney's well-meaning and chipper team is bringing back painful memories of whatever hidden trauma dictates her now sour mood. The purse-lipped Travers serves as a foil to the jovial Disney, who confides in her his own difficult childhood. Both of them might be projecting their own fathers onto the character of Mr. Banks, the father in *Mary Poppins*, but only Disney has apparently risen above it all.

The focus on using art to sublimate painful experiences hides a darker side of the story in plain view. Disney breaks the first and most important promises he makes to her. Their major falling out revolves around the promise that he wouldn't use any animation. Her aversion to animation is never explained, and, given that it was Disney's forte, the audience is likely to forgive him for using it in what have become iconic scenes.

But what is not shown is how Julie Andrews' Mary Poppins is nothing like the

Saving Mr. Banks

Directed by John Lee Hancock

Starring Emma Thompson, Tom Hanks, and Colin Farrell

Rated PG-13

Now playing

Mary Poppins in the book, which is a far greater betrayal from an artistic point of view and exactly what Travers asked him not to do. If you haven't read the books, Travers' father in his happy-go-lucky moments seems to be the inspiration for Mary Poppins as she is depicted in Disney's version. Yet, the actual inspiration for Mary Poppins eventually becomes clear, and the character's no-nonsense attitude is entirely lost with no comment in Andrews' cheerful singing and Van Dyke's buffoonery.

Despite the warm glow of its beautiful period sets, this film is almost vengeful. Anyone who loves Mary Poppins the Disney movie will necessarily feel defensive when Travers hates the songs and apparently everything fun. We're basically forced to side with Disney against her when she insists that the script preserve the spirit of the books, as if it were an unheard-of imposition.

In fairness, PL Travers was actually a difficult person to like by some accounts, though it's hard to know what her side of the story is from this movie. In real life as in the movie, Travers insisted that her meetings with the script team be recorded, and one example conversation is played during the credits. It's as though the filmmakers are trying to justify their unflattering portrait by saying, "See? She really was like this!" Even her personal growth, which is credited to Disney's kind intervention, is undercut by her snippy comment to him at the premier.

Despite the occasional jabs at Disney's cloying brand of entertainment, the film couldn't just show Walt Disney as anything but down-to-earth and loveable, and so it set up PL Travers as a complete mess. I suspect she would have needed more than a spoonful of sugar for this one.



COURTESY OF WALT DISNEY MOTION PICTURI

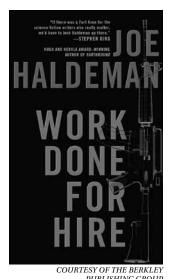
Walt Disney (Tom Hanks) and a disgruntled P. L. Travers (Emma Thompson), the author of the Mary Poppins books, in Saving Mr.

Banks.

BOOK REVIEW

Science fiction war memoir in a surveillance state

It's more frightening when you don't even know if it's Big Brother watching you



MIT Professor Joe Haldeman's new novel, Work Done

By Kristen Sunter

Joe Haldeman's latest book Work Done For Hire is a riveting near future science fiction story of the dangers of living in a surveillance state. Former sniper Jack Daley was drafted to fight in the continuing war abroad and has been coping with the trauma for nine years since returning home wounded. He has found some solace from his memories in writing, but no commercial success, and so he readily agrees to write the novelization of a horror movie that's in the works. It may be just work done for hire, but Hollywood's money will spend.

The horror story Jack writes follows a serial killer who hunts people and lives off of their meat. The descriptions of how he eviscerates his victims like deer are exceptionally gory and detailed: do not read this book while eating. Hunter, as he is known to the authorities, targets isolated victims: a jogger along a mostly deserted path through the woods, a woman who's repairing a flat on her bike in the middle of nowhere. These clichés play off of our fears of being alone, far from the protection of the police, with no witnesses to run for help or clues left about what happened.

Then one day Jack awakens to find a sniper rifle on his doorstep and the first installment of a large payment he will receive if he kills a "bad man". He refuses to become an assassin, but the mysterious woman who calls to give him his orders also threatens his girlfriend Kit. The Enemy, as he calls them, seem to be able to trace his position and even see his gestures. Jack suspects they have access to credit card records,

phone calls and security cameras, but whether they are members of a governmental organization or have merely hijacked state technology remains to be discovered.

There is a tension between the isolation that horror movies teach us to fear, and the danger when the surveillance systems created to placate those fears are used against us. This book shows us the end results of citizens having no privacy coupled with a less than transparent government, where someone like Jack cannot even be sure the Department of Homeland Security agents he turns to are on his side. Jack seeks safety in the rural areas beyond the reach of technology, precisely where Hunter's victims were abducted. His world is not too difficult to imagine.

This book is written in an engaging first-person narrative, interspersed with the chapters of Work Done For Hire
By Joe Haldeman
Ace Hardcover
January 2014

the book Jack sends to the Hollywood producer who hired him. Jack is a likeable fellow, if a little rough around the edges. The details about sniping, the realities of treating PTSD, and his conversations with other veterans he meets turn this book into the type of war memoir that has become more popular with increased awareness about PTSD: it is not just the war but also what happened afterwards when the soldiers came home that must be remembered.

INTERVIEW

Science fiction writer and MIT professor Joe Haldeman on his newest book

By Kristen Sunter
STAFF WRITER

Joe Haldeman is a well-known science fiction author and adjunct professor in CMS/writing at MIT. He recently spoke with The Tech about his latest novel, *Work Done For Hire*.

The Tech: I'd be tempted to classify Work Done For Hire as at least partly a war memoir, even though the war or the PTSD are only a backdrop. How did this story draw on your experiences as a vet or the experiences of people you know?

Joe Haldeman: A lot was from people I'd met long after my own war. It seems to me that the people who fought in the Gulf and are fighting in the desert now are much more susceptible to PTSD. I think it's partly the separation and partly the isolation from the culture that they're supposedly defending.

To me, PTSD is not an abreaction. It's a normal reaction for a normal human being if he has to kill people. You have to be pretty hard to do that for a living, and even tough guys are not that hard. Fictional people go ahead and kill when they have to and go on with business, but most actual people are a little more sensitive than that.

TT: I learned a lot about sniping from this book. Are those parts all true?

JH: I don't know! I read all the books. In fact, I have a sniper manual from the Civil War, and the way to get a good shot hasn't changed much, because there's wind between you and the target and it's all about nerve

I'm a pretty good shot, but I don't shoot regularly. If I had to do what snipers do, I'd

have to start over. I don't think I could do it, because actually killing somebody with a rifle is such a weird thing. You squeeze the trigger, and you get the immediate physical reaction — the blow back in the shoulder — and then three seconds later some guy falls over a mile away. What is that about? I never had to do that because I was an engineer. Sometimes I'd set booby traps that could ultimately kill people, but I was never there when that happened.

TT: You have the horror story, where people are attacked when they're relatively isolated, and then you have the outer story, where somebody is trying to escape surveillance by isolating himself. One of the main themes seems to be the difference between what people fear and what they should fear.

JH: I'm not that methodical. What I had in mind, insofar as I can put it back together, was just a couple of scary situations with specific kinds of people. I didn't have a market in mind. I didn't have a publisher in mind. I just started writing. Then I had to put it away for a couple of years while I worked on another book.

I've written dozens of books, most of them science fiction, so this is a different kind of a book for me because I didn't consider it as science fiction. My original idea for the monster was that there was nothing supernatural about him. He was just a big, mean guy in a very dangerous situation, but then I thought, "I'm going to push the envelope and make him an unexplained monster."

TT: It's interesting that you started writing the book and then you put it away, because the parts about state surveillance are

very topical. It seems to be a warning tale.

JH: Well, I never think that way. You want to make the thing as scary as can be, and the more likely it is, the scarier it is. Some satellite of Neptune a couple hundred years from now doesn't have immediacy, but this guy in the woods could be there waiting for you right now.

I wanted a protagonist who was not scientific, and not even really very rational when it comes right down to it, but a likeable guy who's in a bad situation. I wanted his girlfriend to be a foil, so she's smarter than he is and actually more level headed, too. I had fun playing with that because he's not a hero, but he's thrust into a role that seems to ask for a hero, and he just does the best he can. I think he's a very honorable guy.

TT: When did you start writing the book? JH: It was at least ten years ago. There are two different openings to the novel that

are two different openings to the novel that I didn't use, and I might do novels of them some time

TT: Is your writing process like that of your main character? He gets up early in the morning, he writes for a few hours, and he doesn't seem to go back and revise. He already has an outline because it's given to him, but then he decides to go off on his own.

JH: I've done that once, just writing for hire. It's easy because you just have to follow the story this other person thought of, and this other person in my case was a corporation, Paramount. That was the second Star Trek novel I did.

TT: On your website, you have a travelogue from 1996 when you actually biked a route that is pretty close what you describe

in the novel.

JH: It's very close. In fact, I used some of my notes from the trip in the novel. I was keeping very precise notes, and I was going to write a horror novel about a guy who was on this bicycle ride, but I decided to not chain the novel to that particular set of circumstances.

TT: What part of this book was the most fun to write? I hope you don't say the part about skinning people, because that was the hardest to read.

JH: No, that was the easiest to write. That's really just research. I've never even skinned an animal, unless you count bass.

The whole book was fun to write because it wasn't intellectually demanding the way a science fiction novel is. The most fun part was the monster, where he's demonstrating how inhuman he is, because he's the only science fiction or fantastic thing in the book, and that is my territory.

TT: What was the hardest to write?

JH: I guess the last third or so of the book, where all of the loose ends have to be brought together. It was a strange book for me because I wrote some of it in Europe, some in Japan, some here, and some down in Elorida.

There's a contemplative aspect to writing a novel. It's a long book, and so the idea is being able to get back to that mindset that you had in Japan when you're on the other side of the world, and your character's sitting in a forest in some state that you haven't identified, and he's about to kill somebody. You have to put all these things together, and relate them to your own corpus, which is the novelist's game.



BALLET REVIEW

José Mateo's *Nutcracker*

An intimate and warm performance of the famous holiday story



The Snow Flake Queen in The Nutcracker by José Mateo Ballet

By Denis Bozic STAFF WRITER

With the grand production of Mikko Nissinen's The Nutcracker embracing the winter season in Boston, many ballet goers might be unaware of another production that happened in the secluded Sanctuary Theatre, located at Harvard Square. While the José Mateo Ballet may be somewhat less familiar than the Boston Ballet Company, this ballet company has been putting out shows for decades. This winter, they returned with their 26th annual production of The Nutcracker — a small-scale and intimate show that delivers the best of the Christmas magic.

Founded in 1986, the José Mateo Ballet Theatre is one of New England's leading ballet schools, and its production of The Nutcracker is the only professional production in the area to hold open auditions for students outside of its own school. Many

characters of the ballet are therefore performed by local dancers some of the show's professional performers started their careers as children in the productions of the José Mateo Ballet Theatre. For those accustomed to seeing largescale shows with performers of exotic and versatile backgrounds, this production of The Nutcracker might sound like it lacks the same grandeur and wonder, but don't be fooled — this production is still captivating.

With a stage just big enough to allow room to move for all of the dancers, this show brings out the essence of The Nutcracker: Christmas spirit and warm family atmosphere. This is further emphasized by the cleverly adjusted choreography, flow of the story, and the vivacious colors of the dancers' costumes. The intimate setting of the show allows one additional feature to the audience - seeing all of the dancers' facial expressions and gestures up close. Just when it seems that The Nutcracker

José Mateo Ballet Theatre

7:30 p.m. Dec. 12, 2013

The Sanctuary Theatre, Cambridge

the young dancers couldn't make the show more entertaining, their acting skills add another dimension to the story and turn this ballet into a funny and mesmerizing fairy tale. With the hilarious depiction of Mother Ginger and lovable portrait of the menacing mice, it is impossible not to smile and enjoy the spirit of this production.

José Mateo Ballet Theatre's production of The Nutcracker ended on Dec. 22, but be sure to catch the show in the upcoming seasons when the holiday spirit surrounds Boston again.

RESTAURANT REVIEW

Southern comfort food

If only you can get to Inman Square

By Rex Lam STAFF WRITER

How many squares around MIT can you name? Kendall, Central, and Harvard probably come to mind. You may even be familiar with Tech Square. But one square that I only recently discovered is Inman Square. Located north of Central Square, the neighborhood is a bit out of the way but boasts a wide selection of culturally diverse restaurants. I decided to check it out and went to dine at Tupelo, which offers southern comfort food.

Tupelo was about half full when I got there late on a Thursday night. I immediately noticed that the restaurant was much smaller than I had expected and was primarily lit by the candles on each table. It is also one of those places where the waiters dress casual and where water is served in mason jars.

One of the main reasons I chose Tupelo

was because I had never been to a southern food restaurant in Boston, or — to be honest — anywhere else. Therefore, my approach was to try as many different dishes as possible.

For appetizers, I had cornbread, cheddar grits, and corndog. The bread was sweet as expected, but also drier than the usual cornbread. Having never had grits before, I found them to taste similar to oatmeal. Overall, the cheddar grits were very heavy and salty. As it turned out, my favorite appetizer was the pork belly corndog. The crispy exterior complemented extremely well with the tender pork inside, which tasted deliciously fatty and seemed to melt instantly. In fact, it was so good that it entirely changed my perception of corndogs.

Another highlight of the meal was the Cajun gumbo, which consisted of smoked Andouille sausage, pulled chicken, and fresh okra. Again, the dish was heavy and slightly

salty, but the thick texture and the unique mix of spices made it a memorable experience. In addition to the gumbo, I had the beef brisket and fried chicken with mac and cheese, but unfortunately neither was particularly amazing. The beef brisket was tender and flavorful, but the side dish of mashed potatoes was mediocre, and the mac and cheese was rich and creamy, but the fried chicken tasted very

For dessert, I am very glad I made the decision to try the brown butter pecan pie with Belgian chocolate ice cream on top, as it definitely surpassed the appetizers and entrees in quality. The cold and soft ice cream perfectly complemented the warm, gooey, and chewy pie. Switching back and forth between the pie and the ice cream, I finished the dessert within a minute.

All in all, I enjoyed trying a variety of southern dishes at Tupelo, although the food was **Tupelo**

1193 Cambridge St., Cambridge

Tuesday – Wednesday 5–10 p.m., Thursday – Saturday 5-11 p.m., Sunday 11 a.m.-2:30 p.m.

not extraordinary. Still, I recommend paying the restaurant a visit. In particular, the atmosphere is great for casual dates. If southern food is not your priority, Inman Square also offers many options in other cuisines - especially Brazilian and Portuguese. That said, the neighborhood is not directly accessible by the T, so I suggest either taking a car or walking there when it isn't freezing outside.

MOVIE REVIEW

A touch of Wuxia

A violent look inside provincial China

By Suhas Vijaykumar

In A Touch of Sin, writer-director Jia Zhang-ke and cinematographer Nelson Yu Lik-Wai depict the violence and moral confusion of a new materialist China Divided into four main sections, the film presents stories from four different provinces across the mainland.

In Shanxi, Dahai (Wu Jiang) reluctantly gives directions to a truckful of thieves before a crumbling statue of Mao Zedong. Dahai seeks redress after the village-owned

coal mine was privatized without public consent — while the village roads remain unpaved, the factory's owner arrives by pri-

Journeying home to Chongqing, Zhou n (Baoqiang Wang) kills thr highway robbers in cold blood. Reunited with his wife and son, he compares the freedom afforded him by his semi-automatic to the responsibilities of provincial life.

Shortly after being accosted by her lover's wife, Xiao Yu (Tao Zhao) is driven to the breaking point by two sauna customers demanding that she have sex with them for money, which isn't in her job description.

After an accident in a sweatshop factory leaves him heavily indebted, Xiao Hui (Lanshan Luo) escapes to find a different job. When he falls in love with a young prostitute (Li Meng) at his new workplace, he is forced to confront the cruel reality of his circumstance

In this film, violence is part of the landscape. From the needless gunfire of the opening scene to a businessman soliciting sex from an unwilling woman by slapping her with a wad of cash, we see each character's ultimate turn to violence as a product of the confused, morally-abject world into which they're thrust.

Zhang-ke has claimed that A Touch of Sin is an attempt at entering the Wuxia genre of Chinese martial-arts films - the film's title references the Wuxia classic A Touch of Zen (1971). The director's aim becomes evident as each character's story degenerates into violence; the turn-byturn action/reaction cinematography, and heavily stylized sounds of fighting against an otherwise subdued soundscape both call to mind Wuxia. The combination of these tropical elements with each story's hyper-realistic, modern setting is what sets the film apart. As each story progresses, we watch the — complex, modern — protagonist transform into a retrograde action hero.

★★★☆

A Touch Of Sin

Directed by Jia Zhang-ke

Starring Wu Jiang, Boiqiang Wang, Tao Zhao, and Lanshan Luo

Not Rated

Jan. 3-6, 2014

Playing at the Brattle Theatre



The result is terrifying. Both in style and content, Zhang-ke seems particularly interested in exploring the relationship between Chinese tradition and modernity. Twice, we see traditional Chinese dramas about justice being played out in village centers, children's bells ringing loudly and emptily out into a world where justice seems not to exist. However, while the director's criticism of a confused, materialistic, morally vacant new China hits home, what seems missing is a discussion of how China reached this critical point. Perhaps this is beyond the film's scope. At any rate, it is a fantastic watch — violent yet fundamentally human. If you have a stomach for it, I thoroughly recommend it.

A Touch of Sin, a new film by Jia Zhangke.

612 out of 6,820 early action applicants admitted

The number of early action applicants increased 4 percent from the previous year

Early action, from Page 1

admitted students, while underrepresented minority students make up 26 percent. Thirteen percent would be the first in their families to attend college. Seventy-four percent of the admitted come from public high schools.

"Our Early Action admits hail from 49 states and 486 high schools," wrote admissions officer Chris Peterson in a blog post on the MIT admissions website. "Though they all do different things - crafting and cartography, stargazing and sous vide, waltzing and welding - they are united by an academic record, a high caliber of character, and a strong match with MIT's

According to an MIT press release, more than a third of the accepted group have won a national or international award.

This year marked the first time that MIT added the option of submitting a "Maker Portfolio" as a supplement to an application. Students could choose to showcase one project that was completed outside of a structured environment. Projects that were done as part of school, work, internships, or extracurricular activities were not

In an email to *The Tech*, Schmill explained that the admissions office wanted a way to standard-

mission to make the world a better ize the process by which students could document projects that they

portfolios in ways that were meaningful for us to review. Second, the review process was streamlined,

'Making is a great thing for students to do. It does not have to be part of a formal activity, and it can take many forms.'

> -Stu Schmill '86 DEAN OF ADMISSIONS

"We received hundreds of [Maker Portfolio] submissions, which is probably on par with other years, although we have no way of counting previous years' submissions," noted Schmill. "There were two benefits to this new process: First, we were able to provide a scaffold that helped students create the allowing us to be more efficient in reviewing the many responses we received."

In addition, Schmill pointed out that merely including the option of submitting a Maker Portfolio brought "making" to the attention of many people.

"Making is a great thing for stu-

dents to do," applauded Schmill. "It does not have to be part of a formal activity, and it can take many forms. We want to celebrate and encourage all of it."

Although MIT has been increasing the size of the freshman class over the past couple of years, Schmill stated that this would no longer be the case for the Class of 2018.

"We have no plans to increase the size of the freshman class, and, in fact, as our yield has increased, we have been steadily decreasing the number of students we have admitted," said Schmill, "We are fortunate to have such a strong applicant pool overall, and the challenge is to be able to only select such a small number from that large group."





FRIENDS DON'T LET FRIENDS DRIVE DRUNK



MIT Ludwig Center gifted \$90 million to study metastasis

\$540 million total given to the six Ludwig Centers

Ludwig, from Page 1

aim for a bigger impact than normal grant cycles might allow," said George D. Demetri, professor of medicine at Harvard Medical School and Quick Family Chair of Medical Oncology at the Dana-Farber Cancer Institute.

Federal funding, for example from the National Institutes of Health, funds specific projects based on the "ability to write convincing research proposals," said Weinberg. With its gift, however, "the Ludwig has invested in the track records of those who are participating with the assurance that there will be productivity in the

MIT's portion of the gift will go towards research on metastasis. "Metastasis is responsible for 90 percent of cancer-related deaths, yet we still understand little about how it begins. These funds should change that," said Robert Weinberg, director of MIT's Ludwig Center. "Our hope is that our research will translate into new methods to better diagnose cancer and provide better prognostic tools," said Jacks. According to McDermott, the Ludwig Centers at Harvard, Johns Hopkins, UChicago, Sloan-Kettering, and Stanford have respectively focused on cancer therapy resistance, prevention and early

detection, metastasis and hormone/ radiation-based treatments, immunology and immunotherapy, and

stem cells. According to Tyler Jacks, a Ludwig Scholar and director of the Koch Institute, MIT will be able to "add new investigators to our team" with the gift, from biologists to engineers. The gift will also be supplemental funding to projects that do have other, but "inadequate," sources of funding, Because the sum is "directed at a small group," said Jacks, it is a significant amount, accounting for "at least 50 percent if not more of research dollars directed towards metastasis [at

Attention MIT Undergraduates!

Want to spend your summer in Singapore?



Apply now for a SMURF Fellowship!

Deadline to submit your application is January 31, 2014

- Roundtrip economy class airfare
- Housing provided
- Hourly compensation
- Daily food and transportation allowance

Visit the SMART website at http://smart.mit.edu/fellowships/smurf/smurf.html Singapore-MIT Undergraduate Research Fellowship (SMURF) Do you like **telling stories** about your life?

Are you dying to share your latest discoveries?

Join Campus Life @ The Tech and share your stories with our 15,000+ readers!



E-mail join@tech.mit.edu

Wednesday, January 8, 2014

The Tech 13

Champion of diversity and openness remembered

Science advocate welcomed minorities, saw OCW's rise and endowment's quadrupling

Charles Vest, from Page 1

expansion of knowledge, MIT's research enterprise grew substantially during his tenure. Vest spearheaded expansions into fields including brain and cognitive sciences (with the establishment of the McGovern Institute for Brain Research and the Picower Center for Learning and Memory); nanotechnology (with the creation of the Institute for Soldier Nanotechnologies); genomic medicine (with the founding of the Broad Institute); biological engineering; engineering systems; and new media, among others.

"Personally and professionally, Chuck Vest set an exceptional standard of intellectual clarity, moral courage, and generosity of spirit," MIT President L. Rafael Reif says. "And there was no better example of his vision and values than the creation of MIT OpenCourseWare - the simple, elegant, unprecedented idea that MIT should make all of its course materials available online to anyone in the world, free. Thanks to Chuck's leadership, OCW has become a source of outstanding content for 150 million global learners, the model for the global OpenCourseWare movement, and the foundation and inspiration for everything we are striving to achieve with edX and MITx."

dent was defined by campus innovations such as the introduction of cellular and molecular biology as a core requirement for all undergraduates; the establishment of the MacVicar Faculty Fellows Program to recognize and reward excellence in teaching; the creation of a five-year combined Bachelor/ Master of Engineering program; a restructured housing policy including a common first-year experience; and the construction of three new student residences, all designed to enhance interaction among students and faculty, and a state-of-the-art sports and fitness

Vest's strong belief that MIT could best address certain educational and research challenges in partnership with others took the form of collaborations with industry that he helped foster. "Industrial issues have become intellectually challenging and exciting ... and we need each other as never before," he wrote in 1993.

A scientist on the national stage

On assuming the MIT presidency — an occasion he later described as "a call to national service" — Vest set out to rebuild public understanding of and support for higher education and research. He became a regular pres-

'I have always believed that contemporary gender discrimination within universities is part reality and part perception, but I now understand that reality is by far the greater part of the balance.'

-Charles M. Vest

In 1999, Vest charged a faculty committee with considering how to use the Internet in pursuit of MIT's mission. That committee, led by Professor Dick K. P. Yue, made a revolutionary proposal: the online publication of teaching materials for MIT courses, free and available to learners worldwide. By November 2007, OpenCourseWare had completed the initial publication of virtually the entire curriculum, more than 1,800 courses in 33 academic disciplines. MIT's move would catalyze similarly bold efforts by universities around the world to democratize access to education.

"Chuck Vest was a staunch supporter and champion of MIT OpenCourseWare literally from day one. OCW would not have been possible without his singular vision, courage, and leadership," says Yue, the Philip J. Solondz Professor of Engineering and Professor of Mechanical and Ocean Engineering.

Vest fostered MIT's international engagement through large-scale ventures, often undertaken in conjunction with other institutions. These included the birth of the Singapore-MIT Alliance, intended to promote global engineering education and research using synchronous distance-teaching technologies.

Closer to home, Vest undertook a major examination of student life and learning. His tenure as presience in Washington, championing research, science, and innovative partnerships among universities, government, and industry. Vest logged more than 100 visits to the nation's capital, personally conferring with some 250 federal officials during his time as MIT's president.

"Chuck came to lead MIT at a difficult time for American higher education," says Paul Gray, who preceded Vest as MIT's president. "In 1990, many in Washington had come to feel that the nation's universities had not acted as wise stewards of their federal funding. He made frequent trips to Washington as an ambassador not only for MIT, but indeed, for academia as a whole — and he did so supremely well."

Vest served on the President's Council of Advisors on Science and Technology and chaired the Task Force on the Future of Science Programs at the Department of Energy. At the request of President Bill Clinton, he chaired the Committee on the Redesign of the International Space Station, which revitalized the space station at a time when its future was in question.

"Chuck Vest's irrepressible good humor and easy laughter mixed effortlessly with his earnest, persistent pursuit of the right path in all things," says Susan Hockfield, who succeeded Vest as MIT's president. "He took up with passion the role of MIT's president as

national spokesperson for higher education and research policy. MIT affords an especially clear view of the dependence of the American innovation economy on federal investments in education and research, and President Vest expanded the Institute's engagement in federal policymaking, becoming a consistent, trusted voice of the research university in Washington, earning the gratitude of college and university presidents across the nation. Later, as president of the National Academy of Engineering, he continued his role as advocate-in-chief of sound policies for education and research. At MIT and beyond, he will be terribly missed, because his advocacy success was inseparable from his personal warmth."

"Chuck Vest was, above all, an extraordinary human being: Not only was he perhaps the most respected figure in higher education, he was a man of extraordinary decency, integrity, and grace," says Lawrence S. Bacow, who served as MIT's chancellor under Vest before being named president of Tufts University in 2001. "His principled courage stood him, and MIT, in good stead on countless occasions when the going got tough, and he was a good friend and extraordinary mentor to so many of us. I will miss him terribly.'

After the terrorist attacks of Sept. 11, 2001, Vest became a national spokesperson on the importance of higher education and research to the nation's well-being. As research universities grappled with the balance between security and openness, Vest argued directly, and passionately, in favor of the latter. "Knowledge creation thrives in openness and suffers in isolation," he wrote in 2002.

In 2004, Vest was appointed by President George W. Bush to serve on the bipartisan Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction. The commission ultimately concluded that in reporting the presence of nuclear, chemical, and biological weapons of mass destruction prior to the U.S. invasion of Iraq in 2003, U.S. intelligence agencies were "dead wrong" and their collected information "worthless or misleading."

A champion of diversity

Vest's deft handling of one of his presidency's greatest challenges — a public examination of MIT's troubled history on issues relating to gender equity — ultimately proved a high point of his tenure, reinforcing the Institute's status as a beacon of meritocracy.

In 1998, Vest forthrightly acknowledged serious gender-equity problems cited by senior women faculty in the School of Science; he then supported corrective measures to address longstanding imbalances. A stunningly candid and publicly released report detailing gender inequity at MIT — and Vest's subsequent leadership on the issue —stimulated examination of gender equality at universities across the country.

"I have always believed that contemporary gender discrimination within universities is part reality and part perception," Vest wrote in a much-cited preface to the MIT report on gender equity, "but I now understand that reality is by far the greater part of the balance"

Vest's leadership team, and those of MIT's five schools, reflected Vest's personal commitment to diversity and inclusion. Under Vest, MIT appointed its first female department head in the School of Science; its first two minority department heads in the School of Engineering; its first five female vice presidents; and the first African-American chancellor.

Throughout his presidency, Vest also strived to bolster the diversity of MIT's student body and for the ingenuity at work inside them."

Beyond the construction of new facilities along Vassar Street, MIT's revitalization of Vassar Street itself — with new trees, lighting, bicycle lanes, and paving — breathed new life into what had for decades been a grim and rundown area of Cambridge.

A career immersed in engineering

Charles Marstiller Vest was born Sept. 9, 1941, in Morgantown, W.Va.; 49 years later, in his inaugural address at MIT, he recalled his upbringing in "a warm family in a small town in West Virginia." Vest earned a BS in mechanical engi-

'Chuck Vest's irrepressible good humor and easy laughter mixed effortlessly with his earnest, persistent pursuit of the right path in all things.'

—Susan Hockfield MIT'S 16TH PRESIDENT

its faculty. Underrepresented minorities grew from 14 percent to 20 percent of the undergraduate population, and from 3 percent to 5 percent of the graduate student body. The number of women grew from 34 percent to 42 percent of undergraduates; when Vest stepped down as president, women outnumbered men in 10 undergraduate majors. The proportion of women graduate students increased from 20 percent to 29 percent during his tenure.

Vest was a staunch advocate of need-based financial aid. In 1992, MIT went to trial to fight the Justice Department's contention that antitrust statutes were violated when top universities, including MIT, shared information about applicants' financial need. A lengthy court battle ultimately established the "MIT Standards of Conduct," enabling colleges committed to need-based aid to exchange certain data, and also led to legislation permitting colleges to adopt a common methodology for measuring need.

A campus reimagined

Vest's presidency reinvigorated MIT's campus, bringing new construction whose square footage exceeded the scope of MIT's original 1916 campus in Cambridge. Indeed, as Vest left office, one-quarter of the Institute's square footage had been constructed during his term. His tenure also produced some of MIT's most celebrated buildings: Vest championed engagement with world-class architects to design facilities such as the Ray and Maria Stata Center; Simmons Hall, an undergraduate residence; the Albert and Barrie Zesiger Sports and Fitness Cen ter; Building 46, which houses the McGovern Institute for Brain Research and the Picower Institute for Learning and Memory; and the Media Arts and Sciences building.

"I believe that the buildings at this extraordinary university should be as diverse, forward-thinking and audacious as the community they serve," Vest said. "They should stand as a metaphor

neering from West Virginia University in 1963, and MS and PhD degrees in mechanical engineering from the University of Michigan in 1964 and 1967, respectively.

Vest joined the Michigan faculty as an assistant professor in 1968, teaching courses on heat transfer, thermodynamics, and fluid mechanics, and conducting research in heat transfer and engineering applications of laser optics and holography. He and his students developed techniques for making quantitative measurements of various properties and motions from holographic interferograms, especially the measurement of three-dimensional temperature and density fields using computer tomography. He became an associate professor at Michigan in 1972 and a full professor in 1977.

In 1981 Vest's career turned toward academic administration when he became Michigan's associate dean of engineering. He was named dean of engineering in 1986, and served as Michigan's provost and vice president for academic affairs from 1989 until he became MIT's president on Oct. 15, 1990.

"Serving as president of a major research university is not a sandbox ambition for any child - I remain frankly astonished at the road that led me here," Vest wrote upon stepping down as president in 2004. "But looking back at that road — the bends and dips, the forks and unintended shortcuts I'm struck by how little one can predict at the journey's outset and by how much of life comes down to how one handles the points where the roads cross. I am also overwhelmed with the sense of how much I owe to the insight imagination, inspiration and judgment of the many, many gifted people I have been lucky enough to work with at MIT."

Vest is survived by his wife, Rebecca; daughter and son-in-law, Kemper Vest Gay and John Gay; son and daughter-in-law, John and Christina Vest; and grand-children Mary and Robert Gay and Ameri and Charles Vest.

Solution to Crossword I

Solution to Crossword II

A S K E D A M I S S M S G
T H E S E P I Q U E A T E
L O T T A P L U M E R U T
A F T E R A L L I S S A I D
S A L E B E S T T T U N I C
T R E M O R T O G A E D
L I N A G E E T D S
A N D D O N E M O R E
M A C E G R A M P A
P A R A D E U S S R N O U N
I S S A I D T H A N D O N E
B L T R O D E O A U D I S
U N I T W E E T I R A N I
S E C H A R P S L E D G E

Solution to Sudoku

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

Solution to Techdoku I

from page 1

2	3	6	5	4	1
3	4	1	6	5	2
1	2	5	4	3	6
6	1	4	3	2	5
5	6	3	2	1	4
4	5	2	1	6	3

Solution to Techdoku II

from page 7

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

14 THE TECH WEDNESDAY, JANUARY 8, 2014

Hazel Sive steps down as associate dean of science

Worked on educational initiatives, postdoc community, mentoring of junior faculty

Sive, from Page 1

two-fold," said Sive. "I wanted to be accessible, and I wanted to be innovative." To that end, she "met with hundreds of students, postdocs, and faculty who needed some input outside of their departmental unit."

"One of the student projects I liked best was to answer the question, 'Which life sciences major should I go into?" said Sive. "There wasn't any organized material, so we put together a useful new website including all life sciences-based

majors and graduate programs, *life-sciences mit.edu*."

annual review system for our postdocs, both in the School of Science

Sive organized a program that allowed junior faculty to learn about aspects of becoming part of the MIT faculty.

Sive also worked to improve the postdoctoral researcher community, co-chairing the faculty advisory committee to the Postdoctoral Association founded in 2011. "I'm very pleased that we implemented an

and throughout the Institute," said Sive. Every other group at MIT had a feedback system: "The undergraduates get grades, graduate students have thesis committees, and faculty have annual reviews. Postdocs had nothing."

Instrumental in compiling the 2011 "Report on the Status of Women Faculty in the Schools of Science and Engineering" that shed light on a need to improve junior faculty mentoring, Sive found the junior faculty at MIT to be of "great interest." In addition to overseeing faculty searches, she organized a program that allowed junior faculty to learn about teaching students, mentoring, writing recommendations, and other aspects of becoming part of the MIT faculty. Just as

there is adjustment time for students, "it requires some time for a junior faculty member to come here and become part of the Institute," she said.

Sive's successor is yet to be determined, as the associate dean is appointed by the dean of the School of Science. Currently, the mathematics department's Michael Sipser is serving as the interim dean, following the nomination of his predecessor Marc A. Kastner to lead the U.S. Department of Energy's Office of Science



The Institute closed on Friday, Jan. 3 in response to a snowstorm that blanketed the northeast with large amounts of snow. Here, a snow-shoveling crew takes a break in Lobby 7 on Friday afternoon. Ismael Imul, one of the members of the crew, said that they started clearing snow from walkways around 5:00 a.m., and they had stopped around 2:30 p.m. because the snow had stopped falling. He said they were expecting to start again in the evening if the snow returned.

What's better than having money to spend?

Having more money
to spend!





to learn more visit: www.areyoulooped.in/load10get5

Know something important we should write about?

(We probably don't know about it.)

Let us know.

news@tech.mit.edu

SPERM DONORS

Earn up to

per month

Invest minimal time

Make a real difference in the lives of families

Receive free health and genetic screenings

APPLY ONLINE:

SPERMBANK.com

- convenient Cambridge location

Without Your Permission

Alexis Ohanion visits MIT

By Victoria Young
STAFF WRITER

In the place of the usual formulas and diagrams, a small alien, chipmunk in a scarf, and pig with bread wings had appeared on the chalkboard. Yes, Alexis Ohanion, the "startup guy" of reddit, hipmunk, and breadpig fame had taken over E51-345 on a Saturday night during finals week at MIT to inspire the beavers to embark on a mission of making the world suck less. Within a couple of years of graduating from the University of Virginia, Ohanian sold reddit for millions and has since gone on to start many other companies, such as hipmunk and breadpig, all while representing the seed accelerator Y Combinator and investing in over sixty other tech startups. A lover and defender of the Internet, Ohanion is launching his book, Without Your Permission, to evangelize entrepreneurs to use the Internet, which he describes as arguably "the most powerful and democratic tool for disseminating information in human history" to make awesome things that change the world. (A photo of a breadpig on a flat globe popped up on the slideshow.)

Ohanion candidly discussed the challenges that entrepreneurs face in working on a product, facing competitors, and pitching to investors, showing photos of the early days in his startup life, proclaiming: "If you can build — you can solve problems." At MIT, a school full of builders and inventors, solving problems is embedded deeply in our culture, and Ohanion was here to inspire the beavers to leverage the power of the Internet to "create new communities, technologies, businesses or charities." More

importantly, he continued to break down the notion that successful entrepreneurs are special or know exactly what they are doing. In fact, he states, it's the exact opposite: "Don't let not knowing what you're doing stop you. People who look like they have it together are still hacking it. Don't be afraid to suck." What about the critics? Ignore them. Ohanion shared an early story of a harsh critic telling him reddit would never amount to anything, a statement which he promptly taped up on the wall next to his bed as a motivating reminder to wake up to every morning: "Haters gonna hate. Eat 'em for breakfast like waffles ... delicious waffles."

Next, Ohanion brought in Grouper founder Tom Brown, a Course 6 MIT alumnus, to discuss his experience founding a startup in a Small Empires-like fireside chat. Brown reflected on his experience at MIT, telling students to relish in the unique environment: "At MIT you're with likeminded people. Excitement breeds more excitement." He also talked about the panicked moments as a startup founder trying to update the code of his site prototype in time for demos during a power outage in Silicon Valley and getting selected for Y Combinator. Brown left us with one resounding piece of advice: "Do not be afraid to take risks and fail."

The event, filled with inspiring stories and hilarious moments, culminated in T-shirts being shot out of a T-shirt cannon before Ohanion met with MIT students at a book signing of *Without Your Permission*. In it, he shares his ideas, tips, and even his own doodles about harnessing the power of the web for good.

THE SECRET LIVES OF RESEARCHERS

I am a meerkat

Navigating the landscape of knowledge

By Emily Moberg

STAFF WRITER

As a scientist, I like to imagine myself as a meerkat. Not in the "I'll eviscerate my grandkids someday" sense, but in the "I both dig deep holes and survey the land at the same time" sense.

Let me explain. My favorite description of great scientists is from the book The Great Influenza: The Story of the Deadliest Pandemic in History. The author John Barry says the great scientists are able to delve deeply into a very specific question, but also able to see how their inquiry fits into the greater landscape and choose wisely where to delve next. I envisioned this as meerkats digging into specific questions in a wide savannah of potential knowledge. This imagery stuck and I decided I want very much to be a digging and lookout meerkat in the world of scientists, digging holes deeper and deeper in search of more knowledge, and popping my little head up to see how my little tunnel fits into the big picture. I have found developing both skills to be a continual journey and I wanted to share how I have tried to bridge these two opposing directions of inquiry and thought.

I felt my undergraduate education prepared me really well to talk across the broad landscape of potential knowl-

edge. As an undergraduate, walking up the stairs of 77 Mass Ave with my Dunkin Donuts coffee, I felt as if the whole intellectual world was open to me. Turn right, I could study marine robots or learn how to make bridges. Turn left and I could study urban planning and make smarter cities. Go straight and I could make photosynthetic nanomaterials or revolutionize modern physics. Keep going straight and I could learn how to make theatre sets. Straight, then left, I could study artificial intelligence or networks of robots, Right from there and I could study the earth and atmosphere. Heck, I could take classes on modern French theatre and physics-formasochists in the same year! I was exploring and expanding, trying to stuff as much knowledge and opportunity into my brain as I possibly could. I was such a good lookout meerkat.

Then I came to graduate school, which is all about the deep digging. To even apply, I had to define what seemed like a tiny area — theoretical ecology. The next year, I decided I wanted to focus on bioeconomics, then the bioeconomics of fisheries, until I finally staked out the tiny niche that will be my academic territory for the next five years (the bioeconomics of fisheries responding to climate change, in case you're curious!). Within that niche, I proposed a series of three questions to an-

swer — those are my little holes to dig. In those questions, I've been digging deeply and happily entrenching myself. I read the papers that came before me, cherry-picking the knowledge of the giants of yore to understand the landscape right around me. I found this process exhilarating and fascinating - until I, metaphorically, looked up. Above me was a tall tunnel I had dug myself into and above that was the whole of academic knowledge and possibility. I felt trapped and claustrophobic, as if I had unknowingly cut myself off from the possibilities of the world and truncated my future learning. How, if I dig even deeper, am I ever going to poke my head out to start a new hole or even figure out where my little research hole is?

I'm still training to balance my meerkat skills, but I have found a few helpful training tips so far:

1. Think about the broader impacts of your research. Honestly acknowledging both why it's novel and what areas it does not tackle has been a great way for me to get my head above air. Plus, it's required by most funding agencies.

2. Read other journals during lunch time. My lab, libraries, and even the internet have lots of interesting papers that range from closely related to not at all related to my research. Skimming these during lunch is a great way to find out what

the cutting edge research in other fields is. In fact, a tangential article I read last year helped me decide that studying fisheries responding to climate change was the niche I wanted to fill for my thesis topic. Plus, reading about implanted memories in mice or how ants can move as a fluid is always fun.

3. Read the news. Knowing the issues that are being thought about politically gives me a much better context for my work. For example, world news articles about political instability or refugees often mention food stability, which may not directly relate to my research question, but gives me a better idea of how my research about a potential food supply (fish) fits into the 'real world'.

4. Do something totally different. I dance during the week, which lets my brain think about something entirely separate from my research. Forcing myself out of my little research hole and then going back into it often gives me the perspective I need to tackle something in a new way or to question the method I'm using. Hot showers, interestingly, work similarly.

I'm sure this list is incomplete and I look forward to developing my ability to see depth and breadth of my field over time. In the meantime, there is a lion coming and I need to pop back in my meerkat hole!

We wear many hats at The Tech

Which will you choose?

email join@tech.mit.edu.

UPCOMING HOME EVENTS

Wednesday, January 8

Men's basketball vs. Clark University

7 p.m. Rockwell Cage

Saturday, January 11

Swimming and diving vs. Coast Guard Academy 2:30 p.m. Zesiger Center Pool

SPORTS SHORT

MIT curling team rocks RPI tournament

The MIT curling club team swept their way to victory in their second



tournament of the season, hosted by Rensselaer Polytechnic Institute at the Schenectady, NY curling club on Dec. 7 and 8. The team, consisting of

skip Phillip Nadeau G, vice Andrea Dubin G, and second Greg Dooley

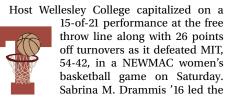
G, defeated Colgate University in the finals with a decisive 9-0 win, and gained 10 points towards qualifying for the National Championships in Blaine, MN in March 2014. MIT is currently undefeated this season, with an 8-0 overall win-loss record. The MIT curling club practices weekly at the Broomstones Curling Club and is always looking for new members.

—Phillip Nadeau

Women's basketball falls

Wellesley defeated MIT 54-42 on Saturday

By Mindy Brauer DAPER STAFF



15-of-21 performance at the free throw line along with 26 points off turnovers as it defeated MIT, 54-42, in a NEWMAC women's basketball game on Saturday. Sabrina M. Drammis '16 led the Engineers (5-5, 2-3 NEWMAC)

with a game-high 16 points as Mari R. Kordell '15 tallied 11 points and five assists.

A layup by Michelle Battipaglia '15 sparked a 10-3 run that was capped by a Drammis layup.

Durva N. Bhandare '16 posted seven points and six rebounds while Rachel A. Hunt '14 recorded eight boards and five blocks. Maya K. Ramachandran '16 bolstered MIT's efforts with eight rebounds and two blocks.

The Engineers jumped out to a 7-2 lead only to see the Blue go ahead, 10-7, after 5:45 elapsed. Baskets by Kordell and Drammis put MIT in front; however, after a pair of lead changes, Wellesley generated seven straight points to go up 19-13 with 4:20 left in the half. A layup by Michelle Battipaglia '15 sparked a 10-3 run that was capped by a Drammis layup which gave the Engineers a 23-22 edge with 22 seconds on the clock. The Blue replied with a layup of its own to enter the intermission with the slim lead.

Wellesley carried the momentum into the second stanza as it mounted a 16-5 run to claim a 40-28 advantage at the 11:35 mark. Bhandare buried a three-pointer and then added a pair of free throws in fueling an eight-point spurt that brought MIT within four (40-36) with 7:04 remaining. The Blue responded with a 12-2 run during the next four minutes to establish its largest margin of the day at 14 (52-38). The Engineers quickly countered with baskets by Bhandare and Drammis but they could not overcome the 10-point deficit during the final two minutes of regulation.

CUSTOM PRINTED & EMBROIDERED

SWEATSHIRTS - POLOS - HATS & MORE! ph - 617-625-3335 www.qrsts.com

email - info@qrsts.com Somerville, MA







We are The Tech

We print MIT's only newspaper twice per week, and we have fun doing it.

Want to be a part of this?

Email join@tech.mit.edu