



An audience enjoys a show hosted by the MIT Stand-Up Comedy Club in the Simmons MPR last Friday evening. The show, sponsored by the School of Humanities, Arts, and Social Sciences' DeFlorez Fund for Humor, was the culmination of an IAP course in stand-up comedy taught by professional stand-up comedian Mehran Khaghani.

Searching for a successor to DUE Hastings

DUE search committee is evaluating candidates

By **Bruno B. F. Faviero**
NEWS EDITOR

The search for the new Dean for Undergraduate Education, the successor to Dean Daniel E. Hastings '78, is "well under way," according to search committee chair Graham C. Walker.

The committee first met in early February after Hastings announced on Jan. 8 that he would step down effective July 1, 2013. It is currently in the process of seeking advice from over 60 "particularly knowledgeable" MIT community members, in addition to gathering student feedback. Walker expects interviewing to be done next week, and final recommendations to be done in a matter of a few weeks.

"Whoever's chosen will have their life turned upside down in a very short period of time," said Walker. "I want to keep our committee moving as efficiently as possible so the next dean will have as long as possible to get ready before they have to prepare themselves."

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DormCon budget causes grumbling

This past Thursday, MIT's Dormitory Council approved a \$23,000 budget that included about \$15,000 for CPW, consisting of about \$5,000 from Admissions, \$5,000 from Housing, and \$5,000 of its own money. The budget also included \$4,000 for a 30-person DormCon retreat at Endicott House — an overnight retreat that includes chef-made meals. The space is popular with student groups and dorm governments for retreats. The retreat would be attended by the 12 executive members, 11 dorm presidents, and "plus ones" of any attendee, according to DormCon president Edward A. Mugica '13.

This budget sparked an initial email outcry from Tea Dorminy '13, who emailed many dormitory mailing lists saying that the retreat would cost 20 percent of DormCon's budget, that each dorm could get \$400 more for CPW if they "didn't go to an expensive retreat," and urging students to tell their presidents to "spend money on CPW, not retreat."

Random Hall President Jacobi L. Vaughn '15 also weighed in over emails to dorms and dorm presidents with a "dissenting opinion."

Vaughn said that what bothers him most is that the money comes from housing taxes "which [residents] had no choice to spend," and that DormCon should "exist to serve the dorms, not to consume their resources."

Mugica, who plans on the retreat becoming an annual occurrence, said that the event is essential to bringing DormCon members together, and that a similar retreat was done last year. The retreat is important, said Mugica, because dorm presidents can learn how other dorms work, know where other people stand on issues, and develop a "personal rapport" with the other presidents.

Some students have suggested going on a less expensive retreat. "That may be something to look to in the future," said Mugica, but he emphasized that the value in this retreat is that food is taken care of, and "from the first time we get there we're doing things, ... discussing important issues."

Dorminy said that the issue has since been resolved, and Vaughn declined to further comment on the issue.

—Bruno B. F. Faviero

Freshman GIR pass rates remain steady relative to yearly averages

8.01L had lowest rate of passing freshmen out of all GIRs

By **Kath Xu**
STAFF REPORTER

Last semester, the freshman class' passing rate for the math and science General Institute Requirements (GIRs) was 96.3 percent. According to Julie B. Norman, the Senior Associate Dean for Undergraduate Education, this pass rate is similar to previous years' numbers. Of the 203 students who received fifth-week flags, 15 dropped the subject they were flagged in, and 39 did not end up passing.

"Seventy-three percent of the students who were flagged responded and turned it around, passing the subject in which they were flagged," Norman stated. Although there were also students who failed without receiving a fifth-week flag in the subject, these statistics were not released.

"Flags are a good predictor of end-of-terms actions, particularly if a student receives more than one flag," said Norman. "We certainly have students that were not flagged, who at the end of the term, for various reasons, do not pass their subjects."

Students in 8.01L (Physics I: Classical Mechanics) had the lowest pass rate of all the GIRs, with a 78.1 percent rate. The class covers the same material as 8.01 but at a slower pace, geared toward students with less physics experience in high school.

"With the exception of 8.01L, the passing rate for the math and science GIR subjects was this term,

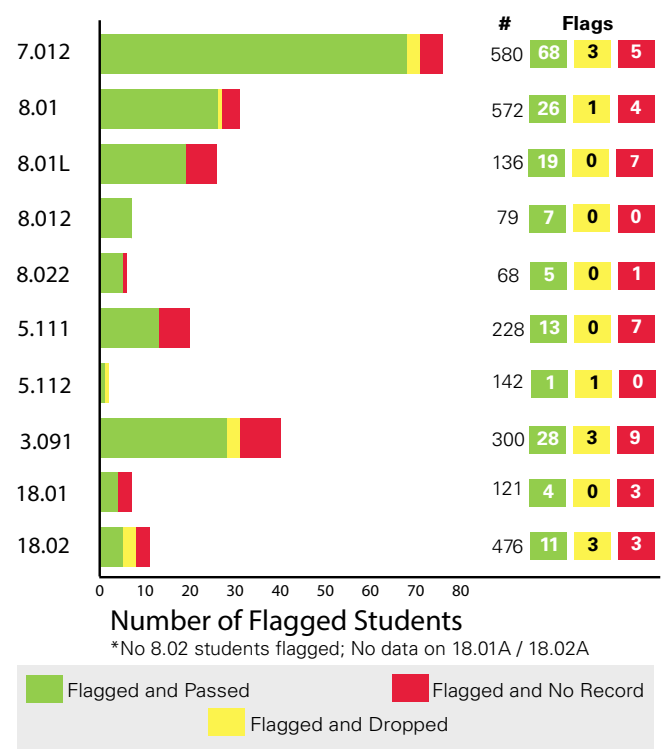
and always is, in the mid-90s," said Norman.

Of all the GIRs, 7.012 (Introduction to Biology) had the highest recovery rate. Of the 580 freshmen enrolled, 76 were issued flags, three dropped, and only five (or 6.6 percent) of those flagged ended up not

passing. 7.012 issued the most fifth-week flags to freshmen last semester, with a 13 percent freshman flag rate. According to Norman, the subject with the most fifth-week flags varies from year to year.

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How did the Class of 2016 do on its GIRs?*



INFOGRAPHIC BY ANTHONY YU AND IAN M. GORODISHER

IN SHORT

PE Registration is this Wednesday! Remember to wake up early at 8 a.m. to register for your favorite class when it opens. Registration will remain open until next Wednesday at 1 p.m.

Add Date is this Friday! Last chance to register for any new classes.

President Obama nominated MIT professor Ernest Moniz to be energy secretary. Moniz is a professor in the physics department and has previously led the MIT Energy Initiative. He also served in energy roles under Bill Clinton.

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

MIT TUITION CHANGES

Tuition and financial aid changes announced for next academic year. **NEWS, p. 13**

ON KENDALL & UNDERGRADS

MITIMCo's zoning plan would negatively affect undergraduates. **LETTERS, p. 4**

STATE OF POLITICAL DIALOGUE

U.S. political dialogue needs to involve more listening. **OPINION, p. 4**

THE POTENTIAL OF MOOCS

Education models should try to accommodate different learning styles. **OPINION, p. 5**

ON THIS DAY IN HISTORY...

The Boston Massacre occurred 243 years ago on March 5, 1770.

NEW COLUMN: ASK A-THEIST!

How does MIT culture fit with spiritual/religious beliefs? **CAMPUS, p. 9**

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LETTERS TO THE EDITOR

The Corporation's plans for Kendall would harm the undergraduate experience

We appreciated *The Tech's* recent coverage of the presentation of MITIMCo's upzoning petition for MIT's East Campus at the Cambridge Planning Board (<http://tech.mit.edu/V133/N6/kendall.html>). Unfortunately, the aspect of this large project with the most impact on undergraduates has not been addressed. The construction of two large commercial office towers in the heart of the East campus will bring thousands of new employees to the campus everyday. These employees will not be MIT students, staff, or faculty, and will have little or no connection to the educational and research missions of MIT. Their commitments to their own career goals, and to the business

plans of their employers, are more likely to clog our streets, crowd our campus, and lengthen our lunch lines rather than enrich the students' college experience.

Intellectual productivity of MIT and all research universities depends on the free exchange of information within densely populated university communities. That is why almost all major research universities are residential campuses. The high tech industry with its emphasis on intellectual property and proprietary information, on the other hand, generally restricts its employees from speaking openly about their work. Bringing this slice of the commercial sector into the heart of the campus will dampen the intellectual ferment at MIT, not increase it. There are no shortage of commercial firms just across the street in Kendall Square for students eager to benefit from such contacts.

The pressing need at MIT is for additional on campus housing to provide for some of the 4,000 graduate students who have to secure increasingly expensive housing off campus. Building graduate student

housing in East campus would alleviate this problem and enrich the educational and research environment at MIT.

This MITIMCo project is the unfortunate outcome of allowing real estate developers to manage our campus planning. MIT has no campus planning committee representing the interests of students, staff and faculty. Delegating campus planning to real estate executives who lack experience with, knowledge of, or commitment to MIT's educational, scientific and technological missions has resulted in the current proposal. Although a faculty forum on this issue has just been announced for March 18, for one hour from 5 to 6 p.m., as of the writing of this letter the MITIMCo proposal has never been presented at a regular faculty meeting, and opportunities for faculty discussion, debate, or alternative formulations have been very limited.

Jonathan A. King is a professor in the biology department and chair of the Faculty Newsletter editorial board.

Ruth Perry is a professor in the department of literature.

We could be so much more

Political dialogue needs to involve listening and understanding

By Ryan Normandin

STAFF COLUMNIST

On Saturday, the government enacted a set of across-the-board spending cuts known as "the sequester." These cuts, painful for both parties, were created by Congress last year to motivate a compromise on deficit reduction.

Think about this for a moment: Congress has become so paralyzed that it had to build a grenade and pull the pin in an attempt to get itself to act — and it still didn't work.

Since then, we've had the pleasure of listening to the two parties blame each other. Democrats are irresponsible, reckless spenders, and Republicans don't care about the middle class and just want to protect the wealthy. Neither accusation is new — we've heard them for decades. These caricatures don't just relate to economics. You're a tree-hugger or in the pocket of Big Oil. You're an ignorant redneck or an arrogant elitist. You're weak on defense or a warmonger. If you're pro-choice, you hate babies; if you're pro-life, you hate women. (This is particularly odd. Do pro-choice mothers hate their babies and pro-life women hate themselves?) It seems like whatever you do, half the country will hate you. But don't worry — that half is the evil one trying to destroy America.

From a very young age, our parents tell us to listen to each other, to wait until the other person is finished talking before we begin. This is not just for the sake of politeness; when we truly listen to each other, when we ask questions probing at why somebody holds a different view than us and allow them to do the same, we discover something remarkable; those who disagree with us are not monsters. Indeed, they are human, and they share the same worries about the same problems as we do, but

tackle those issues in a different way. More than that, we often learn something about our own views when engaging in such debate. In being forced to defend what we believe, we are able to refine our convictions and become enriched by those of the "other side." Understanding these differences is the first step in moving towards compromise.

We all need to make a better effort to understand different view points.

But it is not just the politicians who need to be reminded how imperative it is to listen; it is many of us. This article was inspired by a story told to me by a friend. This individual went home and visited with two friends, both staunch Democrats, from high school. Over lunch, they started discussing political issues, and my friend mentioned that her boyfriend, who is also a Democrat, was pro-life. One of her friends immediately responded, "Oh, so he hates women? Sounds like a jerk." The two friends then proceeded to tear down an individual who wasn't even there, whose reasoning behind his beliefs they didn't even know, and, by extension, ridiculed the half of the country who shared this view.

Not only was this rude and arrogant, but these individuals displayed an absolute certainty that they were right. They were so convinced of their correctness that they were unable to consider any contrary argument. They did the easy thing; they assumed the worst, remained blissfully ignorant of anything that they disagreed with, and carried on. It doesn't matter where you lie on the ideological

spectrum; whether they tore down someone who was pro-life or pro-choice, pro-guns or anti-guns, Republican or Democrat, this should be unacceptable. Yet in our society, it's not only acceptable, it's expected.

At this point, many might be thinking that this doesn't apply to them or that there is nothing they could do to change the culture in this country. But even here at MIT, I've met individuals who are not interested in debate, who are arrogant to the point that, when you ask them why they disagree with you, they sigh, roll their eyes, look at you like you're an idiot, and walk away. One would think MIT students would be above name-calling. But many are not.

We should all make a better effort not only to listen to what "the other side" is saying, but to understand why they are saying it. Sure, sometimes one side really is right. Sure, sometimes arguments boil down to which fundamental moral axioms each side prioritizes. But more often than not, we can find common ground. We can vote for individuals who have integrity and are sincerely interested in engaging the other party. If those people don't exist, then we can run. We can encourage someone we know to run.

John F. Kennedy said that what unites us is far greater than what divides us. While he wasn't speaking with respect to the polarization of America, it certainly applies. We all want to make this nation a better place for everyone, even if we have different ideas as to how to get there. Before we are Democrats or Republicans, we are Americans; let's remember that in our everyday lives and make an honest effort to listen, understand, and respect those views that do not align with our own. You might just find out that half the country is, in fact, not evil.

CORRECTIONS

A restaurant review in last Friday's issue on Atomic Bean Café neglected to list the café's weekend hours. In addition to weekdays 7 a.m. – 7 p.m., it is also open on weekends 8 a.m. – 6 p.m.

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.

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The unquestioned assumption of online education

The current model must do more to account for different learning styles

By **Sam Shames**
STAFF COLUMNIST

Online education is growing rapidly. Recently, six new universities have been added to the edX platform. Each new university plans to develop its own set of MOOCs (Massive Open Online Courses). Between the big three — edX, Coursera, and Udacity — there are now hundreds of MOOCs from universities all over the world. Advocates are quick to highlight that these MOOCs have already served millions of students, enabling anyone with an Internet connection to receive a world-class education.

Online education advocates assume that MOOCs are the best way to teach students. On the surface, the MOOC appears to be very different from its classroom counterpart. Short videos replace a traditional lecture, sprinkled with interactive demos and instant feedback. MOOCs are supposed to reflect the ability of technology to make the learning process more interactive and effective. But underlying a technological interface is the very same teaching structure as a traditional classroom, where the instructor decides the order of the material and presents it in a linear sequence.

Part of the promise of online education is the ability to accommodate different learning styles. The best way to accommodate as many learning styles as possible is to structure the course material such that students and teachers can adapt to the content for their own specific use. Today's MOOC's make this specificity impossible.

A new, non-linear structure would al-

low students to develop their own learning pathways, and to learn material in the order that feels most natural to them. A new structure would also allow students to get a better sense of all the concepts and topics within a subject along with the connections between them. The third important benefit is that by giving the student access to all the material, it allows the independent learners to identify which parts of the material they find most interesting — the essential concept, equation, or code that is relevant to their own particular interests.

With a learning web, students may choose to work on different steps of a project and will therefore learn the material in a different order.

One model for this new non-linear structure is concept and learning webs. There are two levels of learning webs: a subject level and a topic level. The subject level contains modular lessons about all the different topics within that subject. Within each topic are short videos, practice problems, online labs, case studies, and interactive demos — all the material normally presented in a MOOC — available at any time for students to use. Because each topic is modular, students are free to either focus only on one topic, or define their own learning pathway.

Perhaps the most exciting thing about this structure on the concept level is that it breaks down the barriers between majors. In addition to covering traditional top-

ics like mechanical engineering and economics, there will also be similar modules for topics like robotics and green energy, which will contain concepts and ideas from many different subjects, from materials science to electrical engineering to cognitive science. In a sense, this represents a new paradigm for organizing content.

While concept and learning webs offer a new structure for online education, I do not believe they should replace MOOCs. Instead, concept and learning webs should be created in parallel and offered both as

an additional tool for students enrolled in MOOCs and as independent way to learn without having to enroll in a MOOC. Much of the same material already developed for a linear MOOC can be recycled into the concept web model.

The real benefit of concept and learning webs is that they will catalyze the residential revolution promised by advocates of online education. MOOCs alone will not change the residential experience; they are just an online version of the linear lecture style students have today. On the other hand, the concept and learning web creates a new structure where all the material in a course is available from day one, where students are encouraged to learn the material in the order that seems most relevant to them, in-

stead of in the order the teacher decides is most appropriate.

The concept and learning web makes the problem-based classroom possible, because instead of having to provide the concepts and answers, the teacher is now free to create an interesting project or problem and let the students solve it. This is what the multiple learning pathways that the concept and learning webs offer; the most effective order for teaching the concepts depends on the nature of the project or problem. Students may choose to work on different steps of the project and will therefore learn the material in a different order. This would never be possible in a MOOC or a traditional classroom where the teacher sets the learning pathway for the entire class.

MOOCs have already begun to disrupt the education system. Education will change more in the next five years than it has in the last fifty. The promise of online learning is that new technology can be used to teach more effectively — part of this promise means reexamining our deepest assumptions. Technology enables fundamental new structures and models for education, of which the concept and learning web is only one. One goal for online education should be to create a platform that accommodates as many learning styles as possible. That platform opens online education to the world, allowing each user to find the content that is most important to them and to create their own learning pathway. When this platform exists, online education will have arrived and the residential revolution will follow.

Fill in the blank:

Dining at MIT is _____.

The Tech is running a feature on dining at MIT. Send dining@tt.mit.edu an email if you have any suggestions or topics you want covered.



Relay For Life

The Relay For Life logo, featuring a crescent moon and a star, is positioned to the right of the word 'Relay'. Below it is the American Cancer Society logo, which includes the text 'RELAY FOR LIFE' and the American Cancer Society logo.

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**Sign up at:
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ASK A-THEIST

Religion and secularism unite!

MIT's acceptance of diversity lets many worldviews flourish

By Aaron Scheinberg and Stephanie Lam

Ask A-theist is a new column by Aaron Scheinberg, an atheist, and Stephanie Lam, a Christian, which uses contrasting worldviews to explore questions and misconceptions about philosophy and religion. Send us the burning questions you have always wanted answered by an atheist or Christian (or both), and Aaron or Stephanie will tackle them!

Q: How does the MIT culture fit with/oppose your respective religious beliefs?

Stephanie Lam

For me, "religious beliefs" encompass two arenas — the intellectual beliefs, and the practical living out of them.

Intellectually, I think the greatest opposition to faith is not disagreement, but the insistence that religion has no place in the public arena. This leads to an abrupt end of all inquiry and discussion. As GK Chesterton said, "There is a thought that stops thought. That is the only thought that ought to be stopped." I have not found that here.

MIT places a high value on asking questions and seeking truth. Faith, too, is a quest after truth and for me, that truth is embodied in Jesus Christ. Science and faith just happen to be two avenues of inquiry with different but complementary methods. What I have found, during my time here, is an extremely open and safe environment where the religious and non-religious alike are free to explore, discuss, and think. Everyone, religious or not, has questions. Tackling them head-on rather than hiding in a cave of dogmatism yields a robust, reasoning faith that is all the stronger for having been subjected to fire.

Practically, however, living out my Christian beliefs within the MIT culture can be challenging, especially when values clash. MIT is a world-class elite research institute. Intelligence, creativity, and performance make up the currency of the day and the means by which we evaluate others' competence. Of course this is right and appropriate.

The problem arises when we judge someone's intrinsic value by their academic competence. I think this temptation, particularly within the achievement-oriented culture of MIT, is strong in our views of others and of ourselves. Our own worth is reduced to our number of publications, our achievements and awards, our GPA.

It's not a big leap to go from admiration of someone's accomplishments to worship. Or to look down on people as worthless — ourselves included — when they are struggling and need help. In contrast, the Christian view strongly stresses that all people are of inestimable worth in the eyes of God, and we should live out that truth in our actions by truly loving and valuing all persons, ourselves included. It can just be hard to remember that sometimes.

Aaron Scheinberg

MIT provides an excellent atmosphere for critical thinking and skepticism. I wouldn't call those my religious beliefs, but rather perhaps "philosophical values."

First and foremost, I love how MIT celebrates meritocracy. You aren't here if you didn't earn it on your own. Your elegant theory is worthless if its predictions are false. If your methods don't work, they aren't methods. If your beautiful bridge can't support its own weight, it's rubble.

Skepticism (and one of its common conclusions, the rejection of organized religion) is about meritocracy of ideas. It doesn't matter who proposed it, whether one's parents believe it, how popular it is, or what the consequences are; the truth of an idea should be evaluated on its own merit.

For those who take that for granted: such a culture was not dominant in my undergraduate experience. There's a whole world out there that is not particularly interested in facts, evidence or reason. I encourage you all to take advantage of a place where those are valued so highly and are so readily available.

I also know many an acquaintance from high school and college who worried about being ostracized (or simply distanced) from their friends and family should they openly renounce religion. When fundamentalism is the supermajority, there is a tremendous social force keeping us from deviating or questioning publicly. In contrast, at MIT your ability to find friends doesn't hinge on your religious beliefs. I suspect that helps encourage exploration and free exchange of ideas.

Finally, I think MIT excels in part because of its diversity of cultural practices from both our backgrounds and our dorms. The ability to be accepting and non-judgmental of all these cultures, provided they play nice with each other and don't abuse their own members, is an exercise in secularism at its best. MIT's famed innovation comes from that mosaic of ideas; its success hints at how a peaceful, pluralistic, and prosperous global society might function for those of us hoping to change the world.

Have a question? Submit it to worldview@the-tech.mit.edu or anonymously at <http://worldview.mit.edu>.

EVENTS MAR. 5 – MAR. 11

TUESDAY

(4:30 p.m. – 6:30 p.m.) Syria, Two Years into the Revolution — E51-395

(5:00 p.m. – 6:30 p.m.) Literature in the Digital Age, author Besora presents novel Cyr@no — E51-057

WEDNESDAY

(12:00 p.m.) CAST Music and Technology: Victor Gama — 14w-111

(4:00 p.m. – 5:00 p.m.) Fitness during feast and famine: How error-prone DNA polymerases influence physiology and evolution in *E. coli* — 48-316

THURSDAY

(5:00 p.m. – 7:00 p.m.) Angels of Death: David Foster Wallace and the Battle against Irony, Letterman and Leyner? — E14-633

(7:00 p.m. – 9:00 p.m.) Urban Films: The World of Buckminster Fuller (1974) — 66-110

FRIDAY

(12:00 p.m. – 1:00 p.m.) 100 Years of Service: Snapshots of the MIT Women's League — 10-340

(6:30 p.m. – 7:30 p.m.) Emerson Scholar Student Recital: Carl Lian '15, piano — 14w-111

SATURDAY

(7:30 p.m. – 11:55 p.m.) MIT Ballroom Dance Team March Social — W20, La Sala

(9:00 p.m. – 11:00 p.m.) Jews on Ice — Johnson Ice Rink

SUNDAY

(2:00 p.m. – 4:00 p.m.) Figure Skating Club Exhibition — W34

(7:00 p.m. – 10:00 p.m.) Egyptian Culture Night — Sidney-Pacific MP room

MONDAY

(7:00 p.m. – 9:00 p.m.) ACT Lecture: Karim Ainouz: I Travel Because I Have To, I Come Back Because I Love You — E15-001

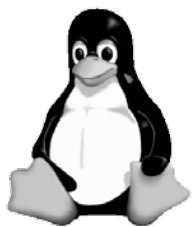
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THIS ELEGANT UNIVERSE

FROM THE MACRO TO THE MICRO, DO THE LAWS OF NATURE SPEAK TO A GREATER PURPOSE?



ARD LOUIS, Ph.D.

Royal Society Research Fellow and
Reader in Theoretical Physics,
Oxford University



MAX TEGMARK, Ph.D.

Professor of Physics,
Massachusetts Institute of Technology

Friday, March 8, 2013 at 7:00 pm
Lecture Hall 10-250



Most freshmen pass GIRs; lowest rate from 8.01L

Subject with most fifth-week flags varies by year; Fall 2012's subject was 7.012 Biology

GIRs, from Page 1

"This year, it was biology. We had a lot of students who chose to take biology because of the faculty member who was teaching it," said Norman. "They possibly didn't have the chemistry background that they needed. There is never one subject that is always the subject with the most flags."

Students who fail a GIR in the fall usually have several options in the spring to fulfill that GIR requirement, such as 5.111.

Students who fail a GIR in the fall usually have several options in the spring to fulfill that GIR. People who fail a chemistry GIR in the fall can take 5.111 (Principles of Chemical Science), 5.112, or 3.091 (Introduction to Solid State Chemistry) in the spring.

However, a select number of students who do not pass 8.01 in the fall are given the chance to take a new 8.01 final exam at the end of IAP after undergoing daily intensive review during that period. If they do well,

their physics grade is changed from a D to a C-, and they can take 8.02 in the spring.

"The Physics Department noticed that, each year, there is a small number of students who only narrowly miss passing 8.01," explained 8.01 Course Administrator Deep-to Chakrabarty '88. "We felt that these students show sufficient command of the material that they would benefit from a 'second chance' to pass the final exam, as an alternative to repeating the entire course."

Although the 8.01 instructors are the ones who determine who can participate in the Second Chance program, Chakrabarty stressed that students who receive an F are not eligible, and not all students who receive a D are eligible.

"Students should not assume that they will definitely be able to take advantage of this option if they receive a D in 8.01 — they may still need to repeat 8.01," warned Chakrabarty. "But we hope to continue to offer it on a regular basis. Our data show that the students who pass the Second Chance program generally do well in 8.02 in the spring, so it seems to be successful at improving outcomes for the Physics GIRs."

In addition, MIT offers a special version of Classical Mechanics, 8.011, in the spring for those who did not pass a version of 8.01.

Isaac L. LaJoie '16, a student in 8.011 this

semester, said that he had taken a basic, non-calculus based physics class in high school. He started last semester with 8.01 before switching into 8.01L.

"When I made the switch into 8.01L from 8.01, I felt like I was already really behind and I was never able to catch up. We had a test five days after I switched into the class. I didn't know what the material was over, and I ended up bombing the test," said LaJoie. "There was also that stigma of 'pass/no record,' with upperclassmen saying, 'Don't worry, you're on pass/no record,' which told me that I wouldn't need to work as hard if I just wanted to pass. Also, the complete lack of numbers really stumped me. Do they not exist here?"

ing problems. Also, there are no exams, just weekly quizzes which take off the stress of having to struggle through a two-hour exam."

Both Bingham and LaJoie regret that they did not take full advantage of the resources that 8.01L offered, such as TA office hours.

"I never really sought any help," said LaJoie. "I was always behind, and especially after that first test, I was embarrassed to even show up to recitation for fear of being judged by the TA and the other students for not being able to solve any problems."

Bingham attributed his low test scores to his poor test-taking skills. "I was very good at the pssets, but come test day I wasn't able to perform," explained Bingham. "I was of-

A select number of students who do not pass 8.01 in the fall are given the chance to take a new 8.01 final exam at the end of IAP after undergoing daily intensive review.

Fellow 8.011 classmate Sean D. Bingham '16 estimates that there are about 38 people in his class, in which he sees "a lot of familiar faces."

"8.011 is rather different from 8.01L," described LaJoie. "The problems are harder, seeming to be more of an 8.01 level. Also, there are fewer lectures and more time is spent solv-

ten nervous, scared, and lacked confidence."

Bingham said, however, that this semester would be different. "First semester I was afraid to ask anyone anything, but I've matured."

LaJoie added, "Grading is 25 percent attendance [in 8.011], so you can bet I'm not missing one of those classes."

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Emphasizing effect of cuts a risky move

Administration deeply concerned

By Michael D. Shear
THE NEW YORK TIMES

WASHINGTON — As the nation's top Democrat, President Barack Obama has a clear imperative: to ratchet up pressure on Republicans for across-the-board spending cuts by using the power of his office to dramatize the impact on families, businesses and the military.

But as president, Obama is charged with minimizing the damage from the spending reductions and must steer clear of talking down the economy. A sustained campaign against the cuts by the president could become what one former aide called "a self-fulfilling kind of mess."

As a result, Obama is carefully navigating between maximizing heat on Republicans to undo the cuts while mobilizing efforts to make sure that the steep spending cuts do not hurt Americans. His advisers acknowledge the potential political perils ahead as the president struggles to find the right kind of balance.

At his first Cabinet meeting of his second term Monday, Obama called the cuts an "area of deep concern" that would slow the country's growth, but promised to "manage through it" while pursuing a robust agenda. It was an echo of his formulations from the White House podium Friday, when he began to dial back the dire warnings about long lines at airports and furloughs of FBI agents, to name a couple, that he had made over the past several weeks.

"I've instructed not just my White House but every agency to make sure that regardless of some

of the challenges that they may face because of sequestration, we're not going to stop working on behalf of the American people," Obama said, using the formal name for the spending cuts.

The president's approach is unlikely to satisfy Obama's most partisan backers, who view blaming Republicans for the deep spending cuts — especially in the military — as a tantalizing opportunity for political gain. And stepping back from a battle over the cuts could allow the significantly lower spending to become the "new normal" for the federal budget.

But a high-profile focus on the cuts in the months ahead is risky, too.

If severe economic pain ultimately fails to materialize, Obama could be blamed for hyping the situation, much like his Cabinet secretaries were in recent weeks. (Homeland Security Secretary Janet Napolitano, for example, was criticized for declaring the nation would be "less safe" because of furloughs of border patrol agents.)

Seeking short-term political gain with the spending cuts could also make more difficult the president's hopes for a longer-term budget deal with Republicans on taxes and entitlement spending.

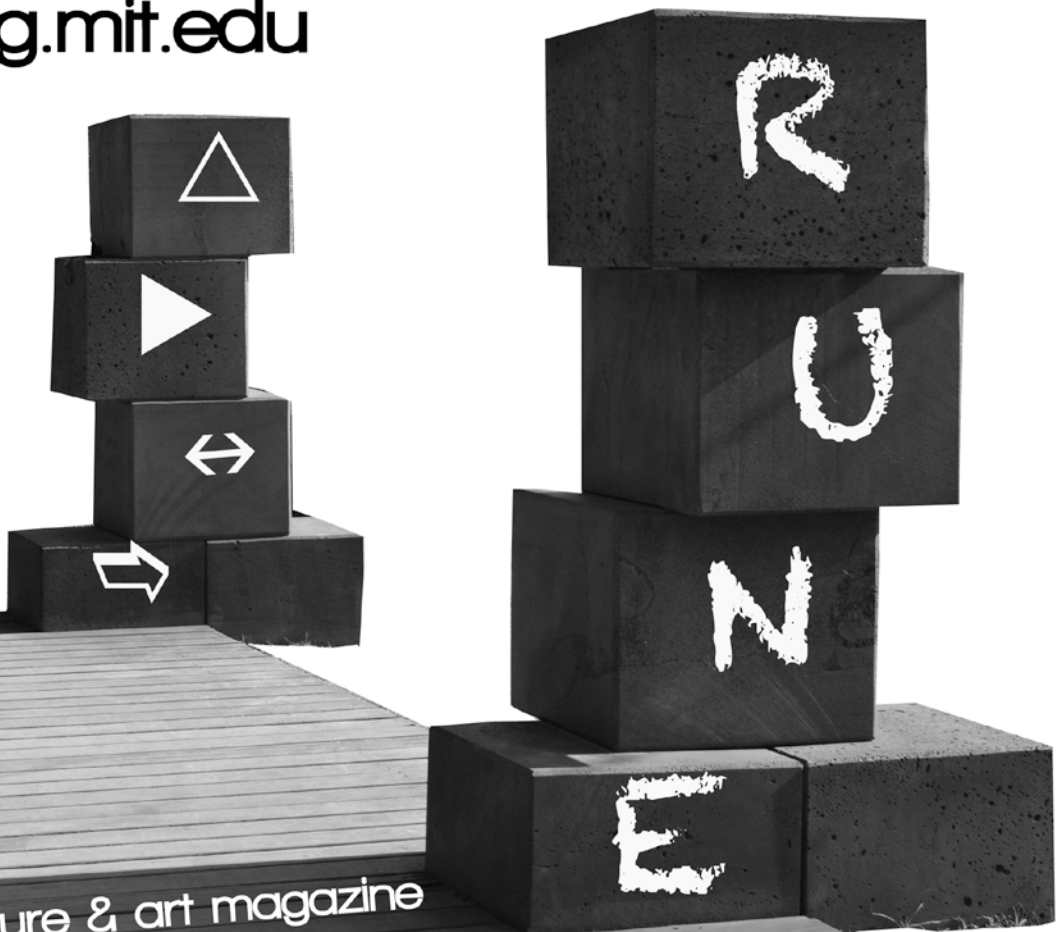
Obama's team is keenly aware that the more he focuses on the cuts, the more he threatens to divert attention from his second-term priorities on guns, immigration and preschool.

"You can't simply put them on hold and simply deal with this," David Axelrod, a former top adviser to Obama, said in an interview.

Spring Deadline: Saturday March 9th

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RUNE - MIT's literature & art magazine

Undergraduate tuition rises by 3.24 percent

MIT's undergraduate tuition will increase by 3.24 percent for the upcoming academic year (2013-2014), according to an announcement made by the MIT Corporation last Friday.

This rise in undergraduate tuition is the lowest increase since 2000. Undergraduate tuition has increased dramatically since the start of this data series, in 2000, when tuition was only \$25,000 per academic year. After this year's 3.24 percent figure, the tuition increase from 2001 to 2002 was the next smallest, at 3.49 percent.

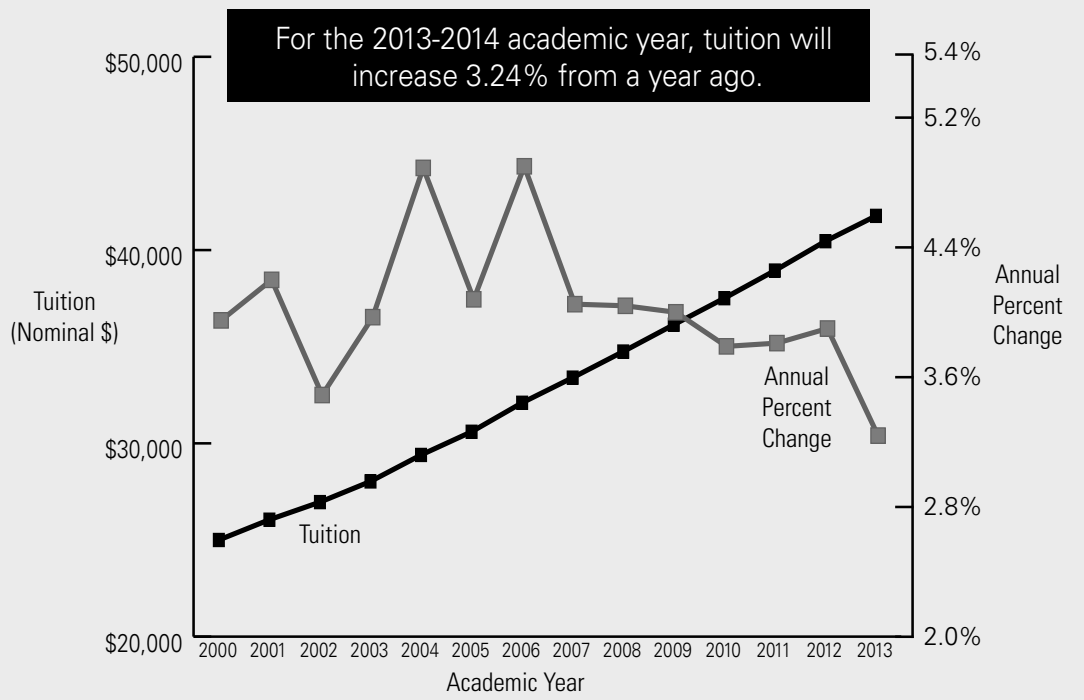
MIT has also planned to increase the budget allocated for financial aid for undergraduate students. The MIT News Office reports the size of the financial aid budget for the coming year to be around \$97.6 million, the largest such annual total. This is also much larger than the corresponding value in 2000, which stood around \$44.5 million.

Part of the large rise in tuition is MIT's commitment to a tuition-free education for those with family incomes less than \$75,000, the MIT News Office states. The increase in the financial aid budget was only 2.85 percent, however, meaning that financial aid increased more slowly than tuition.

While part of the rise in financial aid may be committed to decreasing the net payment, some of the increase must be attributed to the dollar inflation. Additionally, while the total financial aid budget increased, MIT's class sizes have also increased consistently over the years, meaning that the aid funds must be spread over more students.

—Tushar Kamath

How has MIT's undergraduate tuition changed over time?



INFOGRAPHIC BY ANTHONY YU

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Sunday, March 10

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<http://web.mit.edu/skatingclub/www/Home.html>

Photo taken by Nick Wiltsie '10



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E51-345**

*Reception Afterwards

Search for new DUE begins, led by Graham Walker

Each of the 57 candidates under initial consideration is a member of the MIT faculty

DUE, from Page 1

The committee's charge is to recommend three to five candidates to Chancellor Eric Grimson PhD '80, who will make the final choice. "We'll all hear at once who the new dean is," said Walker.

Currently, Walker says, the committee is gathering input on three topics from the MIT community: what they see as major issues and challenges that the new dean will face, qualities people want in the ideal dean, and actual candidate suggestions. The committee is trying to reach out "as broadly as possible and get input from as many different types of people."

On the student side, Grace Young '14, a Tech Arts Editor and one of two undergraduate members of the committee, said that the student effort is currently an informal process of personally seeking input from undergraduates, in addition to gathering input from the

Undergraduate Association. According to other undergraduate member Anubhav Sinha '13, they are also planning to send a survey to MIT undergraduates. When asked if there would be any formal open events regarding the matter, like a forum, Young said, "Likely not," adding that members of the community can approach the committee at due-search@mit.edu, or contact individual members in person or through email.

Though they are looking for ideal qualities, "as always, there is no dean from heaven anywhere on this earth," chuckled Walker, who had been in two prior DUE search committees and chaired one of them. Walker said many people have a poor understanding of what the dean for undergraduate education does — "I think some people think he sits in his office and talks to undergrad students all day!"

According to Walker, the new dean will most likely have administrative experience to

be able to manage a staff of 260 and a \$26 million budget, including such critical offices as admissions, the registrar, and Student Financial Services.

The dean must also be someone who is "widely respected in the Institute," both in a personal and academic sense, as the dean serves on academic councils. One limiting factor, though, is that the next dean will most likely have to all but give up his research for his or her term.

"It tends to tank your research career because you're busy almost all the time," said Walker, explaining that candidates often find themselves having to consider "where they get their joy from."

The new dean will also be in charge of crafting undergraduate education and policy, and, in particular, interfacing with the new Office of Digital Learning. Since the new dean will be in the midst of this "edu-

cation revolution," the committee hopes to have somebody with "not just experience teaching, but vision, understanding," Walker said. Such qualities could also help a dean who might face limitations in admissions depending on the U.S. Supreme Court's decision on *Fisher v. University of Texas*, which concerns affirmative action.

Walker said that many suggestions have come to their committee from throughout the Institute. Some nominate others who might be good candidates, said Walker, and the committee see if they are interested, while others "make it known that they're interested." Overall, the committee is trying to quickly identify the best candidates to consider. "There are many well-meaning people, but only one of them will end up being the dean."

The committee urges that anyone with feedback or comments send them to due-search@mit.edu.



Solution to Techdoku from page 7

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

Solution to Sudoku from page 7

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

Solution to Crossword from page 7

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

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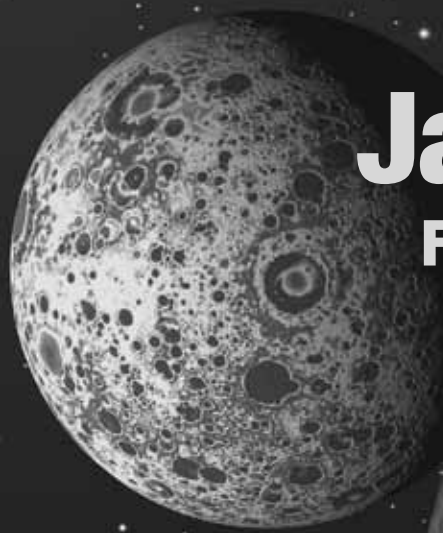
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41st Annual
James R. Killian, Jr.,
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Tuesday, March 5, 2013
4:00 pm
Room 10-250
Huntington Hall

Maria T. Zuber
Vice President for Research
E.A. Griswold Professor of Geophysics



SPORTS SHORT

MIT basketball falls in first round of NCAA Tournament

No. 24 ranked MIT men's basketball fell in the first round of the NCAA tournament to No. 14 St. Mary's College last Saturday night, 85-76. In his final game as an Engineer, William Tashman '13 scored 23 points, leading the team in scoring. After an incredibly competitive first half, MIT went into the break with a 36-35 lead. They continued to hold the lead for the majority of the second half, and they held a 63-56 lead with 8:48 remaining in the game. St. Mary's went on a 12-0 run afterwards, however, and never relinquished the lead. Although the Engineers finished with a higher shooting percentage, turnovers proved to be their demise, as they gave up the ball 11 times compared to St. Mary's 6.

—Austin Osborne



INJURY SPOTLIGHT

Anterior cruciate ligament
Examining one of the most common sports injuries

By Nidharshan Anandasivam

SPORTS STAFF

"Uh-oh uh-oh, Rose came down bad on his left foot. See him? Holding on to his knee ... holding on to his knee... and DOWN." This was the voice of play-by-play announcer Kevin Harlan on TNT during game 1 of the first round of the 2012 NBA Playoffs as Chicago Bulls all-star point guard Derrick Rose, arguably the most explosive player in the NBA, suffered an injury that would keep him out of basketball for over six months. At this point in the game, the Bulls were up by twelve with less than two minutes left in the fourth quarter, and many Bulls fans were wondering why Rose was still on the floor. After watching Rose land awkwardly and tear his left knee's anterior cruciate ligament (ACL) on a meaningless play, Bulls head coach Tom Thibodeau must have regretted his decision to keep Rose in the game

after the Bulls had already sealed the victory. Although the Bulls won this game, they lost the best-of-seven series to the lower-seeded Philadelphia 76ers in six games. More importantly, the Bulls were going to miss their leader and superstar, Derrick Rose.

On May 12, 2012, nearly two weeks after the devastating injury, well-respected Bulls team physician Brian Cole, Chairman of Surgery at Rush Oak Park Hospital in Chicago, performed the ACL surgery, using a graft from Rose's patellar tendon to repair the ACL. Ever since then, Rose has been working towards a return to the NBA through various rehabilitation techniques. He is expected to return soon, as it has already been nearly ten months since his surgery. The expected rehabilitation time for an ACL tear is usually six months to a year.

Zooming in anatomically

There are four main ligaments in the knee that connect the thigh bone (femur) to the shin bone (tibia). Out of these four, the ACL, at the front of the knee, is the smallest, but probably most vital, since it controls rotation and forward motion.

The other three are: the posterior cruciate ligament (PCL), which has the same connectivity as the ACL but is located at the back of the knee, as its name suggests, and controls backwards motion; the lateral collateral ligament (LCL), which connects along the outside of the knee, allowing for safe, sideways motion; and the medial collateral ligament (MCL), which connects along the inside of the knee and keeps it stable during sideways motion.

But how is the knee cap (patella) connected to the femur above and tibia below? The patella, the bone in the front and center of the knee, is connected to the femur and tibia by the quadriceps tendon and the patellar ligament, respectively. These structures are the main components of connectivity in the knee area.

Causes and prevention

"Cutting" in sports, characterized by the planting of a foot and a change in direction of motion, is the most common cause of ACL tears, as the knee collapses. This non-contact mode of injury is common in cutting-intensive sports such as basketball, soccer, and football, in which players need to move with quickness and agility create space between themselves and defenders to succeed. To achieve this separation, players rely on abrupt turns followed by acceleration, and this makes them vulnerable

to knee injuries. However, there are also contact modes of injury, including being hit unexpectedly during a blindside check in hockey.

According to Texas Sports Medicine's Dr. Tarek Souryal, head team physician of the Dallas Mavericks, ACL tears can possibly be prevented by stretching and strength and endurance training. Endurance is important because athletes are more prone to injuries when fatigued, since muscles are no longer good shock absorbers when tired. This affects the precise timing of shock absorbance during the landing after a jump, increasing the chances of a ligament tear.

Diagnosis and treatment

Generally, athletes with ACL tears are advised to see an orthopedic surgeon specializing in sports medicine, and an MRI is taken for visualization. However, there also exists a specific physical test for ACL injuries performed by physicians: the Lachman test. In this test, the knee is flexed at about a thirty degree angle and the tibia is pulled to examine the forward motion of the tibia compared to the femur. Increased forward motion of the tibia suggests a torn ACL.

Since the ACL does not repair itself like other ligaments, arthroscopic surgery is used to substitute the ACL with patellar ligament, which connects the patella to the tibia. Risks of this ACL reconstruction procedure include infection, persistent stiffness and pain, and instability. Rehabilitation involves strength training techniques for the knee, and this usually lasts around six months. An ACL tear used to be a career-ending injury since the technical surgical procedures had not been developed, but now there is an over 95 percent rate of return for athletes suffering from ACL tears.

Looking to the future

Many famous athletes have suffered from this devastating injury, including Vikings star halfback Adrian Peterson. Peterson tore his ACL in December 2011 after he took a hit from the side and bent his left knee, but he returned to the NFL and had a stellar season this past year thanks to surgical and rehabilitation advances. Along with these improvements, better knowledge of preventive practices and perhaps even bioengineered ACL tissue, as research from the Division of Sports Medicine at the New England Medical Center suggests, show promise for our ability to solve the frequent and pervasive problems of the ACL sports injury.

UPCOMING HOME EVENTS

Tuesday, March 5

Women's Lacrosse vs. Gordon College 7 p.m. Steinbrenner Stadium

Wednesday, March 6

Men's Tennis vs. Bates College 4 p.m. DuPont Tennis Courts

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