Lagarde: ‘game changers’ to address demographic shift

First female IMF Managing Director to engineers: ‘use innovation in order to reduce public spending’

Drew Bent
ARTICLES EDITOR

Christine Lagarde, the managing director of the International Monetary Fund, spoke at MIT last Friday, saying “we need to reframe the debate about demographics” and the global challenges that come with demographic changes. Her plan to counter shrinking and aging populations in advanced economies includes both policy-driven approaches, such as retirement reform, as well as calls for technological innovation in healthcare and energy.

Lagarde suggested raising retirement ages and using immigration to increase national workforce, although she qualified her immigration statement with the “big, big caveat” that workers must be integrated into the communities they’re entering.

Lagarde said that the IMF and MIT have a similar culture of “talking up one’s sleeves and tackling problems hands-on to the lab, in the start-ups, in the offices, and whenever we give advice to policy-makers.” Although the IMF has no motto, she said it could be the same as MIT’s “Mens et Manus.”

The IMF has provided loans and financial advice to developing and developed nations as part of a fund that is now worth hundreds of billions of dollars.

After visiting the MIT Media Lab earlier in the day, Lagarde told The Tech in an interview that she hopes she can “explore some alternative ways to manage knowledge” with researchers and “turn that knowledge into stories that will actually speak to policymakers.”

One of the things she suggested for a hypothetical engineer trying to help tackle demographic problems was to “use innovation in order to reduce public spending.”

For health care, that includes “identifying and targeting the therapy that will be most efficient and where money will be best spent,” she said.

“Investigation applied to clean energy, renewable energy is absolutely vital,” she added.

Lagarde became the first female head of the IMF in 2011, and was appointed to a second term last month. Her first term began during the European debt crisis, and now she is faced with the additional challenges of eurozone’s refinancing problems, and China’s slowing growth.

Her biggest takeaway from her tenure was “nothing happens without a team.”

“And when I say that, it’s the team of engineers who work with us, but it is also the relationship that you build across the members that I think [the IMF] is going to be looking to other countries in the membership, and a relationship that I have to — I have to — be mindful of all of them. There is no small country, large country. They’re all members, and they all deserve … the same degree of care and attention.”

“We will only have traction if we care, if we listen, and if we provide the best service,” she said.

Lagarde’s talk on campus, titled “Demographic Change and Eco-

IN SHORT

Nominations for the Teaching Award are due Monday, March 14. Take nominations at nominateMyProf.mit.edu.

Student Registration for the Spring Career Fair will begin Wednesday, March 8.

Robert Hannigan, director of UK’s Government Communications Headquarters, gives a talk on encryption at the Media Lab Monday.

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Platform may lower barrier to getting help

MIT-specific service, based on ‘7 Cups of Tea,’ is backed by Mental Health

Divya Gopinath
FEATURES EDITOR

Peek2Peer, an anonymous web-based peer support platform, launched late last month. The site allows users to chat with fellow students; the Institute launched the site as part of an ongoing effort to lower the barrier for seeking help with mental health issues. Peek2Peer was spearheaded by Berit Chilingirian ’16 and two professionals at MIT Mental Health, Brian Waldheter and Bhinika Fernandes.

Peek2Peer builds on another web-based peer support platform, 7 Cups of Tea, which launched late last month. The site offers a web-based peer support platform, its main focus is in-person support.

Students contacted Mental Health last spring of Lean On Me, a virtual chat service, 7 Cups of Tea, which currently has 7 million users, 400,000 of whom are students.

Chilingirian ‘16 and two professionals at MIT Mental Health, Brian Waldheter and Bhinika Fernandes, launched the initiative, joining the ranks of other peer support platforms like Lean On Me, another anonymous service with which students communicate by text message. Lean On Me, unlike Peek2Peer, is not affiliated with the Institute.

Addressing the differences between Lean On Me and Peer2Peer, Waldheter highlighted Peer2Peer’s additional features inherited from 7 Cups of Tea.

“Peer2Peer offers one-on-one chat, like Lean On Me, but also allows users to join informal support groups, and take advantage of existing Cups of Tea infrastructure such as online tools for general wellness, stress reduction, anxiety management, and overall mental health promotion.”

“In the last six months, Peer2Peer has doubled the number of users,” Chilingirian added.

“I also think Peer2Peer will be used differently from LeanOnMe by sixfold.

Peek2Peer, Page 10

Protesters seek release of Aafia Siddiqui

A small crowd of protesters gathered at the bottleneck of the steps of Lobby 7 Tuesday afternoon. They called on the U.S. government to release and repatriate Aafia Siddiqui ’95, a Pakistani neuroscientist who is currently serving an 86-year sentence in a prison in Fort Worth, Texas.

Siddiqui is a graduate of MIT, class of 1995, and received her PhD in neuroscience at Brandeis University. She had been wanted for 13 years by the FBI in relation to ties to Al-Qaeda and terrorist bomb plots, and in 2000 was convicted of assault against American army person-
Extended Forecast

Today: High of 65°F, winds 5-10mph W, rain in the afternoon and evening.

Tonight: Low of 45°F, winds 5-10mph NW, rain.


Sunday: High of 60°F, winds 5-10mph. Mostly clear.

Sunny weekend to follow rainy Thursday

Colin Thackray
Assistant Meteorologist

It will likely be rainy for the rest of the day and night into Friday morning as a low pressure system passes to the north. The trailing rain will give way to high pressure for the rest of the weekend, leading to clear skies and sunny days on Saturday and Sunday. While it won’t be quite as warm as Wednesday of this week, it will be very springlike for those planning outdoor weekend activities.

With the warm weather coming, is our mostly snow-free winter over? On average, Boston only gets two snowfalls of more than an inch in the month of March, and less than one in April. Statistically, after the first week of March the snow has disappeared and is very unlikely to come back. So it’s probably safe to pack away some winter gear, keep in mind that in an average year we usually only get a handful of days with highs above 70°F before May.

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Post Game Pizza @MacGregor Sat 7
Rethinking the freshman year science core

By Georgia Van de Zande

The very first class I attended at MIT was 7.012, four and a half years ago in the fall of 2011. I remember how excited fellow freshmen felt in Maseeh dining that morning, how tightly the infinite was packed with students finding new classrooms, and how crowded 26-110 was once my friends and I got there. I looked back on that first class, I cannot actually recall much of what the professor said. Or really much from any other 7.012 lecture. Or from 18.02 lectures that fall or 18.01 lectures that the following spring. Why is that? I have a fairly good memory, and in four years it shouldn’t seem reasonable for me to forget the material. I suspect that I don’t remember what was taught in these three classes because they were traditional lecture-based classes. Although these were core freshman science classes, there was little to no student engagement through hands-on learning.

These classes — 7.012, 7.112, and 18.02 — are effective in teaching freshmen how to do college: how to work with peers, take notes in lectures, ask for help in office hours, turn in psets by the deadline, and manage one’s time while learning to live without one’s parents. These are invaluable lessons, but does learning these skills mean that I can’t also learn material I would remember a couple years later? I remember that finished freshman year disheartened, feeling that I had spent a whole year at MIT without really growing my appreciation for biological sciences.

What astonishes, frustrates, and disappoints me about MIT’s freshman core science is that there is no law compotent to 5.112. I learned and retained more information in high school AP Chemistry than I did almost everything I learned in the first-year classes, there’s TEAL. It’s funny that while 7.012 and 7.112 are directed toward freshmen primarily, they be setting the bar for what introductory teaching methods might be effective in teaching freshmen. There are countless exciting and engaging ways for students to experience the world of chemistry; why don’t MIT freshmen have hands-on experiences in chemistry, biology, and calculus?

I’m glad to hear that 3.091 has recently become known. The Tech’s editor also commented on it from experience. And, of course, there’s TEAL. It’s funny that while TEAL seemed to be the first of “Most Com- mended — Shag,” those classes serve as stellar examples of innovation in science and learning. There are many ways that physics has been integrated into chemistry, biology, and calculus. I can still visualize how a magnetic field might act in different situations and remember how to set up a Gauss’s Law problem. As much as students gripe about TEAL, I would bet 8.01 and 8.02 are more ingrained in most recent graduates’ minds than 7.012 and 7.112. So why aren’t these classes considered MIT’s core science classes all mind and no hand? While MIT is dedicated to pushing boundaries, certain boundaries here are yet to be pushed. The freshman science core is an example. These core classes are critical in an MIT education, especially those classes that students who are setting the bar for what may be the standards for their calling in science. As the first academic experiences that MIT students go through, shouldn’t these classes serve as stellar examples of innovative, forward-thinking boundaries that place on that MIT strives to be? Shouldn’t they be setting the bar for what introductory science classes around the world should be like?

Current and former students: I encour- age you to ask yourselves those questions and voice your thoughts and concerns. In early February, President Reif sent an email to the MIT community about “MIT and the future of education.” Right now is the perfect time for all of us, especially students, to start thinking about the future of the fresh- man science core, the end goals for these classes, and the link between the teaching methods for these classes and their intended goals. But we must do more than think about the future of these classes; we must also act to create and actively push the boundaries further. Thinking and then acting is the spirit of men et machina.

Georgia Van de Zande is a Master’s can- didate in the Department for Mechanical Engineering.
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**Saturday Stumper** by Brad Wilbur

**ACROSS**
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1 Rationed 2 Maker of the first curved-front fridge 3 All NFL uniforms, since 2012 4 Ending like -aceous 5 Sold for 6 Bathe in light 7 Cow 8 Forte __ (strong-minded: Fr.) 9 What often tops jambalaya 10 Adept 11 Exemplar of kitschy art 12 Gig Down rival 13 One of its “Welcome to” signs is a giant gold pan 14 Ring 21 Nonstandard 24 Plastic cap 26 Small-screen swan song of 2015 29 Initial venture 29 Illicit dive messenger 30 Coauthor of Bogart’s Oscar role 31 Symbol of spring 32 Pizzazz 33 Lingering trace 34 Cocktails named for a mayor of Dijon 35 Lower yourself, in a way 37 Apt to start 40 Drilling expert, for short 41 Metaphorical danger zone 43 Apt 45 Intimate quiz purveyor 46 Two-time Explorers Club president 47 Harry ally in Deathly Hallows 48 Premiums 49 Pessimistic 50 Letters on some “Welcome to” signs
Why I chose MIT
Finding strength in numbers
Miranda McCellan

Two years ago, I faced one of the most difficult decisions of my life yet: where to go to college. Where would I spend my par- ents’ savings and the next four years of my life? Like many MIT students, I was juggling between top institutions. Because I knew I wanted to study computer science, I had narrowed it down to my top three: MIT, Caltech, and the University of Texas at Aus- tin (UT) for its Turing Scholars Program. It was difficult to discern the difference aca- demically between the top three schools, so I chose with my heart.

Through a series of campus visits, I had the opportunity to interact and bond with students from all three universities. While the students everywhere were passionate, funny, and hardworking, I noticed that I was more likely to interact with black students at MIT.

According to MIT’s Office of Institutional Research, Black and African-American stu- dents comprise 5.6 percent of MIT’s under- graduate population, compared to the 15 percent of college students nationwide, as reported by the National Center for Educa- tion Statistics in 2012.

At the time, this was the largest commu- nitv I found in my three options. Caltech had four black women in its entire undergraduate population of almost 1,000 and only one tenured black faculty member at the time that I applied. As I pro- gressed through the cafeteria line on a pre- vious day in the fall, an enthusiastic black fe- male upperclassman saw me, navigated the sea of people, and hugged me. “I’m so glad you’re considering Caltech! There are so few of us!” I tried to smile back but could not ignore this disheartening glimpse into her life on campus.

During the preview days at UT, I would check the room at the beginning of each ses- sion to evaluate the diversity of the students I might live and work with. Each time, I would turn to my parents and say, “You and I are the only ones.”

At UT Austin, diversity is a tricky subject on a campus where more than 90 percent of students are Texas residents. Texas residents are automatically admitted if they graduate within the top seven percent of their high school class. This law increases geographi- cal diversity within the state and is partially the reason why the university has more than 20 percent Hispanic students.

However, still only four percent of un- dergraduates at UT Austin identify as Black, and when I asked the director of the Turing Scholars Program for contact information of a black alumna, I received the email of a graduate from the Class of 2001. My recruitment experience at MIT dif- fered from the others because students led my experience of campus. This led me to meet many more people who truly believed that MIT was not only the best school for me, but also the best home and community.

While I don’t really remember much of what happened at CPW, I will never forget my ex- perience in the inaugural class of the Ebony Affair Fly-In Program.

The Black Students’ Union (BSU) pre- sents the Ebony Affair Gala in April every year to celebrate black excellence in the MIT community. As a high school senior participat- ing in the fly-in program, I ate catered food, danced to some of the famous black artists of the “family reunion mix”, and enjoyed being surround- ed by smart, successful, black peers.

In 2004, the BSU and the Admissions Office piloted a fly-in program for prospective students who had been admitted through Early Ac- tion. The weekend before CPW, I flew to MIT and spent three days learning about the lives of students. I crashed someone’s birth- day party, and even went dancing. Of the 18 prefrosh that MIT flew in for Ebony Affair, 18 of us ended up at MIT.

While the students wanted to impress us with MIT, they told honest stories about how difficult MIT was, what had helped them, their regrets, and their joys. The pro- gramists’ stories, steeped in surprise, held a rate of over 94 percent because it provided com- munity without fanfare. The friends I made at Ebony Affair are the foundation of the friend group I have today. I chose to come to MIT because of my experience during the fly-in program.

Two years later, I know I made the right choice.

As an active member of the BSU and its current Attorney General, I have become about even more involved in the black community through work to reform campus policies and culture. Now, I am one of the planning team Ebony Affair with a renewed belief in the benefits of the community we have. Without this community, I would not have had the opportunity to ask advice or want to people who understand the challenges I face.

Until recently, I did not truly understand what it meant to be a black woman in the tech industry. At MIT, almost 40 percent of Course 6 undergraduate students are wom- en. According to the National Society for Engineering Education, the national av- erage is less than 15 percent. On top of that, only three percent of tech companies are large and well-known tech companies like Google, Facebook, Yahoo, and LinkedIn identify as Black. My community on campus allows me the space to vent and express my frustrations about these injustices. My actions will represent my entire gender or race.

I can’t imagine what it’s like to deal with the glass ceilings, and be happy in my career without the support network I have built at MIT through the BSU.

Miranda McCellan is a member of the Class of 2018.

Random Hall turns 12
Throwing a birthday party fit for a dorm
By Emma Bingham

The crowd gathered slowly. People trick- led in from across campus after a long day of classes. If you looked closely, the crowd was a sea of people, and hugged me. “I’m so glad you’re considering Caltech! There are so few of us!” I tried to smile back but could not ignore this disheartening glimpse into her life on campus.

At 17:17, the most random time, the chance of voices and feet filled Lobby 7. It was choreographed chaos. “May the candles on your cake / Burn like cities in your wake / On your birthday / Happy birthday.” The last two lines, included in each verse, were punctuated by stomping. Some lines were whispered, others sang—“...then you pall at / The party of your life?”

Last Monday, Random Hall turned 12. The birthday diego is a time-honored dorm tradition. We sing it at birthday parties for residents. On my floor, a floor of cats and baking and actual Amazon warrior women, this tradition is accompanied by a ceremo- nial caving of cake.

Random was dedicated as a dorm on February 29, 1928. Its birthday doesn’t exist for all years out of every four years, meaning it is often time.locked and consequently hasn’t reached teenagehood. We celebrated its last teenage year by singing in Lobby 7 and by holding a proper birthday party fear- ing cake and alunos, who are fondly called “cruft” in east side culture.

By the time the singing was over and we were stilling back toward Random, the sun had fallen behind the new biotech buildings on Mass Ave. My boyfriend pointed out to me that the clock was a year behind the birthday diego. Diegos are typically sung at a funerals, so, at a birthday party, a diego can only remain you of your own mortality: “Now you’ve aged another year / Now you know that death is

A typical Random Hall resident will only celebrate the dorm’s birthday once in their time here, which means this is my last time celebrating Random’s birthday as an under- grad. I’m only a freshman, and I’m already accumulating these little “lasts” like it’s an hobby.

At the party, cruft from 2010 was discuss- ing her time living on Bonfire, one of Ran- dom’s eight floors. It used to be a floor of vid- eo games and Internet memes. “Now they’re all a bunch of hipsters” she said.

What does our time here mean if lasts fol- low firsts so quickly? If communities shift, if people leave?

Despite all the references to a murder- ous feudal society and to the inevitability of death, there was an atmosphere of unmis- takable joy in Lobby 7 that evening. Random Hall is a very small dorm, housing less than one hundred students, so turnout was in- credible. Residents and friends, current stu- dents, and alumni circled the entire space. Random may be a living group, but it’s more than just a group of people that live together. We have as many layers of culture as we do layers of paint on our walls. We are communities we are united by time and space. The investments we make in our commu- nity echo in wonderful and sometimes unpredictable ways. Incidents that took place years and years ago, such as the Cham- hole and the most random number, are now canons stories. These stories influence us: we now question GRT candidates on wheth- er they would help us install a manhole cover in the floor, and we hold all dorm events at 17 minutes after the hour. This is who we were and we will continue to be.

We’re Random’s 12th birthday, and hopefully many more!

Emma Bingham is a member of the Class of 2018.
Once she settled into her master’s program, she found her passion for synbiology. “Microbes do so much. They are so powerful. But as an undergrad, pure microbiology was not an option,” she explained.

Like Matus, Cervantes also appreciates the power of working with microbes. “Synthetic biology is research is focused on synthetic biology. One of the things that we do is genetically engineer microbial organisms to produce chemicals, biofilms, other things of interest,” he said. “I basically think of microbes doing stuff for us.” He explained, “The type of chemistry that you can accomplish inside a microbe is different from what you can do elsewhere.”

Paths to MIT

They both chose to continue experimenting with microbes by pursuing PhD programs, but Matus did not have her sights set on MIT. She enjoyed her time in the Netherlands, where she was able to study for three years to stay in Europe for a three-year PhD program.

“Europe had been great. I loved it there. I had been accepted at [The University of] Cambridge, with funding secured, and the three-year programs really appealed to me. What’s the point of going back from applying to U.S. schools was not until my 4th year as a PhD student. “The idea of doing five or six more years [instead of three] was daunting.” Nonetheless, after some encouragement by her Princeton professor, the Netherlands, Matus applied to MIT.

She first used MIT’s OpenCourseWare as a master’s student. “I found OpenCourseWare, so I took physics and a few other classes. A university that wants to make classes available to anyone in the world deserves respect.”

“It was never my dream to come to MIT. I applied on the last day,” she said, laughing about her procrastination. She continued, “I never even thought MIT would accept me. It was not even one of the universities I listed in my applications. I basically made it and thought I’d be fine. But she said, “I decided. Okay, let’s go for it.”

When Cervantes applied to graduate schools, he was “almost certain” that he wanted to come to MIT because he had participated in the MIT Summer Research Program (MSRP). He went to MIT to provide summer research experiences to talented high school and undergraduate students from outside the Institute, like Cervantes. Undergraduate participants are paid to participate, and it provides unique opportunities for advanced graduate students in a lab that is usually only available to university students.

Unlike students in the U.S., she was not choosing between 10 or more colleges with similar programs—many science colleges were the first of its kind in Latin America. “I chose it because the syllabus looked challenging, and I knew I wanted to go to a top university,” she said. Getting into MIT was one of those moments.

Matus, on the other hand, considered many different fields for college. “I had no idea what I wanted to do. I was considering medicine, mechanical engineering, business administration, everything,” she said. In high school, she decided on microbiology.

Unlike students in the U.S., she was not choosing between 10 or more colleges with similar programs—the genome science program was the first of its kind in Latin America. “I chose it because the syllabus looked challenging, and I knew I wanted to go to a top university,” she said. Getting into MIT was one of those moments.

Because it was a small, new program, she felt free to ask professors questions and connect with her peers. “Basically, the best researchers in Mexico were giving me classes. We didn’t have the same number of courses that other students do to us do actual research with them,” she said. “I think if you’re going to have to go to graduate school to continue research.”

She again took an adventurous step and applied for master’s programs across the Atlantic. “I didn’t have any friends or family. It was a daunting experience.” she said. “Sometimes I feel a bit disconnected from certain cultural events. I do feel a bit of that cultural distance to people here. I am used to being Mexican. Our team is full of women from other countries. I’m not the only one there, so I don’t feel alone.”

That said, some jokes or references go over her head. “Sometimes I do feel a bit disconnected from certain cultural events. I do feel a bit of that cultural distance to people here. I am used to being Mexican. Our team is full of women from other countries. I’m not the only one there, so I don’t feel alone.”

Cervantes’ mentor played a large part in his summer experience at MIT. Much like Matus, Cervantes had to adjust to some aspects of American culture when he first arrived in the U.S. “Every single thing that you do is viewed slightly differently. Even the way you say hi to someone is different. Normally I would hug and kiss someone when I meet them. Someone else had to explain to me that it’s different here.”

He said that living with his sister was helpful, even though she was in school too and was very busy. “It was useful to have someone there that understands it, someone that knows the area.”

Cervantes is having an easier time with the transition into classes at MIT than Matus had, perhaps because he has always planned to study microbes. He is enjoying his research and has been impressed with the biological department. “It’s great to be taking classes that I care about,” he said, contrasting his graduate coursework load with his undergraduate classes. At Berkeley, he had to take many general science courses; now, he takes microbiology courses applicable to his research with the small cohort of first-year graduate students.

He continued, “Here, it’s very easy to interact with faculty, the ratio of faculty and postdocs to students is much better.” Both Cervantes and Matus emphasized how much the support of their respective labs has improved their experiences, and
CAMPUS LIFE

The Tech Thursday, March 10, 2016

CAMPUS LIFE

From Mexico to MIT
One home to another

"One of them tells me on a personal level. I remember this phrase he told me. "When you come to MIT, we accept you as a rough diamond, but the beauty of MIT is that it is going to produce all these jewels, but each of them are different, and we don't expect you to be perfect." For me, that was so liberating. I started to feel more and more comfortable," said Matus.

Matus has made many of his friends in classes and in his lab group, and looks forward to branching out more from MIT as he gets settled. "It is no secret that good mentors and good extra-curricular activities are correlated with a happy academic career," said Cervantes. He credits those "forces" and access to strong programs for multicultural students with his current happiness as a graduate student.

After MIT

As Cervantes and Matus look to the future, neither of them expects to return to Mexico soon. One challenge unique to students from underserved communities is a lack of career prospects close to home. Cervantes is prepared for "home" to be far away from his parents, who still live in Tijuana, for quite some time.

"People always ask me if I would go back [to Mexico]," Cervantes said. "I always say that I would retire in Mexico, but for the rest of my career, I think I will stay here in the United States. Having a career in biotechnology is a lot easier in the U.S. than it is in Mexico," he explained, referring to opportunities and funding in the synthetic biology field that are unavailable in Tijuana. Cervantes hopes to continue using microbes to produce chemical compounds that are helpful to people.

Matus shared this sentiment. "Nobody in my family had ever done anything related to science. In Mexico, it is already kind of rare, so no one in my family had studied science... I didn't know that science was a career." She is not sure what her next steps will be after graduation, and is unsure if those plans will include Mexico.

"I thought for sure that I would not go back [to Mexico]," but this past year I started a few projects with people over there, and it feels good! That sensation that my work is benefitting people in my country, it just makes me happy." Her current work focuses on wastewater treatment and analysis of the human microbiome as part of the Center for Microbiome Informatics and Therapeutics. Both Matus and Cervantes spoke to the fact that although many Mexican academic institutions do not have the resources to support the research that they want to do right now, that might change in the near future. "I see the country growing in so many ways," said Matus.

She also said that she found people in Mexico to be happier than people are here. "Apparently we are one of the happiest countries in the world, and I can believe it," she said. "I went home for Christmas break, and on January 6th we celebrate the Día de los Reyes [Day of the Three Kings]. The whole city was out, musicians on the street, people dancing, and you realize it's amazing. There are problems with super low wages, insecurity, healthcare access, but people still take the time to celebrate, and they really mean it."

She misses being surrounded by that kind of positivity. "That intrinsic happiness is one of the key descriptions of Mexico. I think I've always had that in me, but I have lost some of it from being away. People really appreciate the small things in life in Mexico. Here, the fact that my webpage took two extra seconds to load makes me want to yell. Or I get angry because I have to wait 10 minutes to text my friend because my phone died."

Matus will have to make some decisions about her future in the near future. But first, she has to finish her PhD. She already has a lot of ideas about the best ways to make it through a graduate program. "It's important to be patient. A PhD takes half a decade of your life. Everyone lives that period differently. Do your thing, be patient, make it through a graduate program. It's already lot of ideas about the best ways to make it through a graduate program. "It's important to be patient. A PhD takes half a decade of your life. Everyone lives that period differently. Do your thing, be patient, make it through a graduate program. It's important to be patient."

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—Bernie Cervantes

Bernie Cervantes

Gabi Serrato Marks is a graduate student in the Department of Earth, Atmospheric and Planetary Sciences.

DID YOUR MIT ESSAYS GET YOU IN?

"The Tech is collecting successful application essays. (Hint: yours!)

Email your pieces to cl@the-tech.mit.edu!
People ask me if I’m deaf. It’s hard to know what to tell people. I’m not fully able to do everything a normal hearing person can do, but I’m not really accepted in the Deaf community, since I don’t have fluency in ASL. I am deaf, and I would like to be more Deaf — meaning belonging to that group.

I didn’t know I had hearing loss. It just didn’t enter my mind what the purpose of the exercise was. Finally, when I was about 10 years old, I stopped raising my hand. That was when I got my official diagnosis for hearing loss. I’m from a very big family; I’m the eighth of nine children. My father ran his own business and was working non-stop to support all of us. My mom figured if I wasn’t bleeding, I wasn’t in jail, things were going. And I was doing well in school.

My father passed away some years ago. My mother is still alive, but she’s in a nursing home and she has dementia. I see her every week. Like a lot of old people, her voice has gotten a little softer. I found myself saying, “Oh, I’m sorry, Mom. I’m sorry that I don’t know what to tell people.” She said to me, “Well, I just keep hoping that I’m emboldening more people because if enough people talk about what’s a big deal.

We want to make a community that’s compassionate and inclusive, but how do you do that? If more of us start talking about what’s going on with ourselves, with our challenges, then, in fact, we are doing something tangible, right? Everyone has something going on. Everybody. No one is immune. I tell people, if someone tells you that they have nothing wrong going on then they’re lying. Really. Everyone has challenges, right?

Barbara Johnson is a support engineer in Information Systems and Technology.

This project is supported by the Undergraduate Association’s Committee on Student Support Systems and Technology. There are many ways to find help. Members of the MIT community can access support resources at together.mit.edu. To access support through MIT Medical’s Mental Health & Counseling Service, please call 617-253-2900 or visit medical.mit.edu.

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People ask me if I’m deaf. It’s hard to know what to tell people. I’m not fully able to do everything a normal hearing person can do, but I’m not really accepted in the Deaf community, since I don’t have fluency in ASL. I am deaf, and I would like to be more Deaf — meaning belonging to that group.

I felt a bit embarrassed because I felt like people that I worked with and my friends were experiencing this big change. It was a big change, but I think that they were also a bit disappointed because I still had hearing difficulties, although nobody said anything to me. It’s not that anyone told me that I would have perfect hearing, but just the idea that I would still be a person with hearing loss. I just don’t want to be told that I’m a deaf person. “I was pretending I was deaf, it was like telling me I was another country, and I didn’t know it. You start finding out, well, what does that mean? What’s that country like? What is the culture? Can I just keep hoping that I’m emboldening more people because if enough people talk about what’s a big deal, then it becomes not a big deal.

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Lagarde: boosting female workforce could lift U.S. GDP

Longer life expectancy, smaller families cause demographic shift

Lagarde, from Page 1
	onomic Well-being: The Role of Fiscal Policy,” was open to the public and hosted by the Compton Lecture Series, which was established in 1937 by MIT president Karl Taylor Compton. The series focuses on world leaders “noted for their universality of thought and their influence on human values” as prescribed by the 1935 committee that started the series.

The talk was also part of MIT 2016, a series of events taking place from February to June that mark and commemorate the centen- nary of MIT that has spent at its Cam- bridge campus, following a move from Boston.

Lagarde approached the sub- ject of her talk, demographic change, from first principles, ex- plaining that life expectancies have risen dramatically over the past 50 years due to developments like the introduction of antibiot- ics and vaccines, and improved education.

In 1950, the average life expect- ancy was 47. Today, it’s 78, Ga- garde said, citing estimates from the United Nations. She called this the “sunny side of demographics.”

However, better conditions mean that families are raising fewer, even if better educated, children, she said. Populations are aging, she said. “countries are suffering from slower growth and less financial stability.” Long term, the same demographic changes are likely to appear in developing nations as well, she said.

“we must address a huge de- mographic challenge, so we can leave our economies and societies better than we found them,” she said.

Lagarde acknowledged there are multiple viewpoints in this “debate about demographics” and how to approach the prob- lem. “We need a multi-pronged ap- proach.”

She proposed what she called “game-changers” that center on entitlement reform, improved tax systems and public expenditure, and increasing countries GDPs.

“Energy pricing is key,” she said, adding that countries should introduce new taxes and scale back many of their subsidies. By the IMF’s estimate, global energy subsidies — both directly and in- directly — cost $5.3 trillion last year.

Lagarde’s talk was followed by a Q&A with President Rafael Reif and the public. When Presi- dent Reif asked her about climate change, she said, “I believe that each and every one of us can do something about it.” She referred to Milan, Italy, which is currently considering paying its residents to bike to work.

Beyond her official duties, La- garde serves as a role model for her unprecedented accomplish- ments as a woman in finance. Not only was she the first female to direct the IMF, but she had previ- ously been France’s first female fi- nance and minister of economy.

“I work in a world where there are too many men and not enough women,” Lagarde said.

In her talk, Lagarde said IMF research showed that growing the female workforce could single- handedly increase the GDP of the United States by five percent.

“we think it’s critically important that we improve the parity, that we reduce the discrimination, that we give everybody a chance to ac- complish what they can accom- plish,” she said in the interview.

And “I also believe that women can be very conducive to a better world.”

Peer2Peer gets four chats a week, hopes volume increases

Currently, service has 19 ‘listeners’ whom users can filter by interest

Peers2Peer, from Page 1

of the devices they [support]. I think the kinds of conversations you have on mobile devices are different from those you may have while sitting down on your laptop. For example, Peer- 2Peer’s interface allows you to se- lect a listener based on what you are interested in talking about and has a built-in listener support chat for listeners to support one anoth- er and share advice.

Peer2Peer users talk to dedi- cated “listeners” who participate in training that includes a thirty- minute virtual tutorial about MIT- specific mental health resources.

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Peer2Peer originally started as an email-based service after Nightline, MIT’s crisis hotline, shut down in 2010 because the majority of callers weren’t from MIT. “Individuals from outside the community were calling in for support and volunteers were not equipped to handle the flux of non-MIT related calls,” Chillin- gian said.

Two volunteers, Isabella Lu- bin ’12 and Tripura Wagner ’13, formed the early version of Peer- 2Peer; students would email in chats about their lives and peers would respond within a few hours. The service then launched its own chat network, but graduated before Peer2Peer hopes to increase this number to around fifty by the end of the semester.

Peer2Peer users talk to dedi- cated “listeners” who participate in training that includes a thirty- minute virtual tutorial about MIT- specific mental health resources.

“In the future, Waldheter wants to hold Peer2Peer office hours for all clubs to discuss responses to crises and ways to educate users about mental health resources. The service is currently seeing about four chats per day, but Waldheter hopes that with time, that number will go up.

Peer2Peer’s website can be found at peer2peer.mit.edu.
MIT Admissions
TELETHON

When  Tues, March 15, 5:30 – 11:00 p.m.
      Wed, March 16, 5:30 – 11:00 p.m.
Where  Bush Room (10-105)
Why     To congratulate the new prefrosh!

No need to sign up - just show up!
Bring your friends!
FREE FOOD!

Questions? Email telethons@mit.edu

Campus Preview Weekend  
April 7-10, 2016

Host a prefrosh  
Volunteer to help  
...GET INVOLVED!

SIGN UP BY MARCH 25
community.mitcpw.org
Visitors to the VR@MIT event were able to interact with Oculus Rift, HTC Vive and Gear VR headsets in the Media Lab.

The MIT Shakespeare Ensemble presents

MUCH ADO ABOUT NOTHING

March 11-12, 17-19 at 8pm
March 13 at 4pm
La Sala de Puerto Rico (W20-202)

Directed by
Damon Krometis

$5 for MIT, Wellesley, and Harvard Students
$9 for other Students and MIT Community
$12 for General Public

Reserve tickets at
ensemble.mit.edu/tickets

Questions? Email
much-request@mit.edu
### Hands...

Solution, page 3

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.

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United States Map

It would be pretty unfair to give to someone a blank version of this map as a ‘how many states can you name?’ quiz. (If you include Alaska and Hawaii, you should swap the Aleutian Islands with the Hawaiian ones.)

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A WEBcomic of Romance, Sarcasm, Math, and Language

by Randall Munroe

[1653] United States Map
Nick Orsi is a Visual Development Artist from Disney who spent a year working on the animated feature "The Embrace of the Serpent." He was responsible for the visual development of the film's protagonist, Karamakate. In this interview, he discusses his experiences working on the film, including his collaboration with the film's director, Julia Guerra, and the challenges of creating a visually stunning film.

**The Tech:** How did you get involved with "The Embrace of the Serpent"? How did you meet Julia Guerra, the director?

**Nick Orsi:** I got involved with "The Embrace of the Serpent" through Disney's Visual Development department. I was brought on to help develop the look of the film, working closely with the director, Julia Guerra, and her team. We collaborated on the visual development of the film, ensuring that it was as visually striking as possible.

**The Tech:** What was the most challenging part of the process for you?

**Nick Orsi:** One of the most challenging parts of the process was ensuring that the visual development was true to the film's setting and themes. We wanted to create a world that was as rich and detailed as possible, while also being true to the film's message about the indigenous peoples of Colombia.

**The Tech:** What was the most rewarding part of the process for you?

**Nick Orsi:** The most rewarding part of the process was seeing the finished film and knowing that our hard work had paid off. It was a real thrill to see the film come together and know that we had helped create something truly special.

**The Tech:** What advice would you give to aspiring visual artists who are interested in working in the film industry?

**Nick Orsi:** My advice to aspiring visual artists would be to work hard, be persistent, and never give up. It's a competitive industry, but with hard work and dedication, you can make it.

**The Tech:** Thank you for your time and for sharing your insights with us.

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The Tech 15

MOVIE REVIEW

WTF offers a unique perspective on life on the frontline
Tina Fey brings a war reporter’s remarkable memoir to the big screen

★★★★☆

Whiskey Tango Foxtrot
Directed by Glenn Ficarra and John Requa
Starring Tina Fey, Margot Robbie, and Martin Freeman
Rated R
Now Playing

By Josh Cowls

Reviews often destroy movies, and only rarely, as in the case of Whiskey Tango Foxtrot, do they create them. In 2011, a New York Times review of Kim Barker’s wartime mem- oir The Taliban Shuffle—described Barker as “a sort of Tina Fey character, who unexpectedly finds herself addicted to the adrenaline rush of war.” This caught the eye of Fey herself, who began pulling strings to bring Barker’s story to movie audiences as Whiskey Tango Foxtrot.

The transition from page to screen is largely seamless, resulting in an engaging depiction of the personal sacrifices of reporting on a war. There is certainly some artistic license taken rendering Barker and her experiences. Some of the changes are banal — Fey’s character is subtly renamed Kim Baker here — but others are more sub- stantive. In reality, Barker was a print corre- spondent for the Chicago Tribune, but on screen she appears, appropriately enough, as a TV reporter. In an interview, Barker ex- pressed her initial fear that the movie would become “Anchorman in Afghanistan” as a result — yet while the TV reporter conceit does enable a scattering of visual gags, it also ratchets up the dramatic tension at several moments. Fey’s Baker is unafraid to leap into the line of fire, camera in hand.

Baker’s determination to chase stories builds steadily over the film, offering a compelling, non-traditional vision of battlefield bravery; viewers may detect in Fey’s depic- tion a shade of Jessica Chastain’s tenacity under pressure in Zero Dark Thirty. Yet by and large, in its depiction of war, WTF opts for banality over brutality. Life in the “Ka- bubbles,” as the western media encampment in Afghanistan’s capital is known, in laid bare: there are parties, affairs, and even a broken nose or two, even as war is waged outside with gunfire and bomb blasts in earshot.

As entertaining as life in the Kabubbles is made to seem, the film is at its best when it follows Baker working the beat with her Af- ghan maternity (whom, with whom she forms a close emotional bond. Reporting from Af- ghanistan as a woman is both a blessing and a curse; from behind her TV camera, Baker gets a more inside the lives of Afghan women living through the war, and she is even able to turn the unwelcome advances of a tech- nical local politician to her professional advantage.

Fey is supported by a stellar cast: Mar- tin Freeman is convincing as veteran Glas- swegian reporter Iain MacKelpie, and Billy Bob Thornton steals scenes as an impassive general.

As a critical examination of America’s involvement in Afghanistan, and how it re- lates to the invasion of Iraq, Whiskey Tango Foxtrot falls short; there’s little answer here to the question of what war is good for, and the impact of the conflict on ordinary Af- ghan life is too often smudged in soft focus and as background noise. But what the film does offer is sharp, visceral insight into the experience of reporting from the frontline, and all the politics and pressures which lie behind getting a story from the front to the headlines.

MOVIE REVIEW

Zootopia is humorous but drives home a hard message
Disney’s newest animated feature film is darker than expected, but still carries a ray of hope

By Lenny Martinez

Animated movies can be fun for adults, and they’re aimed at kids. And at first, Zootopia feels like purely a kid’s movie with a straightforward plot that we’ve seen before: two clashing personalities must come to- gether to save the day. But as the plot shifts, building up to the movie’s core message, you find yourself engaging with it on a level un- common to a typical kid’s movie. And that’s where the magic happens.

Zootopia tells the story of Judy Hopps (voiced by Ginnifer Goodwin), who be- comes the first rabbit cop in a police force full of fierce predator animals and moves to the central sector of the animal city Zoo- topia. Although at first things don’t seem to be going her way, Judy is still committed to make it as a police officer and, with her job on the line, takes on the task of finding an otter who has gone missing. With few clues, Judy finds herself working together with the con artist fo Nick Wilde (voiced by Jason Bateman). Together, they must put aside their differences and combine their strengths to find the missing animal — all before Judy loses her job.

A lot of the plot is centered around ten- sions between predators and prey (two nat- urally conflicting groups) and stereotypes. Bunnies are stereotypically cute, defenseless animals; foxes are stereotypically sneaky, selfish, and cunning. But Judy, who may be a cute bunny, also graduated at the top of her class at the police academy. And while Nick is rightfully sneaky and cunning (he is a con artist after all), he is also determined by Judy. If we take out the animated characters and spectacular environment in which they live and look at the overarching message of the story, we see a movie showing that life isn’t defined by stereotypes or by specific relationships that may have been true in the past. It’s a movie about adapting to challeng- es and coming together to move forward the same goal. And while that may sound sappy, it’s very relevant today and conveyed easily through the use of animated animals.

Disney has made other movies featuring animals as the protagonists, but never one with such a diverse range of animals. Water buffaloes, giraffes, llamas, sheep, panthers, fox- es, bats, shrews, sloths, sloths, elephants, and one naturalistic (read: nude) yak make up just a small part of the whole lot of animals featured in the movie. With hamster office workers, a lion mayor, ice-cream shop own- ing elephants, and of course, the awesome sloth DMV employees, Zootopia lives up to its motto of “anyone can be anything.”

Having such a diverse cast also means having a varied environment, because clearly all these animals have different needs. Zootopia is split into different sec- tors (which feel a lot like the boroughs in New York City): the big-city-feeling Savanna with such a diverse range of animals. Water buffaloes, giraffes, llamas, sheep, panthers, foxes, bats, shrews, sloths, sloths, elephants, and one naturalistic (read: nude) yak make up just a small part of the whole lot of animals featured in the movie. With hamster office workers, a lion mayor, ice-cream shop owning elephants, and of course, the awesome sloth DMV employees, Zootopia lives up to its motto of “anyone can be anything.”

Rainforest District are but a few. In each sector, Judy and Nick meet a different set of animals that make their journey all the more exciting and challenging. In Little Rodentia, for example, Judy manages to save a Fru Fru, a small arctic shrew that saves her from a cold demise later on. In Savanna Central, Judy is introduced to Flash, one of the fastest dogs at the Department of Mammal Vehicles, who helps her track a clue in the case of the missing mammals.

One of the things that shines about this movie is the way they manage to make it en- joyable for both younger and older audienc- es. For example, there is this great sequence in the Rainforest District involving viruses, logs, and a big cat that was reminiscent of Tarzan, one of my favorite childhood mov- ies. Another example, and one of the sell- ing points of the movie, is the humor. While most of the humor is constructed to appeal to children, the movie includes a lot of jokes that only the older viewers will understand. One of the earliest instances is the welcome sign to Bunnyburrow, which features a con- stantly-spinning population counter to joke that bunnies reproduce like crazy. Other funny references include characters based on pop culture phenomena like The Godfa- ther, Walter White from Breaking Bad, and Snoop from Jersey Shore.

Tina Fey plays Kim Baker in Whiskey Tango Foxtrot. COURTESY OF WALT DISNEY PICTURES

Nick Wilde and Judy Hopps sit in on Fru Fru’s wedding dinner. COURTESY OF WALT DISNEY PICTURES

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One of the things that shines about this movie is the way they manage to make it en- joyable for both younger and older audienc- es. For example, there is this great sequence in the Rainforest District involving viruses, logs, and a big cat that was reminiscent of Tarzan, one of my favorite childhood mov- ies. Another example, and one of the sell- ing points of the movie, is the humor. While most of the humor is constructed to appeal to children, the movie includes a lot of jokes that only the older viewers will understand. One of the earliest instances is the welcome sign to Bunnyburrow, which features a con- stantly-spinning population counter to joke that bunnies reproduce like crazy. Other funny references include characters based on pop culture phenomena like The Godfa- ther, Walter White from Breaking Bad, and Snoop from Jersey Shore.

Tina Fey plays Kim Baker in Whiskey Tango Foxtrot. COURTESY OF WALT DISNEY PICTURES

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The nationally-ranked No. 14 MIT sailing team finished in third place at the Sharpe Trophy over the weekend at Brown University.

In a very competitive field comprising nine programs, seven of which are ranked in the Sailing World College top 20, the Engineers compiled a record of 7-5 for third place just behind No. 19 Tufts University to claim the third position.

David Larson ’16, Alex Stew- art ’17, Ty Ingram ’16, and Cutter O’Connell ’18 served as the skip- pers at the Sharpe Trophy for the Cardinal and Gray. Competing as the crew at the regatta were Lisa Saltkaviev-Chuyan ’16, Chris- topher Ford ’16, Jordan Ludd ‘17, Kyle Jaba-Woodruff ’17, and Greta Furrill ’18.

In the first round, the Engi- neers bested Brown (2-3-5), Bow- doin College (1-3-5), Dartmouth (2-3-4), Yale University (1-2-4), Rhode Island University (1-3-4), and Brown II (1-2-5). As a team, MIT compiled a record of 6-3 in the opening stage, before advancing to the Final Four.

In the Final Four, MIT came away with a win over Tufts (2-3-4), but fell to Brown (3-4-6) and Dartmouth (4-5-6) for a mark of 1-2 in the stage and an overall mark of 7-5 for the weekend.

This weekend was the fifth time since the 2009-10 season that MIT competed at the Sharpe Trophy and third time in which the Cardinal and Gray secured a third place finish among elite teams.

MIT returns to action next weekend, March 12 and 13, in the Wood Team Race hosted by Harvard University and the Tufts Invitational Team Race hosted by Tufts University.