MIT's Oldest and Largest Newspaper

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The Tech

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Volume 139, Number 13

Thursday, May 9, 2019

WEATHER, p. 2

THU: 55°F | 46°F
Mostly sunny

FRI: 60°F | 55°F
Showers

SAT: 63°F | 48°F
Mostly sunny

KEVIN LY—THE TECH

MIT students celebrate "Bananaversary" for the Compton Lounge's one-year anniversary by holding a banana bread baking contest and giving away chocolate frozen banana treats May 3.

GSL faculty may all move to other units if proposal succeeds

SHASS Dean Nobles cites 'long-standing organizational issues'

By Jessica Shi
EDITOR IN CHIEF

Global Studies and Languages may soon be restructured to move all faculty to other academic units, if current proposals are carried to completion. Language instruction should remain intact, but major and minor programs may be affected.

Melissa Nobles, dean of the School of Humanities, Arts, and Social Sciences, is leading this process. Nobles and Agustin Rayo PhD '01, associate dean of SHASS, emailed a joint statement to *The Tech*.

"Dean Nobles has outlined a proposal for the restructuring in very broad terms," Rayo wrote. "The basic idea is that the language instruction program (Global Languages) would remain in place — along with lecturers, senior lecturers, and staff — but that GSL faculty would move to other SHASS academic units, where their research and expertise are at home."

GSL, Page 2

Student center fifth floor space reopens

Renovation includes areas for group and individual study, to be open 24/7

By Rujul Gandhi
ASSOCIATE NEWS EDITOR

The former Athena cluster on the fifth floor of the Stratton Student Center reopened as a study space on Friday. The space features both private and open study spaces and is meant for group study.

The Athena cluster was closed for renovations during the fall 2018 semester. The goal of the renovation was to create a space for study and projects, and for individuals to work both alone and in groups. Burkett said that the fifth floor study space, as it is currently being called, is a public student lounge open to all students 24/7.

There are many changes to the space. Old Athena computers have been removed. The new space has four Athena computers. There are multiple tables, which can be moved around to make larger tables. Additional light fixtures have been installed. Small, semi-private

W20, Page 2

IN SHORT

Remember to **check your syllabi** and report any end-of-term violations to the UA at http://ua.mit.edu/policy/violations/ or to the chair of the faculty at examtermregs@mit.edu.

Blood drive donations will be collected in La Sala, the second floor of the Student Center May 13 to 16. The blood drive is organized by the American Red Cross Team and Network of MIT. Walk-ins or appointments are welcome.

The **last dayof spring semester classes** is May 16. Finals begin May 20.

The **State Democratic Party caucus** for the MIT region (Ward 2) will be held May 17 at 9 a.m. at New House (471 Memorial Drive).

End-of-term **subject evaluations** are now open. Visit http://registrar.mit.edu/subjectevaluation to access your evaluations. The deadline is May 20 at 9 a.m.

Spring term **meal plans** end with dinner on May 24.

All non-graduating undergraduate students without summer student housing or approved extension must **move out** by May 26 at 12 p.m.

Pre-registration for summer and fall 2019 is currently open. The deadline to initiate fall pre-registration and enter the lottery for a CI-H/HW subject is June 17 at 5 p.m.

Want to **write for The Tech**? Contact us at join@tech.mit.edu to get started.

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

MIT Solve opening plenary discusses technological solutions for inequality

New Innovation Fund will raise $30 million for Solver teams

By Whitney Zhang
NEWS EDITOR

Several speakers, including President L. Rafael Reif, discussed "Tech for Equality" at the opening plenary of Solve at MIT Tuesday. At the plenary, Alex Amouyel, the executive director of Solve, announced the launch of the Solve Innovation Fund.

Solve issues four Global Challenges each year for Solver teams to develop solutions. The challenges for 2019 are Circular Economy, Community-Driven Innovation, Early Childhood Development, and Healthy Cities. Solve then selects the most promising teams and scales their solutions.

The Solve Innovation Fund will raise over $30 million from tax-deductible gifts to make debt and equity investments in for-profit Solver teams. All returns will be reinvested into future Solver teams, according to a statement from MIT Solve.

Reif spoke about Solve as emblematic of MIT's campus culture of "problem solving" and "serving society." He also emphasized the importance of a diverse team for tackling major global problems.

Noubar Afeyan PhD '87, founder and CEO of Flagship Pioneering, MIT Corporation member, and founding anchor of the Fund, spoke about his role and encouraged the Solvers to persist with "unreasonable ideas."

Other speakers at the opening plenary included leaders from international organizations and corporations.

Musician, public speaker, and community organizer Lyla June spoke about the importance of including indigenous voices and performed her song "All Nations Rise," to a standing ovation.

Stephanie Mehta, editor in chief of Fast Company, moderated a forum between Joichi "Joi" Ito, director of the MIT media lab; Alaa Murabit, UN high level commissioner of health, employment, and economic growth; and Mark Reuss, president of General Motors. They discussed General Motors's role in tackling inequality, ethical problems in the use of predictive algorithms, and inclusion of communities in conversations about developing solutions for their problems.

Mehta also moderated a forum between Luis Alberto Moreno, president of the Inter-American Development Bank; Precious Moloi-Motsepe, deputy chairperson and CEO of the Motsepe Foundation; and Fohla Mouftaou, manager of Green Keeper Africa. They discussed their visions for West and South Africa, methods for scaling solutions, and the role of technology in enhancing the workforce.

Solve at MIT events end May 9. Teams can submit their solutions until July 1.

KEVIN LY—THE TECH

Members of MIT Rambax led by Lamine Touré perform a variety of drum and dance routines, known as sabar, on the steps of the Stratton Student Center May 4.

THE FAILURES OF OUR CLIMATE POLITICS

We no longer have time for discussion.
OPINION, p. 4

STRUGGLING AT MIT

Auntie advises one somewhat sick and one deeply despondent student. **CAMPUS LIFE, p. 5**

A CAPPELLA WEEKEND

Featuring the Asymptones, Resonance, Muses, Ohms, and Syncopasian.
PHOTO, p. 6

MOLDING MEDICINE WITH MATERIALS

The Anderson Lab develops nano materials for medicine.
SCIENCE, p. 10

SECTIONS

WEATHER

The sun came out!

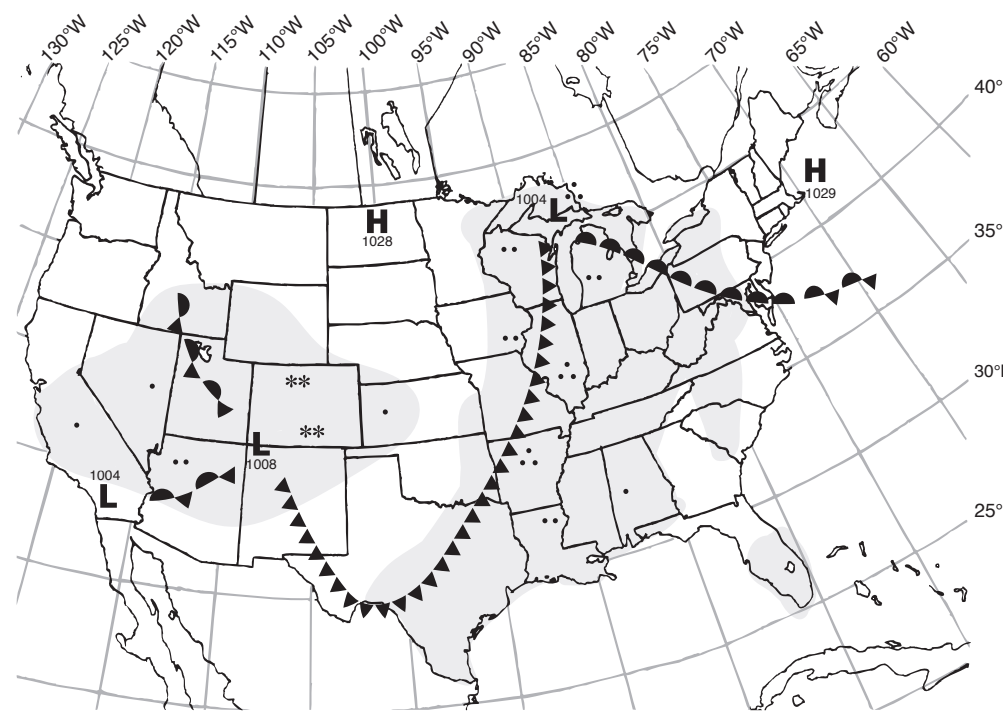
By Sarah Weidman
STAFF METEOROLOGIST

For the first time in what seemed like many weeks, the sun came out earlier this week! We experienced some very nice weather early this week, which was a welcome break after such a rainy April. April 2019 set the record for the rainiest month in Boston since 1872 with 21 days of rain. Hopefully this will result in a green summer with lots of happy plants. We'll have to endure another couple of showers and some cooler weather again this weekend, but hopefully we'll start to see more summery weather later next week.

Significant climate anomalies are occurring elsewhere in the country this year as well. The deep south saw an unusually large number of reported tornadoes this April: 274. Seattle also set an April rainfall record of with the most consecutive days of rain: 12. Some parts of Alaska saw the warmest April on record, resulting in some of the earliest ice breakups for several rivers. It will be interesting to see what weather this year follows this crazy month.

Extended Forecast

Today: Mostly sunny. High around 55°F (13°C). East winds at 8-12 mph.
Tonight: Mostly cloudy. Low around 46°F (8°C). South winds at 8-12 mph.
Tomorrow: Showers. High around 60°F (16°C) and low around 55°F (13°C). South winds around 14-29 mph.
Saturday: Mostly sunny. High around 63°F (17°C) and low around 48°F (9°C).
Sunday: Sunny, then chance of rain. High around 55°F (13°C).



Situation for Noon Eastern Time, Thursday, May 9, 2019

Prof. Condry: 'I'm worried about stripping the GSL faculty away from GSL'

GSL, from Page 1

"The proposal is in response to long-standing organizational issues, and informed by my conversations with members of the GSL faculty, as well as the work of previous committees, especially the 2011 SHASS Reorganization Advisory Committee," Nobles wrote.

The organizational issues include "relatively small faculty size and how that has impacted long-term planning," as well as internal "personnel matters," Nobles explained.

The 2011 committee proposed a Global Languages Center with a faculty director, associate director, staff senior lecturers, and lecturers in language instruction. Nobles believes the new GSL "may look very much like" this earlier idea, she wrote.

Nobles has asked Rayo to submit a report with a more detailed proposal by the end of the semester, the statement said. Afterwards, Nobles intends to present the proposal to relevant committees and implement the restructuring "as expeditiously as reasonable."

"I'm worried about stripping the GSL faculty away from GSL," Ian Condry, professor of Japanese language and culture, said in an interview with *The Tech*. "I think it will do damage to the language programs at MIT. I think it hurts our commitment to excellence. I think the majors and minors programs will be at risk."

Condry was head of GSL from 2013–2015. (For part of Condry's term, GSL was called Foreign Languages and Literatures, its previous name).

"My main desire is that there is a little bit more of an open and thoughtful discussion that occurs over a longer period of time," Condry continued. "We have never seen a written down plan, so it's hard to say, but we faculty in GSL have been encouraged to find other departments that will accept us as soon as the fall."

Rayo wrote that his role is not to decide whether the restructuring should take place, but rather to write a recommendation on how to proceed assuming that it will, according to an email chain sent to Comparative Media Studies/Writing faculty May 3 and forwarded to *The Tech* by Condry.

Also in the chain was an email to GSL lecturers from Rayo, in which Rayo presented two "reasonable working hypotheses" about what would happen if the restructuring took place. First, current GSL faculty would "no longer be responsible for supporting GSL's programs." Second, GSL would, due to its budget, likely be unable to hire new teaching staff in replacement.

Faculty can choose to continue supporting GSL, but Rayo wrote that he has encouraged junior faculty to focus on building tenure dossiers in their new departments instead.

Rayo also wrote that he hopes there would be no significant changes required to the concentrations. For minors, however, changes would likely be needed, perhaps in the form of loosening requirements or working with faculty, including in other departments, to ensure that classes they are interested in teaching are listed as options for the relevant program.

"It goes without saying that reconceiving the majors is more challenging than reconceiving the minors," Rayo added. "My own hope is that we'll be able to keep them in place."

"The study of global languages and cultures is one of the most popular SHASS areas for MIT undergraduates, and an essential component in preparing students to live and work in a globalizing world," Emma Teng, head of GSL, wrote in an email to *The Tech*.

"Going forward, our goal to deliver these strengths to MIT students will be unchanged, and it's my hope we can further strengthen language and culture education on campus through new opportunities for study abroad and with language classes for professional purposes," Teng continued, citing medical Spanish, Chinese for engineers, and business French as examples.

Teng did not respond to a further request for comment about whether she supported the proposal to remove faculty from GSL.

Three students are currently majoring in GSL's programs and 65 are minoring, according to Joyce Roberge, undergraduate academic administrator for GSL, in an email to *The Tech*. GSL has five tenured faculty and five non-tenured faculty.

"I don't think of us as a small department," Condry said. "We have enrollments over 2,000 each year." However, Condry acknowledged that one source of GSL's struggles is that there are very few senior faculty, and GSL has "lost" three faculty lines to other departments over the years.

Faculty lines refer to faculty members whose "home and salaries are within the budget of the section," Condry explained.

Getting those lines back would make a significant difference for GSL, Condry continued. Other possibilities for reducing the burden on senior faculty include having faculty with joint appointments in other departments work with GSL for a few years.

If implemented, the proposed restructuring would move GSL in the opposite direction, likely resulting in GSL being downgraded from a "section" to a "program," according to Condry's understanding of the situation.

Sections have heads that attend SHASS School Council, while programs do not. Heads participate in discussions and voting, primarily regarding tenure and promotion cases. WGS is an example of a program, which has a faculty director who can attend "extended School Council" for "general announcements and discussions," Condry wrote in an email to *The Tech*.

"The importance of having a Head is that it gives a voice to a Section's concerns directly to the Dean and in consultation with the Heads of other departments," Condry wrote.

Siranush Babakhanova '20, a French minor who heard about the proposed restructuring through one of her classes, wrote in an email to *The Tech*, "I cannot help myself stressing the importance of the advanced classes in the GSL. I took one in French on the topic of Queer Studies and one in English on the topic of Africa's place in the world. ... [B]oth may not exist anymore because of these changes."

The process of restructuring is "directly affecting not only students in GSL and professors but also all kinds of national groups and the very vision of MIT — as something that seeks for technology and innovation and inclusiveness," Babakhanova wrote.

Rayo wrote in his statement to *The Tech* that he has met or will meet with every faculty, lecturer, and staff member of GSL, and he is also soliciting input from other SHASS departments. If students want to discuss the restructuring, they are also welcome to contact Robin Palazzolo (robinss@mit.edu) to set up a meeting time.

Blue and green design based on studies that claim these colors are conducive to study and relaxation

W20, from Page 1

study spaces have been built along one wall, in response to a demand for individual spaces.

"I like that there are quiet spaces and public spaces," Gustavo Santiago '22 said in an interview with *The Tech*. "I think it's a good and calm place to study in a group or alone."

The area also has a new color scheme and furniture. Burkett said, "We heard loud and clear from students: we want comfortable furniture that can be moved around." Different furniture ideas were tested by students before one was finalized. The color scheme of the space includes shades of blue and green. According to Burkett, the students involved in planning suggested this based on studies that identified blue and green as colors conducive to study and relaxation.

"It's more bright and colorful and open," Loren Maggiore '20 said in an interview with *The Tech*. "The Stud needed more group spaces."

Students also wanted more writing surfaces, according to Burkett. To accommodate this, the study space has multiple glass and whiteboard walls. The glass walls also bring power outlets to the central portion of the room.

Alexis Schneider '21 told *The Tech* that she liked the whiteboards, adding that the space has a "really nice vibe" and that it "kinda feels like a tech company."

The capacity of the space is 150, including the semi-private pods.

Burkett said that the thought process behind the renovations had been going on for about an year and a half. "There was a lot of input from different constituencies," he said. The Undergraduate Association, Association of Student Activities, and the Campus Activities Complex Advisory Board were involved in discussion. The CAC Advisory Board is comprised of staff, faculty, and students representatives.

Some similarities to the old space remain. The printers, including a color printer, which were in the former Athena cluster, have been returned to the space. The windows, skylight, and coffered ceiling have been maintained. "There is a lot of natural light, ... and we were very intentional in keeping that," Burkett said.

Nikhil Murthy '21 told *The Tech* it was his first time using the space and he planned to use it more. "It seems much brighter than before. I really like the open air environment," he said. "I think the Athena cluster before felt like just a working space."

Additions are still being made to the space. One or two new computers are expected to be added, and furniture pieces are still arriving. Burkett said that the rationale behind reopening the lounge at this time was to have it ready before finals week. "The students told us: it's okay if you take it offline to make it nicer and better, but we would love for the space to be available back to the students before the heavy study time of finals."

A formal opening of the space will take place next fall.

According to Burkett, this renovation is part of a two phase project. The second phase plans to renovate a smaller area behind this study space into two private rooms. These rooms would be available to students 24/7. They are intended to be for settings such as a job interview or project design. Further renovation of other spaces in the Student Center is planned for the long term, as part of a project to make the building more welcoming and engaging. The bathrooms in the basement of the building were recently renovated as a part of this process, and a working group has been formed to restructure the Lobdell dining area.

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GUEST COLUMN

Lack of ambition for next year's Climate Symposia

MIT's climate action is long overdue

By Alexandre Tuel

Last week, the six topics of MIT's upcoming climate symposia were unveiled: after an introduction to the challenges of climate science ("Progress in Climate Science") and policy ("The Climate Policy Problem"), two symposia will focus on the issues of clean energy and the carbon-free economy ("Decarbonizing the Electricity Sector" and "Economy-wide Deep Decarbonization — Beyond Electricity!"), followed by a discussion on MIT's role ("MIT Initiatives and the Role of Research Universities") then a conclusion ("Summing Up: Why are we waiting?").

Although the speakers and specific discussion topics are yet unknown, the least one can say about the selected symposia topics is that they lack originality and boldness. Take any climate symposium organized by governments, universities, or NGOs over the last 15 years, and you will more or less find the same things. Been there, done that. No need to discourse at large on these hackneyed topics.

By and large, we already know what should be done to avoid the worst consequences of rapid global warming. The reasons the world has failed to take action are equally clear. International conferences follow one another, and with them the disappointments and lack of progress; the now annual spectacle put on by helpless and reluctant politicians has become a farce and a mere few minutes spent following the debates at recent COP conferences leaves no one wondering: "Why are we waiting?"

Limiting the climate change debate in 2019, at MIT, one of the world's top universities, to lukewarm conversations about the failure of climate policies and the need for clean energy is not just a waste of time; it is a disgrace. We have too long taken refuge in lengthy discussions to avoid facing our responsibilities, both as individuals and as members of institutions. Now is not the time for vague discussions anymore, but for action. The recent acceleration of climate change, whether measured by the increase in world temperatures, ice melting or extreme events, forces us to confront reality. Where governments and companies have failed, people must rise to take action and avoid catastrophe.

That is where institutions like MIT must play a role. Large research universities have brought not only scientific progress and innovation to the world; by educating countless generations of students, they have spread critical thinking and inspired communities to change. Today, as mankind faces what is arguably the largest existential threat it has ever experienced, the world has a right to expect of MIT to be bold and to put forward new and radical propositions. And the world should not see MIT going about business as usual, avoiding any radical change in its functioning, and investing but a few crumbs for appearances's sake.

MIT is in a unique position to be a leader and break new ground. And with its human, financial, and technological resources, the Institute is in a position to ask the questions that none wish to ask. Politicians have to think about electoral gain and what will be most pleasing to voters' ears. MIT does not. Corporations have to think about shareholders and quarterly budget reports. MIT does not. So why limit itself to repeating what has been said over and over again? Another lengthy discussion on clean energy is not going to accelerate the pace of technological progress or its adoption. Lamenting on the absence of concrete climate policies and the lack of political incentives for action will not get the United States back into the Paris agreement. Clearly, the debate over climate change must evolve. We have been discussing the same material for years to no avail. Now is time for a fresh start, with bold and new ideas on the table.

> **No need to discourse at large on these hackneyed topics.**

Inconvenient questions are not hard to find. While there is certainly merit in pushing for cleaner energy sources and the adoption of electric vehicles, it is a fallacy to believe that climate change, and environmental degradation in general, are purely engineering problems. Sadly, technology alone will not save us. The reality is that the problems we are facing today are mainly consequences of our consumption patterns and our overuse of technology. This is arguably one of the most important and most ignored — and willingly so — points in the climate change debate. The cleanest energy is that which is not consumed. No matter how efficient the plane is, flying around the country every other month will remain an environmental calamity. Switching to electric cars is pointless if people still need to drive dozens of kilometres to get to work or to the grocery store — and that doesn't even include the vast amounts of energy required to source materials for batteries and manufacture them. Putting solar panels on buildings will not offset the fuel burned to make and transport our food, clothes, and other electronic toys over thousands of kilometres. Besides, there is not enough steel on the planet to build enough wind turbines to meet the world's current electricity demand. And what to say of solar panels, which we have no idea how to recycle? Is this really the miraculous low-carbon economy that promises to relegate global warming to a bad memory?

It is true that the West, and America in particular, has to cope with the heritage of decades of political and economic decisions favoring gas-dependent lifestyles and economies: sprawling suburbs relying on individual ownership of cars, intensive agriculture based on groundwater pumping and fertiliser production fuelled by oil, and large-scale manufacturing and use of plastics. That is the reality we have to work with; that doesn't mean we shouldn't criticize it. Most of our emissions come from transportation, electricity production, and heat for buildings. Those are the problems we should be tackling head on. How do we get people to move around less? How do we rethink our housing strategies to lower urban energy demand? How do we get individuals and companies to pay the price for their environment-degrading actions? How do we offset for past carbon emissions that are likely enough to put us past the 1.5 degree Celsius mark, which is generally considered as a "manageable" threshold?

These are the inconvenient questions that MIT should put on the table. And the Institute should not limit itself to discussing them; it has to be a real-life, large-scale demonstrator, where innovative policies are tested, where our lifestyles are questioned and transformed. In short, MIT must show the world how to reinvent itself. For if MIT does not do it, who will?

Alexandre Tuel is a graduate student at MIT in the Department of Civil and Environmental Engineering.

OPINION POLICY

Editorials are the official opinion of *The Tech*. They are written by the Editorial Board, which consists of Publisher Áron Ricardo Perez-Lopez, Editor in Chief Jessica Shi, Managing Editor Ivana Alardin, Executive Editor Nathan Liang, and Opinion Editor Fiona Chen.

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ADVICE

Plague and despair

Auntie Matter on feeling better

By Auntie Matter

If you have questions for Auntie Matter, please submit them at tinyurl.com/AskAuntieMatter. Questions have been edited for length, clarity, and content.

Dear Auntie Matter,

How do you know when to go to S^3? I've been feeling sick, but it hasn't been directly affecting my schoolwork. However, I feel like I should ask for something. Should I?

— Seeking S^3 Support

Dear S^3,

Why do you think you should ask for something? Are people telling you to do it? If so, their advice may or may not be relevant to you. Usually, the "something" that S^3 can help you with is getting extensions for assignments and working with you to create a plan for getting back on track after you've been sick.

If you feel that you have your work under control, you may not need help from S^3. In fact, extensions can just make you fall further behind because they can make work pile up. The main scenario in which extensions are useful is if you need rest time to get better from an illness or if your illness has kept you from doing work.

The same situation in which it would be good for one person to have an extension might not require one for someone else. It depends on your relationship to work; that is, whether it would genuinely let you recover or just stress you out. Only you can really know. Of course, if you are unsure what would help you, you can go to S^3, and they can discuss it with you.

Auntie hopes you feel better soon.

Dear Auntie Matter,

I fucking hate being an MIT student, but I have no idea what else to do with my life. Please advise.

— Miserable at MIT

Dear Miserable,

There is not enough information here to give you specific advice on how to improve your life. If you currently hate your life, you have to understand why that is — or at least have some idea — in order to change things effectively. Consider making an honest list of things you like and dislike in your life right now. (Do not do this when upset; the temptation will be to "dislike" everything, and Auntie sincerely doubts there is no shred of good in your life. If you tell yourself you "dislike" even the good, you will lose it, too.) If you can do more of any of the "likes" and fewer of the "dislikes," that might be a good place to start.

But your letter suggests more than wanting to change your life at MIT — it seems almost as if the only other option you can think of would be dropping out. Auntie cautions against doing this as anything but a last resort. You do not have a binary option of either staying at MIT just as you are or leaving. Instead, there are many ways you could change your current life without changing your status as an MIT student. There are lots of ways to be a student here. It seems unlikely all of them would make you miserable. It's possible that you can change your entire life here — where you live, what classes you take, what you do in your free time, who you spend time with, etc. Even if you cannot change all of these, you likely can change enough that your life could be very different. And if all else fails, of course you can leave MIT, but Auntie encourages you to try other changes first.

Of the other thing you say in this letter — that you cannot imagine anything that would make you happy — Auntie is highly suspicious. We tend to find nothing appealing because we cannot see anything as good, not because everything in the world is bad. The first thing to think about if nothing sounds good to you is your mood — you may be depressed or simply sad. As Auntie has written before, it is important to contemplate the future in a calm state of mind. Thinking about the future when we are already upset never fails to conjure trouble on the horizon. The other factor that may be at play here is your environment. MIT students can see a very narrow horizon of possible futures. Try speaking with adults who are not affiliated with MIT or even reading career books and taking career tests. There are many things that no one at MIT seems to do, even though they are wonderful vocations. For example, Auntie does not know anyone here planning to be a counselor, film-maker, lawyer, preacher, medical professional other than doctor, or writer, but these professions are not off-limits to you. Perhaps if the options look poor, you are not considering the right set of them.

Sometimes in lectures, instead of learning, I am freaking out

Why having free tampons and pads in campus bathrooms is necessary

By Yingni Wang

It was freshman fall, and I was sitting in my 7.012 lecture. Professor Eric Lander was up front, in his iconic blue shirt. Everyone was ready to get their minds blown away. Unlike my classmates, I could not focus on the lecture. I was instead intensely focused on an urgent optimization problem:

If I wait until the end of the lecture, will it bleed through my maroon pants? On second thought, these pants are quite dark, close to a taupe color, so even if it does bleed through, maybe it wouldn't be obvious? Oh my god, these seats are light grey, so if it bleeds through my pants, it will definitely stain the seat!

My friend next to me noticed my distress, and asked, "Everything OK?" I told her in the lightest whisper that I had just gotten my period. She asked her neighbor if she had a tampon or pad so I could still come back to lecture after addressing this emergency in the bathroom. But her neighbor didn't. There were more shoulder pokes and whispers, propagating through the large lecture hall. Now, instead of paying attention, 10 girls were briskly searching through their backpacks, hoping to find a spare tampon or pad to my rescue. One of my guy friends clearly felt excluded from this covert operation. After he insisted on knowing, I told him, and he suggested, "You should just bring them all the time!"

It was not bad advice. I distinctly remember giving similar advice to my best friend when she was visiting Beijing, my hometown. As a local, I dutifully suggested that she bring pocket pack Kleenexes with her all the time because there might not be toilet paper. But she always forgot. Once, we were in bathroom stalls right next to each other. As my friend put her hand under the gap of the stall wall, reaching for my Kleenex, I lightheartedly complained, "Stop using all my Kleenexes! Bring your own!"

"I'm not used to bathrooms without toilet paper! It doesn't make sense."

On a different continent and many time zones over, I, along with almost 50 percent of MIT, am used to using campus bathrooms without menstrual products. I am used to folding toilet paper in a dozen layers to make a substitute pad so I don't have to miss lecture. I am used to worrying about bleeding through those layers of toilet paper instead of actually listening to my lecturers. I am used to being so worried about bleeding through my make-do pads that I leave lectures to avoid embarrassing myself. I am used to blaming myself for forgetting to bring tampons or not bringing enough. I am used to this "little inconvenience."

It doesn't make sense.

Yingni Wang is a member of the Class of 2020.

NATHAN LIANG—THE TECH

ETHAN SIT—THE TECH

A Cappella Weekend

A cappella groups around campus hosted a slew of concerts in 10-250 over the weekend, sponsored by LEF/ARCADE and the UA. Featured are the Asymptones, Ohms, Muses, Syncopasian, and Resonance (ft. Video Game Orchestra).

KEVIN LY—THE TECH

ETHAN SIT—THE TECH

KEVIN LY—THE TECH

KEVIN LY—THE TECH

ETHAN SIT—THE TECH

ETHAN SIT—THE TECH

NATHAN LIANG—THE TECH

Banana

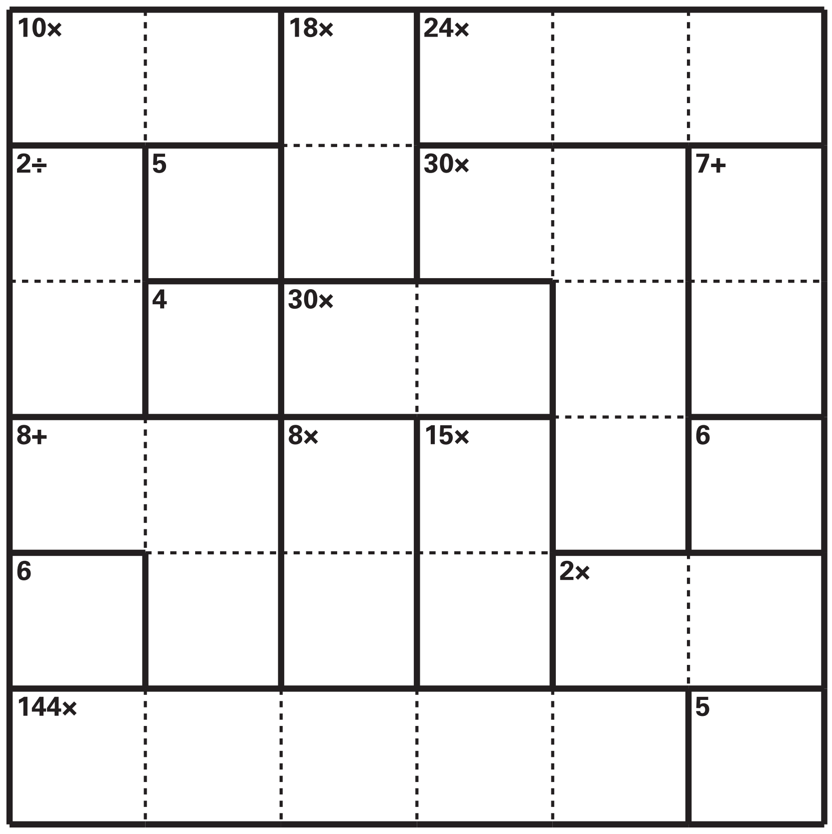
Solution, page 12

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

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

Clementine

Solution, page 12



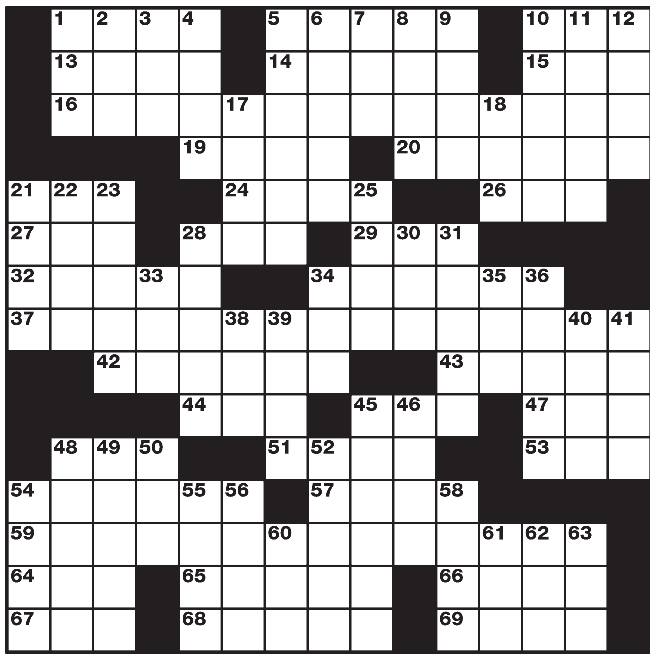
Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

Tuxedo Trio by Charles Slack

Solution, page 12

ACROSS
1 Seep
5 Very inexpensive
10 Double-curve shape
13 Low-quality
14 Specialized language
15 "Mamma __!"
16 Diner grill worker
19 Horse's father
20 Sculpture in a park
21 Find a sum
24 Poetic daybreak
26 Tyrannosaurus __
27 Type of evergreen
28 Irk
29 Mo. with no holidays
32 Sports venue
34 __ de corps (morale)
37 87-octane fuel
42 Small apartment
43 Any song from the '60s
44 PC bailout key
45 S&L device
47 Completely
48 Fawn's mother
51 Farmland measure
53 __ Misérables
54 Thrifty
57 What snobs "put on"
59 Treasure Island pirate
64 Business name abbr.
65 Battery pole
66 Covered with grease
67 Golf starting point
68 Inert gas
69 Begin one's day

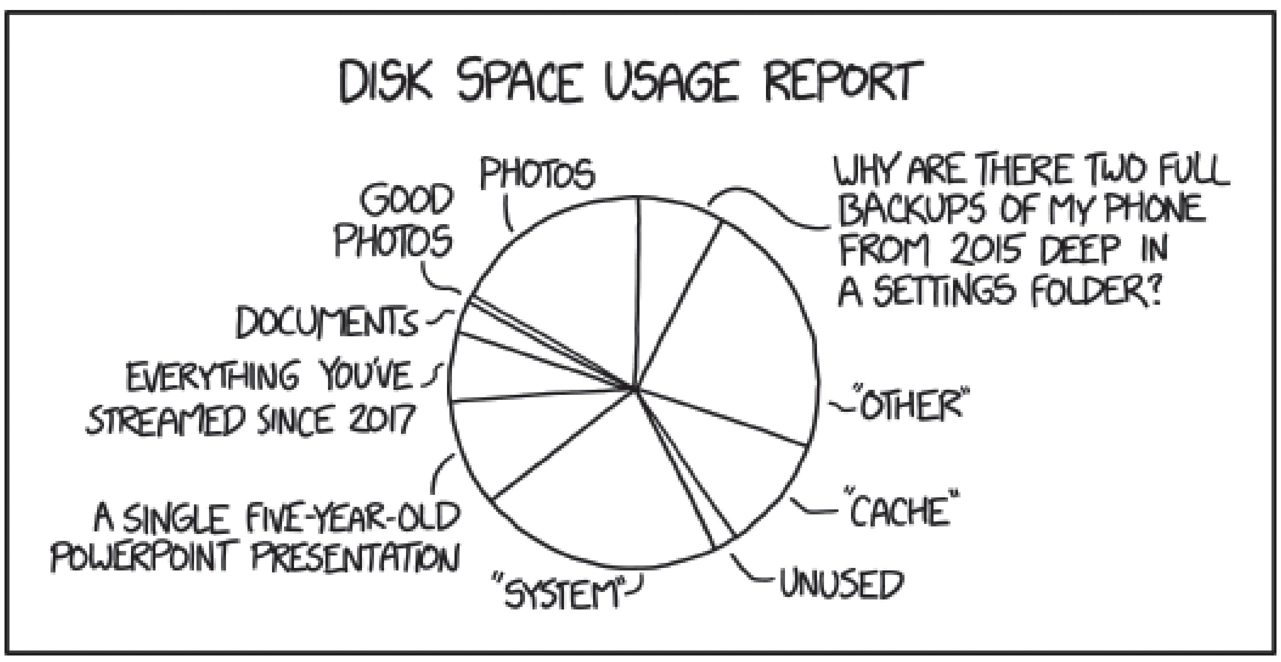
DOWN
1 Spy missions, for short
2 Aah partner
3 Menagerie
4 Makes a blunder
5 Bleach brand
6 Want-ad placer
7 Phase out
8 Quite a while
9 Left side, at sea
10 Ham it up
11 Sitting Bull, for one
12 Rice wine
17 Fourth dimension
18 Elevator compartment
21 Many miles away
22 In __ straits
23 Wine sediment
25 Rocket-launching letters
28 Financial worth
30 Increases
31 Horse handler
33 Bar-bowl morsel
34 Sense of self
35 Under the weather
36 Of ocean motion
38 Infomercials, for instance
39 Costa __
40 Long African waterway
41 Snakelike fish
45 Gone up
46 Actress Hatcher
48 Stingless bee
49 Post-office measure
50 Soft-boiled breakfast
52 "No problem"
54 Move like hummingbirds
55 Trojan War hero
56 Solitary
58 School zone sign
60 Sweetie pie
61 By way of
62 Lodge member
63 Something to toast, or toast with



[2143] Disk Usage

A WEBCOMIC OF ROMANCE, SARCASM, MATH, AND LANGUAGE

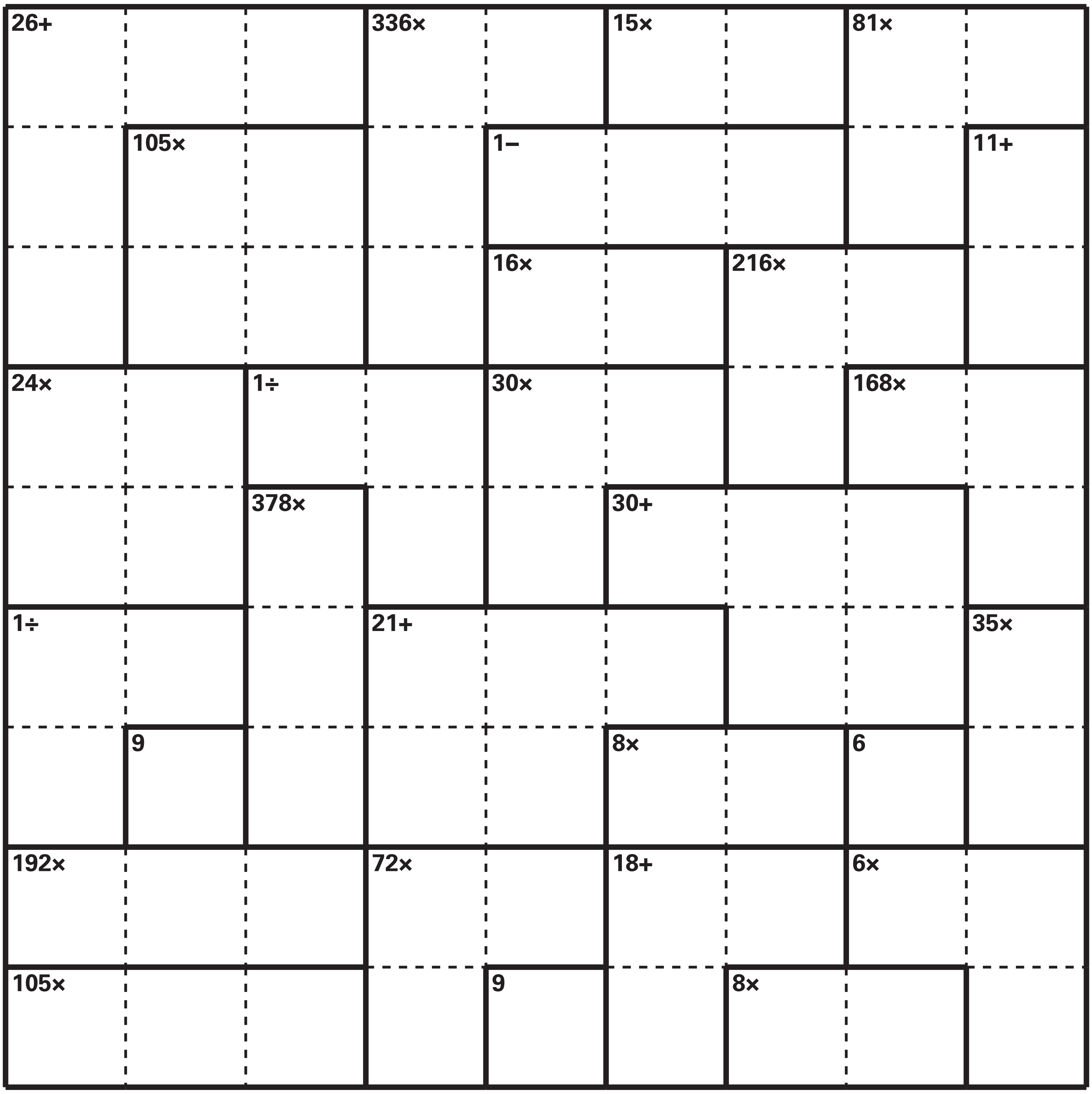
by Randall Munroe



Menu -> Manage -> [Optimize space usage, Encrypt disk usage report, Convert photos to text-only, Delete temporary files, Delete permanent files, Delete all files currently in use, Optimize menu options, Download cloud, Optimize cloud , Upload unused space to cloud]

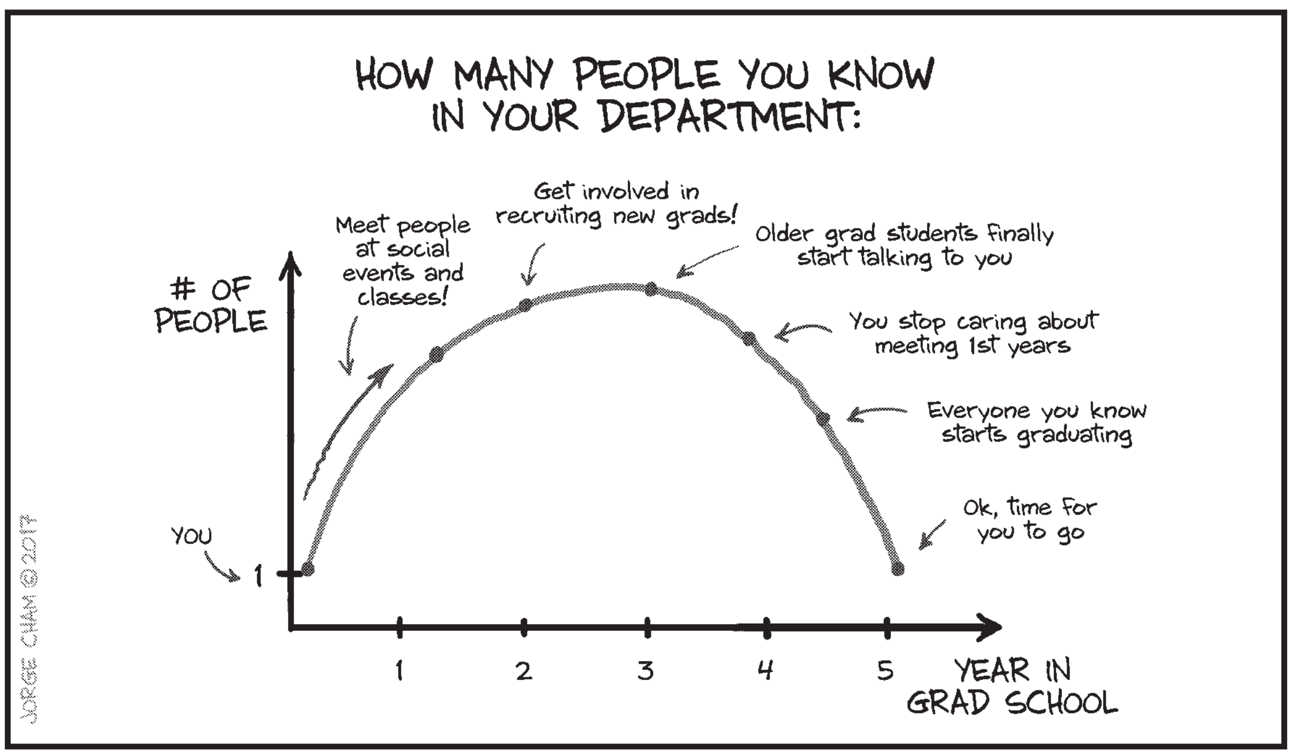
Lingonberry

Solution, page 12



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.

by Jorge Cham



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SCIENCE SCIENCE SCIENCE

LAB SPOTLIGHT

Molding medicine with materials

The Anderson Lab designs original materials to deliver biological therapies for various disease models

By Isabel Barnet

Daniel Anderson, principal investigator of the Anderson Lab at the Koch Institute for Integrative Cancer Research, put the primary goal of his lab simply: "We want to make people better." The field of nanoscale medical devices and treatments has skyrocketed in recent years, and the Anderson Lab is at its forefront. His team focuses on developing materials for genetics and medicine and applying these novel nanomaterial therapies to cancer and diabetes.

Many molecular treatments, such as DNA-based, RNA-based, and protein-based medications, are only therapeutically effective if given the opportunity to function within specific cells. The Anderson Lab focuses on developing vehicles to carry out targeted delivery of these molecular treatments. These vessels are nanoparticles, or small spheres that release their contents intracellularly after being "eaten," as Anderson described, by individual cells. However, in order to design and synthesize these nanoparticles, it is crucial to understand the underlying chemistry. This knowledge gap drove Anderson's original work in genetics to expand and encompass nanomaterials and polymer science. "We are not just making devices with existing materials," said Anderson. "We want to make new materials."

These tiny nanoparticles hold vast therapeutic potential. One of the Anderson Lab's current projects focuses on using nanoparticles to deliver the CRISPR-Cas9 system into animals for genome editing *in vivo*. Additionally, the lab is working to develop methods of transporting specific messenger RNA (mRNA) into cells that promote the production of specific proteins to treat disease. In fact, one mRNA-based formula is being tested in humans this year in conjunction with Translate Bio, a biotech company out of Lexington, Massachusetts.

The Anderson Lab has also applied its interests in materials to tissue engineering. One of the lab's current endeavors is the creation of a new, autoimmune-resistant pancreas for patients who suffer from Type-I diabetes. On demand, this biological machine could produce the right drugs at proper levels to treat a vast array of diseases, such as hemophilia. Anderson is excited about putting these techniques toward creating a "living drug factory" in the body.

"The bottom line is that this stuff is complicated," says Anderson, "It takes a lot of skills to make these types of devices, everything from chemistry to materials science to electrical engineering, biology, and more." Creating a functional product, especially within the intricate context of disease, requires the interplay of a variety of disciplines, and Anderson has had his fair share of relevant integrative experiences prior to his arrival at the Koch in 2011. His venture into STEM started as an undergraduate at the University of California at Santa Cruz, where he began as a mathematics major, and, eventually, tacked on a biology major. Upon graduating in 1992, Anderson was enthralled by genetic engineering and biotechnology, which led him to pursue a PhD in molecular genetics at the University of California at Davis, ultimately leading him to Bob Langer at the Koch Institute for his postdoc.

Anderson and his team have plans to continue to surge forward into the realms of tissue engineering and nanomedicine to better the human condition, whether through biocompatible materials for islet transplantation, materials for therapeutic stem cell use, or glucose-responsive drug delivery. Clearly, no disease, challenge, or technology is too big or too small for the Anderson Lab.

Solution to Banana

from page 8

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

Solution to Clementine

from page 8

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

Solution to Lingonberry

from page 9

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

Solution to Tuxedo Trio

from page 8