

# THE TARTAN



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 The Tartan  
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Carnegie Mellon's Student Newspaper Since 1906

## ClassInSight analyzes lecture behavior



Courtesy of ClassInSight

The Eberly Center project, running in 10-15 Carnegie Mellon classrooms, seeks to analyze student and teacher actions during classes.

**NORA MATTSO**  
 Editor-in-Chief

40 classrooms on the Carnegie Mellon campus have two cameras mounted on white plastic high on the walls, one pointed towards the professor at the front, and one looking, like the professor herself might be, back at the students.

Most of the cameras and sensors around Carnegie Mellon have a little email pasted somewhere near them, for passersby to ask about the kinds of information that might be collected. The note above these classroom cameras directs onlookers to the organizers of the ClassInSight project.

ClassInSight uses these cameras to generate stick figures of all of the people in class, which turn into data about things like where a professor's gaze is directed, whether they hold a pause after asking a question, or how many students raise their hands.

A group of Carnegie Mellon human-computer interaction

researchers, in collaboration with the school, the registrar, and the university's Eberly Center for Teaching Excellence & Educational Innovation began this project in 2015 with the purpose of generating automated reports to give professors feedback on their teaching styles.

"One of the issues that college instructors have, that high school teachers often don't, is that we are expected to teach without having a degree in education," said Amy Ogan, Thomas and Lydia Moran Assistant Professor of Learning Science, who heads the project. ClassInSight prompts professors with strategies based on collected data to encourage class engagement and discussion, which can be rare in large college lectures.

Motivated teachers can ask the Eberly Center to send someone in to sit on their lectures, and receive feedback. But Ogan says that though this might be a helpful resource, it happens at most once a semester, while the ClassInSight

system can provide daily feedback.

The project team includes Ogan, David Gerritsen, a researcher at the Eberly Center, John Zimmerman and Chris Harrison at the Human-Computer Interaction Institute, and Yuvraj Agarwal from the School of Computer Science. The project received a five-year, \$2.5 million dollar research grant in 2018 from the James S. McDonnell Foundation's Teachers as Learners program.

The McDonnell Foundation grant focuses on improvements to K-12 education, expanding the scope of ClassInSight out of the college classroom. Unlike college professors, there is "pressure in high school for teachers' performance to be observed and calculated as, for instance, part of whether they are hired again," which, Ogan says, can lead them to be wary of measures that might

See **CAMERAS**, A3

## What's new in Dining: renovations & repair

**JENNIFER JIA**  
 Junior Staffwriter

Two of the most popular dining locations on campus, The Schatz Dining Room and The Exchange, closed their doors for renovations earlier this year. Schatz will reopen its doors next week on Sept. 18, according to Dining Services. The Exchange will reopen on Nov. 4.

Renovations for Schatz and The Exchange are just two of the Dining Services capital projects that align with their strategic plan, according to Pascal Petter, director of Dining Services.

"We continuously look for ways to improve the dining program for our campus community," Petter said. "That's a major goal we have each year. This year, we focused on renovating two popular on-campus dining locations."

### Renovation projects

The Schatz Dining Room will now feature a more fast-casual concept with "elevated service, flexible seating, and an open-kitchen concept," Petter said.

The new Schatz will feature a built-in teaching kitchen, an area of the dining room that can be transformed into a space for hands-on culinary classes. This space will be used for monthly classes open to all students, faculty, and staff. While class offerings have not yet been solidified, the schedule will be posted on the dining website in Oct.

Schatz will continue to provide all-you-care-to-eat breakfast and dinner on weekdays, as well as brunch on weekends, and serve as a faculty and staff and graduate student dining room Monday

through Friday. The menu will still include hot entrees with sides, a made-to-order salad bar, soup, sandwiches, and desserts.

Jessica Tones, a registered dietitian, nutrition educator, and marketing coordinator for Dining Services, added that Schatz will center around a seasonal "cycle" menu with an emphasis on local and sustainable sourcing.

"The same dish may be shown every third week," Tones said. "It helps fit the needs of our students, but it also helps our vendors make what they are best at making. They can be innovative but still keep the favorite dishes that are close to many people's hearts."

The Exchange will also reopen after summer-long renovations. The space will see an "entirely new look," according to Petter.

"Queuing has been dramatically improved," Petter added. "There's now an open-kitchen environment so the community can see how their food is prepared. There's a much better experience overall."

The dining location will feature a dedicated coffee bar and grab-and-go items, along with a sandwich station, salad bar, and hot food.

To accommodate for the two major renovation projects, Dining Services opened two additional temporary dining locations with options similar to Schatz and The Exchange.

Of those two, the Tartan Pavilion is a modified all-you-care-to-eat location near Resnik House, open until Sept. 15. The Exchange has been operating in a pop-up café outside of the Purnell Center for the Arts, open until

See **DINING**, A3

## After 19 years outside of Posner, Joe from Joe's Doghouse moves on

**JACOB PAUL**  
 Contributing Editor

For nearly 19 years, Joe's Doghouse was a fixture on Carnegie Mellon's campus. Monday through Friday, smoke curled up from the little cart stationed at the corner of Margaret Morrison Ave. and Tech St. Sometimes, the red and white paneled umbrellas above the cart glowed in the sunlight.

Joe Colaneri of Joe's Doghouse has moved on, and his hot dog stand has moved with him. He's now at his new job, as a manager at the Jimmy John's in Squirrel Hill. The hot dog stand has yet to see its last dog — Joe is planning to continue catering events here and there — but it will no longer be operating during lunch hours on campus.

Professors and students alike would queue for the food at Joe's Doghouse daily. During lunch rushes between classes the line would get long. On a good day, Joe once estimated, he prepared around 150 hot dogs.

The selection wasn't limited just to your standard dog. There were Chicago-style dogs, chicken club sandwiches, Kielbasa, and vegetarian options too. A bacon cheeseburger topped with lettuce, tomato, ketchup, mustard and Lay's potato chips was known far and wide as The Crunch Burger. But the best-seller by far was the Puppy Love; two beef hot dogs, a drink, and a bag of chips for five dollars.

The hot dogs were grilled — crispy on the outside but not overdone — like a hot dog should be. But what brought students back, as much as anything else, was Joe's friendliness and easy conversation.

Tiffany Lai, a 2019 alum of the design school, often ate at the hot dog stand before her classes in the



Courtesy of Asher Blackburn

Joe Colaneri loved running the hot dog stand outside Tepper, but is enjoying his new gig as manager at Jimmy Johns.

nearby Margaret Morrison Hall, known affectionately as Maggie Mo. "He was always incredibly friendly and his burgers were delicious," said Lai. "Maggie Mo definitely isn't the same without seeing Joe in front of it!"

In May, the School of Architecture presented Joe with an award for the school's favorite hot dog establishment. Recently, Carnegie Mellon President

Farnam Jahanian invited Joe to his office to thank him and present him with a token of appreciation from the University, according to an email from Jason Maderer, the senior director of Carnegie Mellon News and Marketing Relations.

Treating people with courtesy and respect is important to Joe, ever since his mother taught him to do so at a young age. She was

"a single mother who worked very hard to work two or three jobs," Joe said.

Over the years Joe served hot dogs to a number of notable figures, including Nobel laureates, college deans, and Hillary Clinton's secret service, when Clinton spoke in Skibo Gymnasium during 2016 campaign. However, he said that he values his relationships with

the students the most.

"I loved everybody there," said Joe. "When I met parents that were on tours I always told them, you see, 'I don't think I ever met a bad CMU student.'"

Joe and his wife Chris hired students to help run the stand. Though most have graduated, many have kept in touch.

He started looking for other work because business during summer sessions has been slow in recent years. When he got the offer for the manager position at Jimmy John's, it was an offer he couldn't turn down.

"It is time for me to move on and find a different passion," wrote Joe in a heartfelt post on the hot dog stand's Instagram page, @joesdoghouse\_cmu. "Thank you again for making these years so meaningful..."

It's been about two decades since Joe and Chris were vacationing in Cape May and noticed the street vendors, setting off a light bulb in their heads: they should start a hot dog stand.

Since 2002, Joe has served food on Carnegie Mellon's campus nearly every day. He worked the hot dog stand year-round, and persisted through grey skies, rain, and snow storms. So, working at Jimmy John's is a big change for him. But he said that Jimmy John's has made the transition "pretty easy" for him. Joe gets to work at 6:30 in the morning to open the restaurant, and his co-workers don't want to be there at 6:30 in the morning, so "it's working out pretty well," he said.

"I have no complaints, but I do miss CMU," said Joe. "I knew there would be some times when I'd be a little sad about not being there." But right now Joe is focused on what's next: sandwiches. "I try to make it a point that I live in the moment and I try not to look back."

FEATURE PHOTO

# Student organizations showcase and recruit at “The Fair”



Marika Yang/Staff Photographer

Hundreds attended the activities fair, or “The Fair,” on the Cut this past Wednesday. The event allows student organizations, clubs, and groups to advertise themselves and recruit new members. SLICE distributed free Rita’s.

## Crime & Incident: Sept. 1-7

### WEATHER

Source: [www.weather.com](http://www.weather.com)

#### Alcohol Amnesty

Sept. 1, 2019

Officers responded to Margaret Morrison Apartments following reports of an intoxicated Carnegie Mellon student. The student was provided medical assistance and no citations were issued, due to alcohol amnesty.

stated their power drill was stolen from a hallway area. The investigation is ongoing.

#### Robot Fire

Sept. 3, 2019

Officers responded to Newell Simon Hall after a robot caught fire. No smoke or fire was observed, but it was determined that students created a small fire when trying to power the robot on. No injuries were reported.

Oak Apartments for a bicycle theft. Contact was made with a Carnegie Mellon student who stated that their bicycle was stolen from the bicycle rack located outside of the apartment building. The investigation is ongoing.

#### Theft

Sept. 5, 2019

Officers responded to Margaret Morrison Hall after two projectors were stolen. Officers made contact with a Carnegie Mellon faculty member who reported that the projectors were stolen from an office. The investigation is ongoing.

#### Underage Alcohol & Fake ID

Sept. 1, 2019

Officers responded to the Margaret Morrison Apartments after a fire alarm went off. Officers then encountered an intoxicated Carnegie Mellon student carrying a false identification card. The student was provided medical assistance and provided two citations: underage drinking and carrying a false ID card.

#### Vandalism

Sept. 4, 2019

Officers responded to Wean Hall after a report of criminal mischief. Officers observed numerous papers from the bulletin board scattered along the hallway, in addition to a fire extinguisher that was taken off the wall. All items were cleaned up and repositioned.

#### Theft

Sept. 6, 2019

Officers responded to Gesling Stadium for a theft of a drawstring bag. Officers made contact with a non-affiliate who stated they were running on the track area when their drawstring bag was stolen. The investigation is ongoing.

#### Theft

Sept. 3, 2019

Officers responded to the Mellon Institute after a power drill was stolen. Officers made contact with a Facilities Management Campus Services employee who

#### Theft

Sept. 4, 2019

Officers responded to the Shady

Compiled by  
**ADAM TUNNARD**

#### TUESDAY



87° / 67°

#### WEDNESDAY



89° / 67°

#### THURSDAY



84° / 66°

#### FRIDAY



86° / 67°

#### SATURDAY



79° / 61°

#### SUNDAY



80° / 62°

### SOCIAL ACTION CALENDER

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If you would like to submit a correction or clarification, please email The Tartan at [news@thetartan.org](mailto:news@thetartan.org) or [editor@thetartan.org](mailto:editor@thetartan.org) with your inquiry, as well as the date of the issue and the name of the article. We will print the correction or clarification in the next print issue and publish it online.



# Environmental Health and Safety promotes Fire Safety Month

**JAMES HAGERTY**  
Staffwriter

Over the month of September, Carnegie Mellon's Environmental Health and Safety department is hosting a number of events to highlight Campus Fire Safety Month, an extension of their stated guiding principles: "to support the University's mission and values by sustaining and enhancing a safe and healthy environment for the Carnegie Mellon community."

Mary Sickles, training and communications specialist for Environmental Health and Safety, told The Tartan that "there's a national campus Fire Safety Month and organization. It's all about raising awareness, these events weren't prompted by any particular issues. It's important that students are

aware of fire hazards and fire prevention in the areas where they reside and work, like labs and makerspaces."

Primarily, Environmental Health and Safety wants to spread awareness of fire hazards and fire escapes, Sickles says. Steve Lane, Fire Safety Specialist at Environmental Health and Safety emphasized, "treat every fire alarm like it's the real thing, always evacuate when it goes off, and listen to your RA's and floor marshals who can help you exit the building safely. Nobody gets in trouble for reporting an accident or fire, and we want to know as soon as possible."

Though the events started with a humble Fire Safety Month discussion and trivia panel last Wednesday, future events are to be more hands-on, like the fire

extinguisher training event by the Fence next Tuesday. Sickles and Lane were excited to detail the nuance there is to fire extinguishers, some of which will be covered in their upcoming event.

Sickles explained, "We focus on the different types of fire extinguishers, and how to actually use them on a simulated fire." The simulated fire is presented on a screen that responds to a mock extinguisher pointing a green laser at it.

Lane made sure to address a common misconception, that all fire extinguishers are the same. "We have water extinguishers for Class A fires, we have dry chemical extinguishers for Class A, B, and C fires, and we have a Carbon Dioxide extinguisher for electrical fires. We even have special types of extinguishers for com-

bustible metals like Magnesium, Titanium, Sodium, as well as Class K extinguishers for kitchen fires caused by things like vegetable oils," he elaborated.

The upcoming Fire Safety Month event will be demonstrating on a real fire, made possible through a propane fueled contraption. "It's very much safe. It's a small burner that's electronically controlled, and a water extinguisher will be used to put out the flames," Lane said.

Lane says he would like everybody on campus to sign up for a fire extinguisher training course, of which there are a sessions held every week. "Courses span various departments and are held in areas like makerspaces and libraries. We can even bring the class to you," he said. He suggested that those interested should email Environmental Health and Safety.

When asked if the current Fire Safety Month initiatives have anything to do with campus modernization and the installment of several new buildings at Carnegie Mellon, Lane was sure to state: "At any time on campuses, it's good to be aware of fires and the chances of fires. Fire safety is ongoing. It never stops, even in the face of Carnegie Mellon modernization. The biggest thing we can do is educate students and staff."

Shailendra Sinyh, director of Environmental Health and Safety at Carnegie Mellon, said, "we have so many students on campus, and since it's the Fall Semester — when all the new students have poured in — it's the perfect time to spread awareness and teach fire safety." He emphasized, "student safety is our number one priority."



Courtesy of the Swedish Transport Agency via Wikimedia Commons

## Dining Services seek to modernize offerings

**DINING**, from A1

Oct. when weather permits.

"The Exchange has a great relationship with our community, and their pop-up has been popular," Petter said. "The staff recognizes students, and students recognize the staff."

### Cuisine Diversity

Dining Services reopened the Tartan Express, a food truck near Legacy Plaza, this past week. The menu includes fresh Mediterranean and Vaad-certified Kosher food, open on weekdays.

"What's unique is that it's Orthodox Kosher," Petter said. "It's also a Mediterranean cuisine that we don't have widespread across campus. There's already long lines for it."

Tones and Petter both acknowledged the increasing nationwide importance to accommodate dietary needs, whether students are Kosher or have allergies.

Two years ago, they opened Nourish, an allergen-friendly kitchen and a "hidden gem," as Tones described. They are hoping to expand allergen-friendly dining further this year.

"We wanted one place that we knew we could totally control the process from where the food

is received, how it's stored, how it's transported, and how it's prepared," Tones said, referring to Nourish. "We take a lot of time in vetting every ingredient that can come into the space."

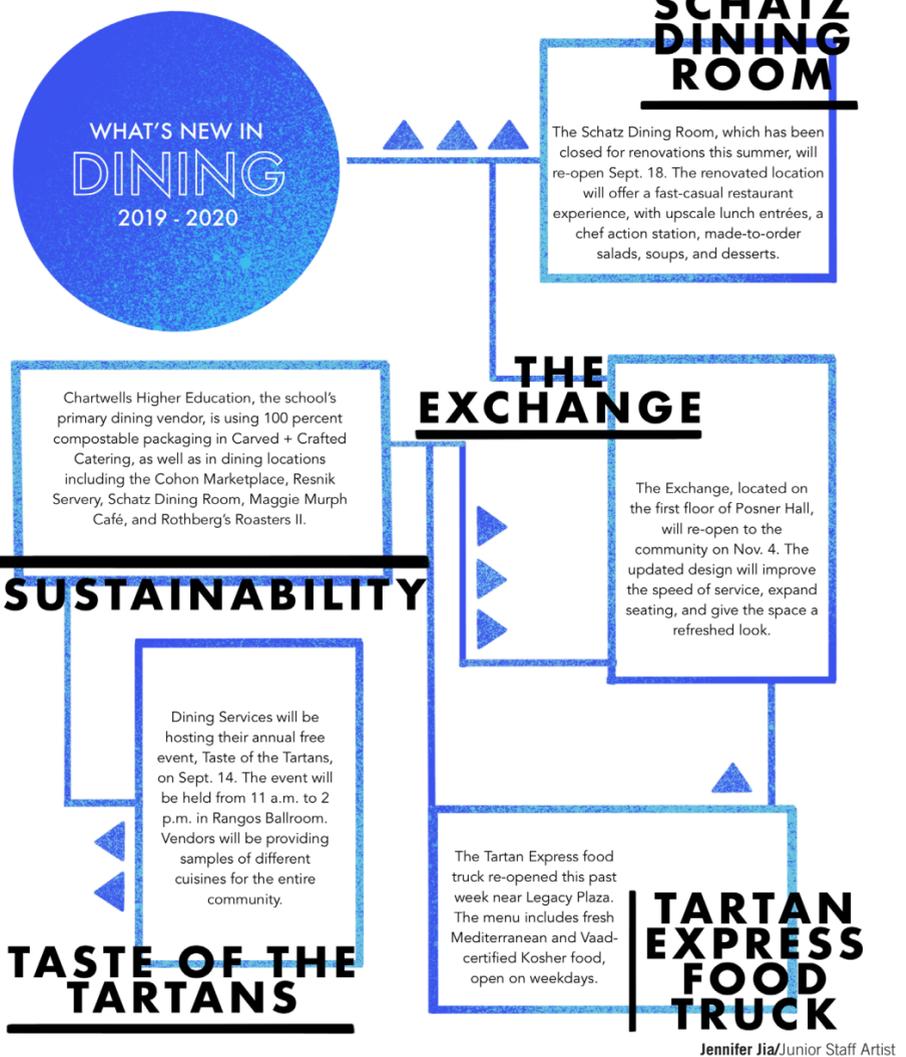
### Sustainability

This year, Chartwells Higher Education, the school's primary dining vendor, made the switch to using 100 percent compostable packaging in Carved + Crafted Catering, as well as in dining locations including the Cohon Marketplace, Resnik Servery, Schatz Dining Room, Maggie Murph Café, and Rothberg's Roasters II.

The initiative will officially launch at Carved + Crafted later this month. "The community can feel good that the choices they make for themselves and their events are sustainable," Petter said.

To showcase the new changes and offerings in campus dining, Dining Services will be hosting their annual free event, Taste of the Tartans, on Sept. 24. The event will be held from 11 a.m. to 2 p.m. in Rangos Ballroom.

For more information on dining locations, menus, grand openings, and other events, visiting the Dining Services website at [www.cmu.edu/dining](http://www.cmu.edu/dining).



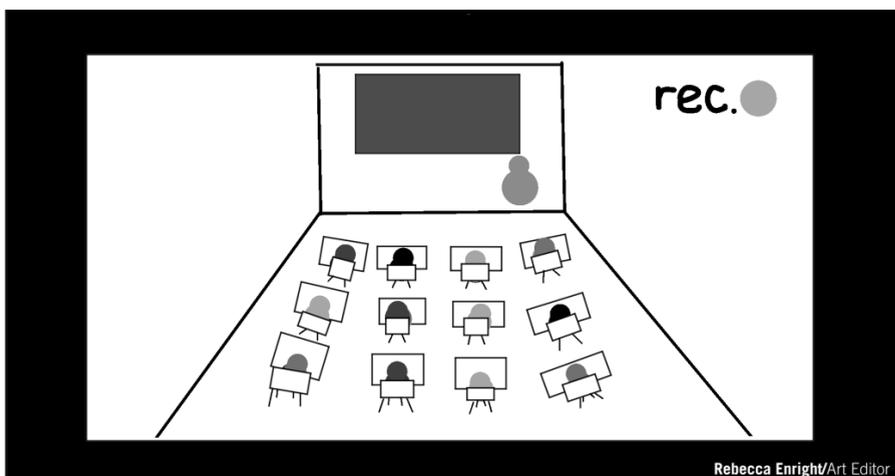
## Sensors at CMU: ClassInSight project scans lectures for stats

**CAMERAS**, from A1



Nora Mattson/Staff Photographer

Pictured above is one of the ClassInSight cameras positioned at the front of one of HCI's Craig St. classrooms.



track classroom behaviors.

Though the cameras were installed in 40 classrooms in 2018, they collect data in around 10 to 15 classrooms each semester, depending on how many instructors want to participate.

A couple weeks into a class, someone will come in to read the Institutional Review Board (IRB)-approved script, telling the students about the type of data that is being collected. The sensors are turned on for the duration of the lecture, collecting anonymized information about the position, gestures, and expressions of the people in the classroom.

Most images are deleted after the anonymized gesture data is recorded. However, while the image recognition algorithm is being developed, a portion of the raw images are stored to be reviewed for accuracy. The IRB mandates that the extracted data be kept for a minimum of three years, without identifying information about the professor or the students.

Students are given an opportunity to object, at which point the project will not continue in the classroom but Ogan says

few students ever have.

Grace Bae, a junior in the statistics and data science department, says that she "didn't really think twice" about the cameras that are to be turned on in her Designing Human Centered Software class, since the data would be anonymized. She says Harrison, her professor and ClassInSight researcher, was "open and communicative about what these cameras would do and their purpose."

Kalvin Chang, a sophomore in the School of Computer Science, was also not bothered because of anonymization, but he "suspect[s] some might be creeped out by the notion of AI tracking them."

Very few people, says Ogan, have reached out to the email listed on the cameras themselves. She says this could be because people have had a discussion about the cameras in their lectures. But also, Ogan continues, "There are people counters on all of the computer labs on campus," and students might be "getting used to" the presence of sensors.

*This is the first article in a series we're calling "Sensors at CMU," exploring the projects behind the cameras and sensors around campus.*

# Forum

## Making Pittsburgh greener

*Sujay Utkarsh*

**SUJAY UTKARSH**  
Pillbox Editor

Pittsburgh's connection to the environment is one that has been, historically, dire. At one point in the city's history, the sky was famously filled with so much pollution and soot that it turned black. Even as late as 2008 and 2009, I remember the city cleaning black soot off of various buildings. Certainly, the city has turned around over the decades.

Despite this, Pittsburgh and the greater Allegheny County area continues to have the worst air quality in the nation. One in three children suffer from asthma, which is double

has introduced a package of bills restricting single-use plastics, and there is a bill introduced by a Republican representative to transition Pennsylvania over to renewable energy by 2050. Both of these bills have bipartisan support and have the potential to be passed despite Republican majorities in both the State House and Senate.

As for why this shift has been coming about, it's important to examine the changing demographics of Pennsylvania, specifically Pittsburgh. Pittsburgh is shifting away from its industrial roots towards tech, and many people in the city have been disillusioned with industry over the years. Traditionally conservative areas like Mount Lebanon, Fox Chapel, and Ross Township have all flipped purple recently. While canvassing this summer, I found that

could potentially make.

We can go on about the economics of banning products with negative external effects on society or the logistics of shifting our energy supply to renewables (which will be good only in both the short- and long-term).

Instead, let's focus on the false narrative, the idea that trying to do any goodwill results in equal loss. It's not true. In the short term, if we ban things like styrofoam or carcinogenic weed killers, it will create less demand for those products. But it also creates more demand for better alternatives, and when demand for those alternatives goes up, so will the demand for labor in that sector. Right now, the fastest-growing job sector in Pennsylvania is in renewables, and all the traditional industrial sectors are shrinking. So why are we

**“I would often get questions such as “wouldn't banning styrofoam cause lots of job loss?” or “wouldn't transitioning to renewables create job loss in the oil sector?” Really, it's the mentality of thinking in the short-term that drives corporate lobbying and the culture of convenience that stifles any environmental progress we could potentially make.”**

the national average.

Through my canvassing experience this summer, I heard multiple anecdotes of people with breathing issues who can't stay in downtown because the air quality is bad.

Steel companies like U.S. Steel, ArcelorMittal, and ATI Brackenridge continue to break federal clean air laws. Even the effects and benefits of successful lawsuits like PennEnvironment's lawsuit against ArcelorMittal for breaking clean air laws are diluted by Pittsburgh's and, more broadly, Pennsylvania's connection to steel. Just earlier this July, a U.S. Steel plant caught fire in Clairton county. This led to a town hall meeting filled with criticism over U.S. Steel's lack of regulation.

Pennsylvania is in a very interesting era in terms of environmental policy. On one end, fracking projects across the state have increased, including a recent six-year project in Beaver County, which is just an hour north of Pittsburgh. Allegheny County also still uses lead pipes in a lot of areas. On the other hand, Pennsylvania

even more traditionally conservative people were very “environmentally friendly,” contrary to a popular conception that conservatives tend to be more anti-environment.

So even with quite a bit of public support for environmental issues, why is it so hard to get anything passed? The obvious answer is lobbying from massive corporations, but I'd argue there are bigger things that hinder us all. I spoke to the Democrat State Senate Minority Leader Jay Costa, and he was talking about all the initiatives he wanted to take in Pennsylvania for environmental action.

Yet his biggest concern was short-term job growth, which in my experience seems to be a bipartisan concern. For example, I would often get questions like “Wouldn't banning styrofoam cause lots of job loss?” or “Wouldn't transitioning to renewables create job loss in the oil sector?” Really, it's this short-term mentality that drives corporate lobbying and the culture of convenience, stifling any environmental progress we

focusing so hard on outdated industries?

The final point I'd like to make is a general point about the fact that people are not rational. In both economics and political science, we like to assume that, but in reality, it's mostly never that way. That's why this idea of consumer sovereignty is mostly bogus and why we need incentives and nudges to push people in the right direction. That's the rationale behind needing strong environmental legislation. People aren't just going to switch to renewable energy or paper containers or non-gas cars because they know it's rational to do that. We need legislation to promote these actions.

It's honestly refreshing and reassuring that postindustrial cities like Pittsburgh and postindustrial states like Pennsylvania are shifting towards more environmentally friendly policies. I am hopeful for the future of environmental policy across the nation and in Pennsylvania, and it will be interesting to see what happens over the next couple of years.

## Accounting for your life: tips for savings



*Frank Hu*

**FRANK HU**  
Operations Manager

You hear it all the time, from everyone and from everywhere: saving money is important. You're probably overwhelmed by the countless tips on how to save and how much to save, sometimes grappling with conflicting opinions.

There's no denying that saving money is a cornerstone of financial wellness, but the idea itself is vague. Since everyone's situation is unique, simply telling someone to save their money raises a lot of questions, like “how much should I save?” or “where should I put my savings?” It's wrong to impose some arbitrary rule like “everyone should save \$500 a month,” since some people can't afford that, while for \$500 isn't enough for others.

While there is no one-size-fits-all formula for determining exactly how much you save, saving money is less about the number itself than the mindset behind it. And while there's a lot of debate surrounding the principles of successful saving, there are a few recurring themes.

First, it's critical that you have a long-term financial goal, where long-term means anywhere from five to 15 years down the line. Setting a destination for yourself is an important first step because if you don't know where you're going, how are you going to know how to get there? A long-term financial goal is tied directly to how much you want to save. Say for example you decide that you want \$25,000 in savings by the age of 24. From there, it's a simple calculation to see how much you should be saving each month. Of course, that would be an oversimplification since you need to take other aspects of your budget into account, but it's the same general idea: you must know where the goal is before you try to score.

Second, successful saving is heavily dependent on discipline. Continuously and consistently saving while resisting the urge to spend your savings is necessary for accumulating wealth. While saving \$50 here or \$200 there is a good start, it's important that you have a plan in place for when you get your paycheck so that saving money becomes routine. Start by considering necessary expenses like housing, clothing, and food, as well as your discretionary spending on recreation and the

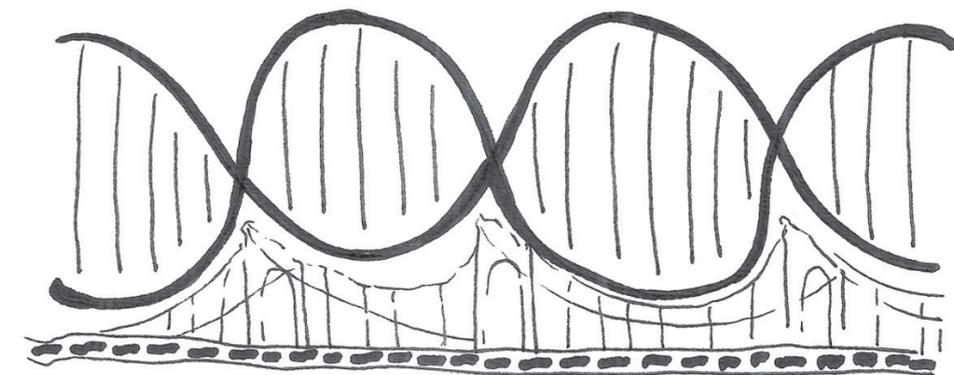
occasional splurge. Once you have that portion of your budget figured out, set in stone how much of each paycheck goes towards savings, and stick with it, so that you're not tempted while dividing the paycheck. Better yet, automate savings deposits so that you don't even see the money being stored away, almost like it doesn't even exist. Out of sight, out of mind.

Third, it's important to realize that saving does not mean depriving yourself of the things that you enjoy. It might feel that way with money being locked away that you won't see for a long time but understand that even with saving as a part of your budget, you can still budget for fun. Where you draw the line is up to you, so long as a line does exist. Plus, reframing the way you think about saving so that you view it as delayed gratification rather than deprivation is as important as putting money away.

Last, buy fewer things but buy the best. This may sound like it's not directly related to the idea of saving, but it is. Let's say that you're in the market for a new laptop, and you have options ranging from \$300 to \$800. Now based solely off the price, you'd be tempted to go for the cheaper model because who doesn't want to save an extra few hundred dollars? But consider this: how long will that laptop last you based on the work you're doing? If you know it's not going to last very long and that it's going to burn out rather quickly, buying the higher-end longer-lasting model might be the better option since it eliminates the cost (both in money and time) in the near future of having to switch laptops. Not only will you feel better about the possessions you've consciously chosen to invest in, but you'll also be saving more by not having to always hunt around for replacements.

These four principles are far from exhaustive, but as with all things in this column, they represent a good starting point. Asking yourself these difficult questions now can help you formulate a concrete game plan on how to better manage your money in the future so that when you get that first big paycheck, you don't end up blowing it all on temporary thrills.

So now that you have this pile of money set aside, where should you put it? Most people opt to just keep it in a savings account through their bank, but as we'll see next week, there are better options for making sure your money not only sits there but actually grows over time.



Simin Li/Staff Artist

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# Google sets example for CMU

## STUDENTS FOR A DEMOCRATIC SOCIETY

Special to *The Tartan*

In the summer of 2018, Google employees organized to end their company's contract with the U.S. military's Project Maven, which is "intended to help the Pentagon use artificial intelligence to analyze drone footage" for potential targets and other objects of interest. But, as reported last week by WESA, Project Maven was later "quietly" picked up by Carnegie Mellon researchers and folded into Carnegie Mellon's Army AI Task Force.

Next week, many Carnegie Mellon students will attend the Technical Opportunities Conference, an annual career fair featuring hundreds of companies offering lucrative job opportunities and stable futures. Hopefully, the lines to talk to Google reps will be longer than the lines for Lockheed Martin, General Dynamics, and Honeywell, three companies that manufacture weapons for the U.S. and Saudi Arabia, raking in billions of dollars thanks to deadly conflict. Unlike those companies, Google's reps will be able to tell Carnegie Mellon students: "hey, if you're creeped out by your university's connections to the military and intelligence community but still want to build tech, come work at Google!"

What does it say about our university that we are less ethical than a top employer of Carnegie Mellon graduates? And what would it look like for Carnegie Mellon to develop the kind of internal democracy that Google employees leveraged to end their company's Project Maven contract?

Ironically, Carnegie Mellon touts its Artificial Intelligence

program's "strong emphasis on ethics and social responsibility," while the new dean of the School of Computer Science stresses that ethical computing is "already a part of the education" of Computer Science students. Given what we now know about Project Maven, the inclusion of ethical content in CS degrees feels like a weak PR gesture meant to head off criticism of the college's deepening relationship with the military-industrial complex.

What's done in the name of Carnegie Mellon — the technology created here and touted constantly in press releases as evidence of Carnegie Mellon's "vital importance...to [U.S.] economic prosperity and national security" (as President Jahanian wrote in a recent e-mail) — is done in all of our names. In fundraising calls to alumni, student callers are asked to stress the importance of donating to "increase the value of a degree from Carnegie Mellon." But how is the value of a Carnegie Mellon degree affected when our university contributes to the death and destruction generated by the U.S. military?

It gives us no pleasure to conclude that Carnegie Mellon's administration is complicit in U.S. wars. After all, this isn't an entirely new phenomenon; Carnegie Mellon wasn't nicknamed "Carnegie Military University" at the height of the Iraq War for nothing. That war, and the various other doomed post-9/11 adventures in the Middle East, directly killed 272,000 people, indirectly killed hundreds of thousands more through infrastructure destruction and forced migration, and cost taxpayers at least \$4 trillion dollars, according to a Reuters report. The toll taken on human lives,

societies, and rights is disturbing enough, but the money wasted is worth reflecting upon. Just consider: that much money could wipe out the \$1.5 trillion in current student debt more than twice over.

What do we want our university to be? What do we, as current students, faculty, and staff — as future graduates — stand for? Do we want to help and empower the poor and marginalized, make the world a better place, or continue to pass off critical ethical decisions to military agencies and policymakers whom we should not and cannot trust? These questions are unavoidable.

As Google employees argued in their successful petition against Project Maven: "We cannot outsource the moral responsibility of our technologies to third parties... This contract puts Google's reputation at risk and stands in direct opposition to our core values. Building this technology to assist the US Government in military surveillance — and potentially lethal outcomes — is not acceptable."

So, again we ask: is Carnegie Mellon less ethical than Google? And when will our administration begin to involve more of us in these consequential moral and political decisions? Student and faculty government, organizations, staff unions, and other campus bodies should come together around an agenda of internal democracy at Carnegie Mellon. None of this is going to change until we find ways to play a more active, more effective role in the future of our university.

*Wilson Ekern, Copy Manager of The Tartan, is also a member of SDS at Carnegie Mellon University.*

# U.S. needs change in current approach to foreign policy

*Sujay Utkarsh*

**SUJAY UTKARSH**  
Pillbox Editor

There is a lot of rhetoric surrounding the unprecedented nature of the current regime's foreign policy "strategy." I put that in quotes because the United States hasn't had a proper foreign policy since 9/11, and arguably hasn't had one since the Gulf War. But even in both the post-Cold War and post-9/11 era, there was a degree of predictability that the U.S. had followed since the end of World War II. Currently, the U.S. sits in a unique position as the Trump administration has thrown all those precedents out the window.

As for what those precedents are, it's good to briefly understand U.S. foreign policy up until the current regime. During the Cold War, the goal was to contain communism. After the USSR's dissolution, the goal shifted to maintain their hegemony in a unipolar world. After 9/11, the focus became counter-terrorism. Regardless of whether or not you agree with any of the U.S.'s tactics (and there is a lot to disagree with in each era), the nation has maintained a sense of its traditional allies and at least held some respect for regional and multilateral treaties and trade deals.

Under Trump, allies like Canada and the European Union have been tariffed in the name of national security, and the regime hasn't agreed to adhere to many of the agreements it was a part of or had committed to. It's difficult to pinpoint exactly why. Trying to understand Trump's mentality is about as futile as the war on terror. But the actual policy is no different than what the U.S. has been engaging in

for decades.

Although the U.S.'s self-imposed responsibility as one of the world's leading powers is to maintain peace and stability, there are countless examples throughout history that prove otherwise. Propping up puppet dictators and governments in Guatemala, Iran, Chile, and Congo, failing to act on the Rwandan genocide, starting the Iraq War, the drone strike program, and the collapse of the Syrian chemical weapon red line are some examples of the failure of the U.S. to promote peace and stability. If anything, U.S. foreign policy seems more like shots in the dark hoping for the best rather than strategically calculated moves. In short, the U.S. is more an agent of disorder than an agent of order.

Trump's foreign policy is no different, though he goes about it in less "traditional" ways. His exercise of hard power seems to be more in line with a businessman trying to portray himself as strong and trying to get the other players to call his bluff or fold. Everything he does is designed to gain political points for his base in some way. The randomness of the Chinese trade war, forcing allies to "contribute their share" to the world, and praising or meeting dictators historically considered enemies are all shots in the dark to mask the fact that the rest of his policy is continuing what the U.S. has been doing for a long time now.

Frankly, the U.S. has lost a lot of goodwill over the years. Any international sympathy or political points gained after 9/11 have been exhausted, and it's time for the nation to re-evaluate its foreign policy strategy. It surely won't happen under this administration, but whoever the next president is will have to deal with a world that is quickly changing. With the threat of climate change around the corner, the rise of multiple powers like China,

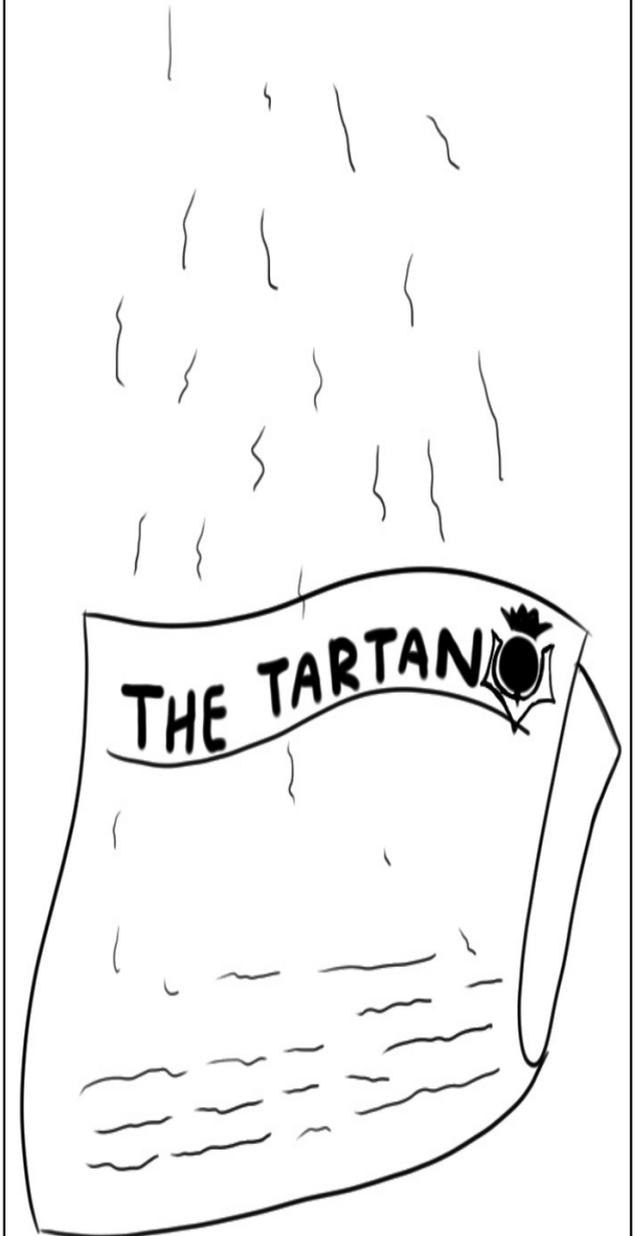
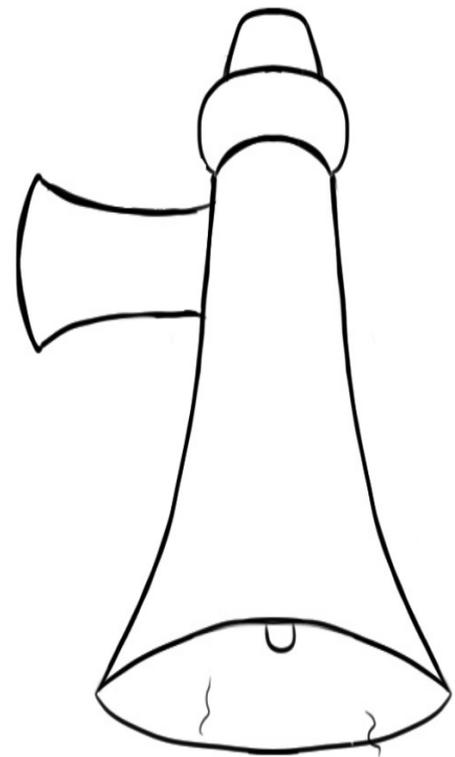
India, and Russia, and an interconnected international system, the U.S. needs to establish its priorities.

For starters, the U.S. needs to scale back its hard power usage. While hard power is a cornerstone of U.S. foreign policy, it has been abused to the point where it causes more problems than good. This includes getting rid of the drone program, minimizing direct involvement in the war on terror, and reducing mass surveillance. Hard power should be used to intervene in genocides, not to cause one in the name of global security and democracy. In addition, the U.S. needs to take initiative on international climate actions.

This is an issue that should be uniting the world. The U.S. taking a hardline stance in favor of international climate action will not only be beneficial in the long term for obvious reasons but could potentially bring about some stability by having a chance to collaborate with China, a country that has already made more promises to climate plans than the U.S. currently has. Most importantly, the U.S. needs to do a better job of accepting its mistakes and rebuilding its soft power and diplomatic ties. This will help in rebuilding goodwill, especially with nations in Southwest Asia and North Africa (I refuse to call it the Middle East).

Reforming decades of bad foreign policy is not an easy task, and it would be much easier for the U.S. to continue as it has for a while. The suggestions above are easier said than done, especially after the rhetorical damage the Trump regime has caused. The U.S. needs to get rid of the attitude that everything in this world are zero-sum and that every action exists in a bubble. If the U.S. wants to continue being the world leader it thinks it is, it should start acting like one.

# SPEAK YOUR MIND.



**forum@thetartan.org**

# Carnegie Mellon University

## College of Engineering

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Chantal Elise Alano	Honghao Chen	Donovan Gionis	Justin Kiefel	Madison Lui	Huahan Qu	Yu Tian
Tahlia Altgold	Hsian Ming Cheng	Siddharth Girdhar	Jeremy Klotz	Jai Madisetty	Aditi Raghavan	Anoushka Tiwari
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Caio Augusto Araujo	Jonathan Cheng	Chester Glenn	Kelby Kramer	Greta Markey	Vignesh Rajmohan	Tomas Vancura
Carlos Armendariz	Chidera Chima	Zhengze Gong	Matthew Kuczynski	John Martins	Brandon Rishi	Neeharika Vogety
Carmel Baharav	Sharon Chu	Arvind Govinday	Victoria Kuo	Diva-Oriane Marty	Lynn Rushkin	Xiran Wang
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Vikram Bhat	Madeline Davis	Eden Harel	Seung Yun Lee	Richard Nabahe	Keshav Sangam	James Wong
Zane Blau	Saisiddarth Domala	Mithril Hugunin	Younggyun Lee	Umar Nasim	Kaashvi Sehgal	Breyden Wood
Albany Bloor	Keaton Drebes	Zerui Huo	Meredith Levene	Jonathan Nee	Charles Seymour	Ke Xu
Elio Bourcart	Jeremy Dropkin	Ethan Husted	Aaron Li	Michelle Ng	Matthew Shen	Carolyn Youstra
Chloe Brown	Xingran Du	Jessica Inacio	Xuanye Li	Raymond Ngo	Cathy Shi	Marcus Yu
Fan Bu	Mansour Elsharawy	Rishabh Jain	Xingyang Li	James Nguyen	Sangbum Shim	Joe Chuen Yu
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Ludi Cao	Sara Fisher	Rahul Joglekar	Yuke Lin	Shitong Pang	Alan Song	William Zhao
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Chun Yiu Jesse Chan	Andrew Ruichen Fu	Shreya Kadi	Ryan Liu	Sophia Paul	Yee Aun Tan	Ruizhe Zheng
Angela Chang	Neel Gandhi	Adrian Kager	Aria Lorenz	Sophia Pratto	Rachel Tang	Ziyi Zuo

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Heather Baker	Daniel Farid	Seema Kamath	Jialei Liu	Hunter Rayner	Phillip Sin	Abigail Vesco
Kyle Bannerman	Nika Finkelsteyn	Matthew Karee	Julia Lu	Matthew Rednor	Nihal Sivakumar	Yuhan Xiao
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Isabel Basow	Terrance Frey	Katsiroumba	Luis Martinez	Emily Reinoso	Andrew Spaulding	Ziyi Xu
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Mari-Therese Burton	Reed Farber	Matthew Kubala	Hailang Liou	Gayatri Paranjape	Joseph Wang	
Teddy Cai	Sam Fazel-Sarjui	Hans Kumar	Christopher Littrell	Samuel Passell	Simon Weishaeupl	

#### FIFTH-YEARS

Theodore Lee

# Science & Technology

## Predicting how climate change makes landslides more severe



Courtesy of Galeria del Ministerio de Defensa del Perú via Wikimedia Commons

Landslides like this one in Cusco, Peru are causing more damage and becoming more frequent in part due to climate change.

**TRENTO VON LINDENBERG**  
Staffwriter

While talking about the weather has always been a staple of idle chit-chat, if you've been keeping up with the conversation over the last few years — or even just the last few months — you might have noticed that it's been a bit... wonky. Will it rain today, or snow tomorrow? But it doesn't end there. Over

this past summer alone, extreme heat waves across Europe have led to countless deaths as new record highs were set. To add to the death toll, the high frequency of natural disasters over the past year (including fires in California and the Amazon rainforest) is also often attributed to climate change.

Earlier this year, researchers from the United Nations stated that climate change would reach

an irreversible point by 2030, although action needs to be taken much sooner to prevent that.

It has long been known that climate change impacts temperatures, natural disasters, and wildlife among others. Now we can add yet another: researchers from the University of Reading recently published an article in *Nature* on their

See **LANDSLIDES**, A8

## Measuring heart cells in three dimensions

**SEAN MIN**  
Staffwriter

Researchers from Carnegie Mellon University and Nanyang Technological University in Singapore (NTU Singapore) have collaborated on a revolutionary “organ-on-an-electronic-chip platform.”

An organ-on-an-electronic-chip is a synthetic cell culture chip into which living human cells are placed to simulate

these researchers surround heart cell spheroid tissues, permitting researchers to observe the intercommunication of cells in the cardiac system and similar multicellular systems.

This organ-on-an-electronic-chip platform has a multitude of uses, including testing the effectiveness of drugs on human-like tissue rather than animal tissue (which is the current practice). Scientists will be able to more accurately predict the impact

**“We are trying to circumvent the challenge of reading the heart’s electrical patterns in 3D by developing a way to shrink-wrap sensors around heart cells and extracting electrophysiological information from this tissue.”**

*Haotian Wang*  
Rice University

how an organ acts in response to numerous situations. In this project, researchers from Carnegie Mellon and NTU Singapore created an organ-on-an-electronic-chip platform which contains bioelectrical sensors measuring the cardiac electrophysiology of heart cells in three dimensions.

Cardiac electrophysiology concerns the electrical activity of the cardiac system. The new biosensor arrays created by

of drugs and toxins on human tissue. Another application is to study the interconnectivity between the heart’s electrical signals and various heart diseases. Finally, the platform enables future research in areas such as tissue development and cell maturation.

Tzahi Cohen-Karni, an associate professor of materials science and biomedical engineering,

See **HEART**, A8

## Converting carbon dioxide into fuel

**ASHWIN SRINIVASAN**  
SciTech Editor

Greenhouse gases are a major contributor to climate change. They have increased in concentration over the last century and are a very common air pollutant. Now, they may become a useful source of energy.

A catalytic reactor developed by researchers at Rice University converts carbon dioxide into pure liquid fuels in an efficient and eco-friendly manner. The prototype was created in the lab of chemical and biomolecular engineering researcher Haotian Wang. It re-purposes carbon dioxide as purified high-concentration formic acid, an energy carrier that usually requires extensive conversion to be useful. However, this technology demonstrates an efficiency of 42 percent in tests and is able to store nearly half of the input greenhouse gas energy in a liquid formic acid fuel cell.

“Formic acid is an energy carrier,” Wang said in a press release. “It’s a fuel-cell fuel that can generate electricity and emit carbon dioxide — which you can grab and recycle again.” He continued, “It’s also fundamental in the chemical engineering industry as a feedstock for other chemicals, and a storage material for hydrogen that can hold nearly 1,000 times the energy of the same volume of hydrogen gas,

which is difficult to compress. That’s currently a big challenge for hydrogen fuel-cell cars.”

Lead author and Rice postdoctoral researcher Chuan Xia made the key discovery that allows the reactor to function. He developed a two-dimensional bismuth catalyst and a solid-state electrolyte that removes the requirement of salt in the reaction.

**“Carbon dioxide reduction is very important for its effect on global warming as well as for green chemical synthesis.”**

*Haotian Wang*  
Rice University

“Bismuth is a very heavy atom, compared to transition metals like copper, iron or cobalt,” Wang explained. “Its mobility is much lower, particularly under reaction conditions. So that stabilizes the catalyst.”

Usually, the production of formic acid introduces salty water which is energy-intensive and costly to remove. The flexible use of solid electrolytes eliminates this concern, according to Wang. The process used to produce these components can be scaled up, opening the door to commercial carbon dioxide conversion technologies.

In addition, the reactor runs water through the product

chamber faster than previously possible, resulting in more concentrated, and therefore more efficient, formic acid. Next-generation reactors are expected to achieve even higher concentration as they accept gas flow to bring out pure formic acid vapors.

To test their prototype, the Rice scientists worked with the Brookhaven National

Laboratory using X-ray absorption spectroscopy to view formic acid production in progress. The reactor ran continuously for 100 hours with negligible degradation. Wang also thinks it could be customized to produce fuels other than formic acid, like acetic acid, ethanol, or propanol fuels.

“The big picture is that carbon dioxide reduction is very important for its effect on global warming as well as for green chemical synthesis,” Wang concluded. “If the electricity comes from renewable sources like the sun or wind, we can create a loop that turns carbon dioxide into something important without emitting more of it.”

## Modeling damage to infrastructure

**LANDSLIDES**, from A7

research into how climate change has affected the jetstream. *The Guardian* picked up this story in Aug.

Jetstreams are narrow bands of moving air that encircle the globe several miles above sea level, reaching speeds of up to 250 mph. The turbulence you may experience on transatlantic flights is frequently due to these jetstreams, and they are only getting worse.

triple by the period 2050-2080,” according to *The Guardian*.

But even if you don't fly, climate change is still affecting us right here in Pittsburgh. Not only are we experiencing wonky weather, but now we're also getting landslides.

The United States Geological Survey has estimated that the yearly death toll due to landslides is between 25 and 50 deaths, combined with two to four billion dollars worth of property damage. And in Pittsburgh,

when and where landslides may occur is no easy task.

Enter Cristoph Mertz, the principal project scientist at the Carnegie Mellon University Robotics Institute and co-founder of RoadBotics, who is researching how deep learning, a subset of machine learning, can be used to detect an impending landslide before it occurs.

The potential for Mertz's network extends beyond detection as he hopes to use it to direct a potential infrastructure change that would be better prepared to predict and prevent landslides. By developing a consistent metric of damage from landslides, Mertz's model can guide budget decisions and resource allocations to areas that need it most, bolstering the American infrastructure as a whole.

Currently, Mertz's team is working with specialists both inside and outside of Carnegie Mellon, including authorities on computer science, geology, infrastructure, and water and sewage, and collaborating with Allegheny County to test the viability of the network on potential landslide locations.

From student organizations to department “Green Teams,” there is a lot the student body is doing to mitigate the impact of global climate change.

“...many areas are becoming wetter.”

*Karen Lightman*

Metro21: Smart Cities Institute

According to Paul Williams, one of the researchers behind the study, in *The Guardian* “the winds and temperatures are in a certain kind of balance in the atmosphere... it is impossible to change the temperature patterns without... [affecting] the wind patterns.” This argument was backed up by their data, which showed that there has been a significant change in the jetstream since 1979, consistent with climate change patterns. “The amount of severe turbulence... could double or

landslides have been on the rise, with over 131 properties damaged in 2018 alone, a trend that is expected to continue over the years. Worldwide, the death toll is in the thousands.

The natural question is: what does climate change have to do with this? The answer is surprisingly simple. “The issue is that many areas are becoming wetter,” said Karen Lightman, the executive director of the Metro21: Smart Cities Institute in a Carnegie Mellon press release. But even with such a simple explanation, predicting



Courtesy of Trocaire via Wikimedia Commons

## 3D sensors analyze the human heart

**HEART**, from A7

reports in an engineering press release, “For decades, electrophysiology was done using cells and cultures on two-dimensional surfaces, such as culture dishes. We are trying to circumvent the challenge of reading the heart's electrical patterns in 3D by developing a way to shrink-wrap sensors around heart cells and extracting electrophysiological information from this tissue.”

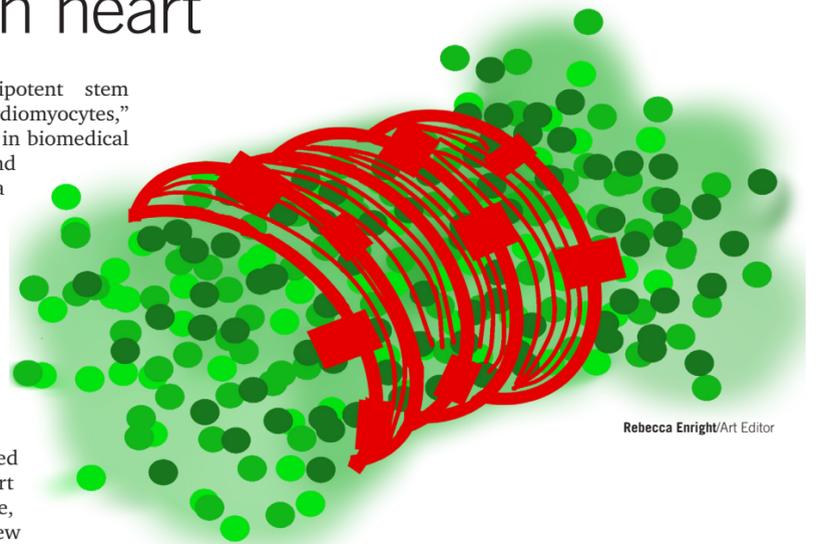
Researchers like Cohen-Karni set up organ-on-an-electronic-chip platforms by first attaching a set of sensors to the chip's surface. These sensors are typically composed of graphene

sensors or metallic electrodes. The germanium composing the bottom layer of this set of sensors is removed, after which the set of sensors is free to move independently, and rolls around the surface of the chip.

Cardiac spheroids, long organoids containing heart cells and as wide as two or three human hairs, were the test surface upon which the researchers deployed their platform. The platform coils on its own over the spheroid, allowing the collection of precise and accurate electrical signal readings from the spheroids.

“Essentially, we have created 3D self-rolling biosensor arrays for exploring the electrophysiology

of induced pluripotent stem cell-derived cardiomyocytes,” said Ph.D. student in biomedical engineering and lead author Anna Kalmykov. “This platform could be used to do research into cardiac tissue regeneration and maturation that potentially can be used to treat damaged tissue after a heart attack, for example, or developing new drugs to treat disease.”



Rebecca Enright/Art Editor

University of Pittsburgh School of Pharmacy and CTSI

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# A crash in an F2 race leads to death of promising racer

CALEB MILLER

Contributing Editor

Tragedy struck the motorsport community on Aug. 31 when French Formula 2 driver Anthoine Hubert passed away due to injuries from a high-speed crash at Circuit de Spa-Francorchamps in Belgium. Hubert, who was just 22 years old, was participating in the feature race for Formula 2, the top feeder series for Formula 1 where young drivers hone their skills before stepping up to the pinnacle of motorsports.

The crash occurred on the second lap of the race in the notoriously tricky Eau Rouge-Raidillon complex of corners, featuring a downhill dip before a steep incline which the drivers take flat out. The crash was triggered by Giuliano Alesi losing control of his car through Eau Rouge, glancing off the tire wall, and ricocheting back onto the track at the top of the hill.

Seeing this, the following

driver, Ralph Boschung, slowed and steered to the right of Alesi's damaged car. Hubert, who was close behind Boschung, couldn't see the events unfolding ahead of him until he crested the hill, and made an emergency move to the right to try to avoid Boschung's slow race car. However, Hubert clipped the back of Boschung, sending him into the tire barrier. Hubert's car bounced off and ended up stranded in the run-off area, perpendicular to the track.

Unfortunately, Juan Manuel Correa, who was behind Hubert, also went to the right of Boschung and Alesi, only to find his path blocked by Hubert's car. Correa had no time to react, crashing into the side of Hubert's helpless car at around 160 mph, a terrifying scene that immediately stopped the race. Hubert was pronounced dead at the track, while Correa was sent to the hospital with two broken legs and spinal cord damage. He was placed in an induced coma on Sept. 7 after

being diagnosed with acute respiratory distress syndrome.

Fatal accidents in Formula 1 and other series have prompted extensive discussion about safety improvements, often resulting in rule changes to prevent similar accidents from happening again. After Jules Bianchi died in 2015 from head injuries sustained in a 2014 crash, Formula 1 and its feeder series introduced the "halo," an additional safety structure around the drivers' head to prevent head injuries.

Unfortunately, there is no obvious path towards preventing incidents similar to the one that killed Hubert. Open-wheeled race cars like Hubert's Formula 2 car are designed to protect the driver by dissipating forces when the vehicle hits stationary objects such as tire walls, and serious injuries are now relatively rare. However, in Hubert's case, his car was the stationary object, and the safety structures in the car's chassis are not designed

to dissipate the forces in that scenario since the chances of it happening are extremely low.

While the crash was partly a result of the fast nature of the Eau Rouge-Raidillon complex and the blind spot created by the uphill section, the geography of the area surrounding Spa-Francorchamps make it nearly impossible to redesign the corner. The circumstances that led to Hubert's death mean that there isn't a clear way to prevent a similar tragedy in the future, although an investigation is being conducted.

The crash left the motorsport community in shock. The feature race was abandoned and the second Formula 2 race was cancelled. While the main event, Formula 1's Belgian Grand Prix, still ran the following day, Hubert's untimely passing was ever present in the minds of the drivers, team members, and fans. Two moments of silence were held before the race, with everyone

involved in Formula 1 and its feeder series standing on track in solidarity with Hubert's mother and brother. Every Formula 1 car sported a sticker reading "Racing for Anthoine," and on lap 19 of the Grand Prix, every fan stood and applauded for the whole lap to honor Hubert, who had raced wearing number 19. Race winner Charles Leclerc dedicated his victory to his late friend, keeping his celebrations subdued and pointing skywards as he emerged from the cockpit.

Hubert was a talented racer: he earned his spot in Formula 2 by winning the GP3 Series in 2018, and was signed to Renault's driver academy, giving him a clear route to an eventual seat in Formula 1. He was also one of the most well-liked faces in the Formula 2 paddock, and had remained close friends with many of the drivers who had graduated to Formula 1 before him. His presence on and off-track will be sorely missed. Rest in peace, Anthoine Hubert.

## CMU sports off to hot start: football team beats MIT

SPORTS, from A10

by a touchdown. The final play was a five-yard run by junior running back Luke Bikulege. Immediately following the first drive of the third quarter, senior safety Parker Mellott intercepted a pass by the MIT quarterback, returning it to the opponent's 23-yard line. But the Tartans couldn't convert a first down, and the drive ended in a Tartan field goal, with sophomore Brandon Nguyen scoring from 33 yards.

After the Tartan kickoff and Engineer return, the very first play of the drive saw a bad snap sent back into the Engineer endzone. Senior defensive end Michael Lohmeier picked it up for a Tartan touchdown making the score 24-7 where it stayed for the rest of the game. The 24 unanswered points left the Tartans with a commanding lead at the end of a strong third quarter. There were no points scored in the fourth quarter, as the Tartans moved to run out the clock.

Dayhuff completed 9 of 18 attempted passes for a total of 148 yards with one touchdown and one interception. Dayhuff also attempted five rushes for 37 yards. Leading the team in rushing yards, however, was Bikulege with 56 yards on 15 attempts. Nguyen, beyond hitting the field goal, went three for three on his extra points.

The totals for each team looked

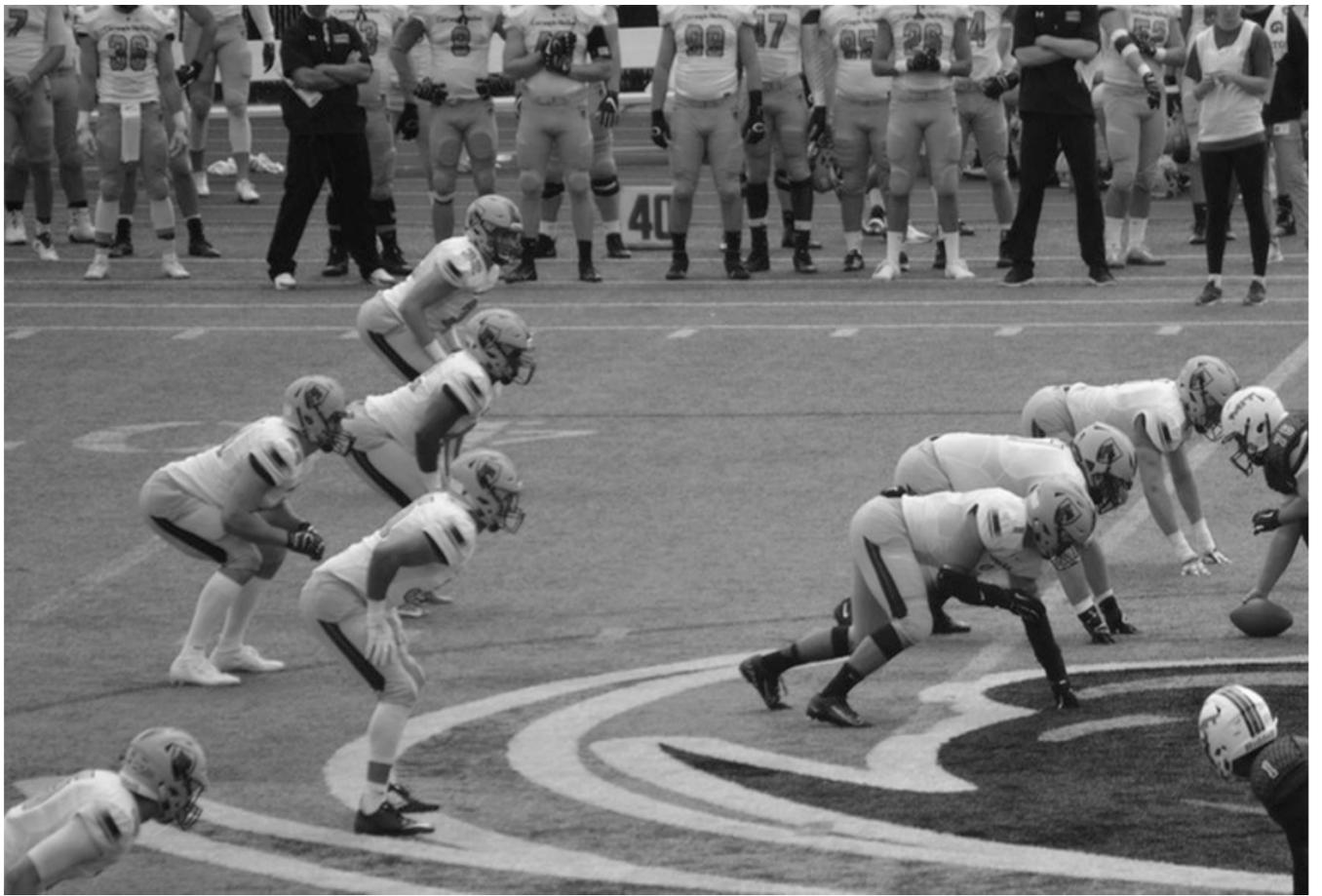


Photo Courtesy of CMU Athletics

The Tartans played against MIT in Massachusetts, where the Tartans scored 24 unanswered points to win the game with a final score of 24-7.

similar, with Carnegie Mellon having two fewer first downs and a less efficient third-down conversion percentage; however, Carnegie Mellon has fewer penalties and penalty yards. The

Engineers also turned the ball over three times on two fumbles and an interception to the Tartans single turnover, an interception.

Carnegie Mellon and MIT both rushed for 127 yards. Carnegie

Mellon passed for 148 yards; MIT, for 162. The Tartan defense was led by senior defensive end Long Tran with seven tackles and a sack. Richter led the receiving yards for the Tartans with 106.

The next football game for the Tartans is Saturday, Sept. 14 against Geneva College in Beaver Falls, PA. The game is set to begin at 7 p.m. Geneva College currently has one win this season.

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Paola Mathus/Staff Artist

# Sports

## Antonio Brown's wacky, wet, and wild summer antics

MARIKA YANG  
Publisher

Forget Hot Girl Summer, let's talk about Antonio Brown's Hot Mess Summer, which in its chaos may have just led him exactly where he wanted. After nine years with the Pittsburgh Steelers, the relationship turned sour and he had a rebound summer fling with the Oakland Raiders before promptly moving on to the one and only New England Patriots.

But let's backtrack. More happened relating to Brown this summer than what could fit in a season of reality television. The 2018 season was the breaking point for Brown and the Steelers, with his relationship with star quarterback Ben Roethlisberger deteriorating beyond repair. He was benched the final game of the season and finally traded (per his request) in March. He then signed a new 3-year, \$50 million contract with \$30 million guaranteed with the Raiders, which was an important point for Brown. For several months in the offseason it seemed that the drama from Pittsburgh was over, and Brown, even with his "diva" tendencies (dyeing his facial hair blonde, competing on *The Masked Singer*), was starting fresh on a new team on the other side of the country. How wrong we were.

It started in Aug., with one of the weirdest "injuries" anyone has seen in sports. In a cryotherapy session, Brown wore improper footwear that caused frostbite to his feet, causing him to miss several Raiders practices in training camp. But probably the most random thing was what came next: the tale of Brown and his helmet. With the growing awareness of head injuries to players, the NFL required all players to wear a new model of helmet which was tested to be



Antonio Brown, a former Steeler, has moved around the NFL this offseason because of his off-the-field antics. Photo courtesy of Brook Ward via Flickr Wikimedia Commons

safer. But like many athletes, Brown is a creature of habit and demanded that he could continue to wear his old one. After two failed grievances and a threat of retirement, he finally put the issue to bed on Sept. 4 when he announced on Instagram that he would be wearing the Xenith Shadow helmet, likely part of an endorsement deal.

But that date, Sept. 4, was when it all started spiraling out of control. Due to his missed practices and absences from the team, Raiders general manager Mike Mayock fined Brown \$54,000. Indignant, Brown posted the letter from Mayock on Instagram (which has since been deleted), leading to an altercation

between the two men the next day. While we can't know exactly what happened, different sources provided information alleging Brown called Mayock "cracker," had to be held back by teammate Vontaze Burfict, and punted a ball.

The next day, Sept. 6, saw another heel turn. Brown apologized to the team, and Raiders head coach Jon Gruden told the media that Brown was expected to play in the team's first game on Monday night. It seemed that his teammates had embraced him and were ready to move on from the drama and finally play football, but less than a day later, Brown rerouted his path. On Sept. 7, the Raiders voided Brown's

\$30 million guaranteed money, a figure that Brown valued highly. And so, as he is wont to do, he went to Instagram and asked the Raiders to release him.

They did. Immediately, the internet caught fire. Many criticized him for losing the money he had wanted so badly, all for a \$54,000 fine. Others cheered good riddance, while some mocked the Raiders for not even getting Brown for a real game. Nearly every trend on Twitter was about Brown and the Raiders. The others? Bill Belichick and the Patriots. Because everyone knew that Belichick could swoop in with his ingenious roster moves and pick up, arguably, the best wide receiver in the league. And

that's what he did.

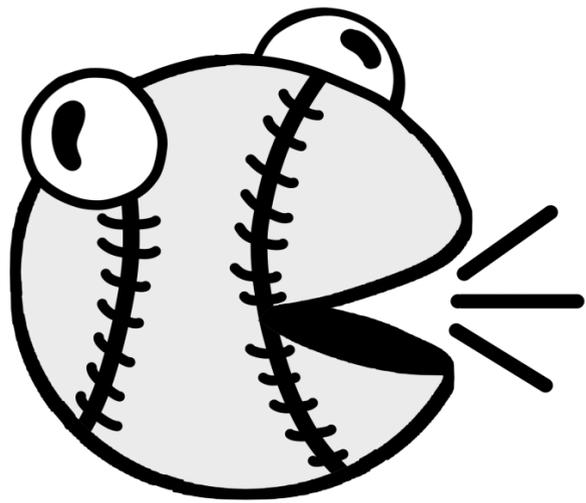
Mere hours after the Raiders released him, Brown signed with the Patriots on a 1-year, \$15 million deal, including at \$9 million signing bonus. Gruden looked foolish, Belichick shrewd as usual, and Brown, well, he looked like he could've masterminded this whole thing. There are probably too many variables for him to have hatched this whole plan before he was traded from the Steelers, but some of his recent antics make more sense. The missed practices, the altercations, the bizarre mood swings — could they all have been to get the Raiders to release him?

The Patriots would have never traded with the Steelers. They are known for their economical roster-building, and ability to snatch up underappreciated (see, James White) or controversial players (see, Randy Moss) and turn them into huge producers on the field. But with Brown released, they could sign him to a reasonable 1-year deal and have the stability and power to cut him if he causes any trouble. Adding Brown to their receiving corps makes their offense dangerous, especially after star tight end Rob Gronkowski's retirement. Because they are the Patriots, the biggest dynasty in NFL history, led with a strong hand by Belichick. They can afford to add a potential risk to their locker room.

One thing is clear from Brown's subsequent social media posts: he's happy to be in New England and ecstatic to be out of Oakland just one day after saying he was "excited to be part of the Raiders." If only he could have played in the Patriots' week 1 against his old flame, the Steelers, but he will not be active until week 2. That would've been too scripted, and for once, this crazy drama was all reality.

## Penalty Shouts: Randy Dobnak, baseball's Uber Driver of the year

## CMU fall sports off to hot, running start



MATTHEW BENUSA  
Sports Editor

Anna Boyle/Visual Editor

This is *Penalty Shouts*, *The Tartan's* sports column inspired by the *The New Yorker's* column *Daily Shouts*. This satire-fueled column will focus on anything and everything funny in the sports world that is deserving of our comedic attention.

Last week, South Park native and owner of a sick horseshoe mustachio Randy Dobnak made his major league debut for the Minnesota Twins. Just two years ago, Dobnak was an unscouted, unmustachioed Independent League baseball player based out of the famous baseball-ing state of Michigan. As any baseball fan would know, when Ray Liotta asks Kevin Costner at the end of *Field of Dreams* if this is heaven, Costner responds: "No, it's Michigan."

So we have to ask ourselves, where did Dobnak come from? And more importantly, how did he get that sick face spaghetti? If Dobnak played basketball, I would say a group of aliens descended from the Warner Brothers Universe to grant Dobnak his abilities (and

mustache) by stealing powers from an entire team, likely the Pirates. It would explain why Dobnak has only just made his major league debut because powers stolen from a team with success would put Dobnak on a Hall of Fame track. Alas, we don't live in a Looney Tunes world. We'll have to settle for theories like Dobnak falling into a vat of radioactive waste or being bitten by a poisonous spider.

However, there is one theory just too insane to believe. Dobnak's abilities were granted to him by the Uber genie. The Uber genie, of course, being the corporate genie that grants you three wishes (terms and conditions apply) if you have a perfect 5/5 rating on Uber. Given to us by a collective of the most powerful tech geniuses around — Zuckerberg, Gates, Andrew Yang — any Uber driver, like Dobnak, may accept the chance for three wishes in lieu of any compensation from the company for the work provided. In previous corporate genie situations, the genie would have accepted extraneous benefits like dental or health insurance

as recompense for the chance at three wishes, but Uber drivers don't earn benefits already.

Now the question becomes how did Dobnak, professional baseball player, have time to drive for Uber? Additionally, why did he drive for Uber? Isn't baseball a profitable enterprise? And how did he end up with a 4.99/5 rating on Uber? Note: Uber genie uses a truncation system with a 0.01 margin of error.

Turns out, the starting salary of a minor league baseball player is \$12,000 per season. \$12,000 may be a livable amount for four months of the year, especially when those four months are spent with most of your travel and living expenses paid. But what are these aspiring major leaguers supposed to do for the other eight months of the year, when their wealthier teammates are taking batting practice in Venezuela? Usually, they turn to the gig economy. After all, it's hard to get a decent job when you tell your boss that you have to disappear for four, five, even six months of the year. Dobnak turned to Uber to help pay the bills at a financially tough time, and Dobnak continued to drive for Uber even into spring training this past year. That was when the Uber genie must have found our struggling Dobnak, took pity on him, and offered him three wishes.

First, Dobnak wished for infinite wishes. The genie didn't grant the wish saying, "genies never grant that wish silly." Second, Dobnak wished for all the money in the world, but the genie denied it on the basis that he would have to take Uber's money, too, which isn't allowed. Finally, Dobnak wished to be good at baseball. The genie granted the wish with the condition that Dobnak spend eternity playing baseball in the frozen ninth circle of Hell: Minnesota.

MATTHEW BENUSA  
Sports Editor

Over the past two weeks, the fall season for Tartan sports has kicked into gear. Cross country, soccer, and women's volleyball have all had matches in the two weeks since the start of the new semester.

The men's cross country team placed second at the Duquesne Duals meet in Schenley Park on the first weekend of the month, placing above the University of Pittsburgh and Youngstown State University, both Division I programs. This past weekend, the Tartans placed first out of ten local colleges, with our runners taking second, fifth, and seventh through eleventh place.

The women's cross country team placed third out of six teams at the Duquesne Duals, beating Robert Morris University and Youngstown State. At the meet this past weekend, the women's cross country team also placed in first, but they just barely edged out second-place finishers Case Western. There were only two points of difference between Carnegie Mellon and Case Western, with points adding up depending on what place a runner finishes. If one Carnegie Mellon runner switched places with a Case Western runner, the meet would have ended as a tie.

In men's soccer, the team won their first matchup against Salisbury University by a score of 2-1, and on the following day, the team lost 3-2 to St. Mary's University. This weekend was the beginning of a home stand for the team, with a game on Friday against Mount Union that the team lost 1-0. They had a game on 3 p.m. on Sunday, but the game had not finished by time of publication.

Women's soccer won their first game against Aurora University by a score of 5-0. The following day they lost 1-0 to

Northern Ohio University. This weekend they played Denison University and Kenyon College. On Saturday, they tied Denison 2-2 after two overtime periods, and the game against Kenyon began at 1 p.m. with the game-ending too late for publication.

The women's volleyball team is undefeated to start the season. They have a 7-0 record in matches this season, only dropping three total sets across their seven games. To start the season, the team went to Case Western to play in a tournament, where they went 3-0. In their first single game, they played against St. Vincent University at home. But their most impressive wins have been this past weekend at Juniata College against 15th ranked Ithaca College and third-ranked Juniata. Next weekend, the team has a tournament at home, the DoubleTree Invitational, where they will play four games between Friday and Saturday.

On this past Saturday, the Carnegie Mellon football team traveled to Cambridge, MA to play the Massachusetts Institute of Technology (MIT) in their first regular-season matchup. The final score of the game was 24-7 for the Tartans.

After a slow first quarter, where the MIT Engineers went up by seven with just two minutes left on a 72-yard touchdown pass, the Tartans responded in kind with a 78-yard touchdown pass right before halftime. On the very first play of the drive, junior quarterback JD Dayhuff threw the touchdown pass to senior wide receiver Willie Richter along the MIT sideline, where Richter drove through the last of the secondary to tie the game heading into halftime.

Taking the kickoff in the second half, the Tartans ran off a 12-play, 65-yard drive to go up



**pillbox**  
The Tartan's Art & Culture Magazine

9.09.19 • B4 Melanie Martinez • B10 bülow • B12 Taylor Swift, *Lover*

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I saw some films this summer. Let's talk about them.

## Spider-Man: Far From Home

At least we got two good *Spider-Man* movies in the Marvel Cinematic Universe (MCU) before the Sony-Disney deal fell through. *Far From Home* is another delightful addition to the MCU with the same great cast, another good villain, and a good extension of the events of *Avengers: Endgame*. What's interesting about this movie is that I enjoyed it for the exact opposite reason I enjoyed *Spider-Man: Homecoming*. While I enjoyed the high school teen drama aspect of *Homecoming* the most and found the Spider-Man aspects of it to be less engaging, I actually liked all the Spider-Man material in this much more than the high school teen drama aspect. I wasn't a big fan of the chemistry between Peter Parker and MJ in this one. The chemistry was there, but the dialogue just didn't gel with me. The real star of this movie is Jake Gyllenhaal as Mysterio. He has been one of my favorite villains from the comics, and the movie did a great job to create a compelling villain who also had all the coolest scenes in the movie. There were also very shocking revelations, especially in the post-credit scenes, that solidify this as one of the more shocking entries in the MCU. It will be interesting to see where the movies go next following the information revealed in this one. Overall, this movie was pretty good, and I personally liked it a little more than *Homecoming*. If these are the only two MCU Spider-Man movies, I think the majority of us will be satisfied with what we got. I'll give this a 7/10.

## Once Upon a Time in Hollywood

Tarantino is an interesting director for me. He is a horrible human being, but he is a generally good writer and director. I would always add *Pulp Fiction* or *Reservoir Dogs* to any film essentials list, but it would always be towards the bottom of the list rather than the top. He has a formula, and after *Django Unchained* and *The Hateful Eight*, the formula has become stale for me personally. That's what makes his newest film such a refreshing change of pace. For the most part, it's not standard Tarantino. The beginning 10 minutes and the last 20 minutes are more of the Tarantino you'd expect, but it's balanced out by the middle portion between those two sections that seems to revel in its 60s setting and its cast of well thought out characters. Leonardo DiCaprio, Brad Pitt, and Margot Robbie are all amazing in their roles, and Tarantino's direction is good as usual. I'd say my complaint with this film is that nothing really happens until the end. It's very weird because there seems to be a lot of dialogue scenes that just go nowhere, but it feels like they have a purpose that's hard to pinpoint. Perhaps on my second watch I'll understand it more, but as of now, that's what it seems like to me. Overall, I enjoyed myself watching this film, and if you're a Tarantino fan or if you like good dialogue, you can watch this too. I am also giving this a 7/10.

## Dora and the Lost City of Gold

What on earth did I watch? I really am genuinely confused. I hated every second of this movie, but I also loved every second of this movie. I walked out of the theater and had a mental breakdown because I was so distraught over what I saw. I laughed so hard throughout the whole thing, and even during the sequences that weren't supposed to be funny. A little girl next to me asked her mother, "Why is he laughing so hard?", which only made my laughter worse. It's a Nickelodeon TV movie made for the big screen, with an attempt to have *Deadpool* levels of meta-commentary. Dora is basically a schizophrenic psychopath in this movie, but you absolutely adore her. Meanwhile, everyone else is just really, really, really annoying, especially Dora's parents. The plot makes absolutely no sense. There is a drug trip sequence in this movie for some reason. There are references to the horrors of colonization that no kid or even most adults would know about, including a reference to U.S. fruit companies creating banana republics. They hire actual Inca descendants who speak Quechua. There are CGI abominations of both Boots and Swiper who both talk and are voiced by Danny Trejo and Benicio Del Toro, respectively. It's so clear the writers didn't care about this movie and the studio mandate, so they knowingly created something terrible and the studio profited. The industry is dead everyone. This is the end as we know it. Let's all be prepared for the Dora Cinematic Universe. It has been a month since I've seen this, but I'm still distraught just thinking about this movie. I am purposefully not revealing much about this because honestly, everyone should see it. I'm giving this a 2/10, but honestly, it was a 10/10 experience, which is why I'm conflicted as to what score to give it.

## Midsommar (Unrated Director's Cut)

In the realm of "what did I just watch?", we have Ari Aster's new film, *Midsommar*, which is the most disturbing film I've seen since *Hereditary*, Aster's film from last year. This is also one of the best films of the year, and it's an extremely weird, terrifying, gut-wrenching, darkly funny, and oddly inspiring experience. I hadn't seen the theatrical cut, so I got to watch the unadulterated vision Aster had for this masterpiece. Frankly, there isn't a single scene that can be cut for this. Everything is necessary to build the character arcs and relationships, as well as creating this eerie and strange world that the director brings these characters into. The sun soaked vistas of Sweden offset the disgusting rituals and the ugliness the characters exhibit towards each other as the film goes on. It's an incredible story about overcoming grief and finding healing from those who genuinely care about you. The dissolution of the main characters' relationship is so beautifully and painfully realized that it's odd the theatrical version cut out important scenes that depict that. As the film progressed, I only felt more and more perturbed by what I saw, and I slowly sat on the edge of my seat in awe. I wasn't scared like I was by *Hereditary*, a film that almost made me vomit from how stressed it made me. Instead, I was just deeply unsettled to my core, feeling a weird mix of emotions by the end, and having it all just rattle around in my head for a few days. I'm sure the theatrical version of this film is very good, but the only real way to watch this is with the director's cut of the film. This isn't for the faint of heart, but if you like strange art films or disturbing psychological experiences, watch this film as soon as possible. I'm giving this one (an actual) 10/10.

# Melanie Martinez

written by Madeline Kim | Forum Editor  
art and layout by Anna Boyle | Visual Editor

## comeback

After a four-year hiatus, singer-songwriter Melanie Martinez has released her sophomore album *K-12*. With this release, Martinez managed to not only craft a concept album but also direct and star in a full-length film of the same name. The film ties the album together and creates a portrait of a girl's development through school. Cry Baby, Martinez's character, navigates her way through school with her best friend, Angelita (Elita Harkov), and Angelic Spirit Guide, Lilith (Kimesha Campbell). Together, they overthrow the oppressive school principal's regime.

The album had been complete since 2017, but Martinez held off giving any peeks into her film or even a single from her album until this past summer. Retrospectively, it makes sense that she wanted to keep the album intact, so that they each contribute to the storyline, but there's no denying that her fans were anxiously wishing for at least a glimpse of her work.

Unfortunately, Martinez had more on her mind these past four years than directing this film and producing her album. In 2017, singer-songwriter and former friend Timothy Heller tweeted that Martinez raped her in Martinez's home. Despite the allegations, Martinez continued working on her album and film, releasing both on Sept. 5, 2019. The film incorporates themes such as racism, elitism, and negative societal pressures. Her previous album, *Cry Baby*, incorporated these topics in more subtle ways such as through casting choices. However, *K-12* takes social commentary to a higher level. She manages to weave these topics in a way that does not feel forced or otherwise cheaply included for the sake of appearing socially aware.

In one scene in the first 15 minutes of the film, Henry, a black student, remains seated during the Pledge of Allegiance despite the teacher demanding that

he "show some respect." "You hear that? 'Liberty and justice for all?'" That's bullshit," he responds before school security forcibly removes him from the classroom.

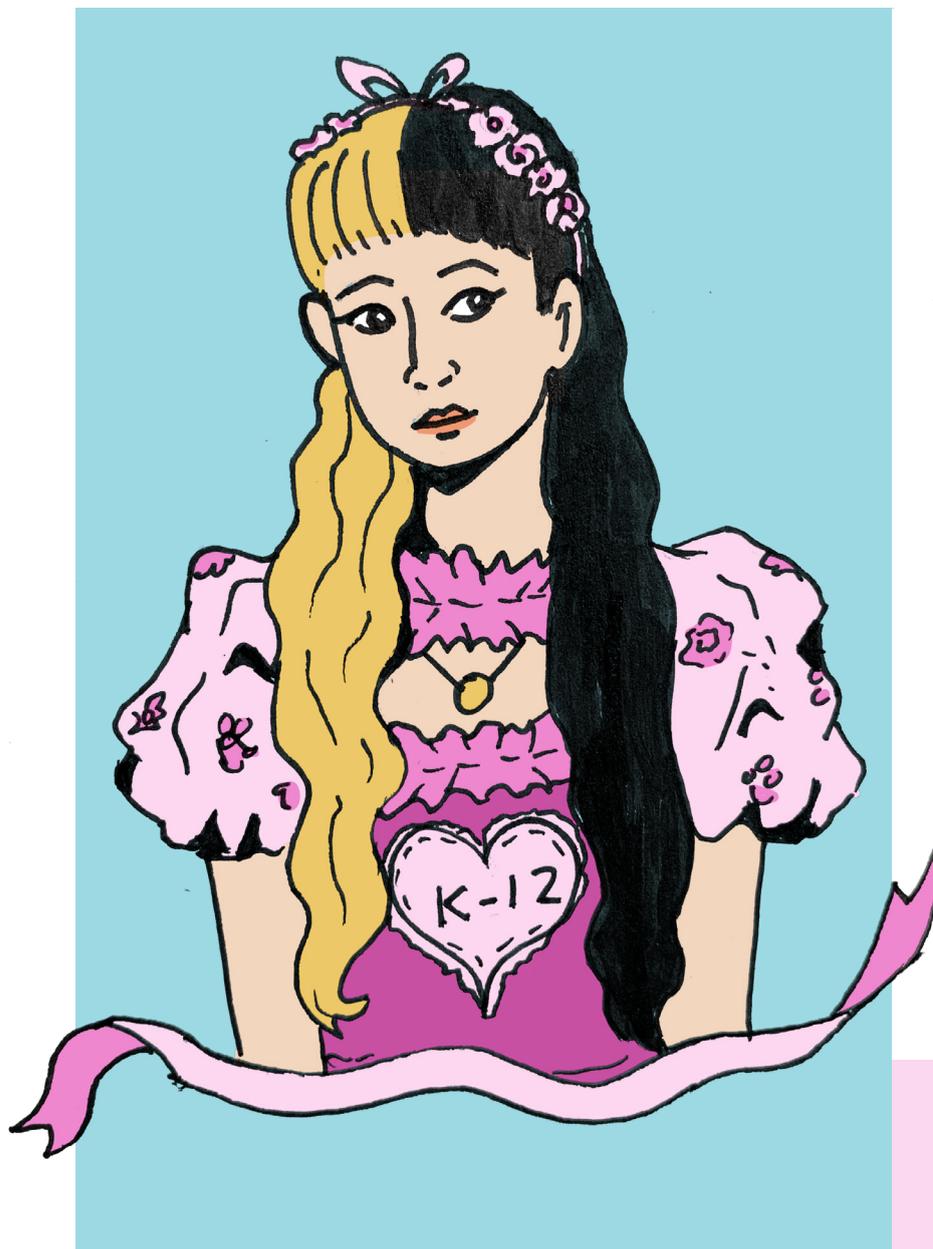
Some of the racial elements were more subtle but appreciated nonetheless. As an Asian-American fan, the first thing I noticed was its portrayal of Asians in a classroom. It felt strange to realize that Asian schoolchildren were portrayed as just that: schoolchildren, not as some secluded whiz kids. Poking fun at stereotypes and those who take them seriously can be fun (I'm guilty of laughing at Asian nerds in films), but Martinez's decision did not go unnoticed.

LGBT+ discrimination also pops up again in *K-12*. Like racism, LGBT+ themes were also previously incorporated through casting but not overtly in Martinez's work. The film features a teacher transitioning

and asking to be referred to as “Ms. Harper.” Despite her passion for her job and her connection with her students, the principal says he cannot “permit [her] to influence the children with this ridiculous behavior” and proceeds to fire her with a “Mr. Harper, you’re fired”: a scenario many of us have heard about far too often. Martinez also welcomes the LGBT+ community in her casting, as seen in her casting Zion Moreno, a transgender model, as Fleur, a girl in the popular “it” group.

Martinez touches on sexism and rape culture yet again. In the seventh track, “Strawberry Shortcake,” she jabs at how women are expected to “make sure [they’re] pure” whereas “nobody told [boys] not to grab.” The song is somewhat reminiscent of “Tag, You’re It,” a track from her first album. In its respective music video, a menacing wolf driving a white van follows Martinez around and kidnaps her. For “Strawberry Shortcake,” Martinez is posed in a large Barbie dress cake where the boys stuff their faces with cake.

Unrealistic social pressures also make a comeback for K-12. Martinez’s debut single, “Dollhouse,” demonstrates the gilded glamor the media presents celebrities and influencers. “Mr. Potato Head,” another track that was released in Martinez’s first album, critiques plastic surgery and the expectation for women



to conform to a narrow perception of beauty. In the film, Fleur conforms to how she believes she should appear and behave by closely emulating the queen bee, Kelly, and develops bulimia nervosa. “Orange Juice” then shows Martinez’s perspective. She and Fleur exchange eyeballs so that Martinez can “give [Fleur her] set of eyes,” paralleling the impact of body dysmorphia.

Although waiting four years for more music was absolute agony, Martinez did not disappoint. K-12 is a continuation of *Cry Baby* both conceptually and musically, yet it does not feel like a recycled version of the preceding album. The ending of the film for K-12 left on a bit of a cliffhanger, hinting at a potential addition to the story. Perhaps Martinez’s fellow *Cry Babies* will have to wait another four years, but I feel safe in saying many of us are willing to wait even longer if it means another segment equally emotionally evocative.

# MADDY'S MONTHLY MEME MADNESS

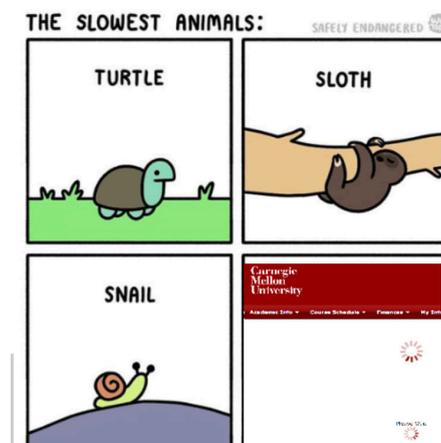
Welcome to Maddy's Monthly Meme Madness, where we take a look at the Top 5 most-liked memes on the Facebook group, Carnegie Mellon Memes for Spicy Teens, posted in the past month.

**AUGUST**

**10/10**

**"SIO UPDATES"**

Brian Zhang



Much of the student population asked: "How could SIO get worse?" only to see that the site would be stuck loading for the rest of eternity (or at least too long for us to know where our fall classes are)

**9/10**

**"O-WEEK TRANSFORMATION"**

Alexander Chen

**First years when they leave their first O-week party at 11:02pm:**



Everyone's gotta start from somewhere... and in this case, it's O-Week. It's not fun feeling like the fetus in any social setting, but I promise you'll have your turn of not being the fetus and you'll find yourself seeing your current self from a much different angle.

**8/10**

“SENIORS @ C@CM”

Alexander Chen

when you're a senior and  
taking c@cm



The meme watermark and the tweet format of the meme cheapen the meme (hot take: tweets are not memes). Regardless, the feeling of being out-of-place is something that all of us have related to at one point or another (to any freshmen: this feeling will hit you). But hey, at the end of the day, we all know the classic college rhyme holds true: “C[CM]’s get degrees.”

**9/10**

“OC VS. FRESHMEN”

Sam Chai

Orientation Counselors:

Freshmen:



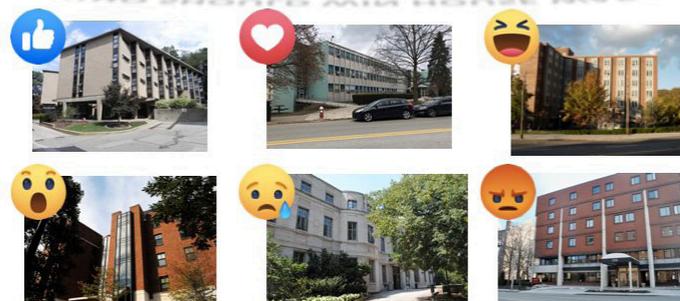
Freshman year is a trying time, and trying to comprehend the zeal of the OCs can be overwhelming. It's a lot to take in: a new environment, a new life, and screaming upperclassmen jumping from every angle. Kudos to all the OCs out there; I can barely pull myself out of bed.

WHO SHOULD WIN HOUSE WARS

**10/10**

“HOUSE  
WARS 2.0”

Elliot Yokum



House Wars remains to be one of my favorite memories from freshman year (although I was too sick to participate in the actual event). Still, I'm sure many students will continue to defend their first home on Carnegie Mellon's campus, even when the obvious answer to this poll should be Mudge House.

# JONAS BROTHERS

## CONCERT REVIEW

The reunited boy band performs at PPG Paints Arena for on their comeback tour.

The screams roll through the arena, growing louder and louder until they seem to hit an even higher decibel when the stage lights blare, and the first beats of “Rollercoaster” fill the room. The Jonas Brothers are back, and they’re putting on a show.

On their comeback tour in support of their hit album, *Happiness Begins*, the Jonas Brothers stopped at PPG Paints Arena on Tuesday, Sept. 3. In the six years since they officially disbanded, they’ve grown up, had some solo career success, and got married. You could say the same for many of their fans: we grew up. The crowd ranges from older teenagers to young moms in their early thirties, with older parents, young kids, and the occasional boyfriends and husbands sprinkled around the packed show.

And the Jonas Brothers can really put on a show. Since they returned, they have been clear that they are embracing their past. In concert, they seamlessly alternate between songs from the new album and old hits from their young teen days. After a great kickoff performance with “Rollercoaster,” the nostalgia-filled track from the new album, all I can hear are cheers as they begin “S.O.S.”

Moving from “Strangers” to another oldie, “Fly With Me,” and back to a *Happiness Begins* track, “Used to

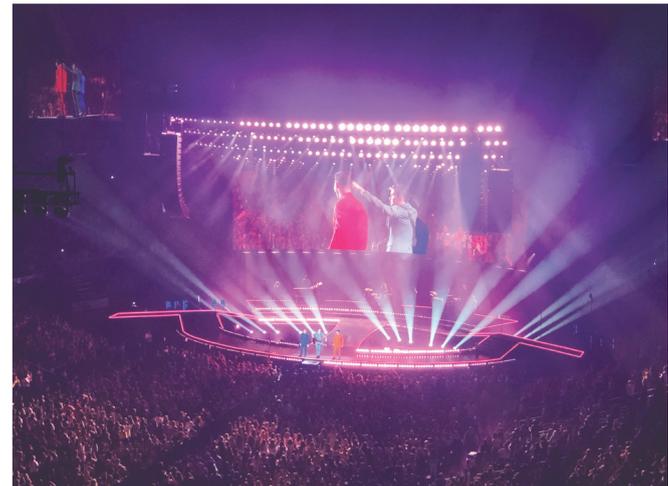
Be,” the crowd knows them all. The brothers — Kevin, Joe, and Nick — aren’t dancers, but they move easily after growing up on stage, this time in dapper solid-color suits (Kevin in green, Joe in blue, Nick in orange) instead of coordinated boy-band leather and black skinny jeans.

Though most of the show was spent on the main stage, they also walk to the B-stage on the other side of the arena. During “Hesitate,” they stand on a levitating stage that propels them upwards, surrounded by a sea of phone flashlights. The song from the new album is Joe’s letter to his wife, actress Sophie Turner, and the emotional moment, with some of the crowd singing along but others simply listening, makes it intimate, even in a huge arena with thousands of people.

Sometime during the night Joe mentions how hard it was to choose the tracklist since they’ve recorded over 200 songs when you add up the studio albums, concert albums, and soundtracks they did for *Camp Rock* and their Disney show. They ask the crowd for

requests and choose “Hello Beautiful” from their self-titled second studio album.

And again, the concert shifts, never staying in the same place, barging forward with momentum. Throughout the night, songs are introduced by cheesy but touching videos of the brothers and younger versions of themselves, who are so well-cast for a moment I thought they were using old footage. But they are well-produced and expensive-looking, taking place when the young boys are camping in the woods, playing in the street, or having fun at a carnival. The video signals the change to another throwback moment: present-day Nick





and his younger self meet on a blue light-tinged beach. The stage lights hit Nick alone on the B-stage, belting the first notes of “Jealous,” the biggest hit of his successful solo career. Joe appears on the main stage for the second verse, with Nick joining him for the chorus.

Then comes “Cake by the Ocean,” the big earworm hit from Joe’s funk-pop band DNCE. It’s a fun summer song, and the screens brighten up the room with neon colors that match the rainbow stage lights rotating around the crowd. From confetti to yellow inflatable tube men to everyone screaming the lyrics, it’s electric.

During the two solo songs, Nick and Joe are only joined by the supporting band, sans Kevin. The oldest of the brothers doesn’t sing much and chose to pursue some business ventures and raise a family during the hiatus.

The next video follows Kevin walking through a green forest, accompanied by his two young daughters, stoic and strong. He meets his younger self and teaches him to play piano, as a grand piano is lowered from the ceiling in front of the screen, onto the stage. The

real Kevin, the one there in the arena, takes his place at the piano and plays the first rousing notes of “Comeback,” the closing song of the comeback album, and is joined by his brothers.

If the concert had ended there, I doubt anyone would have left unsatisfied. But the band knows what the crowd wants, and dives into performances of emotional banger “When You Look Me In The Eyes” and “I

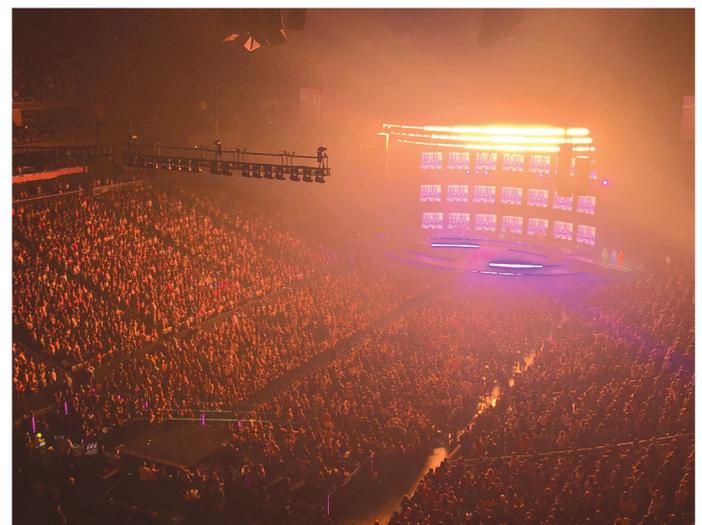
Believe.” Back on the B-stage, they take a break to speak to their fans, saying, “Thank you for sticking by us,” and drink a shot together in celebration.

“Let’s do something special for the OG Jonas Brothers fans.” And they do, playing a long medley of old hits and some lesser-known cuts. And the OG fans — the young girls who decorated their bedroom walls with merch and bought every CD five times — they feasted, singing lyrics to each other, jumping up and down, instantly transported to 10 years ago. Others might have been fans simply because being a young girl in the late 2000s meant you were a Jonas Brothers fan, even if you didn’t know every lyric to every song. That was me, but it’s okay because I can follow along to some of the lyrics and move to their solid, catchy melodies. Their older stuff has a much more rock sensibility,

with heavy electric guitar and even heavier drums, and injected the show with new energy.

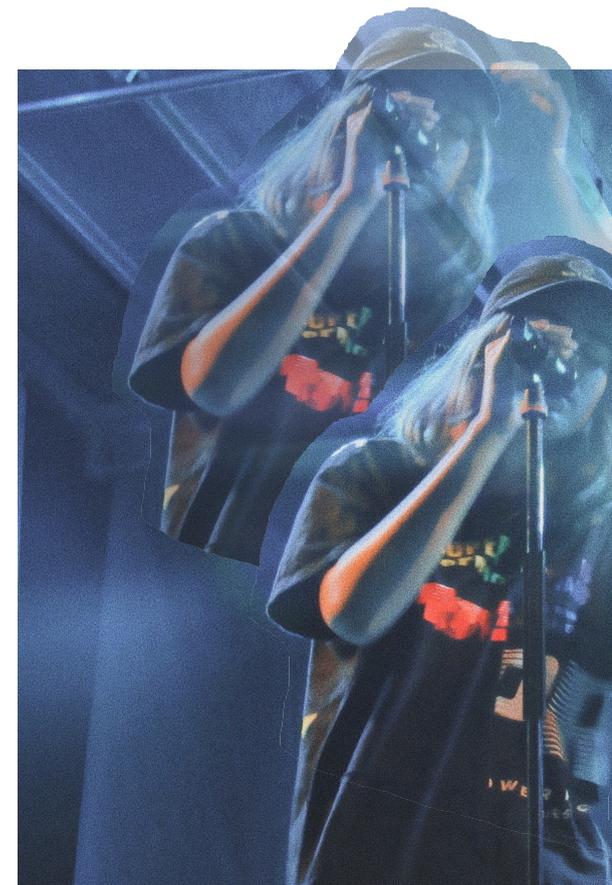
While their comeback single “Sucker” has been a huge bona fide hit in 2019 pop music, the band knows that for their passionate fans, nothing beats the old hits. When “Lovebug” begins, and later “Year 3000,” I don’t think I’ve ever been around more screams, around so much sound in my ears. For the encore, they jump out from below the stage and launch into “Burnin’ Up” and “Sucker,” a partnership of their biggest hit from pre-hiatus and their recent single.

And as they barrel to the big finish, the lights flash over the whole arena and I can see the thousands of people here. We’re singing — no, screaming — at the top of our lungs, dancing to the music, laughing with our friends, and for two hours, we’re kids again. It’s thunderous, absolutely deafening, the sound traveling up to my seat. But it doesn’t matter that my ears barely work, or my feet hurt from standing all night. Because in this moment, all we feel is the freedom, the joy, the complete happiness of being here.



# bülow

article and photos by Madeline Kim | Forum Editor  
layout by Tracy Le | Visual Editor



German pop singer Megan Bülow, known professionally as bülow, came to perform at Carnegie Mellon on Friday, Sept. 6. The 18-year-old emerging artist kicked off the new school year with a memorable performance on the CFA Lawn in front of Hunt Library.

Hip-hop duo AWFBEAT, comprised of sophomores Grant Glazier and Uni Hunte, opened the concert. They performed their two recent releases, "Better Than Me" and "Side Eyes." The energy between the duo was fantastic, and the audience felt it. "Side Eyes" had the audience dancing and singing along. In an hour, the pair more than adequately hyped up the audience for bülow.

bülow kicked off the concert with her song "Wake Up" from her latest release, *Crystalline*. The performance also included her hot tracks "Sweet Little

Lies," "Not a Love Song," and "You & Jennifer" (the third which she prefaced with an apology to any Jennifers in the audience), as well as a brief cover of Juice Wrld's "Lucid Dreams." Her performance and presence felt just as effortless as her chill synth beats. Although bülow has been compared to current pop sensation Billie Eilish, this performance showed that bülow's take on synthetic beats and harmonized vocals differentiates the two artists.

I had been a fan of bülow prior to the performance. Her song with The Chainsmokers, "Do You Mean," and a recommendation from RM of BTS, "You & Jennifer," put bülow on my radar. She is now amassing over three million listeners on Spotify, and her career seems to be expanding. Now that she has completed high school and can fully invest her efforts in her career, bülow is bound to go far with her music.



# Lover

written by Marika Yang | Publisher  
art by Rebecca Enright | Art Editor  
layout by Alexandra Yu | Pillbox Editor

In her 13-year career, there have been countless stories and think pieces about Taylor Swift. In the beginning, they covered her great songwriting and her early success in country music. Then it was her many relationships, which ended up being chronicled in her songs. Then came the scandals and controversies, the constant beef with celebrities that led to her “canceling” after being “exposed” by Kim Kardashian West, and her political neutrality during the 2016 election when many called for her to speak. Swift is one of those figures who cannot be considered solely in the context of her music. Not only does her celebrity feed into her music, but it is an integral part of the Taylor Swift Experience.

Many will say that *Lover*, her seventh studio album, is a return to form. It's certainly one of her best, but I think I'm in the minority that really enjoyed her last album, 2017's *reputation*, her first release after experiencing the first “bad publicity” of her career. That album was experimental and heavily electronic, but under the combative songs was a romantic touch about a woman in love. The aftertaste of *reputation* was a happy one, a realistic one, and flows wonderfully into *Lover*, which fills out its title to a T.

*Lover*, with its 18 tracks, is the longest album of her discography, but it's her most consistent. There may not be the highest of highs of 2012's *Red*, which many consider her strongest work, or the singular achievement of writing all of 2010's *Speak Now* by herself, but *Lover* covers a wider spectrum of a woman nearing 30 who has already experienced a career that few could dream of. Not only is the subject matter widespread, but the sounds of the album are also diverse, from the comfortable electro-pop and '80s vibe to hints of jazz and R&B.

Kicking off the album with “I Forgot That You Existed,” the catchy melody overcomes the pettiness of the track, but I interpret it as a final nail in *reputation*'s coffin. The second track, “Cruel Summer,” is almost like a second opener, and kicks it off perfectly. Co-written with frequent collaborator Jack Antonoff and St. Vincent, “Cruel Summer” is the great pop song that pre-album singles “ME!” and “You Need To Calm Down” aren't. It's just great pop, with a layered, electronic production and killer turns of phrase that cut deep in a few short words: “I don't wanna keep secrets just to keep you” and “I love you, ain't that the worst thing you ever heard?”



For someone so incredibly detail-oriented and in complete control of her career, Swift has an odd knack for releasing her worst songs as lead singles. Granted, I understand the allure of “ME!” which features Brendon Urie, but its cheesy lyrics and a-little-too-much bubblegum aesthetic hinder an otherwise killer hook. Same with “You Need To Calm Down,” which is well-produced and has good intentions, but perhaps got a little too into her haters to be considered a good effort at allyship.

But that doesn’t matter when you have the great country-tinged title track, a cozy and comfortable love song that’s sure to dominate weddings for years. “I Think He Knows” is bursting with sass that feeds into the love-soaked joy of “Paper Rings” and “London Boy,” which are undoubtedly Antonoff productions with their eighties influence. For someone who spent much of her career writing about fantasy crushes and breakups, Swift writes a solid love song, even if “London Boy” has 100 too many British references.

“The Man” caused the most headlines at the release of the album, with Swift going in on the double standards and sexism she experiences in the music industry, and sings about how she would be treated and viewed if she was a man. For all her white feminism and convenient use of feminism in years past, “The Man” works well because she’s speaking from her unique and singular experience which is so much more genuine than grand generalizations about sexism from a privileged celebrity.

Though “The Archer” comes in at track 5 and “Afterglow” at 15, they represent Swift at her most introspective. “The Archer” is moody and dark and confessional, with a low pulsing beat under some truly honest lines like “All the king’s horses, all the king’s men / couldn’t put me together again” and “They see right through me / Can see you see right through me / I see right through me.” While “The Archer” comes from a wider perspective, “Afterglow” comes very clearly in the middle of a relationship, with Swift apologizing for mistakes and hurting her partner, and working to actually fight for the relationship.

Probably my favorite of the entire album, “Miss Americana & The Heartbreak Prince” first sounds like a darker version of “You Belong With Me,” with its high school setting, cheerleader chanting in the bridge, and classic American characteristics. But Swift turns the metaphor on its head, and the song turns into almost a political commentary about disillusionment in America: “American stories burning before me / I’m feeling helpless, the damsels are depressed / Boys will be boys then, where are the wise men?”

“Cornelia Street” is already a fan-favorite, blending the uber-specificity Swift always imbues in her songs with the universal emotion of being afraid to one day lose to the person you’re with because you love them so much. Unlike some of the songs on *reputation* which lacked the deep, specific details because she was singing about a relationship she was still in, “Cornelia Street” and other songs on *Lover* work past this. After three years with her boyfriend, actor Joe Alwyn, Swift is comfortable enough to truly share it.

In a radio interview, Swift revealed that break-up song “Death By A Thousand Cuts” joined a small group of her songs not about her own life, but instead was inspired by the 2019 rom-com, *Someone Great*. With interesting vocal layering, the song reminds me of *reputation* standout, “Getaway Car,” but for me, it recedes to the background among the album’s best songs. On the other end of the spectrum, Swift gets as personal as one can get with “Soon You’ll Get Better.” With an assist from the Dixie Chicks, the song is about her mother’s battle with cancer, with the truest, realest vocal delivery she’s ever put on record. She repeats the title line over and over as if trying to will it to come true.

The two songs before the closer find Swift experimenting with new genres. “False God” jolted me from the emotions of “Soon You’ll Get Better” with jazzy saxophone in the beginning. At first, the brass felt out of left field and it didn’t sound like a Taylor Swift song, but it grew on me. “It’s Nice To Have A Friend” is another curveball, with steel drum, a choir, and a clipped vocal. It’s a short song with a simple premise, but it’s a welcome flashback to simpler times in grade school with friends, surrounded by the imperfections of adult life that make up the rest of the album.

From 1989’s “Clean” to *reputation*’s “New Year’s Day,” Swift knows how to close an album. “Daylight” is no different. Sprinkled throughout *Lover* are many references to color, and here she goes back to red. In the album *Red* she used the color to describe love, when she was younger and more naïve. But in “Daylight,” we see the growth that comes from the beginning of your twenties to the end of them. In the bridge, she sings “I once believed love would be burning red / But it’s golden / Like daylight.”

With *Lover*, Swift drops clues to what she could do next. Maybe more R&B, or perhaps going back to her country roots. But that doesn’t matter, because with this album, she reminds us that beyond her celebrity, her relationships, her beef, her political beliefs, her reputation, she is a brilliant songwriter, and that shines through everything.

# pillbox picks

# the tartan playlist

## song

"shut up"  
"2 / 14"  
"all the kids are depressed"  
"4AM"  
"Turn"  
"Charlemagne"  
"Alligator"  
"Groceries"  
"Bloom"  
"Young Blood"  
"Not but for You, Bunny"  
"Carry the Zero"  
"Marcel"  
"Lemonade"  
"Colored Emotions"  
"Puzzle Box"  
"G.O.A.T."  
"The Other Side"  
"History Eraser"  
"Para Machuchar Meu Coracao"  
"Am I Evil?"  
"Venusian 1"  
"Swim to the Moon"  
"Shuggie"

## album

*portraits*  
*My Thoughts on You*  
*glisten*  
*Doom Days*  
*Beautiful People Will Ruin Your Life*  
*Blossoms*  
*Fever Dream*  
*In the Sky*  
*Woodland - EP*  
*Busyhead*  
*No Dogs Allowed*  
*Keep It Like A Secret*  
*Marcel*  
*Sun Machine*  
*Colored Emotions*  
*Vector*  
*New Levels New Devils*  
*Little Ghost*  
*The Double EP: A Sea of Split Peas*  
*Getz/Gilberto*  
*Lightning To The Nations*  
*Infest the Rats' Nest*  
*The Great Misdirect*  
*We Are the 21st Century*  
*Ambassadors of Peace & Magic*

## artist

Greyson Chance  
The Band CAMINO  
Jeremy Zucker  
Bastille  
The Wombats  
Blossoms  
Of Monsters and Men  
Mallrat  
The Paper Kites  
Noah Kahan  
Sidney Gish  
Built to Spill  
Her's  
Rubblebucket  
Night Moves  
Haken  
Polyphia  
Moonchild  
Courtney Barnett  
João Gilberto  
Diamond Head  
King Gizzard & The Lizard Wizard  
Between the Buried and Me  
Foxygen

## *Aladdin*

Friday, Sep. 13 and Saturday, Sep. 14 at 8 p.m. and 11 p.m.  
Sunday, Sep. 15 at 8 p.m.

This weekend, Disney's live-action *Aladdin* will be screening in McConomy Auditorium. The retelling of the beloved 1992 animated film features Will Smith as the legendary Genie, Mena Massoud as Aladdin, and Naomi Scott as Jasmine. For lovers of the original film, this movie may not live up to the magic of the original tale — a tale of a charismatic "street rat" who unleashes a genie and pursues a princess and, quite frankly, crushes "One Jump Ahead". Unfortunately, this retelling may seem to be plotless, even lumbering aimlessly and confusedly at points. But, while the film may lack the good storytelling and inspiration of the original, it's all-star cast is all-attractive. So if you want to stare at a bunch of super hot people for two hours, I'd definitely recommend!

# horoscopes

the signs as clubs we signed up for at the Fair but won't join

**Aries**  
march 21 – april 19

*Film Club*

**Taurus**  
april 20 – may 20

*Big Straw Magazine*

**Gemini**  
may 21 – june 20

*The Tartan*

**Cancer**  
june 21 – july 22

*SDS*

**Leo**  
july 23 – aug. 22

*Model UN*

**Virgo**  
aug. 23 – sept. 22

*any buggy team*

**Libra**  
sept. 23 – oct. 22

*The Cut*

**Scorpio**  
oct. 23 – nov. 21

*Activities Board*

**Sagittarius**  
nov. 22 – dec. 21

*Scotch'n'Soda*

**Capricorn**  
dec. 22 – jan. 19

*International Student Union*

**Aquarius**  
jan. 20 – feb. 18

*Agapé*

**Pisces**  
feb. 19 – march 20

*The Originals*

# "Abandoned"

by Meg Quinn



[artbymoga.tumblr.com](http://artbymoga.tumblr.com)

# Procrastination

by Sarah Andersen



sarahcandersen.com

# Grew Up

by Parmita Bawankule



parmdraws.tumblr.com

## ongoing

Van Gogh in Bloom (Phipps Conservatory)  
ongoing until 9.21.19

An Atlas of Commoning: Spaces of Collective  
Production (Miller ICA)  
ongoing until 9.22.19

## week of 9.9.19 - 9.15.19

A is for Archive (Carnegie Library)  
9.12.19 7 - 8 p.m.

Anime Film Week (Row House Cinema)  
9.13.19 - 9.19.19

PGH - Highland Games (Idlewild Park)  
9.14.19 8 a.m. - 6 p.m.

House Plant Pop-Up Shop at PG&H (Shop PGandH)  
9.14.19 11 a.m. - 2 p.m.

Pittsburgh Chinese Culture Festival (Mellon Park)  
9.14.19 11 a.m. - 7 p.m.

Saturday Night Market (Market Square)  
9.14.19 5 - 10 p.m.

Lady Business (Steel City Improv Theater)  
9.14.19 8 - 9 p.m.

The PGH Flea (PGH Flea)  
9.15.19 11 a.m. - 4 p.m.

## week of 9.16.19 - 9.22.19

Angie Cruz (Carnegie Library of Pittsburgh)  
9.18.19 6 - 7 p.m.

Style 412 Presents Fashion Film Fest (Row  
House Cinema)  
9.20.19 - 9.26.19

Pittsburgh Mac and Cheese Festival (Highmark  
Stadium)  
9.21.19 12 - 8:30 p.m.

Pittsburgh Water Lantern Festival by Light the  
Night  
9.21.19 5 - 10 p.m.

2019 Mt. Lebanon Artists' Market  
9.21.19 - 9.22.19

2019 Pittsburgh Pierogi Festival (Kennywood  
Park)  
9.22.19 1 - 6 p.m.

## week of 9.23.19 - 9.29.19

Factory Installed 2019 Opening Reception  
(Mattress Factory)  
9.27.19 6 - 8 p.m.

Saturday Night Market (Market Square)  
9.28.19 5 - 10 p.m.

Squirrel Hill Night Market (Murray Ave)  
9.28.19 6 - 10 p.m.

Pittsburgh Latino Festival (The Strip District)  
9.29.19 11 a.m. - 4 p.m.

## classified

In-home tutor wanted for 12th grade student  
studying elementary statistics. Must have  
strong mathematics background. Sessions once  
a week, with additional sessions as needed for  
test prep. Compensation negotiable. If inter-  
ested, please call or text 412-849-4209

