

# Rebecca Doerge named dean of Mellon College of Science

**VALENE MEZMIN**  
*News Editor*

On Aug. 1, Rebecca Doerge, professor of statistics and biological sciences at Carnegie Mellon University was welcomed as the newly appointed dean of the Mellon College of Science (MCS). Doerge will be taking over the position from Fred Gilman, the Buhl Professor of Theoretical Physics, who has been serving as dean of MCS for nine years since his initial appointment as acting dean on Sept. 1, 2007 before his official appointment on April 1, 2008.

Before her time at Carnegie Mellon, Doerge was a professor at Purdue University where she held positions in Purdue’s College of Agriculture and its College of Science.

Doerge’s combined passion for statistics and the biological sciences is apparent in her research, which focuses on statistical bioinformatics and seeks to develop a more thorough understanding of DNA and epigenomic associations.

Since joining Purdue University in 1995, Doerge has authored more than 120 scientific articles and two books, *Statistics at the Bench: A Step-by-Step Handbook for Biologists* and *Using R at the Bench: Step-by-Step Data Analytics for Biologists*, both of which were co-authored with Martina Bremer, a professor in the Department of Mathematics at San Jose State University.

Doerge was appointed as the head of Purdue University’s Department of Statistics from 2010–2015. During this time her skills facilitated the department’s growth into one of the best the country.

A university press release reported that as department head, she not only “doubled both the number of undergraduate students and the number of tenured female faculty,” but also “[increased] the department’s number of online and hybrid course offerings.”

Her work at Purdue University earned her the honor of being named the Trent and Judith Anderson Distinguished Professor of Statistics at the university.

In an email to The Tartan, Doerge shared her enthusiasm and pride in being appointed to the position of dean in the Mellon College of Science, one of seven colleges that plays a vital role in the multi-disciplinary nature of Carnegie Mellon University.

“Carnegie Mellon University’s focus on educating the whole student [body] across disciplinary boundaries is essential for addressing societal and global challenges,”

See **DEAN**, A3

# Six Degrees of Francis Bacon app wins NEH grant



Jessica Otis (left), along with Christopher Warren (not pictured), developed an app centered around Francis Bacon (right) that helps visualize the social constructs of the British early modern era. The app has recently recieved an NEH grant that will hopefully allow it to grow and expand.

**JADE CROCKEM**  
*Operations Manager*

The National Endowment for the Humanities (NEH) Grant has recently been awarded to Six Degrees of Francis Bacon, an app that traces the social constructs of the British early modern era. The app received the Digital Humanities Award of \$325,000, which is one of 300 new grants bestowed by the NEH. With this grant, the already successful network now has the potential to grow even further and become more successful as the grant will hopefully allow more connections to be uncovered.

The app was created by Christopher Warren, an assistant professor in Carnegie Mellon’s English department, Jessica Otis, a faculty member in Carnegie Mellon’s University Libraries-Research department, and Daniel Shore, an associate professor of English at Georgetown University. They created it using the Oxford Dictionary of Natural Biography as the basis for establishing relationships between notable people of the British early modern era.

Warren, Otis, and Shore were also advised by Cosma

Shalizi, an associate professor in Carnegie Mellon’s statistics department, Lawrence Wang, a Ph.D. candidate in Carnegie Mellon’s statistics department, and others from the department of statistics in creating the social network.

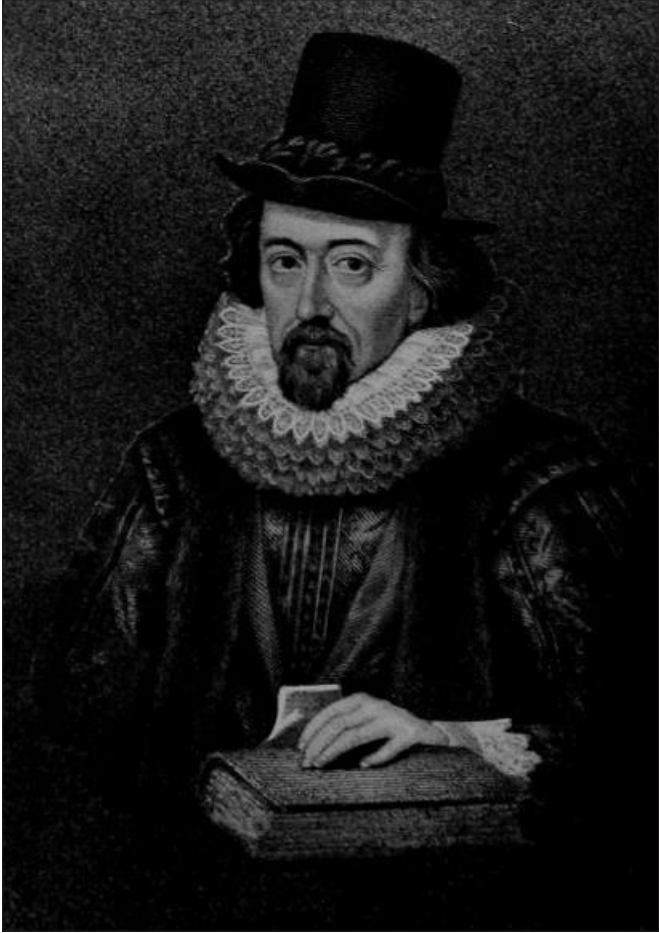
Information systems teaching professor Raja Sooriamurthi and his students also contributed. Their contributions allow any users to add information to the app in a way that resembles the information crowdsourcing of Wikipedia.

Because anyone can contribute to the website, the app has potential to grow. As it grows, it creates an even larger web of connections. Receiving the NEH Grant will facilitate this growth as the team aims to improve the website’s quality and accessibility.

The website, as it stands, consists of a giant web of names that all connect back to Francis Bacon.

For example, if you needed to know if Jane Austen knew Michael Faraday, the app would show you the acquaintances they had in common and how those people were connected.

Grey and red nodes on the website denote those with the least connections in the 1500–1700 period, while blue nodes sprout several connections. The common



Courtesy of Jessica Otis and Flickr Creative Commons

# CMU reacts to recent events

**VALENE MEZMIN**  
*News Editor*

The summer of 2016 has been filled with many high and low moments.

Highlights include the 2016 summer Olympics, which is now coming to an end with the U.S. dominating several major events such as swimming and gymnastics. The presidential election has also been heating up with the Democratic and Republican National Conventions that took place last month.

Among the various events that have been making news headlines across the country was the shooting of black civilians in the cities of Minneapolis, Minnesota and Baton Rouge, Louisiana as well as sniper attacks that targeted police officers in Dallas, TX. Spanning over the course of three days, these events have taken the lives of and injured many of those involved.

Aware of the toll this has taken on the country and the effect this has been having on many of its students, Carnegie Mellon released a statement over the summer addressing the impact of these events on its students and the university’s stance on the surrounding conflict.

“Carnegie Mellon University shares the nation’s distress over recent shootings in Dallas, Minneapolis, and Baton Rouge,” the press release stated. “Our hearts go out to the victims and their loved ones, and all those touched by violence.”

The events of the summer add to the big-picture conversations of race tensions and gun violence that have been highly publicized recently in the media between black civilians and police officers.

These recent events follow the shootings of Michael Brown, Trayvon Martin, and Eric Garner to name only a few. The names of Alton Sterling and Philando Castile have now also been made known to the nation.

On Tuesday July 5, Alton Sterling, a black man, was fatally shot by police in front of a convenience store in Baton Rouge, LA. The very next day Philando Castile, another black man, was fatally shot in Minnesota after being pulled over by police.

These back to back events have caused outrage, not only because they

# T.D. Jacobsen named director of Carnegie Mellon University’s Hunt Institute for Botanical Documentation



File Photo by Celia Ludwinski

Rebecca Doerge (left) has been named the new dean of the Mellon College of Science. Doerge will replace Fred Gilman (right), who has been serving as dean for the past nine years.

**DEBORAH CHU**  
*Assistant News Editor*

On July 1, Carnegie Mellon University’s Hunt Institute for Botanical Documentation appointed a new director, T.D. Jacobsen, following the retirement of the previous director, Robert Kiger.

Jacobsen joined the staff of Hunt Institute in 1979 and has served as assistant director and principal research scientist for the Hunt Institute since 1980. Jacobsen is the fourth director since the inauguration of the Institute in 1961.

The Hunt Institute for Botanical Documentation is a research division of Carnegie Mellon University that specializes in botany and the history of plant science. Initially dedicated as the Rachel McMassters Miller Hunt Botanical Library in 1961, the institution’s growth and diversification in activities led to a revision of its name ten years later, as well as the establishment of four departments: archives, art, bibliography, and the library.

Today, the Hunt Institute serves an “international scientific community through research and documentation,” according to its website. Its collections include artwork, data files, archives, and books.

With a B.S. in biology from the College of Idaho and an M.S. and Ph.D. in systematic botany from Washington State University, T.D. Jacobsen has become an authority on vascular taxonomy, toxic plants, and fungi through his research.

He has a particular interest in the systematics of the genus *Allium*, which encompasses onions, garlic, and other related species.

His previous work includes collaborating with a team of scientists at the Pittsburgh Poison Center to develop a computer application for identifying more than 325 native and exotic North American vascular plant genera.

Another of Jacobsen’s projects was an investigation of pediatric plant poisoning, which was conducted in collaboration with the director of the Pittsburgh Poison Center, Edward P. Krenzelok.

Before Jacobsen’s transition to director this summer, the Robert W. Kiger served as director of Hunt Institute for 39 years.

FEATURE PHOTO

# Community donates at blood drive



Courtesy of CMU Athletics  
Carnegie Mellon’s football team is going into teh 2016-2017 season in high spirits after having a very successful 2015-2016 season, winning their last six regular season games. The team is already beginning to prepare for the upcoming season in the hopes of matching and exceeding last year.

## Campus Crime & Incident Reports

### Criminal Mischief

Aug. 8, 2016

University Police responded to a report of a damaged cooler at La Prima Espresso Co. in Wean Hall. La Prima staff stated that the locking mechanism on a cooler was intentionally damaged over the previous weekend.

### Theft of Lab Equipment

Aug. 9, 2016

A Carnegie Mellon student reported that a sample holder was unlawfully removed from a lab in Roberts Hall. An investigation is ongoing.

### Theft of Purse

Aug. 10, 2016

An Au Bon Pain employee told University Police that her purse was unlawfully removed from the Cohon Center. An investigation is ongoing.

### Criminal Mischief

Aug. 10, 2016

An Au Bon Pain employee reported that a tire on her vehicle was slashed while it was parked in the East Campus Garage.

### Theft of Bicycle

Aug. 10, 2016

A Carnegie Mellon student reported that his bicycle was unlawfully removed from the bicycle rack next to the CFA parking lot..

### Access Device Fraud

Aug. 13, 2016

A Carnegie Mellon student reported that his credit card was used to make large unauthorized purchase in another country.

### Disorderly Conduct

Aug. 13, 2016

University Police conducted a traffic stop on Morewood Avenue of a vehicle with no illuminated headlights or tail lights. Marijuana and drug paraphernalia were seized during the stop. The driver was issued citations for disorderly conduct and other traffic violations.

Compiled by  
VALENE MEZMIN

### Australia plans to close refugee detention center

SYDNEY — On Wednesday, Australia and Papua New Guinea reported an agreement to close an Australian-funded detention center located on Manus Island that currently holds 800 asylum seekers who attempted to reach Australia by boat. The camps have been criticized by the United Nations and human rights groups, with reports of rampant abuse and self-harm among detainees, including children.

Source: Reuters



### At least 12 dead in India from tainted liquor

PATNA — On Wednesday, Police in the eastern Indian state of Bihar reported at least twelve deaths and five illnesses following the consumption of illegally brewed liquor, a common occurrence in India due to the expense of licensed liquor. Chemicals such as pesticides are often added to illegally brewed alcohol to increase its potency.

Source: The Associated Press



### Turkey to release 38,000 prisoners to free jail space

ANKARA — Turkey issued a decree on Wednesday allowing the conditional release of 38,000 prisoners with less than two years to serve from its overcrowded jails. In recent weeks, tens of thousands of people suspected of involvement in last month’s attempted coup have been detained. In a separate decree issued the same day, over 2,000 officers were dismissed from the police force.

Source: The Associated Press



### WHO begins vaccinations for yellow fever

DAKAR — In an attempt to prevent the spread of the yellow fever following a sizable outbreak, the World Health Organization will begin a massive vaccination campaign this week in the Congo and Angola. Aid group Save the Children warns that yellow fever could soon spread globally. The virus is transmitted by the same mosquito species responsible for spreading Zika and dengue.

Source: The Associated Press



## NEWS IN BRIEF

### CMU-Q alumna makes Olympic history

Carnegie Mellon University in Qatar alumna Nada Arajki made history again this summer at the Olympic Games in Rio de Janeiro, Brazil.

In 2012, as a first-year student, Arajki travelled to London and became the first female to represent Qatar, competing in the 50-meter freestyle.

This year, returning to show in the 100-meter butterfly race, she has officially become the only woman in Qatar history to compete in two Olympic Games.

According to CMU News Arajki was “proud and happy” to make history in 2012, but this year, she hoped to

channel her experience and training to improve upon her personal best time. Arajki completed the 100-meter freestyle heat in one minute and 18.86 seconds, ranking at number 45.

Arajki graduated from CMU-Q’s business administration program in May 2016, also serving as this year’s student speaker at commencement.

She admitted that balancing swimming with her academics was often a challenge, but for what she loves, nothing could get in the way.

Arajki hopes to join the Qatar Olympic Committee to continue developing athletics in the country’s future.

### Carnegie Mellon wins third World Series of Hacking competition

This August, Carnegie Mellon’s competitive cybersecurity team, the Plaid Parliament of Pwning, earned its third title in four years at the “World Series of Hacking,” the DefCon Capture the Flag competition.

The team, led by electrical and computer engineering faculty and director of CyLab Security and Privacy Insitute, David Brumley, traveled to Las Vegas, Nev. for the contest from Aug. 6-8.

The Plaid Parliament of Pwning was just one of 15 teams to qualify to compete at DefCon. At the Capture the Flag competitions, teams try to break into each others’ servers to catch “flags” while continuing to defend their

own server.

Brumley said in an interview to CMU News that as the competition continues to get more difficult, it is rewarding to see the team’s hard work pay off.

The competitions are also a good experience for Carnegie Mellon to hone their computer security skills in order to become more qualified applicants in a demanding workforce.

The Plaid Parliament of Pwning was created in 2009 and competed in its first DefCon in 2010, winning its first two titles in 2013 and 2014.

Compiled by  
SARAH GUTEKUNST

## WEATHER

SUNDAY	MONDAY	TUESDAY
78° / 60°	76° / 56°	80° / 57°
WEDNESDAY	THURSDAY	FRIDAY
83° / 62°	85° / 67°	81° / 65°

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

### Corrections & Clarifications

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.



### Chinese swimmer discuss her period in interview

BEIJING — On Saturday night at the Rio Olympics, Chinese swimmer Fu Yuanhui, who had previously captured the attention and affection of many for her exuberance, candidly revealed during a post-race interview that she was on her period, breaking what has long been a taboo subject among female athletes.

The interview went viral and prompted a flood of comments online, with many expressing their support for her openness.

Source: The New York Times



### Russia uses Iran military base for Syria campaign

MOSCOW — On Tuesday, Russia launched an air-strike on Syria from an Iranian air base, becoming the first foreign military allowed to operate from Iran since at least World War II. The arrangement allows Russia to bring more firepower to the Syrian conflict, which would give them greater military flexibility and could expand Moscow’s political influence in the Middle East.

Source: The New York Times

Compiled by  
VALENE MEZMIN



# Hunt Institute appoints new director



Carnegie Mellon University's Hunt Institute for Biological Documentation has appointed T.D. Jacobsen as their new director, replacing Robert W. Kiger. File Photo by Jonathan Carreon

**DIRECTOR**, from A1

Kiger received a B.A. in Spanish from Tulane University, and a M.A. in History of Science and a Ph.D. in Systematic Botany from the University of Maryland. He was originally a research botanist and

associate editor with the original Flora of North America program at the Smithsonian Institution. Joining the Hunt Institute as assistant director in 1974, Kiger became the director and principal research scientist in 1977.

His main research interests lie in vascular taxonomy, floristics, evolutionary theory, botanical bibliography, and morphological terminology. With his current status as principal research scientist emeritus, Kiger plans to continue his research, as well as

his work with the Flora of North America project as a member of the organization's Editorial Committee. In addition to their work at the Hunt Institute, both Jacobsen and Kiger have taught organismic botany in the department of biological sciences.

# CMU responds to recent shootings

**RESPONSE**, from A1

are being viewed as racially motivated events against the black community, but also due to their being filmed by those on the scene. Many of those in the Carnegie Mellon community have found themselves deeply impacted by these events. The university acknowledged the impact of these events on the Carnegie Mellon community, stating in

impassioned many across the nation, the university has made it clear that in these tough times we should not look to violence as the solution. "As an institution and as a community, Carnegie Mellon does not tolerate violence," stated the press release. "We continue to stand for inclusion, compassion and respect. We reassert the bedrock value of bringing together people of

**"As an institution and as a community, Carnegie Mellon does not tolerate violence. We continue to stand for inclusion, compassion and respect. We reassert the bedrock value of bringing together people of all backgrounds and identities to live and work together to enrich the human condition."**

— *Carnegie Mellon University*  
*statment on recent shootings*

# Rebecca Doerge is new dean of MCS

**DEAN**, from A1

Doerge said. "Our alumni, students, staff and faculty continue to provide long-lasting innovation, vision, and discovery that moves the world forward." As dean of MCS, Doerge will be responsible for

has accomplished over her 25 years at Purdue University, it is without question that the role of dean at the Mellon College of Science is being passed over into very capable hands. Her connection to the College of Humanities paired with her love of the biological sciences is a unique combina-

**"Carnegie Mellon University's focus on educating the whole student [body] across disciplinary boundaries is essential for addressing societal and global challenges."**

—*Rebecca Doerge, Dean of the Mellon College of Science*



Courtesy of Rebecca Doerge  
Rebecca Doerge is the new dean of the Mellon College of Sciences.

the press release that "members of the university community are participants in the larger society, and therefore affected by the same forces and challenges that face all of us in the United States."

They continued by reinforcing a message of support, saying "we offer our sympathy and support to all members of the CMU family who share in the deep concerns that accompany these tragedies.."

Affected by this news, many supporters of the Black Lives Matter movement and those who believe in the injustice of these situations took to protesting to express their outrage and their desire for peace.

However, on Thursday, July 7, two days after the shooting of Sterling and the day after the death of Castillo, what should've been a peaceful protest in Dallas, TX took a turn for the worst when snipers aimed fire at innocent police officers in the area seeking retribution for these acts of violence.

While these acts have

all backgrounds and identities to live and work together to enrich the human condition."

The statment also urged the Carnegie Mellon community to act as an example and come together against violence.

"As we join the nation in grief and shock, we cannot become complacent about violence or the loss of human life," the press release stated. "Each of us in the Carnegie Mellon family must continue to live out our shared values and provide an example of how we can work together as a respectful community."

Just as we have come to value the interdisciplinary nature of the university which seeks ways to cross paths between many of the individual colleges and fields of studies, finding ways for one to support the other, the same notion of working together for the greater good should stay with us.

The full university statement can be read online at <http://www.cmu.edu/news/stories/archives/2016/july/statment-recent-shootings>.

# Six Degrees of Francis Bacon app recieves NEH grant

**GRANT**, from A1

connection entwining every node, however, is Francis Bacon, for whom the site is named. By relating everyone back to one person, the information stays organized and user-friendly. Six Degrees of Francis Bacon has allowed people to research who knew whom and how this could have

also makes these connections easier for more people to understand. This combination of the humanities with new digital technologies is one of the many advantages that Six Degrees of Francis Bacon takes advantage of. "Chris Warren's work is wonderful and deserves to be supported by the NEH," said Richard Scheines, dean

The aim of the NEH grant is to "help bring humanities experiences to Americans across the country," NEH Chairman William D. Adams said in a Carnegie Mellon press release. By making the entire social constructs of the British early modern era digital, Six Degrees of Francis Bacon is a tool that can facilitate research. It has also been proven to be useful in classrooms

by creating relationships between scholars similar to how social media sites like Facebook create connections between people today. "Six Degrees' is a terrific tool for use in the classroom," said Shore in a university press release. "Not only does it introduce students to the people of 16th- and 17th-century Britain in an intuitive way, it also shows them that they can make real contri-

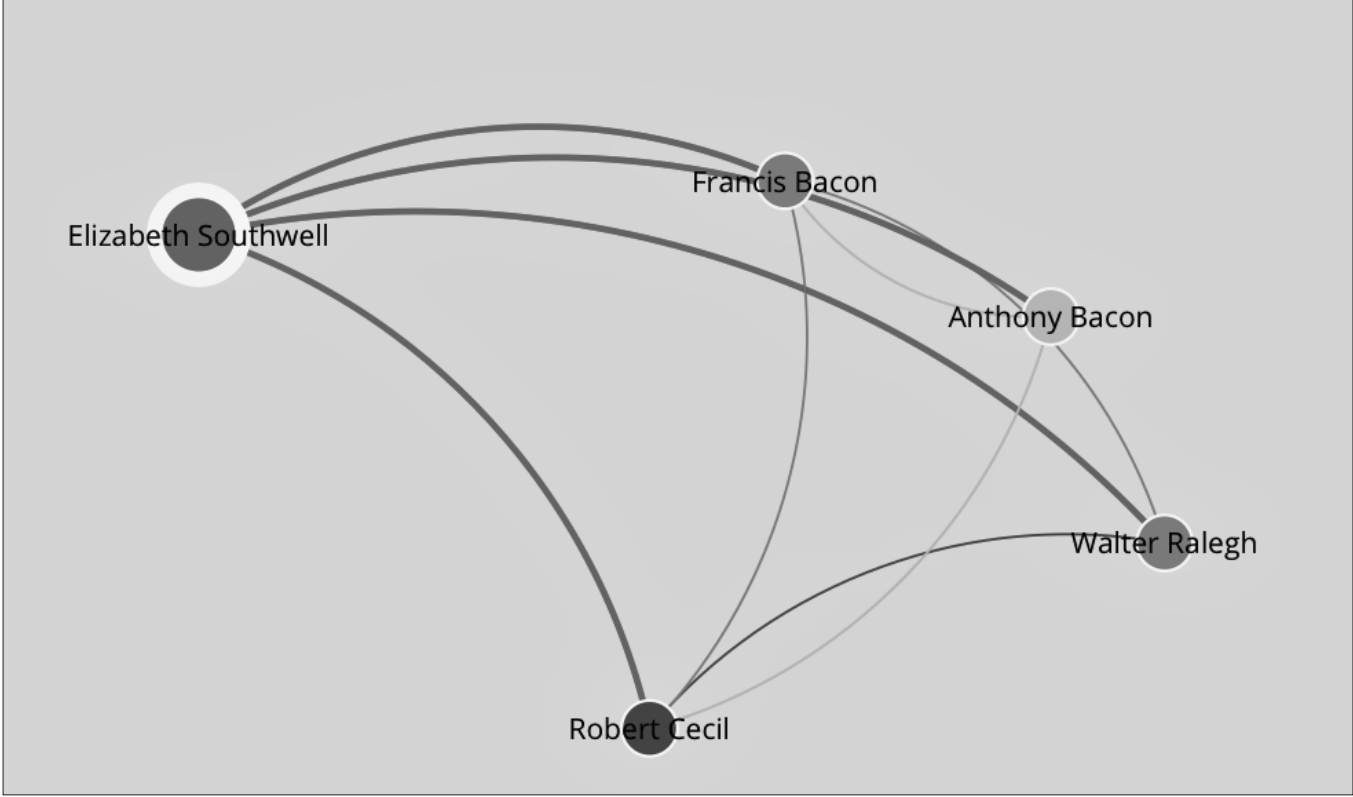
butions to knowledge based on their own research. By spending time with period documents, students quickly gain the expertise to add and describe complex relations between people, enriching our collective understanding of how early modern society was put together." Six Degrees of Francis Bacon creates a unique network by tracing the connections between people of the past.

Understanding how the people of the British early modern era were related can not only give context as to why certain people maintained the relationships they did, but can also reveal relationships that might not have been previously known. By giving users a modern glimpse into the past, this app hopes to allow its users to fill in the blanks missing in history.

**Six Degrees of Francis Bacon creates a bridge between technology and the humanities as poeple are now able to use computers to research what could once only be found in writing. It makes personal connections from the past easy to document with today's modern technology.**

influenced the lives of different people. The app creates a bridge between technology and the humanities as people are now able to use computers to research what could once only be found in writing. It makes personal connections from the past easy to document with today's modern technology. By relaying past information in a modern way, Six Degrees of Francis Bacon

of Carnegie Mellon's Dietrich College of Humanities and Social Sciences, in a university press release. "Warren's work is solidly grounded in the humanities, but he has embraced the 'digital' tools becoming available to amplify his own scholarship and to create a community of scholars in the humanities, all of whom will benefit from these tools."



Courtesy of Jessica Otis  
The app Six Degrees of Francis Bacon helps users visualize the social constructs that were present in the British early modern era. The app connects various individuals to each other based on social interactions, and all individuals are linked back to Francis Bacon, which helps keep the app organized.

# Forum

FROM THE EDITORIAL BOARD

## Politicians need to shift focus towards service industry



India Price/Online Editor

Manufacturing has always been a mainstay in American politics. The reasons politicians love manufacturing are obvious. Manufacturing jobs used to be broadly unionized and tended to pay well with some benefits all without requiring a college degree like many similarly paying jobs do. This made the factories highly favorable due to the boost they provided to the economic well-being of families who might otherwise struggle. Furthermore, manufacturing the products themselves is far more expensive than shipping them, so politicians could reliably push for manufacturers to get all sorts of goodies for bringing manufacturing to their districts, which in turn made the politicians’ constituents happy.

Manufacturing’s role in the economy, however, is a different story. From the 1960s until recently, manufacturing has been steadily becoming a smaller and smaller part of the American economy. After the 2001 entry of China into the World Trade Organization (WTO) and

of the situation stop them, however; and manufacturing talk isn’t going away on the campaign trail. Both Republican presidential nominee Donald Trump and Democratic presidential nominee Hillary Clinton have dedicated plenty of energy to this topic at campaign events. The new reasons for going back to the manufacturing well for political fodder are distressing. The decline of American manufacturing has hit older workers without college degrees particularly hard, and their economic anxiety is easy for politicians to take advantage of. Talking about bringing back manufacturing garners political support from this vulnerable population without offering real solutions. In addition, the rhetoric of manufacturing jobs being “moved” overseas, or countries having “stolen” jobs from Americans makes for very easy scapegoats and easier applause lines for politicians.

With all of the focus on manufacturing, the idea that manufacturing is the core of the American identity

However, their profits are less than 10 percent of Apple’s and less than 30 percent of Microsoft’s. Simply put, manufacturing companies’s profit margins are quite slim even when they produce high value products such as electronics. As a result, manufacturing jobs are not paying well enough to help stimulate the economy by helping people have money to spend, and manufacturing companies also have profit margins too slim to help infuse money into the economy. This then drives the problem with pay because workers are another expense that has to be slashed when money gets tight. This is bad for the economy as a whole.

With manufacturing seemingly offering nothing to anyone, it’s time politicians turned their focus to our continuously growing service sector. Since no political blood is spilled over the service sector, it’s generally vilified as a continuous churn of low-paying jobs, but it doesn’t have to be. There are a number of ideas floating around to improve the quality of service sector jobs such as unionization. New technologies and better management increase the productivity of individual workers which often gets that position a raise. These are areas the government could potentially be able to help. These are the policies that need to start making the cut when it comes to jobs plans. Current political rhetoric would be well placed in the 1940s, but we don’t live there anymore. Manufacturing can’t absorb so much of our economic energy that we ignore the economy we have now.

When people run for office, the things they say matter. Candidates need to stop making promises to reverse major trends in the global economy — this is not something that the government can do. This focus also leads politicians to make bad decisions which just end up weakening our economy and the quality of life of the people participating in it.

Politicians have to work with our current economic reality. The service sector jobs that are impossible to outsource or automate have stayed, and we have to shift our focus to making those jobs compensate workers better. Living in the past makes for some nice political rhetoric but it is no way to shepherd an economy.

With manufacturing seeminly offering nothing to anyone, it’s time politicians turned their focus to our continuously growing service sector. Since no political blood is spilled over the service sector, it’s generally vilified as a continuous churn of low-paying jobs, but it doesn’t have to be.

the 2000-01 recession, American manufacturing took a particularly big blow. Manufacturing jobs have been in decline even despite the recent uptick in the number of factories around the nation. To make things worse, American workers became less central to the value of manufacturing due to outsourcing and automation. As a result, manufacturing unions have weakened and manufacturing jobs now make less money than service sector jobs. The average manufacturing worker makes \$20.47 per hour compared to the average service sector worker’s \$21.37 per hour. The decline in the number and value of manufacturing jobs has taken the legitimacy out of some politicians’ favorite talking points.

Politicians won’t let the reality

and the American economy is not going away. That said, both prongs of this idea are probably not true.

Jobs that pay someone enough to live and that don’t require a college degree are a big part of the American Dream, but those jobs don’t necessarily have to be manufacturing. The prominence of unions in manufacturing is what caused factory jobs to be a path to the middle class without requiring a degree. As unions are weakening, manufacturing no longer even fits that bill.

The economy might even be better off if we stopped focusing so much on manufacturing. Take Hon Hai, most commonly known as Foxconn, one of the largest manufacturing companies. Hon Hai’s revenue is about 70 percent of Apple’s and about 190% of Microsoft’s.

## Women face sexism even in Olympic games

JADE CROCKEM  
Operations Manager

The 2016 Rio Olympics have certainly been notable for Americans, especially American women. From Simone Manuel becoming the first African American to win gold in an Olympic swimming event to Michelle Carter becoming the first American woman to win the shot put event, women came to Rio not just to win, but to make history. Despite all the success of women in the Olympics, sexism continues to rear its ugly head.

Katie Ledecky has become a household name since she first stepped into the aquatic arena in Rio. Not only has she won gold medals, she has broken records and started to celebrate her victories long before her competitors have even reached the wall. There’s no doubt that she’s probably one of the fastest women in the water, but fellow Olympian Connor Drywer confessed that male swimmers have been pulled out of training because Ledecky beat them. The exact term he used to describe men she had beat was “broken.” He even spoke about how much being beat by her ruined the morale of the men on the team to the point where they couldn’t even finish practice.

As athletes, they’re sure to experience loss, and that the men on the U.S. Olympic swimming team do not necessarily want her to fail. It just seems like they don’t want her to succeed more than they do. It’s okay to be the best in the world, as long as you’re only the best woman in the world. Sports as a whole so often diminishes the accomplishments of female athletes to feed men’s egos. Ledecky once again got the short end of the stick when the sports section of The Eagle, a newspaper in Bryan-College Station, TX, made Ledecky’s record breaking 800 meter freestyle win the subheader to Michael Phelps’ threeway tie for silver. While Ledecky’s accomplishment was objectively more successful, she had to ride on the coattails of Phelps’ success to make a headline.

I wouldn’t even say this is the fault of the newspaper. Men in certain sports tend to gain more attention than women due to exposure. I bet we’re all guilty of being able to name way more NBA players than we can WNBA players. This is not to say that female athletes don’t get exposure, but when it does happen, there always seems to be more to

scrutinize. Most people have noticed that Gabby Douglas does not appear to be as enthusiastic as she was in London in 2012. There could be several reasons for this such as the fact that she isn’t sixteen and a first time Olympian anymore or maybe she wasn’t personally satisfied with her performance. Whatever the reason may be, it isn’t really anyone’s business what’s going on in her personal life. She’s an athlete, not a reality TV star. However the headlines slammed her as being an unsupportive and jealous team member. I’ve yet to read a headline about Ryan Lochte being jealous of Michael Phelps and they’ve been competing with each other since 2003. It seems though that if you’re a woman and you aren’t smiling the entire time your teammate is competing, it must be because of jealousy.

It also seems like women have a much harder time being able to take credit for the things they’ve achieved. Katinka Hosszu is a Hungarian swimmer whose husband is also her coach. After breaking the world record for 400-meter individual medley, NBC announcer Dan Hicks credited her husband as being responsible for her record-breaking victory. While I’m sure Hosszu’s husband’s training did have an impact on her swimming, he is in no way responsible. She was the one in the pool. Coaches can only do so much, a large part of an athlete’s success is their dedication and willingness to put in time to their sport. His coaching helped her, but her dedication and talent is what got the job done.

This type of unfair treatment extends beyond the Olympic arena. Even at the college level, male sports teams often get more attention than their female counterparts. Think about March Madness — there is not really an equivalent for female college basketball. Although the sports culture at Carnegie Mellon is hardly comparable to that of a Division I university, it’s important to remember that our female athletes train just as hard as our male athletes. Sportsmanship is such an important quality and just because a man gets beat by a woman doesn’t mean he is bad at the sport, it just means that a woman is better than him at the sport. The Olympics is supposed to be about sportsmanship and coming together more than anything, but if some male athletes can’t even finish a race after being beat by a woman, I’m not entirely certain that’s who I want representing my country.



India Price/Online Editor

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## THE TARTAN



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# PA automated voter registration bill should be implemented

*Sinead Foley*

**SINEAD FOLEY**

In this incredibly tense election year, most people are chomping at the bit to vote on Nov. 8. Millions of Americans, however, aren't even registered to vote, and this isn't something that the attention grabbing races at the top of the ballot can fix. Luckily for Pennsylvanians, the State Legislature is considering two bills, Senate Bill 806 and House Bill 1874, that would make voter registration automatic. Automatic voter registration could have huge benefits, but the bills have failed to budge.

As of April, around 18 percent of Pennsylvanians eligible to vote were not registered. To put this in context, Obama won Pennsylvania in the 2012

presidential election by around 5.4 percent, which shows that if unregistered voters vote, they can easily swing an election. These unregistered voters are frequently the people who need representation in the government the most. They are disproportionately low-income voters who need the government to provide social safety nets and improved job prospects, minority voters who need government protection from discrimination, and young voters whose futures hang in the balance of government decisions. These voters need representatives who will go to bat for them, but since they are not registered, politicians have no incentive to pay attention to their needs.

It is easy to write off unregistered voters as lazy or apolitical, the argument being that if they cared, they would register. Carnegie Mellon students are not usually considered lazy, and political science majors are not usually labeled apolitical, but my freshman year I, a Carnegie Mel-

lon political science major, did not manage to get registered in time for my first election in Pennsylvania. It's a long and drawn out story, but the upshot is that between my workload, technology troubles, and other problems, dozens of relatively small obstacles piled up, and before I knew it the deadline had come and gone. That is how it is for many people who aren't registered. They would love to do it, but they are busy with school or jobs or kids and life gets in the way.

The most obvious way to fix this problem is by changing voting registration to an opt-out system instead of the current status quo of needing to opt-in. Automatic voter registration assumes that people want a voice in government, and gives it to them unless they say otherwise. This seems more in line with the principles of democracy rather than only giving people a voice if they ask for it and jump through the hoops of registration to get it.

The bills before the State Legislature would create a system where government agencies that are currently authorized to register voters, such as the Department of Transportation, would automatically submit the necessary information to the Department of State to register the voter. The voter would then receive a notice allowing them to decline the registration. After 21 days, if the voter has not declined, they are added to Pennsylvania's voter rolls.

These bills are modeled from the law passed in Oregon last year that created the first automatic voter registration system in the country. Since then, California, Vermont, and West Virginia have all followed suit, to great effect. According to The Nation, Oregon has gained an average of 12,889 new voters a month through the automatic registration program since it went into effect, and has added 15 voters to the voting rolls for every one who has declined registration.

The proposed bills would not plunge Pennsylvania into uncharted territory. Unfortunately, both the Senate and House bills have been stalled in committee for months, and the Republicans in charge of both legislative bodies are unlikely to bring it to a vote. Throwing bills into committee indefinitely is a common tactic used to avoid having to vote, making the bill's cause a nonissue and effectively muzzling those who support it. The only way to combat this silencing is to bring public attention to the issue and pressure state representatives to take a stand on the issue. The bill won't move until we, the public, make it move by making it clear to our representatives that we care about this issue and won't accept their inaction. The legitimacy of our democracy isn't something that should be left to rot in committee.

*Sinead Foley (@srfoley) is Forum Editor for The Tartan.*

## Education is critical issue in 2016 election

**LULA BANKER**  
*Staffwriter*

Every four years the Democratic and Republican National Conventions rally Americans together around their formation of a party platform. Celebrities, figures from the upper echelons of political life, social leaders, and individuals chosen for their representation of the party's strength speak live to a convention crowd and, through the media, speak to an audience of millions and millions across the globe. It is these conventions that help direct the future of a party, and show Americans — and the world — what they value. Given the content of these conventions and their published platforms, it becomes clear to me that, as students at four-year institutions, a Republican president would be hugely damaging to the university system in this country, and the steps that have been made to bring higher education to an increasingly diverse group of individuals.

The Republican Convention had the potential to use its flip-flopping presidential candidate to move the party to a more progressive platform, since attracting young and disappointed Senator Sanders supporters is key to winning the fall election—and indeed ensuring the stability of the Republican party moving forward. However, beneath the bigotry, ignorance, and hypocrisy that is quintessential to the Trump campaign, key issue platforms remain solidly in the conservative camp. With students as the future of America, education and loan policies are not only personally important to current and future students, but also of significance to the future of the country and America's ability to remain competitive internationally.

The Republican platform's stance on education is troubling in several ways, the most evident of which is the issue of college costs. To combat student debt, which, according to the published Republican Party platform, averages 27-thousand dollars per student, the Grand Old Party proposes to promote trade schools, technical colleges, and other academic alternatives to compete with traditional four-year private and public universities.

While I believe these institutions are immeasurably valuable in society and should have increased support and funding from the federal government, this will not help those millions of young Americans drowning in a quagmire of debt. Not only does their platform not address how to financially aid those struggling, but it also proposes to remove the government from being the guarantor of student loans. By taking the federal government out of the loan market, in addition to not regulating the accreditation of institutions, this platform would give the power of shaping young minds — arguably the strongest power a nation has — to the private sector, and thus big money industries. With corporatization of universities already a huge issue, granting financing power to private companies without a clear plan for loan regulation would allow these powerful organizations even more sway in the world of academia. Corporatization leads to a wide variety of university problems, from diminished teacher tenure to restricted research opportunities. America

is a haven for innovation and intellectual freedom and altering policy in this manner could not only hugely damage the lives of students, but also stifle revolutionary thought and invention.

On the other hand, the Democratic Party's platform has clear intention to make higher education affordable to more Americans. According to the platform, “bold new investments by the federal government, coupled with states reinvesting in higher education and colleges holding the line on costs, will ensure that Americans of all backgrounds will be prepared for the jobs and economy of the future.”

As a college student, I understand that the power of education lies within its ability to gather individuals from different backgrounds to share ideas together. This platform recognizes that vital focus, instead of giving other organizations the power to manipulate what others can learn, and potentially restricting who can access education altogether.

The Democrats' platform goes one step further in ensuring that those who might be underrepresented in higher education get the chance to succeed. By supporting what they term Minority-Serving Institutions, the platform expressed their desire to further fund institutions that prioritize and celebrate Americans who have historically not been given a fighting chance. The Democrats' plan for student debt relief will also enhance opportunities for many college-educated Americans to contribute more to society by being able to re-finance their loans, or pay back money owed through income-based repayment, as Democrats hope to expand that payment option to more americans.

If Carnegie Mellon has taught me anything, it's that I have learned the most from being given the freedom to pursue what I want, being supported by extremely talented faculty, and having a community of diverse, brilliant minds. The Republican Convention's policies regarding education undermine what many universities stand for and would actively encourage what they fight so hard against. It is so easy to take education for granted, as a student at a renowned university, but this election shows us that there is so much at stake.

In an election where one major party candidate seems so appalling and unreal, and the other is deemed untrustworthy by many, it is easy to get caught up in skepticism. But I encourage everyone to take a moment to consider education — what it means to them, and how this election might threaten that.

The DNC brought up time and time again: Donald Trump's campaign's strategy is to terrify individuals into backing a certain person, terrify them about the dangers of the world, and increase distrust through misinformation. The solution to combatting fear like this is intelligence, it is level headedness, it is awareness and not ignorance. As Obama said at the convention, “we are not a fragile people.” But in times of darkness and under duress, people's strength comes from an ability to synthesize information and work together, and we cannot afford to sacrifice these skills by letting Republican politicians lay siege to intellectual freedom and access to higher education.

**ABHISHEK TAYAL**  
*Staffwriter*

The United States and India can both lay claim to the title of being the world's largest democracy — albeit by different metrics. The United States for its economy, and India for the number of people it is home to. I was brought up in India, but have spent the majority of my adult life in the U.S. As such, I can't help but compare and contrast the Indian and U.S. experiences.

In some ways, they couldn't be further apart. India is chaotic and messy; things rarely work as they're supposed to and are never as they seem. The U.S. experience, by comparison, is so much cleaner, more organized, and seamless. And yet, I've found so many direct parallels on issues that I can't help but think of these two nations as brothers with fundamentally similar world views. I used to think no other

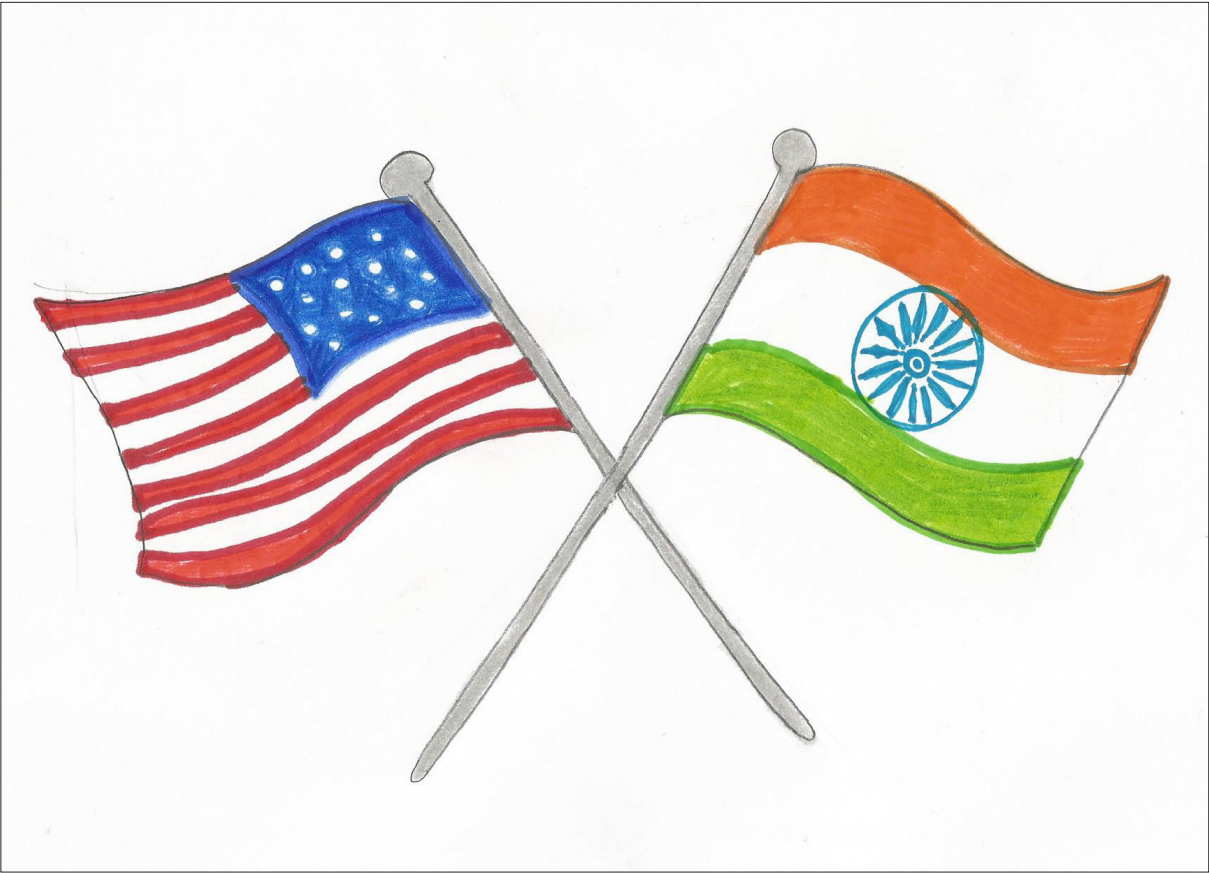
for any party to have a majority. India has had coalition governments for the better part of the past few decades, and such governments take their own sweet time building consensus before getting anything of any significance passed.

Just weeks ago, India instituted a goods and services tax (GST), passing the most extensive reform of its taxation code since independence — and the process was far from painless. The GST Bill was introduced by the current BJP government at the start of its term in early 2014. Negotiations between parties and campaigns for and against specific clauses of the bill continued in the media for more than two years. After concessions from every side, a significantly different bill from the 2014 version was passed with the unanimous support of every voting party in Parliament.

GST was a rare example of constant wrangling and negotiating

of the shadows in open defiance of the law. Other important ideals, such as freedom of the press, or freedom of religion, are defended with just as much vigor in India as in the U.S. The government and opposition are constantly held accountable by the media. Even though India is a Hindu majority country, the colorful entertainment industry is dominated by Muslims. On some issues, such as gun control, India is actually more progressive than the U.S. Buying assault weaponry is virtually impossible in India. Buying any kind of weapon at all requires an extensive and effective background check.

All said and done though, the biggest and most important similarity between these two nations has got to be the incredible diversity they are both home to. In India, when I took the subway to school, I'd bump into people from every walk of life. I'd see Hindus, Muslims, Sikhs, Christians,



India Price/Online Editor

country could contain as many colors of skin, as many religions, and as many different points of view as India; then I came to the U.S. I used to think that the U.S. government system was a model of efficiency on a large scale. Now I know that the U.S. system faces many of the same issues that the Indian system does — from too much bureaucracy, to an electorate too polarized to agree on anything, to dangerous demagogues exploiting public fear and ignorance to build support.

Constitutionally, unlike the U.S. presidential style, India has a parliamentary democracy. The Indian president is a figurehead whose every action must be ‘at the advice’ of the prime minister — the real leader of the electorate. When Indians vote in a general election, they aren't voting for either a president or a prime minister. They're voting for members of parliament (MPs) to represent their constituency. These MPs then elect a prime minister from amongst themselves, who then picks MPs for his cabinet.

India has two large national level parties, the BJP and the Congress, and more smaller parties than one can count. One advantage of so many political options is that there are people on every side of every issue, instead of two opposites and nothing else. One disadvantage is that it is hard

yielding something worthwhile in the end. The BJP government has been trying even harder to get land reform passed; however, on an issue that polarizing it is unlikely to ever muster enough support. A more typical scene of Indian Parliament is protests and sloganeering washing out weeks worth of session time. India has also had no shortage of Donald Trump style ignorance predators. Some decades ago, a leader rose to power in north India on a promise to tear down the hydroelectric power plants in the region. He convinced large parts of the farming community that their crop failure was the fault of upstream hydroelectric plants, that these were sucking the energy out of the river water that was reaching their farms, and that this ‘lifeless’ water was killing their crops. Fortunately, no power plants were brought down, and the leader never won an election again.

The above described interplay of similarities and differences between the U.S. and Indian constitutions is found in culture and economics as well. The U.S. is undoubtedly far more progressive than India is today on many social issues. For example, homosexuality is just beginning to gain acceptance in India. Same-sex intercourse is still illegal, and yet LG-BTQ people are gradually coming out

Buddhists, and Parsis. I'd hear a dizzying array of languages — including English and Hindi, but also Tamil, Gujarati, Punjabi and so many more that I couldn't even dream of understanding. In India, I remember having around two to three public holidays every month, because every community, every religion and ethnicity has its own holidays, which must all be celebrated. When I came to the U.S., I saw the same thing in every class I took, every street I walked down, and every Starbucks I went to. This diversity is the greatest asset either country could ask for. Rarely does everyone agree. Entire communities argue all the time. But being exposed to opposing points of view forces everyone to challenge pre-existing assumptions and gradually nudges us to the conclusion that deep inside, we're all the same — human beings with the same aspirations and insecurities.

In some ways, the U.S. is a young country. After all, it was founded just a couple of centuries ago. But it also happens to be one of the oldest democracies in the world. India, as a democracy, is just seventy years old. But as a civilization, the Indian subcontinent is millennia old. Both countries can learn so much from each other if they can acknowledge their differences and appreciate their similarities.

# Science & Technology

HOW THINGS WORK

## Chemical and physical science explains types of fireworks



Courtesy of Andres Aguiluz Rios via Wikimedia Commons

JULIA NAPOLITANO

Assistant SciTech Editor

With the end of summer comes the end of one of summer’s greatest traditions — man-made explosions in the sky.

Whether it’s for baseball games, the Fourth of July, amusement parks, or personal pleasure, fireworks are a prevalent part of summer. But how exactly do pyrotechnists

create all those colors and shapes in the middle of the night sky?

The discovery of fireworks can be traced back to the discovery of gunpowder, which occurred around 2,000 years ago in China. It is hypothesized that a cook accidentally mixed together and heated potassium nitrate, charcoal, and sulfur to produce a black, flakey powder. When this powder was inserted into a

bamboo shoot and tossed in a fire, the pressure inside the shoot from the gases of combustion caused the shoot to blast apart.

Aside from replacing the bamboo shoot with a paper tube and adding a fuse, our modern definition of a firecracker hasn’t really changed. Sometimes, aluminum is added to the powder to create a brighter explosion.

Over time, another fun,

handheld pyrotechnic soon emerged — the sparkler. Sparklers consist of a thin metal wire dipped in sparkler composition and left to dry. Sparkler composition typically contains a metallic fuel, an oxidizer, iron or steel powder, and a combustion binder to hold it all together.

Adding certain pyrotechnic colorants also produces different colored sparks — strontium for red, calcium for orange, sodium for yellow, barium for green, and copper for blue.

The sparkler is lit from one end and burns for several minutes, depending on the length. Since all the chemicals are proportioned in a sparkler, the sparkler burns much more slowly than a firecracker.

However, we can all agree that the ultimate pyrotechnic is the firework. Aerial fireworks are found in the form of a shell consisting of a cylindrical paper container, various shapes of a sparkler-like composition known collectively as stars, a bursting charge at the center of the shell, and a fuse.

A mortar — usually a

short, steel pipe — launches the shell into the air using the resulting explosion of a lifting charge inside the pipe. The lifting charge also lights the shell’s fuse, and depending on the length of the fuse, the bursting charge is ignited at a specific altitude and the shell explodes.

As the shell explodes, the outsides of the stars in the shell are also ignited, causing a bright shower of sparks. Since the stars are thrown in multiple directions via the shell’s explosion, the shower of sparks forms a huge sphere of sparkling light — the most basic firework shape.

Shells can also ignite in multiple phases, known as multibreak shells. These can be shells within shells, or shells with multiple sections that are broken apart using break charges. These shells can contain stars with differing colors or compositions to create different lighting and sparkle effects.

But if all fireworks were spherical, the displays wouldn’t have as much pizzazz as they currently do. The shape of the firework largely

depends on the shape of the shell and the arrangement of the stars.

To create any two-dimensional figure, the stars must be placed in pellets and arranged in an outline of the figure in the shell. The pellets are surrounded by break charges to separate them simultaneously from the shell and contain explosive charges to propel the stars outward in a blown-up form of the figure.

Pyrotechnists have standardized many of the popular shaped fireworks. To name a few, palm fireworks contain charges in the shape of a solid cylinder that travel outward before exploding, then curl downwards after exploding to form the limbs of a palm tree. Willow fireworks (my personal favorite) contain stars with a higher composition of charcoal to make the sparkles burn longer so when the stars fall they form the shape of a willow tree.

Pyrotechnists are pushing the limit of what shapes and colors can be achieved with fireworks with every show, leading to an increasingly enjoyable viewing experience.

## Brain function follows specific patterns while doing math

NAVIYA SINGLA

Staffwriter

Everyone’s got their own tips and tricks to solving math problems. But a research team at Carnegie Mellon may have scientifically standardized the actual process our brain undergoes when thinking about math.

The researchers recently published a new report in *Psychological Science* that describes the various mental stages the brain undergoes while doing math. The team was led by John R. Anderson, winner of the 2016 Atkinson prize for Psychological and Cognitive Sciences by the National Academy of Sciences and R.K. Mellon University Professor of Psychology and Computer Science at Carnegie Mellon University. The study

was funded by the National Science Foundation and James S. McDonnell Foundation.

The researchers used two analytical methods of functional magnetic resonance imaging (fMRI) to view different parts of the brain. These images were then used to identify different processes the brain uses to do math, which were condensed into the four stages of problem solving: encoding, planning, solving and responding.

“How students were solving these kinds of problems was a total mystery to us until we applied these techniques,” said Anderson in a university press release. “Now, when students are sitting there thinking hard, we can tell what they are thinking each second.”

The two analytical methods the researchers combined

are called multi-voxel pattern analysis (MVPA), which identifies the momentary activation patterns in parts of the brain, and hidden semi-Markov models (HSMM), which analyzes the long-term effects of these patterns.

The next step for the team, which also included Aryn A. Pyke and Jon M. Fincham of Carnegie Mellon’s Department of Psychology, was to test whether or not their predicted mapping matched up with how real people think.

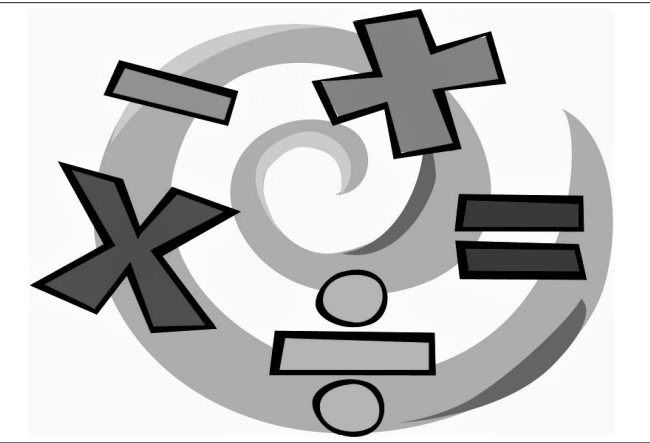
The test consisted of 80 subjects, each of them provided with 88 math problems. The subjects were given different types of math problems, i.e., the problems would focus on a different stage of problem solving and feedback in the form of a light that lit up red when the answer was incor-

rect and lit up green otherwise.

The problems involved teaching the 80 subjects mathematical symbols, tools, and equations that were absolutely new to them, and then make them navigate the otherwise basic mathematical problems using those tools.

It was found that the specific complexity in terms of the stages of problem solving correlated with the time taken by the brain activity during that stage. For instance, if the problem was more complex in terms of the “planning stage,” the process stage of the brain while planning would be longer and proportional to the complexity of the problem.

This study not only allows scientists to understand how the brain works with math, but can also be instrumental to



Courtesy of nelsonmania via Flickr Creative Commons

designing curriculums and understanding how this applies to other creative problems.

Although this is significant progress towards a greater understanding of cognitive processes, researchers still don’t quite understand how these

tasks can be mapped onto other real-time tasks and fit together as a coherent whole. However, this research has opened door towards an application of these techniques to a wider range of situations and topics.

### SCITECH BRIEFS

#### Identical twins are found to live longer than fraternal twins

According to a recent study by the University of Washington, identical twins live longer than fraternal twins. The study is the first of its kind to analyze what being a twin means for life expectancy. Lead author of the study David Sharrow says his team found that “at nearly every age, identical twins survive at a higher proportion than fraternal twins, and fraternal twins are a little higher than the general population.” Their data comes from the Danish Twin Registry, from which the scientists examined nearly 3,000 pairs of identical twins born in Denmark between 1870 and 1900, all having survived past the age of 10. They found that 6 percent more male twins survived into their mid-40’s than did males of the general population, with a higher difference of 10 percent for female twins. The authors of the study think their results show the benefits of having a close social relationship with someone. By having such a close personal bond as twins do, they say it can provide healthy outlets and activities, and “provide material or emotional support that lead to better longevity outcomes.” Researchers think this study has implications beyond twins, and that close social relationships for anyone could have positive effects on longevity.

Source: Science Daily



#### 3-D molecules are displayed in a new and improved way

Researchers at the Department of Energy’s Lawrence Berkeley National Laboratory and UC Berkeley have created a type of “display case” that allows for new atomic-scale views of molecules that have previously been difficult to examine. This new display can help reveal structural details of molecules that were not previously known in order to aid research on chemically complex compounds and even new drugs. This works by stabilizing the molecules inside what the scientists call “metal-organic frameworks”, or MOFs. The researchers introduced molecules that were chemically bound to the MOFs, and then used x-ray techniques to precisely determine the molecular structure of the molecules. The molecules used in the study range from simple alcohol to complex plant hormones, and the MOFs used are easy to manufacture in large numbers. This is critical because the MOFs are most useful in that they can determine a molecules “chirality” by selectively binding with molecules that possess the same chirality as the MOF. Chirality is best explained as left vs. right-handedness, and it is crucial for pharmaceutical companies to know because it can determine the difference between a medicine and a poison.

Source: Science Daily



#### Eating turns off nerve cells that counter obesity

Researchers at the Francis Crick Institute in London have found that eating shuts down a group of specialized nerve cells in mice, designed to energize. Once eating stops, these nerve cells reactivate. These nerve cells are providing scientists with new clues about how the brain controls appetite. The cells produce a chemical called orexin (or hypocretin), which has been thought to have a role in appetite for years. The cells are so perplexing because they are largely absent from people with narcolepsy, and narcoleptic people are more likely to be overweight than a non-narcoleptic person.

When scientists used a genetic technique to remove the orexin cells from mice, they found that the mice at more than normal, which led to weight gain. The results of the study suggest that giving orexin to people like narcoleptics who lack it could reduce obesity, the researchers also warn against its adverse effects. Study coauthor Denis Burkadov says an overactive orexin system can lead to stress and anxiety, which also raises the possibility that anxiety can be reduced by decreasing orexin cell activity. He also says it provides “an explanation for why people eat in times of anxiety.”

Source: Science News



#### Stanford researchers used satellite data to find poor areas

A team of researchers at Stanford University trained a computer system to identify impoverished areas from survey and satellite data in five African countries. Neal Jean and Marshall Burke of the research team say that their system can transform the way we track and target poverty. Poverty data has traditionally been collected by household surveys, sending people to houses and asking questions about income and consumption. However, these surveys are costly, hard to keep recent, and impossible in certain areas of the world due to conflict.

The new model developed by Jean and Burke’s team is a more all-inclusive approach. The model looks at a plethora of factors to determine an area in poverty. The model takes into account paved roads, metal roofs, urban areas, farmland, and many other things in images that together can be predictive of poverty.

Burke explained that the model is “surprisingly predictive of economic livelihoods in these countries.” An assistant professor at UC Berkeley, Joshua Blumenstock, said this model can ultimately “help ensure that resources get to those with the greatest need.”

Source: BBC



#### New species of ancient dolphin identified

After spending decades in the Smithsonian Museum of Natural history in Washington, D.C., scientists from the museum have re-examined a skull that belonged to a previously unrecognized species. The skull is believed to belong to a relative of the South Asian river dolphin, an endangered species. The skull is only partial, is about nine inches in length and was discovered in 1951 in Alaska by geologist Donald J. Miller.

The new study’s authors Alexandra Boersma and Nicholas Pyenson say that the dolphin swam in sub-arctic waters about 25 million years ago, and represents a new species named *Arktocara yakataga*. Scientists estimate that *Arktocara* came from the late Oligocene epoch, around the time that whales split into two classes of baleen whales and toothed whales. The team determined that *Arktocara*, previously known as *Platanista*, is indeed a relative of the South Asian river dolphin, which means that the endangered species is the last living relative of a once widespread group of dolphins. Scientists say that while they know the relationship, how a once diverse and widespread group came down to single species in Southeast Asia is still a mystery.

Source: BBC



#### Some insects like dragonflies likely can’t sense gravity

Insects known for flying in dramatic patterns at high speeds, such as dragonflies and hoverflies, have to execute turns with great precision, but scientists have never known whether or not they use gravity to control themselves.

Roman Goulard of Aix-Marseille University in France wanted to determine if and how these insects are influenced by gravity. Goulard simulated gravity by dropping hoverflies in different lab environments and observing how they react to free-fall.

In a dark box, 70 percent of flies were too slow to beat their wings and crashed. In a light box, the insects had better reaction speed, but many still crashed. The final box was light with striped walls and the flies were much faster to beat their wings with only 10 percent of the flies crashing.

While the study does not completely prove that hoverflies do not sense gravity, the insects still do not have a means to sense acceleration. This means that they must use only sight and airflow to determine their location in space.

Source: Science News

Compiled by  
ALEX WOOD



FALL SPORTS PREVIEW

Football

The Carnegie Mellon football team ended the 2015–2016 season on a high note, winning their last six regular season games and dominating rival UAA opponents University of Chicago and Case Western Reserve University before routing Bridgewater State in the ECAC Legacy Bowl 48–13. The latter half of the season for Tartan football consisted of then sophomore running back Sam Bengier having a record-breaking season, allowing the Tartans to boast spectacular offensive numbers. Bengier set five separate Carnegie Mellon records, including single-season rushing yards at 2,092; making him the twenty first player in NCAA Division III history to reach the 2,000 yard mark. Bengier also led the entirety of NCAA Division III in rushing yards and yards per game for the 2015–2016 season. Even amidst the historic performance from Bengier, the Tartan defense found a way to shine as well. The defense held multiple opponents to two scores or less, creating massive score differentials in games against weaker opponents such as the Tartans’ 52–7 beat down of the University of Chicago. The Tartans finished the season with an 8–3 record, and

thus look much better than they have in recent years. As for this year, the Tartans were picked fifth in the President’s Athletic Conference (PAC) preseason poll, but if they continue their winning streak from last season, they are poised to place much higher than fifth. Bengier, along with defensive counterparts Brian Khoury and Drew Fitzmorris, were selected as preseason All-Americans, meaning the Tartans have some big play-makers returning and they are ready to succeed. The 2016–2017 season is looking bright for this Tartan team, but we’ll have to see if they can live up to the hype.

Volleyball

Carnegie Mellon’s volleyball team is coming off a statement-making season, boasting a 29–8 record and placing second in the ECAC South Tournament Championship. Multiple players also earned awards, including senior Jackie Gibbons with an All-American honorable mention, and senior Molly Higgins who was named the ECAC South defensive player of the year. The Tartan volleyball team will be bringing in five new first-year players for the 2016–2017 season, hoping to add to their repertoire of talented players and

to continue being a top team in their region. With six seniors returning, the Tartans should have a strong roster to work with and should also be able to foster new talent with the experience of these veteran players as their guide. The Tartan volleyball team begins its journey through the season on Sept. 2 against McDaniel College at the Gettysburg Battlefield Classic in Gettysburg, Pennsylvania.

Soccer

The Carnegie Mellon men’s soccer team had an above average 2015–2016 season, ending with an 11–4–3 record while going undefeated on their home turf. The Tartans played through a number of close matches, with five games going into double overtime. Despite their winning record, the end of last season was bittersweet for the Tartans as they lost in the first round of the NCAA Division III tournament. Senior Tristan Lockwood was named to the ECAC South All-Star team last season, and shows promise in upcoming competitions. The Tartan men will surely be hungry to get further into the postseason after their run was cut short last year. The Tartan men’s first competition will be at home against Musking-

um University on Sept. 1.

Carnegie Mellon’s women’s soccer team is coming off a near-perfect season, going 17–2–1 over the course of the 2015–2016 season, and fighting all the way to the third round of the NCAA Division III Tournament. The Tartan women received numerous awards for their performance. Senior Katie Liston and juniors Tori Iat-arola and Katie Strycharz were named for the ECAC South All-Star first team. Liston was also named the ECAC South Defensive Player of the Year, while head coach Yon Struble was named the ECAC South Coach of the Year. Iat-arola was also named an All-American by D3soccer.com, and graduate Carson Quiros was selected as a UAA Nominee for the NCAA Woman of the Year award. The Tartan women come into the 2016–2017 season ready to try and run the table, with key players returning and a thirst to finish their run through the NCAA playoffs that was stopped short last year. The Tartan women’s first competition will be on Sept. 2 at home against Franciscan University.

Tennis

The Carnegie Mellon men’s tennis team played

well in the 2015–2016 season, with an overall record of 17–7. Then senior Abhishek Alla advanced the farthest into the NCAA tournament of any of the Tartan men, eventually losing in the semifinals to close out a stellar career. The Intercollegiate Tennis Association (ITA) named Alla, along with sophomores Daniel Levine and Vayum Arora, All-Americans. The ITA also named the Tartan men an All-Academic team for the 2015–2016 season, with seven players being named ITA Scholar Athletes. But now the Tartans have to focus on a new season with new players, and they will look to returning veterans Kenny Zheng, Kiril Kirkov, and Kunal Wadwani to lead the team and guide them to victory. If the Tartan men want to advance further into the NCAA tournament than they did last year, they will have some big shoes to fill in the absence of Alla. The first competition of the 2016-2017 season for the Tartan men will be on Sept. 9 at home for the Carnegie Mellon Invitational.

Carnegie Mellon’s women’s tennis team is coming off a 2015-2016 season with many ups and downs. The women finished with a 15–7 record, although undefeated

at home and in regional play. The Intercollegiate Tennis Association (ITA) named senior Brooke Tsu, along with senior Vanessa Pavia and junior Cori Sidell to the ITA All-American team. They also named the Tartan women an All-Academic team for the 2015–2016 season, with nine players being named ITA Scholar Athletes. The Tartans have some very strong players returning for the 2016–2017 though, and they will be looking to improve on last season’s performance. Sophomore Marina Selonica boasted a 10–2 record in singles last season while senior Nicholle Torres and sophomore Jamie Vizelman each finished the season with a 17–7 singles record. The Tartan women’s best doubles pair of then senior Brooke Tsu and Vizelman will be split up, but Vizelman will surely find another partner to battle it out on the court with. With this much talent still developing and a few veteran players there to lead the way, the Tartan women can only get better from here. Their first competition will be on Sept. 9 at home for the Carnegie Mellon Invitational.

Compiled by  
ALEX WOOD



Courtesy of CMU Athletics  
The Carnegie Mellon men’s soccer team had an above average season, going undefeated on their home turf.



Courtesy of CMU Athletics  
The Carnegie Mellon women’s soccer team had a near perfect season, going 17-2-1 in the 2015-2016 season.



Courtesy of CMU Athletics  
The Carnegie Mellon football team ended last season in high spirits, winning their last six regular season games.



Courtesy of CMU Athletics  
The Carnegie Mellon women’s volleyball team is starting this season coming off a 29-8 record last season.



Courtesy of CMU Athletics  
Carnegie Mellon University football player Zack Cree answers questions alongside coach Rich Lackner.

Upcoming Events

**Men’s Soccer**  
vs. Muskingum at Carnegie Mellon  
Sept. 1, 7 p.m.

**Women’s Soccer**  
vs. Franciscan at Carnegie Mellon  
Sept. 2, 7 p.m.

**Volleyball**  
vs. McDaniel at Gettysburg battlefield Classic  
Sept. 2, 3 p.m.

**Football**  
vs. Washington University in St. Louis at Carnegie Mellon  
Sept. 3, 12 p.m.

**Men’s XC**  
vs. Duquesne Duals at Schenley Park  
Sept. 3, 9:30 a.m.

**Women’s XC**  
vs. Duquesne Duals at Schenley Park  
Sept. 3, 9 a.m.



# Sports

## U.S. mens basketball team fails to live up to expectations

**ZEKE ROSENBERG**  
*Senior Staff*

The American basketball teams have dominated the Olympics throughout most of history. This makes a lot of sense. Men’s professional basketball is the 5th most popular sport in America, but that number becomes even more important to fielding a team when you consider that college and professional football (numbers three and one on that list) draw from the same talent pool and auto racing (number four) requires a very different build from basketball. That list is dominated by men’s sports for whatever reason, but it is likely that the popularity of women’s basketball is in a similar place when it comes to women’s sports, considering that three of the four sports above basketball do not have professional leagues for women. Further, America’s wealth of sports funding means that a large amount of that interest is turned into talent. The U.S. has the Olympic medals to show for it with the women winning seven of 10 Olympic tournaments and the men winning 14 of 18. Since its 1992 loss to the Unified Olympic Team, the Women’s team has been dominant, winning the Olympics and racking up huge margins of victory to validate their gold medals. The men, on the other hand, have made it their mission since 2000 to give every U.S. Basketball fan a heart attack as they battle through international competition.

In 2000, the American

men had a rough time with the Lithuanian National Team twice, despite that team not having any NBA talent or Arvydas Sabonis, the best player in Lithuanian basketball history. The first game between the two was a little more tilted towards the U.S., as they turned a six-point halftime lead into a nine-point victory, but the real scare came in the semifinal. Lithuania was up eight points going into halftime and the U.S. team struggled to play their style of basketball as they barely eked out a two-point victory. The same opponent was at it again in 2008 when a Lithuanian team now led by NBA player Linas Kleiza played the U.S. well in the preliminary rounds and the Americans finished with only a five-point victory. In the 2012 finals, the U.S. barely edged out Spain. The Americans won by seven, but they led by only one going into a closely contested fourth quarter.

In 2004, the Americans hit their low point in recent Olympic history. The U.S. had a very young team with players like LeBron James, Carmelo Anthony, and Dwyane Wade having only played one season in the NBA. The U.S. barely made it out of their group after losing two preliminary games. One was an embarrassing 19-point loss to Puerto Rico, a team the U.S. should have beaten easily. The other one involved Lithuania finally overcoming the U.S. team’s advantage in talent to win by five. The U.S. took the first step to-



The members of the United States men's basketball team shake hands the with those in the Chinese men's team after beating them in Beijing in 2008.

wards righting the ship in the quarterfinals when they beat Spain by eight, though the score understated how much the Americans outplayed the Spanish team. However, the play didn’t last as the U.S. suffered an embarrassing loss to Argentina in the semifinal before beating Lithuania for the bronze medal.

It was the U.S.’s first failure to win the gold since they took bronze in 1988 and their only one since.

However, this American team is following in the footsteps of the ones before it

who struggled to live up to their lofty expectations. After two big wins out of the gate against teams that were never expected to make much noise at the Olympics, the Americans were thoroughly outplayed in the first half by Australia in their third preliminary game, but played well enough in the second half to pick up a 10-point victory. Their next two games against Serbia and France finished as only three-point games and Serbian Bojan Bogdanovic missed a wide open three-point shot to send

the game into overtime. This was supposed to be the best defense in U.S. Olympic history, but they’ve been playing lazy, meandering basketball on that end to this point. Even in their 27-point destruction of Argentina, after the U.S. went up in the second quarter, Argentina found plenty of open three-pointers, they just never hit any and the U.S. was able to sleepwalk its way to an impressive final score.

This U.S. team played far below expectations. Despite several players declining to play in Rio, this was supposed

to be a dominant defensive team that suffocated relatively weak international opposition. Three of their five wins in the preliminary rounds were a few bad bounces away from being losses, and their lack of effort at times was embarrassing for an Olympic competition. The U.S. is still the best basketball country in the world, but the men’s team seems insistent on making everyone doubt that. If they fail to take home the gold, it will look like their grip on international basketball is slipping.

## Rapid growth of Esports raises questions about investments

**ALEX WOOD**  
*Sports Editor*

Esports, otherwise known as competitive gaming, is a rapidly growing industry that caters to the competitive nature of humans, while fulfilling that millennial need of always having one’s eyes glued to a screen. Many people dismiss the idea of esports being a legitimate competitive outlet, either because they don’t realize how large the industry already is, or they haven’t played enough video games to understand how they can be competitive. Those opinions are beside the point, because in the world of gaming, one common desire that people share is that they want to watch a game they love be played at the highest level. It doesn’t matter if it’s American football, cricket, rugby, or water polo, if people play the sport they will want to see the best of the best play. The most popular sports have well established leagues, and

professional, clear-cut broadcasts used to explain the game to viewers and to comment on the action. This can be found in esports as well: League of Legends, one of the most popular esports, is organized into regional leagues that play a full regular season with playoffs at the end, culminating in an international world championship, all organized by the developer of League of Legends, Riot Games.

With such a high level of organization, big name sponsors are starting to notice just how similar esports are to traditional sports and and as a result are beginning to invest heavily.

These investors see the value in putting money into such a rapidly growing industry, but it’s possible that the established leagues could be unintentionally pushing these investors away. For example, in the Riot Games-hosted League Championship Series (LCS), some serious in-

vestors have recently bought teams and attempted to try their hand in the esports world. In North America, former NBA player Rick Fox purchased a slot in the LCS, along with NRG Esports of which another NBA star, Shaquille O’Neal, is a part owner. In Europe, established soccer club Schalke 04 purchased a spot in the LCS as well. Already we can see a problem with this system: Investors can purchase the slots of failing teams that want to sell the spot without having to qualify for the league itself.

This may seem like a benefit at first glance, but in reality the teams put together by these new investors are not the best, in fact they are rarely in the top half of the standings. While a spot in the LCS can be purchased, the bottom three teams in the LCS have to play to retain their spot in the LCS once the season is over. This means that new teams purchased by big name investors often have to fight

for the spot they purchased, without ever having time to get settled in the new league and improve as a team over time. The argument against this is that the best teams will adapt quickly. This is true, but anyone that plays a team game knows that it takes time to build chemistry with teammates and get used to a routine. So while the teams that have been competing in LCS for years are always at the top of the standings, the bottom half of the standings is usually a revolving door of new teams with new investors that never seems to settle. Without there being a guarantee that an investor will have time to develop their team and their brand within the esports industry, it could very well turn off big name investors that might have otherwise supported esports or tried to start their own team. That said, some investors do choose to stick around even after losing their spot in the LCS. Schalke

04, after being relegated in their first split (half season) of LCS, announced that they would not disband their team and would instead continue to develop talent and the industry as a whole with their influence. NRG Esports on the other hand, disbanded their League of Legends team and moved on to focus on other esports. Rick Fox’s team, Echo Fox, had to fight for their spot in the LCS as well, but they persevered and retained it for next season, which shows investors that it is possible to get in and stay in, even with a new team.

But how could the problem be resolved? Multiple team owners including Fox have suggested franchising, which is a system typically used in American sports leagues that locks teams into their spots in the league. This is why we have the same 32 teams in the NFL every year, this is why the Cleveland Browns or the Philadelphia 76ers were never kicked out their leagues for being bad teams.

While franchising is clearly the better option for team owners that want time to develop a new team within the league, it also brings up the question of whether or not franchising is fair to teams. Team Misfits defeated NRG Esports for their spot in the LCS and now Misfits, a brand new team, will get to try their hand in the LCS. They certainly deserve it after handily defeating NRG, who was supposed to be an LCS-caliber team. But what if they had never even had the opportunity to play for that spot? Misfits would still be dominating every team in the Challenger Series (essentially the minor league for LCS) and NRG would be at the bottom of the barrel, unable to lose their spot even though a team in the league below could beat them handily. If people want to watch the best of the best play, then only the best of the best should be playing, not teams that only remain in the

league because it’s written in a contract.

While franchising may give new teams time to improve, it could potentially make the viewer experience less enjoyable by keeping teams in the league that shouldn’t be there. It’s hard to say whether or not franchising is a good idea. Without it, the Tampa Bay Buccaneers would have been kicked out of the NFL as fast as they got into it, and they never would have won the Super Bowl. However, teams that have never been to the Super Bowl, like the Cleveland Browns, still exist but remain in the league because of franchising. The NFL is obviously a different case because of the scale of the games: large stadiums and nationwide broadcasts. It is a larger undertaking compared to creating an esports team, but it is an investment nonetheless.

Regardless of whether or not franchising is good for esports in the long run, investing in the industry is definitely worth it.

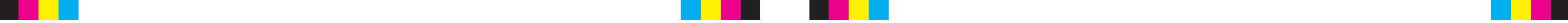
Rick Fox has shown that even without franchising, its entirely possible to keep a spot in the LCS with a brand new team. That alone may not be enough to convince other investors though, and the LCS may need franchising to attract more big names after two of the largest recent sponsors were relegated from the LCS this year.

All that matters is that people continue to realize the potential that esports has as an industry, and it will keep growing. As the millennial generation gets older, they will have a more disposable income, leading to even more opportunities for investors to get people interested in their brand, but they need to start now.

The best investors for the industry will be in it for the long haul. Any investor who sees the potential growth in the esports industry would be naïve not to at least explore their opportunities.



The season three League of Legends World Championship Grand final was held at the Staples Center in downtown Los Angeles on Oct. 4, 2013.



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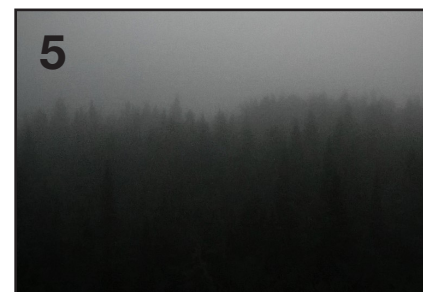
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# Carnegie Mellon Survival Guide

Orientation Week is a ton of fun, but don't let it fool you into thinking that Carnegie Mellon is always this great. Things can get busy. Very very busy. When the work hits, you've got to be prepared to be running from class to meetings to the library and back to class with barely enough time to breathe. Most of the people here are amazing — passionate and ambitious yet warm and helpful. But I guarantee you'll meet at least one selfish schmuck who'll drive you nuts or let you down at the worst possible time. The majority of your professors and classes will be so amazing as to inspire you to do better than you ever thought possible. That said, no work in the world is fun at three in the morning when you're running on four hours of sleep.

I've made more than my fair share of mistakes in my three years here so far. Here are a bunch of suggestions that can help you survive and thrive in the parts of Carnegie Mellon you read about in admissions brochures, as well as the dark underbelly you want to, but will never quite be able to avoid. Some of the suggestions listed below are what you might call typical college advice, and some of them are decidedly more Carnegie Mellon specific.

1. Learn to slowly let go: High School is over. Like everyone else here, you've left a ton behind to come here — whether that is your parents, your closest friends, or a significant other you're hoping to keep things going with (good luck with that). Deal with it. Don't forget about them, but acknowledge that they now all belong in a compartment in your mind. You have got to make space for new things. New people and new priorities. Get out and talk to everyone you can — men, women, athletes, nerds and artists. I guarantee you'll find at least one person you'll be surprised you got along with.

2. Friday nights: Frat parties are great, but most of the time there are way cooler things to do with your time. Go out on the town. Pittsburgh is an amazing city with a ton of stuff to do. Downtown Pittsburgh in particular is absolutely stunning at night. Go for long long walks around campus and the general area. Find a favorite spot. You'll find yourself repeatedly returning to it in your next four or five years here. A personal favorite of mine is Panther Hollow — a little forest with trails and a lake just five minutes from campus. At night, the place is pitch dark, pretty scary and probably even a little dangerous. Carry a torch, and I don't mean the one that comes in an app on your phone.

3. Food & Beverage: You've probably heard this a bunch of times already, but I'm going to repeat it again. Get off the meal plan as soon as you can. Off campus food is, as a thumb rule, cheaper, healthier and tastier than on campus stuff. Craig Street in

particular should be your best friend. If you go to Sushi Fuku, be sure to ask Jose to make you a 'Salmon on the Beach'. It isn't on the menu, but he'll know what you're talking about! Sunday brunch should, by law, be at Crepes Parisienne. The place's crepes and croissants are to die for. Also while on campus food may not be too great, on campus coffee is a surprising exception. La Prima Espresso, on the 5th floor of Wean Hall, makes the best Cappuccinos and Mochas that I have ever had. Tazza D'Oro on the 3rd floor of the Gates Hillman Centre isn't too bad either.

4. Find yourself: College isn't so much about figuring out what you want to be as it is figuring out who you want to be. Be spontaneous. Take risks that you wouldn't dare take if you still lived with your folks. This could be taking a class in Middle Eastern History because why not, or it could be an impromptu road trip in a rental car to a place you've never even heard of. It is only when you step outside your comfort zone that you can learn new things about yourself.

5. Take it easy: This, in my opinion, is the hardest thing to do at Carnegie Mellon. Everyone is always in such a hurry and everyone is always so focused on their priorities that it becomes easy to forget that college is anything more than a resume building exercise. It is important to have a goal and move towards it. But don't put on a pair of blinders and look so far straight ahead that you're not willing to risk a sideward glance and appreciate where you are.

6. Keep it local: Whatever you want to do, whether its just visit the roofs, or some underage drinking, or even a little bit of pot, you're probably much safer doing it on campus. Your RAs, housefellows and even Carnegie Mellon police will usually be much more tolerant and understanding than the Pittsburgh cops. Downtown, I've heard of people getting taken to lockup for carrying a fake ID. Closer to campus, you're likely to get a citation at worst.

7. Don't get caught.

**Abhishek Tayal** | Pillbox Editor

## Advice for awkward people

About breaking down barriers

Dear Sarah,

**I'm an incoming first-year and I'm anxious about a lot of things, but what really frightens me are certain invasions of privacy that come with group living.**

**I don't like the idea of breathing the same air as another person while I poop. Feeling my most vulnerable, skivies around my ankles, and separated by another human at their most vulnerable by a short wall. I can't plan what kind of noises and smells they'll be subjected to, and that just makes me feel impolite.**

**It's not like I can just stop pooping because I will never stop eating Chipotle, but I don't know how to get over my fears.**

**I've heard stories about "poop stalemates" where two people try to poop at the same time, both trying to wait the other out to poop in peace. This sounds like a nightmare, and I don't want to leave something so important to my happiness up to a game of nerve.**

**I'm very attached to my morning routine — poop, shower, brush teeth, poop, rinse, get dressed, do make-up, eat breakfast. Without it the whole day won't feel right.**

**How do I poop in college?**

**Anxiously,  
Seriously, Please Help I  
Need Comfort To Ease  
Rectum**

Dear SPHINCTER,

**This is a concern I, too, had as a first-year student, clinging to my modesty. But fear not, because there is hope. There are ways to make this dilemma easier to face.**

**I became well-known on my floor for my "poop bag," that I kept stocked with flushable wipes and a can of Febreeze. Going in equipped with more creature comforts can make being a creature more comfortable.**

**Plus, stalls aren't the only option, depending on how far you're willing to walk. Many of the dorm lobbies have one-room bathrooms that you can lock up and shut away from the world.**

**And on campus during the day, there are a few one-room spots I prefer, and I'll let you in on my secret: the third floor of Baker Hall at the top of the spiral, the fourth floor of Gates down the hallways next to Rashid auditorium, and the third floor of the Cohon Center next to the elevator.**

**But truly, when it comes down to it, you can't keep screening nature's calls or you'll have to call the doctor. This is part of being human and the sooner you get comfortable with it, the better life is.**

**Happy pooping,  
Sarah Gutekunst**



# Tales from abroad: Olympic Games in Rio

Various experiences with the disparity between reports and truth, haves and have nots

It's 7 a.m., and you are standing on the terrace of the nicest apartment you have ever, or probably will ever, be in — all big windows and white leather and glass. You are looking out over the sprawling city of Rio de Janeiro below you, the mountains dramatically rising up beyond the buildings, and the beautiful beach and ocean sweeping out to your left. You don't think you've ever seen a city so breathtaking before.

It's 12 p.m., and you are standing next to an open sewer in the heart of Rocinha, the largest favela in Brazil, looking at the houses that have been built directly over the sewer on stilts, accepting the stench as the price for finding a bit of open ground to build on. Your guide, Alberto, has lived in the favela for 50 years and seems to genuinely love the place. Turning somber, he says, "What you can't see are the rats, this is hell."

It's 8 p.m., and you are sitting in Maracanã Stadium, waiting for the Rio 2016 Olympic Games Opening Ceremony to start. The lights of the stadium go out, and are replaced by thousands of cellphone lights that seem to fill the stands with stars. The music starts, and billions of people across the globe turn their eyes to Rio.

These are moments from my first day at the Olympics in Rio de Janeiro this summer. A family friend, Kat Holmes, qualified as an épée fencer for the U.S. Olympic team. Excited and proud, my family rushed to get tickets for the games so we could support her achievement. When we arrived in Rio, we found a kaleidoscopic city that was almost impossible to make sense of and was made even more unfathomable by the Olympics.

Before heading to the Olympics, I knew a few things about Rio. I knew that Rio had a huge problem with income inequality, witnessed by the gorgeous high-rise apartments along the beaches and desperately poor favelas clinging to the surrounding hills. I knew that crime, corruption, and political instability in the city had the Olympic committee on edge, wondering if these problems would affect the games. And I knew that almost everyone I mentioned the trip to made some sort of quip about stocking up on bug spray to combat Zika.

Most of these things turned out to be true, to some extent. (Except for the comments about Zika. I didn't see a single mosquito the whole time I was there, and gave up on the bug spray two days in.) However, all of these aspects of the city were infinitely more layered and complicated than how they were portrayed to me

back in the U.S. For example, I had heard that the favelas are slums that are wracked with violence and whose inhabitants live in fear of the drug lords that control them. When Alberto showed us around Rocinha I saw a vibrant, close knit, desperately poor community that was hardworking, hopeful, and friendly, yet distrustful of outsiders, and most surprising of all, that trusted the drug lords more with their protection than the police.

Even when I was in Rio, I continued to experience this strange dissonance with what I heard from friends and the media at home in the states and what I was experiencing on the ground. I saw countless posts and articles about how unprepared Rio was for the Olympics, how shoddy the construction was, how tense and difficult it was to set up the games due to the current political climate, how the International Olympic Committee was doubting the ability of developing countries to host future Olympic games because of how much of a disaster Rio had been.

For my part, I saw a city full of people facing enormous difficulties in the form of economic recession and political corruption who had decided to put aside their struggles for a few weeks to host the games as

beautifully as they could. They did not let the Olympics distract or divert them from their fight to root out political corruption, but decided to go back to it after the games so they as a city could come together and put their best foot forward. Sure, the Rio games were not as shiny and perfect as a games hosted by a more prosperous nation, but that begs the question, should they have to be? The people of Rio made enormous sacrifices to host the games, but despite these costs they greeted the games with an electric energy that made these Olympics truly one of a kind.

In the end, the truth of these situations is probably somewhere in between what I saw during my time there and what is widely known and reported in the United States. After all, I was only in Rio for two weeks, and it is a city that would take decades to understand. Still, my trip to Rio taught me to consume information about other countries with a more critical eye. The depictions we find in the newspaper are a mere shadow of the reality, and the truth is more complicated, confusing, vibrant, and simply more beautiful than we expect.

**Sinead Foley** | Forum Editor



Photo courtesy of Sinead Foley



# Tales from abroad: Composing in Canada

Exposure to different people and ideas in Montreal expands composer’s creative potential

Canadians:

“Yeah, I wasn’t really too sure what to expect, but I was surprised, you and the other Americans are so nice and normal!”

Me:

“Ummm, thank you? Hahaha”

That was on day three of my time in Montreal. Well, not in Montreal, but about an hour outside at the Orford Music Center in Orford National Park. I was there for a music composition festival for two weeks with a population of students from around Canada, France, and America. In total I spent 30 hours in Montreal itself (including my hour and a half trek trying to find the Gare d’autocars to catch my bus to Orford on the first day. Oh, and I got on the wrong bus).

Montreal itself was fantastic! This city is one of the most beautiful, dynamic, and culturally rich cities I have been to and I will definitely be coming back (maybe for the Université de Montréal) even with the 9-months of complete ice age. But my most impactful experiences were in the middle of the Quebec forest-land with all of these people I had barely just met.

My roommate and I were the youngest composers there; we are both twenty, but he is six days older. We think we got put together because we were the two young composer dudes with long hair so they thought we’d get along. They were right. And I think it was only about 30 percent the hair. He was from Alberta, but goes to school at the University of Manitoba in Winnipeg. Apparently, Winnipeg is a very cool trendy city. I had no idea. I had to have one of the other composers explain to me what the differences between Saskatchewan and Manitoba were. He’s from Saskatchewan, but apparently there’s pretty much nothing there. Quite a few composers were from Montreal, one from British Columbia, one from Toronto, one from New York, one from Iran, one from Taiwan, and others.

The composers would all eat together in packs and chill in the pub, “Le Garage” (it was in fact a garage), in between running off to practice rooms to work out some sections of pieces they were frantically trying to finish. However, from the beginning I was of the mindset that I was there to make as much music and learn as much as I possibly could, not to make friends. Besides meals and seminars, I isolated myself to work. And work. And work. But somehow I noticed I was slowly being absorbed into this tight-knit group; all the composers would sit together at meals and concerts or to write music (or to watch X-Files, which the Canadians were weirdly in to). As I progressed through my cycles of inspiration and crippling self-doubt of music writing, I found that I was, in fact, making friends, even though I had specifically planned to avoid that. It was unfortunate for that original plan that all these people turned out to

be really interesting and inspiring and challenging and irresistible as friends. We watched the shooting stars in a meadow in the forest, sung Karaoke of ABBA and Queen at “Le Garage,” ping ponged with the professors, and celebrated hard after the concert we had all been working for. As we were studying everyone’s music I found myself understanding more about what it meant to be human; and as we were hanging out I found myself understanding more about what it meant to make music.

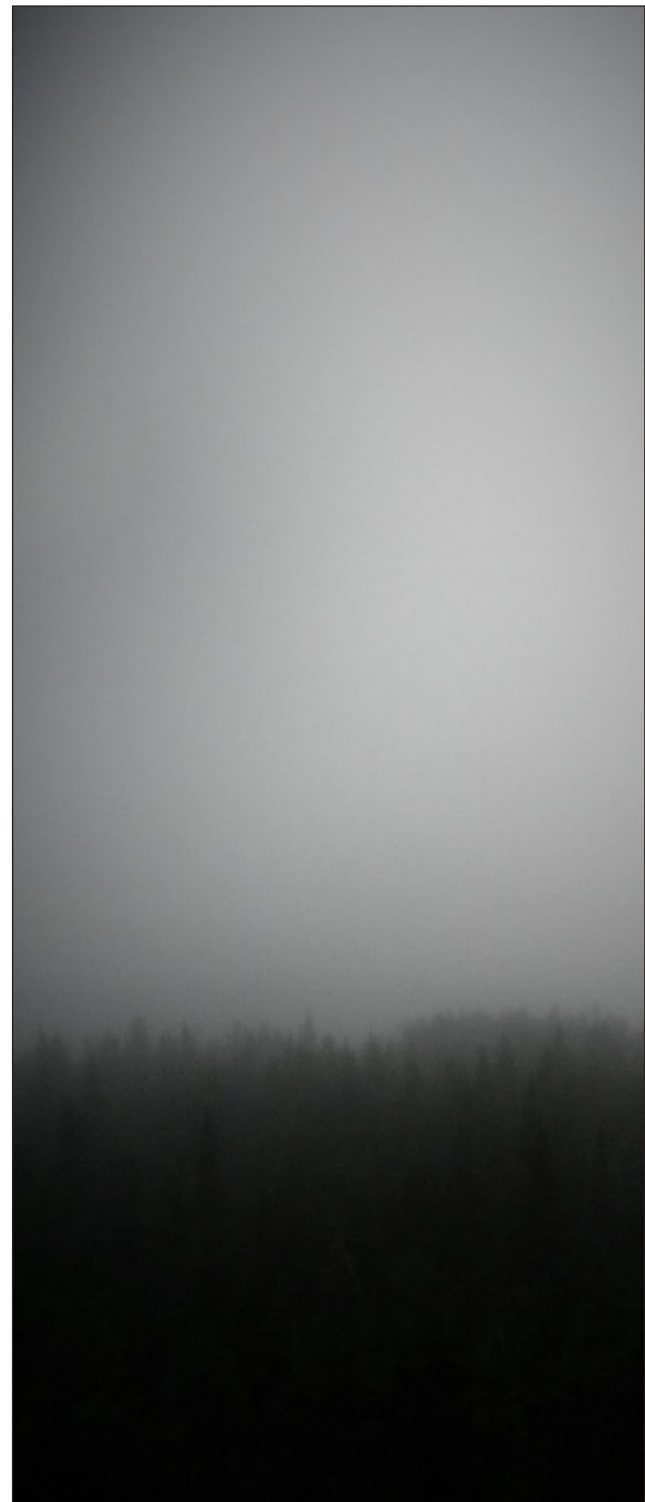
When I told the Canadians that I was writing an article about my travels to the exotic land of Canada they instantly began suggesting that I had to tell everyone about how they all ride polar bears to get places and only eat mooseflesh for every meal, I mean, that and poutine and maple syrup. Well, actually, the last two are pretty accurate: we were given a pitcher of maple syrup with every meal. A pitcher! And every fast food shop served poutine (it’s fries with cheese curds and gravy and it’s fantastic). Instead, I decided to write about what I learned from all these different personalities and varying cultural experiences about what it meant to be a composer (and sometimes being a composer means being attacked by moose if you’re Canadian).

My last day in Orford national park it was raining, but I had decided at the beginning of my weeks there that I would climb up Mont Orford once I was finally done with all the hours and existential self-doubt of the music and workshops and seminars and concerts and feedback sessions. It wasn’t just raining, it was pouring. And I also didn’t have a car. And the base of the mountain was seven miles away.

I rented a bike and trekked up the winding road to the mountain base and began the journey up the mountain already soaked. As I reached the top, emerging through the clouds of fog, I stood there in the damp grass barefoot and shirtless in the rain.

After all was said and done, I was here overlooking the grey and green landscape in this moment and I thought. I had grown immensely as a composer and had made friends with all of these French speaking, polar bear riding, maple drinking Canadians and was thrilled to see what music everyone would make next. And hopefully I’d be returning to this moose filled tundra in the near future to see more amazing works by all these new-found friends and colleagues.

**Teddy Teichman** | Photo Editor



Teddy Teichman | Photo Editor

The view from the top of Mount Orford, after a rainy bike ride through the self.



# Head Orientation Counselors welcome first years with fond memories

The following are excerpts from letters written by each of the Head Orientation Counsellors describing what orientation week means to them. They range from informative and exciting to deeply personal and heart warming and all offer insight into the best part of orientation week.



Orientation was the first thing that opened me up and integrated me into this school and city. Orientation made me feel comfortable and it introduced me to friends I would hold close throughout my time here. I hope this year's orientation week can do the same for all of you! You will be challenged both socially and academically, meet many people from different cultures and backgrounds, and create memories that will last for the rest of your life. Get excited for orientation!

Keep your hearts and minds open to new and unfamiliar situations. Don't be afraid to step out of your comfort zone once in a while. You never know what interesting opportunities await you.

David Ott — Stever House



If you're feeling a bit scared about life away from home, I can tell you that I was feeling the exact same way four years ago. I was a nervous-wreck coming to college. I was terrified of never finding friends, never fitting in, never finding a major I was passionate about, and almost everything else that comes with going away to college. However, I can honestly say that buying into orientation was the best decision I made. Putting myself out there and being myself openly in front of everyone I met that week helped me learn to never underestimate the importance and the great reward that comes with showing everyone who I was. Carnegie Mellon is a beautifully diverse place, and coming here with an open mind will take you farther than you could imagine. Be open minded with yourself and everyone you meet in order to get the most out of your orientation and college experience.

Mya Snyder — Morewood E-Tower



I grew up about 45 minutes away from Carnegie Mellon, which made it seem like moving a relatively short distance wouldn't be a big change. However, leaving home is leaving home no matter how short or long the distance, so it's a huge adjustment for everyone. My fears began to ease after my first night of Orientation as I started to feel comfortable in my new "home," and the week turned out to be one of my most defining Carnegie Mellon experiences.

Orientation is the perfect environment to take a first step out of your comfort zone and become part of the unique and very welcoming Carnegie Mellon community!

Laurel Beatty — Mudge House



I remember when I first moved in and all of the anxieties I had about what college would bring for me. I was nervous that I would be way too overwhelmed by everything, I was worried that my transition to college wouldn't be smooth, and I wasn't even sure if Carnegie Mellon was the right school for me. Although I had all these apprehensions, I quickly learned that almost everyone else had similar feelings, and that I was not alone in my thoughts. I soon became a part of an incredible campus community that valued me just as much as I valued it. Through all of the people that I interacted with and experiences that I had during Orientation and my first year here, I realized that I had developed an amazing support system and newfound sense of my place within this community.

Niko Torres — Residences on the Hill

Orientation is an action-packed week of events that give you a chance to meet your class, Carnegie Mellon, and the greater Pittsburgh area. Because of the energy brought by the student body and fresh invigorating environment, many Tartans look back on Orientation fondly as one of their top moments during their stay at Carnegie Mellon. You may meet your best friend during Orientation, be inspired to pursue a path that was previously unknown, or simply start to become acquainted with your dorm community and Carnegie Mellon's incredible facilities.

These new experiences may come easy, which is incredibly inspiring to me. If moving to a new place gives you butterflies, embrace the feeling and hold onto it, since that nervousness is what makes moments like Orientation special.

Evans Hauser — Donner House



Carnegie Mellon is a place where you can challenge yourself in so many ways. Not only do we have world-class academic programs, we are also a student community full of different people with different interests who are all heading down different paths, but we have one thing in common: this university. We (including you!) as students have the freedom to pursue our passions and discover what really gets us excited about life alongside some truly amazing classmates. For me one of those passions has been Orientation, so I cannot wait for you all to experience it with me.

As someone who has dedicated more time and heart to Orientation than any other program on campus, I would like to tell you that it is a time of self-discovery and class unity. If you truly allow yourself to step out of your comfort zone, you are going to meet so many new people and I can assure you that you will be inspired by the unparalleled passion of your peers. Orientation gave me the feeling of support and community that has driven me to make the most of my time here at Carnegie Mellon. I hope you will allow it to do that for you as well.

Josh Zak — Residence on Fifth



So here you are, fresh-faced and bushy-tailed — and nervous, no doubt — ready to embark on a journey that no one, maybe not even you, knows where it leads. But if I may, allow me to give you some tips for the road ahead that I wish I had when I began my adventure. One, be fearless. You'll hear it over and over again, but college is a time when you should be tearing down walls, not putting them up; college is a time when your comfort zone triples and quadruples in size; college is a time when you realize the full potential of what living in this world means, so embrace the challenge and push yourself to explore and experience. Two, don't forget the details. Put your heart, mind, and soul into even the smallest acts. It's those small acts that remind us why it's important to stay healthy, be happy, and reach for success. And third, laugh. Every day. Take pride in what you do and where you are and never forget that a smile is one of the most powerful gestures. It can provide comfort, deal forgiveness, lift spirits, and start relationships.

But perhaps most importantly, prepare yourselves for a whirlwind first week at Carnegie Mellon. Orientation is the launch pad for all your college careers, and, make no mistake, by the end of the week you will all be ready to lift off.

Nikhil Nilakantan — Residences on the Hill



# Tales from “abroad”: Southern California

Compared to Pittsburgh, west coast cities more successfully embrace spontaneity

I landed at LAX all alone three months ago with way too little planning, way too much stuff, and no idea what to expect. I was more nervous than I ever remember being — going into my first ‘real’ job in a city I knew nothing about and staying with people I had never met before. I remember waiting fifteen minutes for my Uber to navigate the moronathon that is LAX traffic and trying to keep all the things that could possibly go wrong out of my mind. In the end, nothing went wrong. Instead, I think I had the coolest, most enlightening, and most downright crazy summer of my life.

I stayed and worked in Irvine, a small city just outside LA with perfect, wide roads, gleaming towers, and an almost creepy standard of cleanliness and organization. Eventually, I found out that a private company, creatively named Irvine Company, owns most of the city and keeps everything in perfect shape so that they can charge their tenants astronomical rents. This is all the more jarring when contrasted with the rest of SoCal — wild and messy, but with a swagger that brings a certain charm to the chaos.

At first glance, it can seem like everything is king size in SoCal. The malls are so big it can take thirty minutes to walk from corner to corner. The distances between places are so vast you can forget about walking or cycling anywhere. Pretty much everyone I met had a car and spent around an hour in it everyday. Speaking of people, everyone works out a lot, eats even more, and perfect bodies (much to my chagrin) are more the norm than the exception.

And yet, the greatest pleasures are had in the little things that you find. I visited more beaches, bars, and bowling alleys in my two and a half months in SoCal than I have in my time at college so far — and the best ones were tucked away in little corners, only discoverable by recommendation. The really interesting bars are dark, tiny, noisy, and with the kind of live blues music that makes you want to dance on the tables. As for the beaches, there are plenty of iconic beaches in the region, from Venice to Santa Monica to Newport. But the truly great ones, with perfect white sand, clear blue water and waves that are just high enough to be fun yet safe, are less well known. A personal favorite was Crescent Bay. It is a little out of the way, but if you happen to visit the area, I couldn’t recommend it enough.

I was surprised by how different the ‘west coast’ mindset can be from Pittsburgh and New York, the two U.S. cities that I’ve spent time in. There really is no other way to say it, people are just more fun in SoCal. There’s a certain spontaneity in the air that makes everyone more suggestible to the sort of crazy ideas that become the stuff of memories. This one Sunday night, a bunch of friends and I decided to sample every In-N-Out Burger in a fifteen mile radius to gauge the ‘consistency of their offerings.’ I got home eight burgers and five thousand calories later at 2 a.m. I regretted it the next day at work, but I haven’t regretted it since.

Another weekend that really stands out is this one time a bunch of us decided to go camping and trekking at Ortega Oaks, a forest about a hundred miles outside the city. For most of us it was our first time camping,

and what ensued was a comedy of errors that somehow managed to come together into an incredible adventure. The first day that we went trekking, we thoroughly underestimated the amount of water a twelve mile trek through the arid California wilderness requires. As a result, we ran out when we had about eight miles left on our way back. By the time we got back to our campsite, I was so exhausted and dehydrated I must’ve taken about a gallon of water from a stream nearby. Later that evening, we did the most cliched campsite activity of all — lit a fire and sat around making s’mores and telling horror stories. That night, I slept on a hammock for the first time in my life. It was uncomfortable and noisy, and I didn’t sleep much. But the view was absolutely worth it. The night sky, as seen from the forest, away from all the pollution, is a sight to behold. The night was cloudless and it seemed like every star in the galaxy was fighting for my attention, if only to remind me of all of our insignificance in the universe.

Leaving all this last week was much more difficult than I would have ever expected it to be. The friends I made, the things I did, and the places I visited have changed me for good and for the better. You can take me out of SoCal, but I doubt you’ll ever take the SoCal out of me.

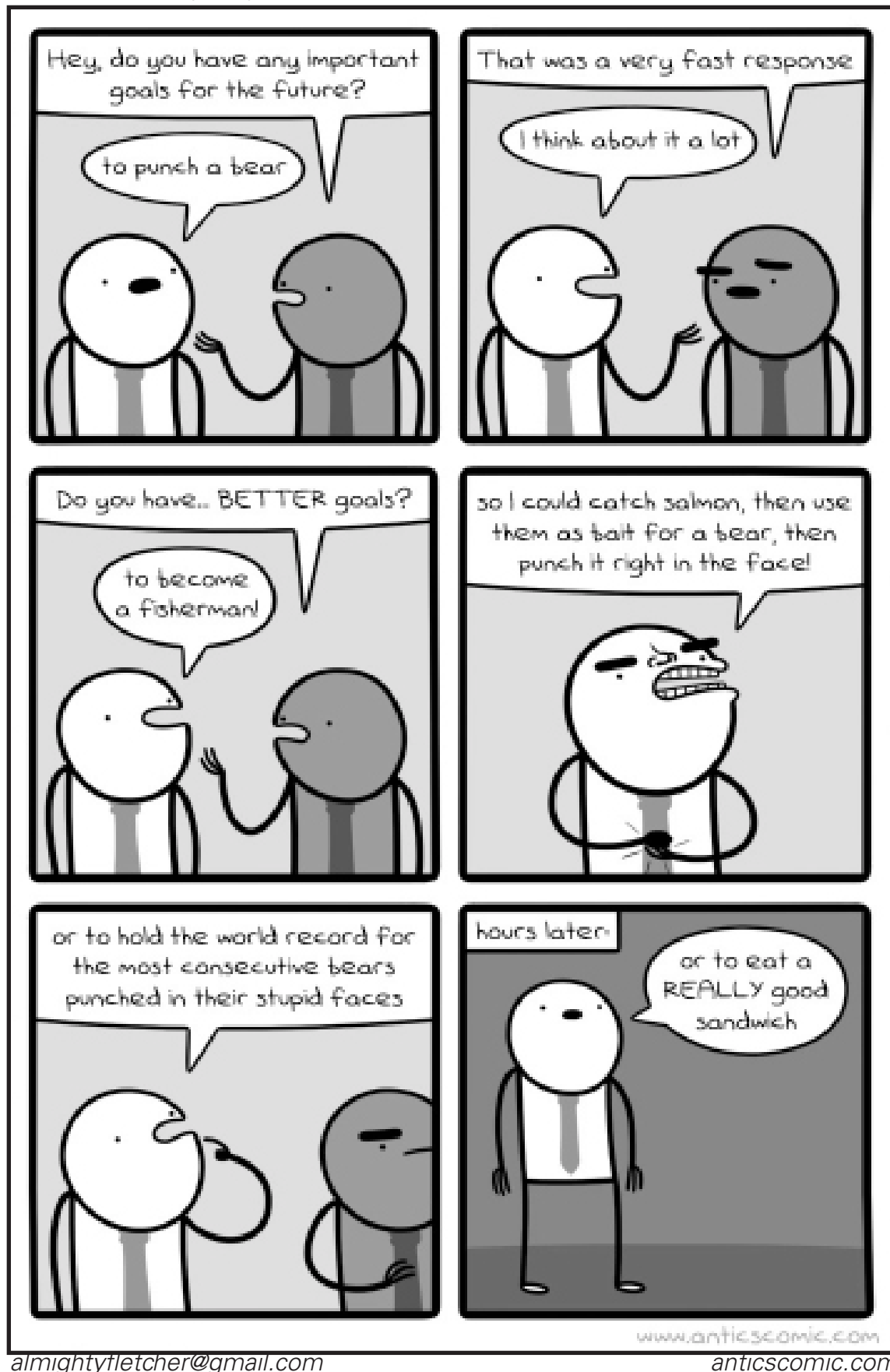
**Abhishek Tayal** | Pillbox Editor



**Abhishek Tayal** | Pillbox Editor

The beautiful white sand of Crescent Bay, Laguna Beach, Calif. is second only to the crystal blue waters, and a must for a SoCal soujourn..

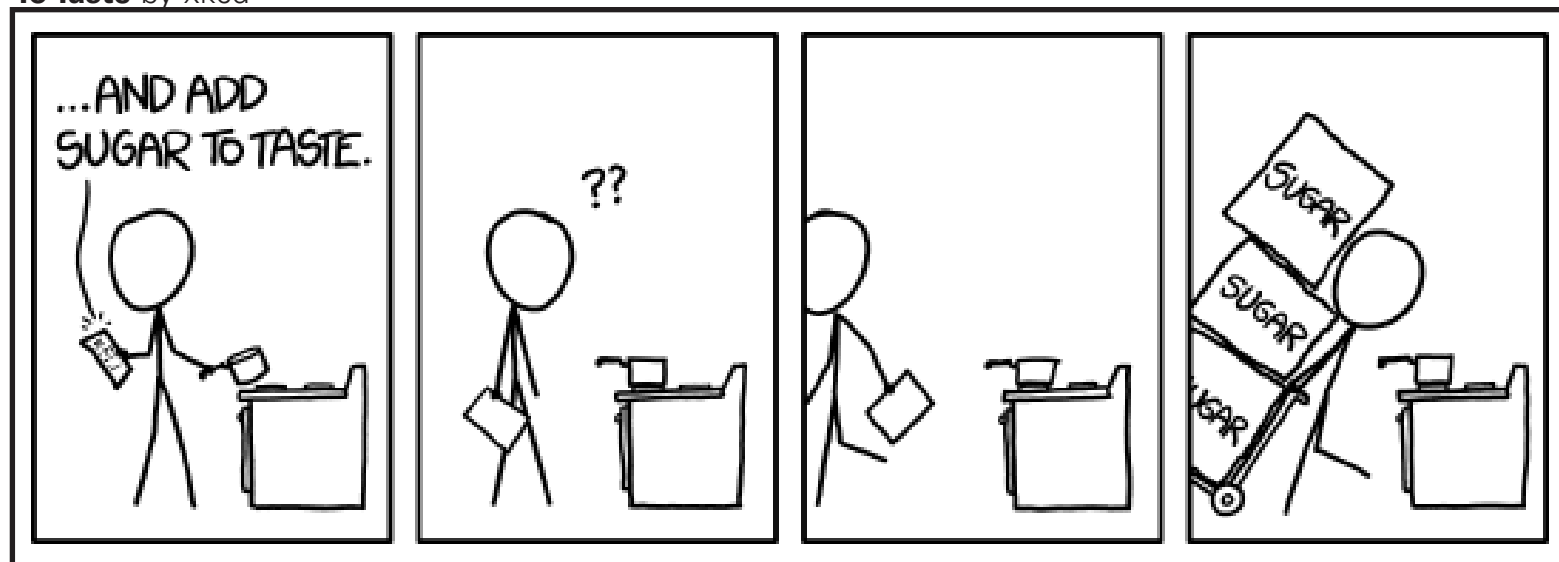




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**Monday 8/22/16**

**Community Collage.**

Baker Lawn Tent. 4-5:30 p.m.

This event will open your eyes to all the diversity that Carnegie Mellon has to offer. You'll hear from students of all cultural and academic backgrounds, and you won't believe the kind of talent you'll be sharing a campus with for the next four years. It will encourage you to reflect on your personal experiences and aspirations.

**Playfair.**

The Cut. 8-10 p.m.

Don't forget to wear your Class of 2020+ t-shirt for this unforgettable welcome event. The night will begin with the biggest, best Facebook cover photo you've ever had. Then you'll get to know your classmates better than you could imagine. Leave your inhibitions in your dorm room and get ready to move.

**Tuesday 8/23/16**

**Greek Gala.**

Kirr Commons, Rangos, McKenna Peter Wright Room, Cohon Center. 10 p.m.-midnight.

If you've ever considered Greek life, get all your questions answered by members of all of Carnegie Mellon's Greek organizations. Also enjoy free food, entertainment, and giveaways. This is a great opportunity to try new things and meet new people.

**Thursday 8/25/16**

**Convocation.**

Baker Lawn Tent. 5 p.m.

Convocation is your first official welcome into the Carnegie Mellon academic community. You get to dress up and line up with the other students in your college, hear inspiring words from President Suresh and members of the community, and show off your college pride. Convocation is an important symbolic event that you will look back on fondly during your years as a Tartan.

**Friday 8/26/16**

**PACE Orientation Day of Service: Make an Impact.**

Wiegand Gym, Cohon Center. 8 a.m.-noon.

Get up early for a good cause! Join student organization Partners Allied in Civic Engagement (PACE) for an opportunity to give back to your new community. Bring sensible shoes, long pants, a water bottle, and a positive attitude, and get ready to be assigned to anything from neighborhood clean-up to stuffing education packets. On top of the reward of giving back, it will be a great opportunity to bond with team members and see more of the city.

**Understanding Campus Dining and Your Meal Plan.**

Danforth Conference Room. 3:30-4:30 p.m.

One of the most confusing parts of the first year experience is figuring out how your meal plan works. Take the mystery out of it. Learn where to get your meals and snacks, and get the scoop on how to eat nutritiously on campus.

**House Wars.**

The Cut. 7:30-9:30 p.m.

House wars will be the pinnacle of your orientation experience. Compete for absolute, unconditional, unending dorm pride in a series of reasonably difficult team events. Let your competitive side shine, wear your colors, and get ready to fight for your honor.

**Saturday 8/27/16**

**Multicultural Barbecue.**

Merson Courtyard, Cohon Center. 5:30-7:30 p.m.

Learn about Carnegie Mellon's multicultural organizations and enjoy free food and tunes. Representatives from the National Society of Black Engineers (NSBE), SPIRIT, Society of Hispanic Professional Engineers (SHPE), Spanish and Latin American Student Association (SALSA), The Omicron Chapter of Alpha Phi Alpha Fraternity, Inc., Black Graduate Student Organization (BGSO), Latin Graduate Student Association (LGSA) and various other groups will all be in attendance.

**First-Year Showcase.**


Baker Lawn Tent. 8:30-10 p.m.

After rounds of auditions and rehearsals, show support for your classmates and their individual talents. It will be a great opportunity to appreciate the talent in your class and guess who'll one day have a star in front of Purnell. The showcase will be followed by a slideshow of presentation of photos from the week.

Compiled by **Sarah Gutekunst** | Publisher

Want your event here?


Email [calendar@thetartan.org](mailto:calendar@thetartan.org).



# Unleash your inner child

## Write for Pillbox

[pillbox@thetartan.org](mailto:pillbox@thetartan.org)



# hoc selfie.



Courtesy of Carnegie Mellon Orientation

Head orientation counselors gathered to post a selfie for Facebook to express their anticipation of move-in day. Pictured above from left to right from the back are: David Ott, Nikhil Nilakantan, Josh Zak, Evans Hauser, Laurel Beatty, Niko Torres, and Mya Snyder.

