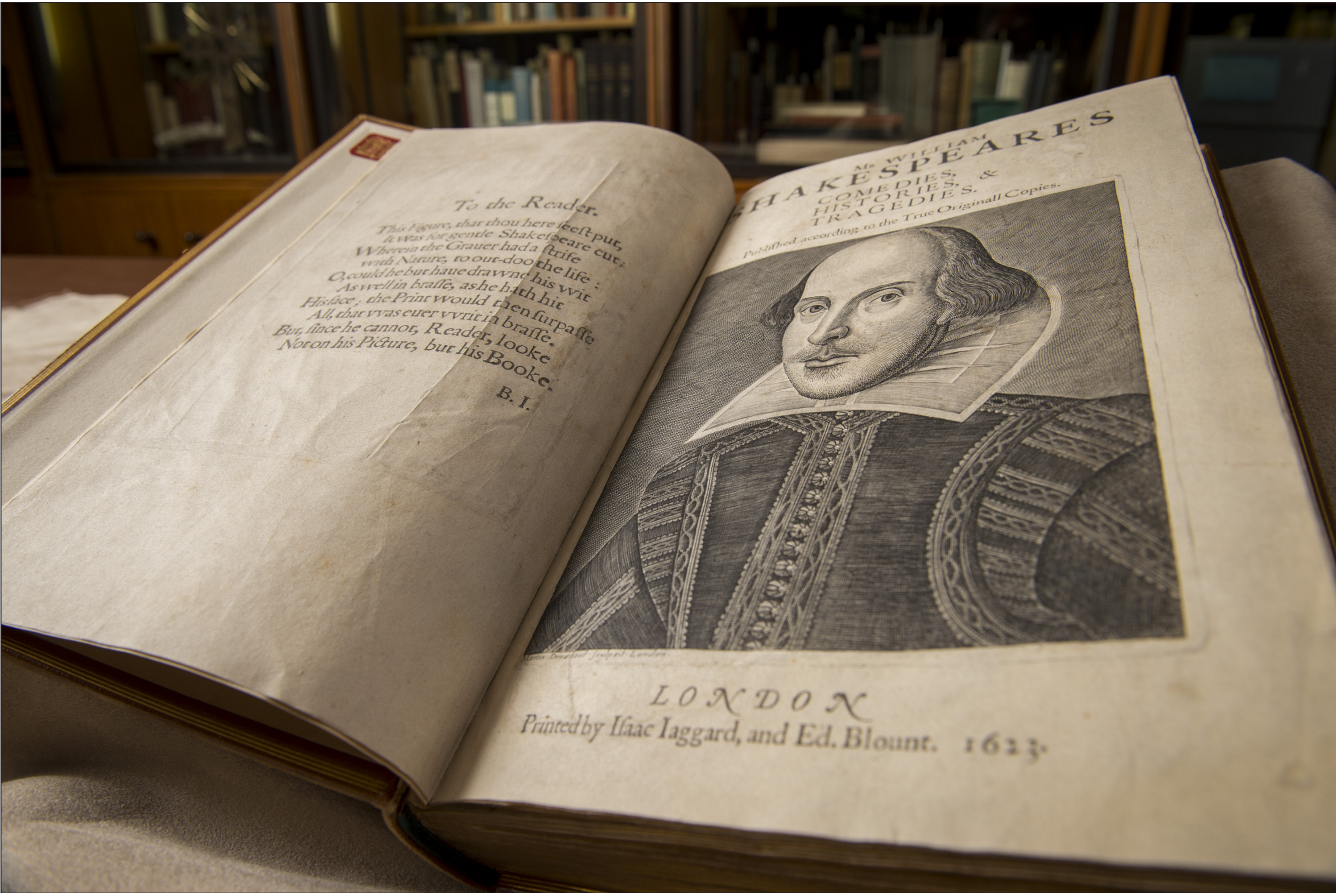


# First Folio on display at the Posner Center



Pictured above is Shakespeare's First Folio, which contains a collection of his original works compiled before his death. It is located in the Posner Center.

**JAMES WHEATON**  
*Staffwriter*

This year, Carnegie Mellon University will join in a nationwide movement to celebrate and remember the 400th anniversary of William Shakespeare's death. Here at Carnegie Mellon, we are lucky enough to have a copy of Shakespeare's First Folio, a collection of his works made near the time of his death in the early 17th century. As one of only 750 copies made, Carnegie Mellon's copy of Shakespeare's First Folio is the most expensive book in the rare book collection on campus.

The Folger Shakespeare Library, the largest collection of Shakespeare's works in the world, will be sending copies of the Folio to all 50 states in honor of the Bard, but Carnegie Mellon University is one of the few institutions in the world to already have a copy.

There are an estimated 234 copies remaining of the original 750 copies of Shakespeare's First Folio. Carnegie Mellon managed to

obtain one of them due to the generosity of one its trustees and a life long patron of the arts in Pittsburgh, Charles Rosenbloom. Upon his death, his rare book collection was split among several institutions, including Yale University (his alma mater) and Carnegie Mellon University. The First Folio has remained in Carnegie Mellon's care since 1974.

Shakespeare's First Folio is currently on display in the Posner Center. However, in honor of the world's most famous poet, there are now also accompanying works of the Bard on display. In partnership with the School of Drama, the Posner Center has gathered materials from past productions of Shakespeare's works and put them on display. Each display is focused on a specific Shakespearean play, including titles such as "A Midsummer's Nights Dream," "Macbeth," "As You Like It," and "Richard III."

Each of these exhibits highlight a past production performed by the School of Drama. Shakespeare's work

was written to be performed and, according to Mary Catharine Johnsen, the special collections librarian in the Hunt Library at Carnegie Mellon, "Shakespeare's work in theater led him to be quite the psychologist." Many believe his understanding of human nature is what makes his plays so powerful. The dates of these adaptations of Shakespeare's plays varies throughout the 20th and 21st centuries, with some (such as "Richard III") having multiple innovative plays over the past decades to compare. The exhibits are filled with interesting details from the plays, such as directors notes on the transcript, or original fabric selections for the costumes. Students that find themselves visiting the exhibit may find it interesting to see the various directors' interpretations of the same works throughout the years.

While some may think that plays written over 400 years ago lose meaning when put into a modern context, Johnsen disagrees. "You can relate to what he's

saying.... You read it and go 'Oh, I feel that way!'" Part of Shakespeare's appeal is that he told stories about human beings.

Along with the presentation of the First Folio and the exhibits of the past Shakespearean performances at Carnegie Mellon, there are several other events to celebrate Shakespeare's 400th anniversary. On Nov. 4 there will be a dialogue between Peggy Knapp, a current Shakespearean professor at Carnegie Mellon, and Michael Whitmore, a former Carnegie Mellon University professor who is now employed at the Folger Shakespeare Library in Washington, D.C. This dialogue will take place at the Posner Center and will discuss how Carnegie Mellon has affected the study of Shakespeare's works and how students have reacted to the First Folio. It will conclude with a Q&A session. Furthermore, there is a scheduled performance of "The Seven Ages of Man" speech from "As You Like It" on Nov. 13.

# Forbes rennovations address concerns

**DEBORAH CHU**  
*Assistant News Editor*

A multimillion dollar joint initiative between Carnegie Mellon University and the Pennsylvania Department of Transportation (PennDOT) to implement a series of safety improvements to Forbes Avenue is slated to begin in the fall of 2017, and continue until 2018. The initiative consists of two projects: the Forbes Avenue Betterment Project and the Oakland/Carnegie Mellon Forbes Corridor Safety Improvements Project, and is expected to bring major changes such as creating bike lanes, repaving Forbes Avenue, and re-vamping pedestrian crossings at intersections.

The proposed modifications were announced at a public meeting held at the Cohon Center in late August, and came as a response to two accidental bicycle deaths

Improvements project, and are made possible with a federal grant obtained by Carnegie Mellon University and the Oakland Transportation Management Association.

In addition, the current traffic light in front of Hamburg Hall would be moved to Cyert Drive, while another traffic light would be installed at the Collaborative Innovation Center Drive, becoming a four-way intersection with an entrance to the Tepper Quad parking garage once its construction is finished. Other changes include the creation of pullovers for bus stops, while the bus stop currently at South Craig Street and Forbes Avenue would be moved past the intersection. To address pedestrian safety concerns, a buffer of trees would be placed between the curb and sidewalks.

At intersections, wider pedestrian crosswalks would



Representatives from PennDOT and Carnegie Mellon, as well as other news sources, gathered to discuss recently proposed changes to Forbes Avenue.

within the last year. Ten months ago, an adviser from the University of Pittsburgh, Susan Hicks, was fatally struck by a car as she was biking home on Forbes Avenue. McKees Rocks resident Dennis Flanagan also died when he was hit by a truck while biking on West Carson Street two weeks ago.

The deaths ignited a yearlong push to address cyclist and pedestrian safety on Pittsburgh roads. At the same time, Carnegie Mellon had also been considering plans to update Forbes Avenue to better accommodate cyclists and pedestrians since 2011.

be painted, and all crosswalk signals would be updated with audible signals. A significant change will be the elimination of the "all-walk" phase at the Craig and Forbes intersection, despite the fact that a lot of the traffic there involves turns.

As part of the Forbes Avenue Betterment Project, a repaving of Forbes Avenue will span from Birmingham Bridge to Beeler Street.

The total cost of the projects is expected to be around 10 to 12 million dollars.

A number of people who attended the town meeting were unsatisfied, however,

# Leaders of student organizations attend first-ever Conference for Social Change

**SARAH GUTEKUNST**  
*Publisher*

On Saturday morning, leaders of student organizations ranging from Dancer's Symposium to Math Club gathered in the Cohon Center for the first ever Conference for Social Change, hosted by Student Body President Vaasavi Unnava and Vice President Aaron Gutierrez's cabinet.

A key component of their campaign for the office in the spring was their "model for social change," centered around their idea of the President's Initiative. They proposed to "mobilize club presidents around a common issue, and reward the clubs and organizations that provide innovative cultural solutions on our campus." The Conference for Social Change is the realization of this campaign promise.

At the onset of the event, senior Electrical and Computer Engineering major Arnette Etienne, the cabinet's director of advocacy and conference organizer, told the group, "Today is the starting point." The conference's goal was to

unite student leaders around conversations on Carnegie Mellon's social issues in order to open doors for group collaboration throughout the year.

Dean of Student Affairs Gina Casalegno offered an opening address to inspire the student leaders. She

reflected on students in the past who have inspired her with their collaboration and impact, and she reminded the students in the room of our collective "commitment to be agents of change."

During two sessions, students had the choice of six conversations to join,

facilitated by students and staff currently working on those issues on campus. The options included: race relations, led by senior Mechanical Engineering major Randy Garcia and M. Shernell Smith, Assistant Director for the

See **CONFERENCE**, A3



Carnegie Mellon University students participated in the Conference for Social Change on Sept. 10. The conference aims to bring individuals from various student organizations together to positively impact the university community.



Theodore Teichman/Photo Editor

**At the town meeting held by PennDOT and Carnegie Mellon University on Aug. 31, the room was packed with people who passionately advocated for safer road conditions and questioned details of the projects.**

At the town meeting held by PennDOT and Carnegie Mellon University on Aug. 31, the room was packed with people who passionately advocated for safer road conditions and questioned details of the projects.

One of the significant aspects of the announced plans was the addition of bike lanes on each side of the street, which would be four feet wide. Consequently, lanes for motor vehicles would be reduced from four lanes to two in some areas. The new bike lanes would be installed on Forbes Avenue from South Craig Street to Margaret Morrison Street, as part of the Forbes Corridor Safety

with what they felt was an insufficient level of detail about the proposed plans from officials. Some cited concern over the safety of the bike lanes, and were unhappy that bike lanes would not extend past Carnegie Mellon's campus.

Dan Cessna, an executive of PennDOT Engineering, responded that PennDOT would be meeting with the city of Pittsburgh and the Port Authority over the next month to discuss these issues.

"We're working hard at this. It isn't easy," Cessna said. "We're very committed to making the streets safer. But it's not a neighborhood street as much as we might like it to be".



FEATURE PHOTO

# Carnegie Mellon students gather on the CFA Lawn for Fall Activities Fair



An influx of first-year students as well as other Carnegie Mellon students gathered on the College of Fine Arts Lawn on Thursday, Sept. 7 for the 2016 Fall Activities Fair. Carnegie Mellon is home to 280+ student-run organizations and many were present to entice students to join their organizations.

Valene Mezmin/News Editor

## Campus Crime & Incident Reports

### Underage Drinking

Sept. 2, 2016

University Police responded to the Cohon Center after receiving a report of an intoxicated student. The Carnegie Mellon student was provided with medical attention and was issued a citation for underage drinking.

### Alcohol Amnesty

Sept. 3, 2016

University Police responded to Stever House, Webster Hall, and Kappa Kappa Gamma after receiving reports of intoxicated students. Three Carnegie Mellon students were provided medical attention. Alcohol Amnesty applied and no citations were issued.

### Assist Outside Agency

Sept. 3, 2016

University Police officers responded to the intersection of Fifth Avenue and Dithridge Street to assist Pittsburgh Police officers with a suspicious female.

### Possession of Controlled Substance/ Marijuana/ Drug Paraphernalia

Sept. 5, 2016

A backpack containing marijuana, prescription drugs, and drug paraphernalia was found at Morewood Gardens. After an investigation by University Police, a Carnegie Mellon non-affiliate was arrested for multiple drug offenses.

### Alcohol Amnesty

Sept. 5, 2016

University Police responded to Hamerschlag and Webster Hall after receiving reports of intoxicated students. Two Carnegie Mellon students were provided with medical attention. Alcohol Amnesty applied and no citations were issued.

### Suspicious Male/ Defiant Trespass Warning

Sept. 5, 2016

A suspicious male was reported at the Cohon Center. University Police removed the former staff employee from the building and issued him a defiant trespass warning.

### Suspicious Activity

Sept. 6, 2016

A University staff member reported that she has been receiving numerous phone calls which were part of a possible scam attempt.

### Theft of Television

Sept. 7, 2016

A Carnegie Mellon University student reported that his television was unlawfully removed from the Kappa Sigma house. An investigation is ongoing.

Compiled by  
VALENE MEZMIN

## NEWS IN BRIEF

Carnegie Mellon University and China's Tsinghua University renew dual-degree masters program in computer science

It was recently announced that Carnegie Mellon University renewed its deal with Tsinghua University in China to offer students at both universities the chance to learn computer science from faculty at the top-ranked computer science programs in both the United States and China. This program will allow students to receive degrees from both universities.

Both Carnegie Mellon and Tsinghua University are striving to have this newer dual-degree program be accessible to more students in China and in other countries. The renewed program will also eliminate the previous version's thesis requirement.

Present at the signing of the agreement was Jianping Wu, a professor at the Chinese Academy of Engineering and head of Tsinghua's Computer Science Department. Also present were Wenwu Zhu, professor and deputy head of Tsinghua's Computer Science

Department, and Jun Zhu, associate professor of computer science at Tsinghua and an adjunct faculty member of Carnegie Mellon's Machine Learning Department.

"This will be a great opportunity for students who want to maintain strong ties with China, but also seek the advantages that come with credentials from two outstanding computer science programs," Frank Pfenning, head of Carnegie Mellon's Computer Science Department, said in a university press release.

Students will spend the first year of instruction at Tsinghua University. Afterwards, scholarships will be established to support these students, who will then finish their second year of study at Carnegie Mellon. About five students are expected to take part in this program during the first year.

Recruitment for the program begins in the fall.

The Center for Iranian Music at Carnegie Mellon University to host concert on Sept. 14 to promote Persian music

On Wednesday, Sept. 14, the Center for Iranian Music (CFIM) at Carnegie Mellon University will be hosting a concert showcasing Persian traditional music by the ensemble Zakmeh-Del. The concert will take place at 8 p.m. at the Kresge Theatre in the College of Fine Arts building.

The CFIM was founded in 2012 by Reza Vali and Bijan Elyaderani. The mission of the center is to "preserve and promote Iranian music. This includes traditional music, folk music, contemporary music, and commemorative and

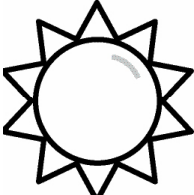

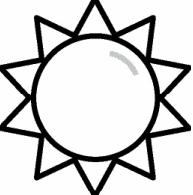
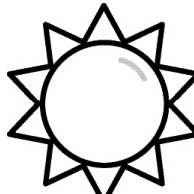


religious music," as stated on the center's website.

CFIM pursues activities in education, community engagement, and the conservation and promotion of Iranian music in order to achieve this goal.

All Carnegie Mellon University students, faculty, and staff will receive free admission. Regular ticket prices are \$35. Student tickets are \$20. Ticket information can be found online at [centerforiranianmusic.org](http://centerforiranianmusic.org).

Compiled by  
VALENE MEZMIN

## WEATHER

TUESDAY	WEDNESDAY	THURSDAY
		
86° / 62°	80° / 55°	74° / 53°
FRIDAY	SATURDAY	SUNDAY
		
81° / 62°	81° / 68°	74° / 59°

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.



## STUDENT GOVERNMENT COLUMN BY VAASAVI UNNAVA (SBP) AND AARON GUTIERREZ (SBVP)

Welcome to the first weekly Student Government column in The Tartan! While it would be great to say that this installment is the product of an overwhelming and undeniable outcry by the student body to know the week-to-week schedule of Carnegie Mellon University's executives and cabinet members, the truth is that student government as a whole can be a cryptic and overlooked subject despite the fact that it formulates so much of our Carnegie Mellon experience. From the tools we have at our

disposal on campus to handle personal emergencies, to how we paint the Fence, student government inevitably has a huge influence on the experiences that define our day to day lives on campus.

But what exactly does it mean to be a part of student government? Information can be found online that briefly explains the concept of the agenda that we, as the current Student Body President and Vice President, have designed and are hoping to fulfill in the 2016-2017 academic year with our

fellow executives, but details are still sparse on what this process is actually like. With two President's Cabinet meetings under our belt, I think we have begun to piece together what is required to run this government, and what students can do to get involved.

Student government means innovation. To fulfill the initiatives of Social Change, Fiscal Transparency, and Student Government Transparency we set up, networks must be created by like-minded individuals to

strategize effective outreach, to introduce or find new ways to support existing university programs or projects, to coordinate funding for all this activity, and more.

Student government means constant communication and representation. To properly advocate for student needs or relay information from the university to its graduates and undergraduates, executives must listen to their peers to give voice to them and offer solutions to produce the optimal connections

between administration and leaders on campus. With astute community observances and inspiration derived from campuses far from ours, needs can be met before they are even realized.

What we in Student Government hope is that this column and this year incites a tradition of openness, motivates meaningful conversation, and inspires reflection on what it means to be a student at Carnegie Mellon as we tackle these three initiatives. We hope to hear your ideas on what components

are still missing, or what ideas you have to enhance the Carnegie Mellon University experience. Whether it's dropping by our office hours on Fridays to exchange ideas, sitting in on a Student Senate or Graduate Student Assembly general body meeting to learn about other initiatives on campus, or reaching out to the SBVPO or SBVPF on any organizational inquiry, there are tons of ways to learn about and get involved in the growth of Carnegie Mellon as an institution and as a home to so many.





# LumiShield selected to present at University Startups Demo Day



Courtesy of David Luebke  
Pictured above from left to right are LumiShield members Hunaid Nulwala (CTO), David Luebke (CEO), and Xu Zhou (Project Research Chemist). Not pictured are Brett Luebke (COO) and John Watkins (Senior Electrochemist).

**RAHEELA AHSAN**  
*Staffwriter*

Carnegie Mellon’s spinoff company, LumiShield, has been selected as one of the top university startups to be presented at the University Startups Demo Day.

The National Council of Entrepreneurial Tech Transfer (NCET2) will hold its first University Startups Demo Day (USDD) this year in Washington, D.C. on Sept. 20. USDD offers an extraordinary opportunity for corporate innovation and venture capital groups to display their competitiveness with breakthrough startups. Not only could 200 startups be eligible for final submission, but all enterprises have to be affiliated with a university. Some additional companies have sprouted from University of Pittsburgh, Berkeley, and Case Western. This year, USDD will be showcasing 35 of the most prestigious university startups in technology, and LumiShield is among these select few.

LumiShield aims to “revolutionize the metal plating industry by creating anti-corrosion products that are cost-effective and environmentally responsible,” according to the company’s website. Metal corrosion cost the U.S. economy nearly \$276 billion last year, and existing anti-corrosion technologies, cadmium, and chromium coatings, have markets valued at \$3 billion and \$16 billion annually.

The company has targeted these costs by developing aluminum electroplating

technologies that are less harmful and more affordable than current coating options on the market. The electroplated aluminum shield developed by LumiShield creates a self-healing aluminum oxide layer when in contact with the air. This allows greater flexibility in operation and excludes major capital equipment installations.

Not only was LumiShield selected from a competitive pool of groundbreaking ideas, it has also been named as one of the best university startups of 2016.

In an email to The Tartan,

out of the university and into the marketplace.

According to the company’s website, NCET2’s Selection Committee, “comprised of corporates, angels, and VCs,” evaluates the startups based on corporate interest and venture metrics. NCET2 aims to merge innovation and entrepreneurship by bringing together Fortune/Global 1000 companies, venture capitalists, economic development organizations, state and federal agencies, universities, and entrepreneurs.

NCET2’s executive director, Tony Stanco, believes that the

**Not only was LumiShield selected from a competitive pool of groundbreaking ideas, it has also been named as one of the best university startups of 2016.**

LumiShield’s CEO and co-founder David Luebke says USDD will be “a great opportunity to meet people and get exposure.”

The Startup Officer from Carnegie Mellon, Reed McManigle, oversaw the collaboration and completion of the project and brought it to national attention. McManigle is the current senior manager for the Center for Technology Transfer and Enterprise Creation at Carnegie Mellon. The Center is responsible for facilitating and accelerating the movement of research and technology

United States “must have a sustained commitment to education, scientific research, and startups.” Though Americans have pioneered in education and research, little attention has been drawn to the revolutionary work of inventive startups and their accompanying, trailblazing university collaboration.

“Thanks to the support from Carnegie Mellon and the National Energy Technology Laboratory, LumiShield technology is poised to make a positive impact in a variety of industries,” said Luebke in a university press release.

# Colors @ CMU Challenge seeks to promote interactions between student organizations

**VALENE MEZMIN**  
*News Editor*

For one week during the month of October, Colors @ CMU, an organization that seeks to spark conversations about racial issues on the Carnegie Mellon campus in an effort to bring together people of differing backgrounds, will be hosting its first ever 2-4-1k Grand Challenge.

The 2-4-1k Grand Challenge will take place from Oct. 1 to Oct. 7. Teams, consisting of two recognized student organizations, one of which must be a multicultural organization, will be tasked with utilizing a monetary budget with the goal of collaboratively developing a project that will make a positive impact on the Carnegie Mellon community. Teams are free to create any project they desire to ultimately satisfy two goals: The project must be community based, directly involve and increase interactions between Carnegie Mellon students, and must show tangible results by the end of the week.

The aim of the project is based on Colors @ CMU’s goal to bring together members of different student organizations whose paths would not normally cross. “While there are many amazing cultural organizations out there at CMU, you don’t really see them interacting with each other,” said Chrystal Thomas, a senior biological sciences major and creator of the challenge. Colors @ CMU hopes this challenge will increase collaboration between multicultural organizations at Carnegie Mellon. “We would love to see students involved in OM (The Organization for Indian Spirituality and Culture) feeling comfortable

and interested enough to collaborate with SPIRIT and vice versa, or to see SALSA (Spanish and Latin Student Organization) collaborate with ASA (Asian Students Association),” Thomas said. “While these groups seem [to] have different interests, I believe they are actually quite similar.”

Thomas believes this challenge will help show various student organizations the aspects that they have in common, which can ultimately motivate these individuals to step outside of their comfort zones. This can allow the members of the organizations to not only connect over the things they have in common, but

new and different people.

“I think the idea of the 2-4-1k challenge is to give an opportunity to break that barrier and encourage interaction among different people,” Sharon Wu, junior chemistry major and Colors @ CMU e-board member, stated. “In that way, I hope that the challenge will embody what it truly means to be a diverse campus. Having diversity should not be some statistic that admission officers stick on paper, but rather something incoming students look forward to, as they will be able to learn new perspectives and, in turn, grow as people.”

Registration for the 2-4-1k Grand Challenge will be

**“We would love to see students involved in OM feeling comfortable and interested enough to collaborate with SPIRIT and vice versa, or to see SALSA collaborate with ASA ”**

—Chrystal Thomas, President of Colors @CMU

also to create a desire to gain new perspectives from students with different cultural or racial backgrounds from their own.

While the first year of college is when many seek out their niche on campus, this often creates a level of comfort that, over time, makes it harder to break barriers that inhibit us from engaging with other campus communities. The 2-4-1k Grand Challenge seeks to affirm the notion that there is not a limited time when one can partake in self-discovery and that we should be open to reigniting the bright-eyed freshmen desire of meeting

open from Sept. 10 to Sept. 24. The winning teams will be announced on Oct. 14. The first place winning team will receive a \$1,000 cash prize, and second place winners will receive \$400. There are no restrictions on these cash prizes, so each team can decide to use it as they please.

Any questions about the challenge, such as a request to see an overview of the rules of the competition, may be sent to [241kchallenge@gmail.com](mailto:241kchallenge@gmail.com).

“We’re really looking forward to seeing all of the great projects in October!” Thomas said.



Courtesy of Chrystal Thomas  
Pictured above, from left to right, are Sharon Wu (an e-board member of Colors @ CMU), Priscilla Mendor (Public Relations Chairperson for Colors @ CMU), and challenge creator Chrystal Thomas (President of Colors @ CMU).

# Student Body President and Vice President host conference



Theodore Teichman/Photo Editor  
Leaders from various student organizations gathered in the Connan Room for the Conference for Social Change.

**CONFERENCE**, from A1

Office of the Dean of Student Affairs; financial literacy and security, led by Bonnie Lack from the Student Financial Aid Office; the international community, led by sophomore Dietrich student Shubhangi Bhotika and Office of International Education Director Linda Gentile; sexual assault and relationship violence prevention, led by fifth year MFA student Shannyn Rinker and Jamie Edwards, Assistant Director in the Office of Title IX Initiatives; civic engagement, led by junior Civil Engineering major James Crnkovich; and mental health, led by sophomore Dietrich student Kelly Kim.

During the civic engagement conversation, senior business administration and Human-Computer Interaction major Vanessa Kalu noted, “There’s so

much intersectionality in our interests but we mostly operate in silos,” referencing the individual nature of many student organizations, despite all the overlap. She offered an example of success, however; during the water crisis in Flint, Mich., SPIRIT partnered with Sustainable Earth during their inaugural Sustainability Weekend to create an overlapping effort.

In order to incentivize successful collaboration, the SBP’s cabinet has offered \$2,000 for fiscal year 2018 to the initiative with the greatest impact during this school year. Organizers also plan to compile the contact information of all attendees in order to facilitate collaboration in the future.

After the event, Bhotika expressed, “I hope it grows and snowballs into real change.”

Crnkovich, a representative of Partners Allied in Civic Engagement (PACE)

shared that he has plans to connect with students he met at the event, and is cautiously optimistic about the potential for united student organizations to bring change to campus. His concern was that emphasis more often lies on the leaders and starters of change, but not enough on the maintenance of the momentum.

In order to focus on the follow through, Unnava and her cabinet “will be regularly checking in with organization leaders after the conference to help them clarify and execute their ideas,” equipping groups with the necessary contacts and information.

After the event, Unnava expressed, “I was deeply moved by the care and thought these student leaders are putting into bringing social change into the extracurricular experience... I can’t wait to see what everyone does.”



Carnegie Mellon University

College of Engineering

SPRING 2016 DEAN’S LIST

FIRST-YEARS

Zejie Ai	Alec M. Church	Seongkweon Hong	Jessie W. Li	Karthik Natarajan	Kaizad F. Taraporevala
Fabian Aristizabal	Christopher D. Cortez	Sheng-Hao Huang	Jonathan Lingjie Li	Amukta P. Nayak	Nianhan Tian
Michelle A. Bai	Krishna Dave	Terence Y. Huang	Tianqi Li	Alexander T. Nelson	Daniel K. Vedova
Philip Baker	Brian M. Davis	Calvin R. Hubbard	Siying Li	Kara Nickolich	Jacob A. Vries
Gaurav Balakrishnan	Sujay S. Desai	Jiyeon Hwang	Hailang Liou	Anne Noonan	Xinyi Wang
Christopher B. Bayley	Anyi Diao	Ariela H. Immordino	Christopher J. Littrell	Alexander A. Noring	Ziyang Wang
Sanjna Bhartiya	Dalu Ding	Akshat Jain	Ruixuan Liu	Samuel N. Passell	Di Wang
Yutong Bi	Yilin Dong	Sunjeev J. Kale	Alisha D. Lokhande	Arushi Patel	Yufan Wang
Katja S. Brackel-	Xiong-Fei Du	Nin Rebecca Kang	Hannah K. Loy	Henry A. Peck	Olivia C. Weiss
manns-Puig	Jens A. Ertman	Matthew J. Kasper	Zixu Lu	Doria Pei	Samantha J. Wong
Victoria R. Britcher	Reed M. Farber	Roman A. Kaufman	Zhichu Lu	Nihar S. Pol	Chaya R. Wurman
Kevin Cai	Hao Feng	Young Chan Kim	Nicole B. Matis	Aditya Ranade	Wenxin Xiao
Teddy X. Cai	Shannon N. Finnerty	Munsung Kim	Thomas P. Matson	Nikhil Rangarajan	Zhongmin Xie
Jeffrey S. Campbell	Katherine J. Forrester	James W. Kromka	John M. McCambridge	Christopher A. Reed	Yiqin Xu
Qilin Cao	Raymond H. Galeza	Matthew S. Kubala	Mark N. Mckinzie	Jack M. Ronayne	Derek Y. Yan
Junyoung Cha	Kashish Garg	Kimberly K. Lamberti	Abigail L. Mcmanus	Berk Sahin	Boyao Yu
Michael A. Chang	Nakul Garg	Jacky Lao	Tanushree Mediratta	Nicole A. Scavone	Justine A. Zeller
Junye Chen	Evan J. Glaser	Michaela G. Laurencin	Michael C. Messersmith	Simone Schneeberg	James H. Zhang
Tianbo Chen	Zilei Gu	Christopher Lee	Jeannie E. Michaels	Grant T. Schwabacher	Yihan Zhang
Isabelle Chevallier	Raunak Sanjay Gupta	G Ping Lee	Gregory P. Miller	Haowen Shi	Guodong Zhao
Wai Sing Ching	Yue Han	John N. Lenney	Syed R. Mohideen	Xiang Shi	Tian Zhao
Regine I. Choi	Young Jean Han	Nathan M. Levin	Emma J. Molitor	Bridget P. Soderna	Zhen Zhou
Theodore Chou	Stephen He	Jacqueline Lewis	Mark D. Moody	Eric H. Sun	Yanying Zhu
Jiwon Chung	Nolan Hiehle	Charles Li	Evan L. Myers	Yuyan Sun	

SOPHOMORES

Vasu Agrawal	Eloy J. Fernandez	Doo Won Kang	Alvin K. Luk	Renee T. Rios	Sevahn K. Vorperian
Fatema Almeshqab	Yuanyuan Fu	Anand A. Kapadia	Sarah E. Mahler	Scott M. Rohrer	Shihan Wang
Alaina A. Anand	Steven K. Fu	Neha Kapate	Jing Mao	Isabel A. Roscoe	Jia Xing Wang
William F. Anstett	Sunny Gakhar	Omkar U. Kelkar	Catherine Markuson	Roshan S. Sajjad	Bethany T. Wang
Prashant Arunapuram	Keval Gala	Allan R. Khariton	Matthew Landon Martone	Cameron C. Selby	Richard C. Willison
Michael S. Auda	Avishek Ganguli	Jae Yeon Kim	Nicholas G. Medich	Naveen Setlur	Roxana B. Wolfson
Bryant J. Backus	Eileen Ge	Christine H. Kim	Sarah M. Miholer	Vikram R. Shanker	Michelle J. Wu
Palak Bajaj	Calvin Giroud	Kevin J. Koch	Alexandra C. Moy	Ellie Shin	Yilin Yang
Homer F. Baker	Felicity Gong	Morgan J. Kontor	Julia E. Napolitano	Mehar Singh	Can Yang
Nikhil R. Birmiwal	Tyler F. Goulding	Anthony A. Kuntz	Clara J. Nelson	Natha Singhasaneh	Po-Yu Yang
Jonathan Calvello	Raghav Goyal	Hunter D. Lawrence	Alicia Ng	Chauyie M. Soong	Benjamin V. Yates
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# Science & Technology

## New CMU algorithm detects online fraud



JULIA NAPOLITANO  
SciTech Editor

Courtesy of Carnegie Mellon University

A team at Carnegie Mellon has developed an algorithm to see whether a review on Amazon or Yelp has been faked or if a politician has bought their Twitter followers.

Christos Faloutsos, a professor of machine learning and computer science at Carnegie Mellon, devised the method, called FRAUDAR, along with his data analytics team. This new algorithm will help social media platforms identify fraudulent users and see through the camouflage that makes them look legitimate.

“We’re not identifying anything criminal here, but these sorts of frauds can undermine people’s faith in online reviews and behaviors,” Faloutsos said in a university press release.

He noted in that same release that most social media platforms try to flush out such fakery, and FRAUDAR’s approach could be useful in keeping up with the latest practices of fraudsters.

FRAUDAR relies on graph mining, a method analyzing data for patterns, which is a specialty of Faloutsos and his group.

Each social media interaction is plotted on a graph, with users represented by dots and interactions between users represented by lines.

Using tools like Faloutsos’ NetProbe, the goal is to find a pattern called “bipartite core,” which are groups of users that interact with members of a second group, but not with each other.

This pattern is indicative of fraudulent accounts, which follow other accounts to inflate their reputation.

These frauds have fake interactions with real accounts and can post either flattering or unflattering reviews depending on their purpose.

In recent years, however, fraudulent accounts have learned how to blend in, linking their account to popular sites and celebrities or simply hijacking legitimate accounts, which is where FRAUDAR comes in.

The algorithm first identifies legitimate accounts, essentially accounts that follow a few people, who post occasional reviews, and have otherwise normal behavior.

As the program eliminates

See **FRAUD**, A7

### HOW THINGS WORK

## Snapchat app uses lense to analyze face

STEPHANIE YOU  
Junior Staffwriter

Have you ever tried to spice up your Snapchat streaks with the hilarious, face-distorting

filters? Have you ever felt like ripping your hair out after seeing upwards of twenty flower-crown-filtered faces on your Instagram or Facebook feed? Have you ever wondered how these filters, called “lenses,”

even work?

Five years after its first launch in July 2011 under the name Picaboo, Snapchat, an image messaging app, has emerged as one of the most popular social media apps

among millennials, with 10 billion daily video views as of April 2016.

Snapchat continues to update their app with new

See **SNAPCHAT**, A7



Theodore Teichman/Photo Editor

### SCITECH BRIEFS

#### Genetic researchers identify four distinct species of giraffe

Researchers have recently discovered that there are four genetically distinct species of giraffes. The findings, which were published in the journal *Current Biology*, were unexpected; all giraffes are quite similar in appearance, which had previously led to the conclusion that all giraffes were part of a single species.

Axel Janke, a geneticist at the Senckenberg Biodiversity and Climate Research Centre and the Goethe University in Germany, along with a team of researchers, took DNA samples from 190 giraffes. The subjects the study were from a variety of regions in Africa and included samples from all nine previously recognized giraffe subspecies. DNA testing of the samples indicates that giraffes should be split into four genetically distinct species: the Southern giraffe (*Giraffa giraffa*), the Masai giraffe (*G. tippelskirchi*), the Reticulated giraffe (*G. reticulata*), and the Northern giraffe (*G. camelopardalis*). The study also suggested that these four species of giraffes do not mate with each other in the wild.

These findings could have a severe impact on giraffe conservation efforts. Giraffe numbers have been severely declining in the past 30 years, and the researchers hope that these findings will bolster support for giraffes.

Source: Science Daily



#### Device visualizes bacterial resistivity to antibiotics

Michael Baym, a research fellow in systems biology at Harvard Medical School, along with a team of researchers has developed a device that allows researchers to visualize how microbes become antibiotic-resistant.

“Inside that flask, in order for a new strain to evolve, the new mutant has to be more fit than everything around it,” says Baym.

The research team used a dish over a meter long that was coated with different concentrations of antibiotics — low concentrations at the edges and high concentrations in the middle. The team added *E. coli* bacteria to the plate and let it multiply for a week and a half. With this setup, the bacteria mutated over time in order to handle higher levels of antibiotics, and were able to move onto new portions of the plate.

This setup allowed researchers to see differences in movement — highly resistant bacteria spread across the plate more slowly than bacteria with low resistance levels.

The team believes that this new setup could also help researchers study how microbial colonies evolve under other conditions such as nutrient availability or spatial constraints.

Source: Science News



#### Improving PTSD brain function with near-infrared light

Researchers at the University of Texas (UT) at Arlington have discovered that light could potentially be used to improve the cognitive function of patients with PTSD.

The research team shined near-infrared light (NIR) on a human forearm and discovered that this treatment promoted the production of cytochrome-c-oxidase, a protein that stimulates blood flow in neurons. Hanli Liu, a bioengineer at UT Arlington, was the principle investigator of the research and explained that “this is the first time that effects of light stimulation have been quantified on living human tissue.” Liu also noted that the next step is to “apply what was learned in a simpler system to the brain, where the light must pass through the scalp and the skull, as well as the brain.”

The research team had previously found that patients with PTSD had decreased blood flow in the left side of the dorsal lateral prefrontal cortex. The team believes that by using light to promote increased blood flow, they could potentially treat this component of PTSD.

The research team is now moving towards transcranial NIR stimulation in the hope of confirming their initial findings.

Source: Science Daily



#### Wilderness reduced by 10 percent since 1990s

World Conservation Society researchers have recently shown that a tenth of the world’s wilderness has been destroyed in the past twenty years.

The findings, which were published in *Current Biology*, show that the most alarming losses are occurring in South America and Africa.

The research team created a map of wilderness areas around the world and compared their findings to a similar map that was made in the early 1990s. They discovered that approximately 3.3 million square kilometers had been lost since the original map was made.

The researchers argue that this loss demonstrates the need for focused attention on nature preservation and active reversal of industrial landscapes to natural settings.

James Watson, an associate professor of geography planning and environmental management at the University of Queensland, noted that wilderness areas are “completely ignored in environmental policy.”

He argues that “international policy mechanisms must recognize the actions needed to maintain wilderness areas before it is too late ... we probably have one to two decades to turn this around.”

Source: BBC News



#### NASA launches probe to retrieve asteroid sample

On Sept. 9, NASA launched Osiris-Rex, a probe that is being sent to collect a rock sample from an asteroid called Bennu. The probe will spend approximately 2.5 years on Bennu, and will take seven years total to complete its journey and collect the rock sample. If all goes as planned, the sample will be delivered to Earth in a capsule on Sept. 24, 2023 somewhere in the Utah desert.

Researchers hope that the rock sample will provide clues to understanding how the sun and the planets were created. “For primitive, carbon-rich asteroids like Bennu, materials are preserved from over 4.5 billion years ago. We’re talking about the formation of our Solar System,” said Christina Richey, NASA’s Osiris-Rex deputy program scientist. “And these primitive materials could contain organic molecules that may be the precursors to life here on Earth or elsewhere within our Solar System.”

Scientists in Japan have already completed a similar mission, although the U.S. mission hopes to bring back a larger sample — approximately a couple hundred grams. Scientists in Europe are also hoping to complete a similar mission to return in the late 2020s.

Source: BBC News



#### Trilobites show early example of mass migration

Blazej Blazejowski, a paleobiologist from the Polish Academy of Sciences, along with a team of researchers, has discovered that trilobites, a type of extinct marine invertebrate animal, could be one of the earliest examples of mass animal migration.

Blazejowski’s team of researchers investigated a fossil from a quarry located in central Poland along with 80 others, all of which showed trails of trilobites moving in single file.

Blazejowski explained that the animals “may have migrated periodically to shallow marine areas for mass mating and spawning.”

Since trilobites are blind, the researchers believe that they used chemical cues in order to form their single file lines.

This process can be seen in other animals such as lobsters, which also migrate in single file.

It is believed that trilobites were eventually killed by toxic amounts of carbon dioxide and hydrogen sulfide in the ocean floor.

Source: *New York Times*

Compiled By  
CLAIRE GIANAKAS





# Snapchat filters analyze pixel data to detect objects, add laughter

**SNAPCHAT**, *from A6*

technologies, such as the 24-hour story (which was recently copied by Instagram), temporary text messages, and instant video chatting.

In September 2015, for about \$150 million, Snapchat purchased the Ukrainian company, Look-ery, which specializes in real-time video modification on mobile devices, in order to create Lenses.

Even people who have not down-loaded the app have most likely been exposed to the famous Snapchat filters — during the 2016 New York Fashion Week, a Spanish clothing brand used makeup to recreate the most popular lenses on their mod-els. Lenses have made their way into

Facebook profile pictures, Instagram posts, and Twitter feeds, even though Snapchat’s uniqueness comes from its ephemeral nature.

For almost a year, Snapchat users sent billions of pictures and videos al-tered by Lenses, unaware of the tech-nology behind it. In late June 2016, Vox, the self-described “general in-terest news site for the 21st century,” posted a YouTube video sharing in-sight into the mechanics of Lenses, and although they were not allowed to talk to the engineers behind it, the people at Vox examined the patents available online.

The filters tap into a field of tech known as computer vision, which explores how a computer uses a cam-era’s pixel data to detect objects. The

pixel data that the computer sees are merely numbers corresponding to each pixel that represent a color, so the algorithm to detect faces involves locating areas of contrast and match-ing the patterns to typical patterns of a face.

For example, the bridge of a nose is often lighter in contrast to the sur-rounding areas, and the center of a forehead is lighter than the sides. This algorithm, known as the Viola-Jones algorithm, only works with front-fac-ing angles; if someone were looking or tilting their head to the side, the computer would not be able to detect their face.

The advantages to the system in-clude its fast computational abilities and its approach to scaling features.

However, the algorithm is sensitive to lighting and, as we mentioned before, angles of the face. In addition to recog-nizing common areas of contrast and simply recognizing faces, Snapchat must know exactly where each feature of the face is in order to accurately place its filters.

According to Vox, people behind the scenes manually marked facial features of thousands of different peo-ple in order to develop a general tem-plate that can be applied to every face before further adjustments, namely rotating and scaling the template, can occur.

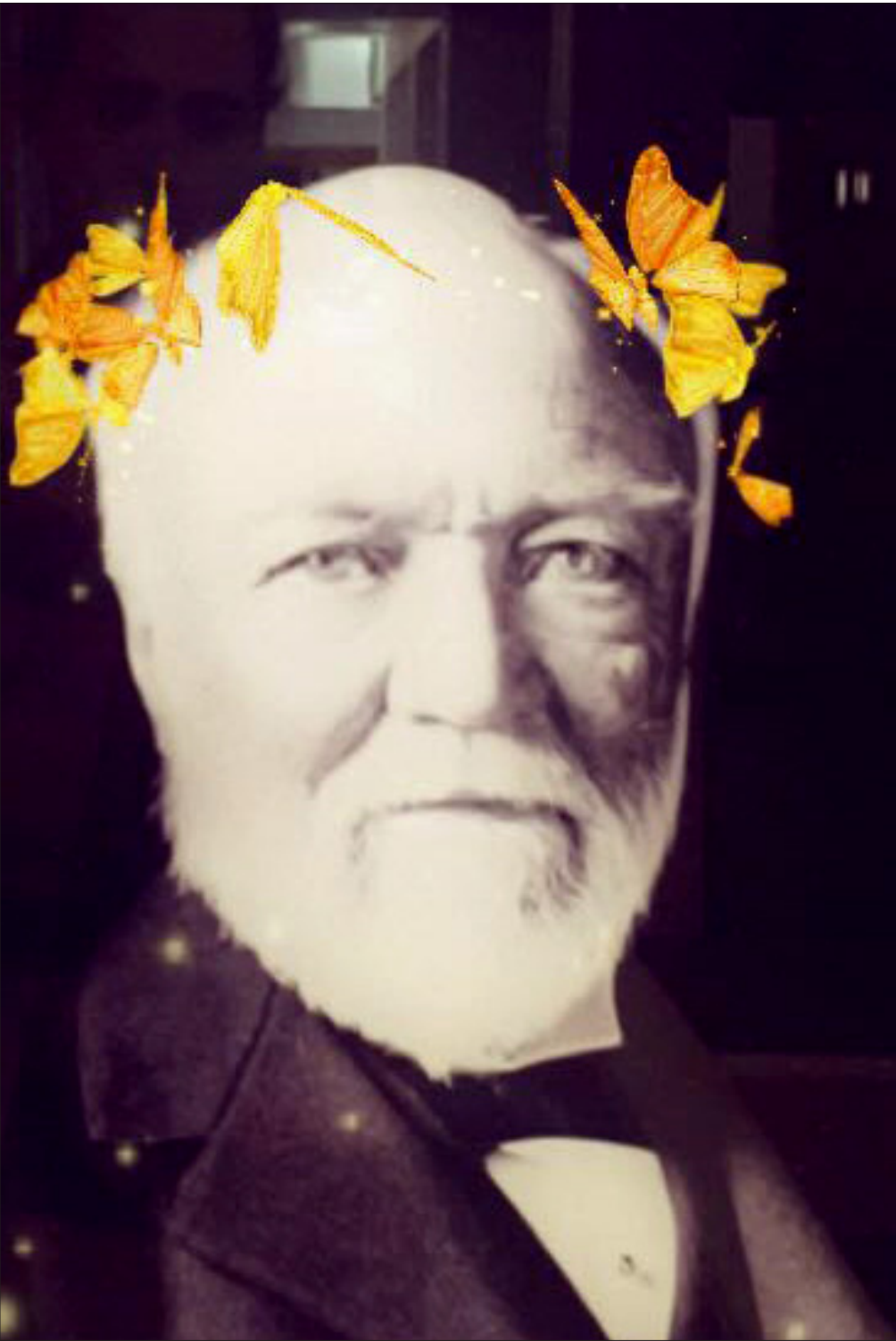
After this, Snapchat must yet again analyze pixel data surrounding each facial feature to make minor tweaks in the mesh (or the digital mask).

Contrasting pixels denote edges such as jawlines, eyebrow shapes, and lips.

Following all of this data analysis and fine-tuning, Snapchat can finally position the filter confidently, and voila — you are now a dog, a lion, or a snowboarder with a mustache!

In spite of all of this seemingly new and innovative tech, detecting faces and making alterations is not the new technology that makes Lenses incred-ible — the processing speed required to do this in real-time on your mobile device is.

So the next time Snapchat lags when you are trying to show someone a funny filter, just think: it is already so amazing that we can do this at all, and things will only get better from here.



Theodore Teichman/Photo Editor

# FRAUDAR algorithm detects social media fraudulent accounts

**FRAUD**, *from A6*

legitimate accounts, the camouflage of the fraudsters becomes more ob-vious, and bipartite cores become easier to spot.

To test the algorithm, FRAUDAR was applied to Twitter data from 2009 for 41.7 million users and 1.47

billion followers. FRAUDAR was able to identify more than 4,000 accounts with suspicious activity that were previously unidentified as fraudulent, including those that used TweepMe and TweeterGetter, known follower-buying services.

The group selected 125 followers and 125 followees at random from suspicious groups and two control

groups of 100 users.

The accounts were then exam-ined for links with malware, scam, and robot-like behavior.

They found that 57 percent and 40 percent of the followers and fol-lowees, respectively, in the suspi-cious groups were labeled fraudu-lent.

In comparison, only 12 percent

and 25 percent of followers and fol-lowees in the control group were la-beled fraudulent.

The group found that 41 percent and 26 percent of followers and fol-lowees, respectively, from the suspi-cious accounts included advertising for follower-buying services.

There were few mentions of such activity found in the control groups.

“The algorithm is very fast and doesn’t require us to target any-body,” Faloutsos said in the univer-sity press release.

FRAUDAR has been made avail-able as an open-source code. “We hope that by making this code avail-able as open source, social media platforms can put it to good use,” Faloutsos said.

# Researchers make key discovery toward engineering breast tissue

**NAVIYA SINGLA**  
*Staffwriter*

A Carnegie Mellon research team from the bio-engineering and mechanical engineering departments has published a paper in the journal *Biotechnology and Bioengineering* that describes their research on a way to control localization of tissues, which allows researchers to shape those tissues as needed.

This ability has given researchers the tools they need to mimic the way mam-malian breast tissues align to form hollow tubes for the transportation of milk.

“In mammalian bodies, breast cells align to form hol-low tubes, where milk is trans-ported,” said Jimmy Hsia, a professor in the departments of Biomedical Engineering and Mechanical Engineering at Carnegie Mellon and corre-sponding author of the study, in a university press release. “To date, no one has been able

to generate breast tissue with these hollow tubes. Our study is the first step toward real-izing such functionalities in reconstructed breast tissues.”

According to the article, this form of fine-control over tissue construction has never been possible before, which makes this creation of functional breast tissue a very important step in tissue engineering.

“We grew breast cells in a 3-D environment, and they aligned themselves along certain geometrical features of the substrate,” Hsia said in the press release.

It was only recently determined that mechani-cal signaling along with bio-chemical signaling assists with changes in the body.

Though research has been done on the effect of mechanical signaling and its responses, more sophis-ticated tools were required to form intricately shaped tissues. Studying one such

mechanical factor, like the re-lationship between the stiff-ness of the substrate and the response of the cells in vitro, has previously been done, but only in two dimensional environments.

The drawback of two di-mensional environments is that it resembles “experimen-tal conditions” like a glass or a petri dish, but not actual three dimensional tissues.

The study conducted above mentioned experi-ment in a three dimensional environment and concluded that the stiffness gradient of the tissue scaffold to which the cells bind and take their shape, as well as the localized stiffness, played a key role in how cells moved, as opposed to the stiffness of the bulk of the tissue scaffold.

This particular fact allowed the team greater con-trol over specific features of the tissue’s construction, in-cluding the spacing between tube-like structures.

The setup used in the study was a three dimensional ma-trix with continuously chang-ing height, an extracellular environment with varying stiffness gradient, while other factors such as fiber density and protein concentration were kept constant.

This experiment was conducted on four differ-ent cell types and various substrates.

However, more research needs to be done with re-spect to other factors such as the relationship between cell velocity and stiffness gradi-ent, the adhesion forces ex-erted by the cells, and the displacement of cells.

This study can potentially help mothers regain their nursing ability after hav-ing reconstructive surgery, which make breasts func-tional again, along with rein-stating them to their original form, a viable option. This method has the potential to



Courtesy of Carnegie Mellon University

be applicable in a variety of fields including tissue engi-neering, regenerative medi-cine, cellular machines, and mechano-biology.

“We know many people re-ceive mastectomies and many

of them do reconstruction, but none of these reconstruct-ed breasts are functional,” Hsia said in the press release.

“We believe we’re on our way toward achieving that.”





# Forum

FROM THE EDITORIAL BOARD

## Fracking complexities pollute Nov. Senate election



Emily Giedzinski/Staff Artist

If you're like me, the word "fracking" calls to mind viral videos of Yoko Ono dancing with an inflatable earth and people lighting their tap water on fire, all tinged with a touch of confusion. Fracking is one of those topics that manages to be controversial without being clearly understood. While the debate about fracking rages all across the country, the controversy, and the confusion, is most salient in our very own Pennsylvania, where it is seen simultaneously as an economic miracle and an environmental doom.

Fracking, short for hydraulic fracturing, is a process used to remove oil and natural gas from shale rock formations deep in the earth. Millions of gallons of water, sand, and chemicals are pumped underground to literally fracture the shale formation, releasing gas and fluid to be extracted and used as energy.

This technique has become wildly popular in the United States, with nine out of ten gas wells using fracking according to ProPublica. It has exponentially increased the amount of natural gas and oil produced in the United States, and propelled us by leaps and bounds toward energy independence. American oil production had jumped 72 percent under the Obama administration by 2015, with the U.S. passing Saudi Arabia as the world's largest oil producer by some measures according to CNN. Energy independence is nothing to sneeze at. Reliance on foreign oil makes us vulnerable in international negotiations and sends a lot of our money overseas in exchange for oil. Further, we often get caught in military and diplomatic quagmires when we feel our access to oil might become restricted. If this is less of a threat, the U.S. will have less need for its deadly and expensive involvement in the Middle East. The American government will have more leverage in international negotiations when a basic necessity like energy is not a question mark.

Closer to home, fracking has revitalized the Pennsylvanian economy. Extraction from the Marcellus and Utica Shale Plays has made Pennsylvania the second largest producer of natural gas in the nation, behind Texas. The Pennsylvania Department of Labor and Industry credits the drilling industry with employing nearly 90,000 people in the state. With the decline of the coal industry, Pennsylvania's economy has been hurting, with the loss being disproportionately felt by blue-collar workers. The federal government has tried to lessen the blow by promoting the growth of the tech industry with tax incentives and a push to bring broadband to rural coal country, but the transition from mining to tech has been rocky. The lack of comparable skills and need for extensive retraining leaves many mining communities out in the cold.

Fracking offers another possible replacement, one with a smoother

transition. This potential for revitalizing coal communities was best illustrated in 2015 when Panda Power announced plans to build a new natural gas power plant at the site of the former Sunbury coal plant, that was shuttered in 2014, bringing jobs to a community that had lost its main economic driver.

The development of the fracking industry hasn't been all sunshine and optimism, though. Environmentalists have voiced concerns about the effects of fracking, and the progress of the industry is littered with stories of nearby rural communities having their drinking water contaminated by fracking operations. In Pennsylvania, the state's Department of Environmental Protection's Oil and Gas Program has investigated over 2,800 complaints regarding water, according to The Huffington Post. Some 279 cases have been found to be directly tied to drilling activities. Another 500 cases are still open, some for years as the government flounders to draw a conclusion.

The problem is that the link between fracking and environmental damage and contamination is less clear-cut than the videos of residents lighting their sink water on fire would lead you to believe. In 2015, the Environmental Protection Agency (EPA) released a report that asserted that fracking is not inherently dangerous to drinking water, although spills and leaking wells can hurt local communities if not correctly handled.

Environmentalist groups such as EcoWatch called the EPA's conclusion into question, citing the Public Herald's discovery in June of 2016 of 1,275 water-related complaints from Pennsylvania residents to the Department of Environmental Protection that had been kept off the books and therefore out of the EPA's investigation as evidence that the report underestimated the effect of fracking on water quality.

Currently, the only conclusion that can be drawn about the effect of fracking on the environment is that the jury is still out. But like every complicated issue that gets national attention, the lack of hard evidence hasn't kept different politicians and interested groups from drawing their own conclusions and making demands. Environmentalists call for the suspension of all fracking operations until a full assessment of their environmental impact. With the memory of how governmental environmental regulations enabled coal's decline still fresh, workers at fracking operations in coal country are suspicious of government regulations. Republicans tout America's growing energy independence as the start of a new American Golden Age, while Democrats point to communities like Avella, PA, with its sand clogged pipes and foul, yellow water as examples of how fracking leaves communities behind. It's a multi-layered debate that is shaped by

scientific confusion, political interests, and desperate economic need.

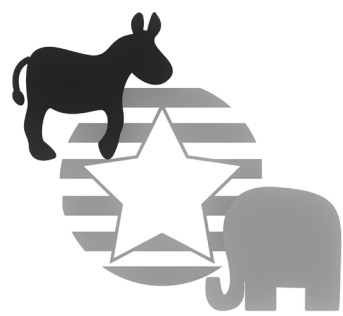
With the inconclusiveness and grey area of this topic, you may be wondering why we're bringing it up at all. We're talking about it because the future of fracking, for better or for worse, is irrevocably tied to the future of Pennsylvania, and it's a future that will be at a crossroads this November. Senator Pat Toomey (PA-R) is up for reelection, facing Katie McGinty (D). With congressman Mike Doyle (D-PA) all of Pittsburgh's representatives in the Pennsylvania General Assembly up for reelection running unopposed, this race is Pittsburgh voters' only chance to shape the decisions around fracking in the upcoming years.

Toomey's platform, according to his website, views the Marcellus Shale as an opportunity to "increase job creation, boost economic growth and provide more affordable energy for Pennsylvanians," a goal that only considers the short-term benefits of extracting Pennsylvania's natural gas reserves as opposed to the long-term detriments to our environment and lives. His voting record also shows a clear disdain for bodies like the EPA who attempt to regulate these processes to minimize impact and incentivize the switch to greener energy sources. While this may appeal to people relying on the economic boost of fracking, Toomey does not intend to protect Pennsylvania and its citizens from the possible adverse affects, and his penchant for deregulation could make the potential for accidents and contamination worse.

McGinty's platform shows more initiative, but not necessarily as much as we would like to expect from a candidate with a planned campus appearance alongside Bernie Sanders. Her professional experience shows clear interest in environmental issues (chair of the White House Council on Environmental Quality under President Clinton, Secretary of the Department of Environmental Protection under Governor Rendell), but her experience has rooted her goals in a sense of realism. Her platform does not promise to end fracking in Pennsylvania, losing her points with the left, but she intends to "support innovations in clean energy technologies and tax incentives that will level the playing field to move our country towards a clean energy future." A slow transition to a future with more promise of green energy is preferable to the conscious choice to continue damaging our state, regardless of any scientific evidence.

In the end, nuance is key when dealing with an area with so many interests at play and so many shifting variables. Whatever your political leanings, it's important to keep all the sides in mind on Election Day to make sure we don't end up doing irreversible damage. And, above all, make sure you're out there on Nov. 8 to have a say in our state's future.

## Two-party system only solution to Constitution



CALEB GLICKMAN

*Editor's note: this is the first installment of our new column The Pragmatist's Manifesto. This weekly column encourages civil discussion about politics in the U.S.*

As you all know, it is an election year. The media never fails to remind us of this on an hourly basis. However, I would like to start this political column with a commentary on a different subject than our current election. There is a good chance that you are going to disagree with this article. You do not have to read it, but I sincerely hope you do. Whether or not you believe these opinions is beyond the point. I hope you may take some of these thoughts and discuss them with other people. When we shy away from civil discussion about issues, we let ourselves be governed by the loudest voices in the room, no matter how civil they are. I hope for this column to be a place that encourages people to have open debate about issues, while keeping in mind that our country is an extremely heterogeneous place. We find it easy to live in our own bubble and discount others' opinions as unintelligent because they have had different upbringings. I hope to break down these assumptions and invigorate spirited debate, without encouraging fear or hatred of the other political side.

Now, the first issue we will be tackling together is one that received widespread criticism on both sides of the aisle: the two-party system.

Yes, I know, you probably just groaned. I would like to try to convince you why the two-party system is beneficial for America. George Washington himself warned against the partisanship of party politics. Why would I, in my first column, challenge the words of our first president?

Well, that's going to take a bit of explaining, so we will break it down into a few columns. We'll start with an overview of American precedents, then discuss the changes of the modern media. Third, we'll analyze the shift of partisanship over the last few decades, and finally we will get to our current election or as it is known abroad, "America's game of chicken with authoritarianism gone wrong." This may seem like a lot, but I'm not even going to get started on defending our current political landscape or the Electoral College; these are things we will discuss thoroughly in other parts of this series. Now, I am going to make the case that the system of two parties is the most beneficial one for the country we live in. To do that, we are going to start at the very beginning: the Constitution.

The Constitution receives a lot of praise from our current politicians. It is hailed as the all-seeing document of our Founders, and is the core gospel with which we have based our entire country since 1789, making only 27 edits. That is considerably impressive, considering how many other liberal democracies change constitutions every so often. (I'm looking at you France.) But the

Founding Fathers felt far more hesitant about the Constitution than we would like to believe. The first partisan divide over the Constitution came over its adoption alone. This divide laid the foundation for nearly every single debate of our political leaders, the debate of a large federal government versus a small federal government.

Before adopting the Constitution we know today, the fledgling U.S. government adopted the Articles of Confederation. If you don't remember it from the chapter after the Revolutionary War chapter of your U.S. History textbook, here's a quick refresher: the Articles let a unicameral legislature with single votes for each state rule without an executive branch, there was no power to raise a national army or collect national taxes, and there was also no established judiciary. If you were someone who was a champion of the states, it was an appropriate system with a few flaws. If you were someone who wanted a stronger federal government, it was terrible.

To ensure the collective survival of a stronger union, some of our country's founders wanted to edit the Articles; the summer of 1787 saw the Constitutional Convention in Philadelphia. Instead of editing it, they tossed it and made something new. What followed was an explosion of ideas from a congregation of enlightenment thinkers and fairly unrestrained limits as to what to debate and how to organize a new government. We know what emerged at the other end of it: a comprehensive compromise by all the members of the convention appeasing both small and large states while keeping the geographic divides over slavery at bay to ensure to survival of the union. Meanwhile, the federal government was given significantly more power and superiority over state authority with the establishment of a single executive and an equal judiciary.

This is an extremely brief summary, but the fact remains that the final result of the Constitution was dissatisfying to nearly every single member of the convention in some way. Many ideas of our glorious founders were shot down and remain in the hidden fabric of history; some of these ideas were, like the Articles of Confederation, terrible. As historian Ron Chernow accounts in his biography of Alexander Hamilton, Benjamin Franklin called for a unicameral legislature and executive council, Alexander Hamilton advocated for a president for life, and even James Madison, often hailed as the "Father of the Constitution," was in favor of a federal government veto over state laws. Thomas Jefferson was even against the adoption of the Constitution at all. The Founding Fathers achieved many great things, but it is important to remember that they were achieved usually at the expense of compromise of their ideas. The grand compromise that was the Constitution goes to show how compromise has endured as a main pillar of our political culture.

Through its ratification process, the first partisan divisions of our country emerged with Federalists, who supported the Constitution and its increase in centralized power, and Antifederalists, who sought to protect states' rights from what they saw as an encroachment of a dangerous federal government. These two camps are the original divisions of our party system. Our party system is innately a debate over the role

See **TWO PARTY**, A9

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## THE TARTAN



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# NFL teams begin the 2016 season ready to fight or falter

**ZEKE ROSENBERG**  
*Layout Manager*

While the NFL no longer features the parity it once enjoyed, the short, 16-game schedule still produces some wild year to year changes in the standings based on luck and the rapid changes in NFL rosters. This exercise tends to go poorly, but here I'll predict who will improve, who will tumble down the standings, and who will raise the Lombardi Trophy in February when it's all said and done.

**Team to improve: Oakland Raiders (7–9)**

The Raiders 7–9 record last year accurately represented their level of play. The defense was middle of the pack. Defensive end Khalil Mack put a lot of quarterbacks on the turf and disrupted plenty of plays. He also was a very good run stopper when the time came. However, the rest of the defense was only okay and the secondary occasionally looked plain bad. The offensive line was solid and kept a clean pocket, but quarterback Derek Carr lost 375 yards to dropped passes and did not have a good check down option, limiting his efficiency.

Running back Latavius Murray also struggled to deliver on a lot of preseason

hype managing only an even four yards per carry as the pass-oriented line struggled to create holes for him. The team split their one-score games, going 5–5 and the turned the ball over about as many times as they forced turnovers, both very sustainable rates.

However, the Raiders offseason and team construction provide a lot of reasons for optimism.

The Raiders were able to sign former Bengals safety Reggie Nelson, the exact kind of ballhawking safety that makes life easy on a secondary. Nelson's ability to read the pass and close the gap between him and deep receivers gives the Raiders a safety blanket when teams try and go deep, freeing up cornerbacks to play more press coverage and create contact before receivers can even get into their routes.

The secondary also improved with the arrival of former Chiefs cornerback Sean Smith. Smith's ability to lock down great receivers was consistently on display in Kansas City last season, and quarterbacks able to survive Mack's destructive backfield presence will have another tough obstacle when trying to hit their top receivers. We could see first round pick Karl Joseph start at the strong safety position towards the middle of the year, but he is currently

not listed as the starter and the moves made in the secondary will improve this offense with or without Joseph.

The arrival of linebacker Bruce Irvin from the Seahawks also gives the Raiders a pass rushing complement to Mack who can also cover tight ends and make passing on this Raiders defense a nightmare.

On the offensive side of the football, the Raiders signed guard Kelechi Osemele away from the Ravens. Osemele is the best guard in the NFL and will give Murray plenty of room to run. If Murray can't capitalize, expect rookie running back DeAndre Washington to take over. The Raiders are excited about Washington and Murray will be on a short leash with Osemele pancaking defensive linemen.

An improved running game will help the Raiders create space and show us another year of improvement from Carr — who already played very well last season — and second year receiver Amari Cooper who showed flashes of dominance last year despite his high number of drops. Another year in the league will help Cooper grow out of that issue, and he and receiver

Michael Crabtree should form one of the best wide receiver duos in the league for the second straight season.

See **NFL**, *A11*



Courtesy of Pete Sheffield via Flickr Creative Commons  
The Oakland Raiders line up to run a play. The Raiders are expected to improve greatly on last season's record.

# The Tartan annual Fantasy Football league gets underway



Courtesy of Brook Ward via Flickr Creative Commons  
Steelers quarterback Ben Roethlisberger watches the sideline as he prepares for a game. He will be a strong force in Fantasy Football this season.

**IAN TANAYA**  
*Assistant Sports Editor*

Last fall, current Tartan publisher Sarah Gutekunst embarked on a journey to the foreign world of Fantasy Football. Throughout the season, Sarah learned how football worked, cheered as her team won, cried when injuries struck her players down, and fell in love with Denver Broncos kicker Brian McManus. Through it all, she chronicled her journey in articles for The Tartan, allowing readers to join her through every struggle and triumph.

This year, members of The Tartan's editorial staff have come together to form a Fantasy Football league in the spirit of Sarah's journey. On Friday, Sept. 2, the Tartan II league held its first draft. The results show who was on their A-game, who were the fantasy rookies, and who screwed themselves because of autopick.

**Team 1: Flaming Bears**

Layout Manager and former sports editor Zeke Rosenberg is the favorite to

win this league simply because he knows the most about sports and actually keeps up with sports. This was evident by his draft strategy.

Holding the first pick overall, he went with the consensus number one pick: Pittsburgh Steelers wide receiver Antonio Brown. Brown has emerged as the league's top receiver following the retirement of Calvin Johnson, and is likely to lead fantasy wide receivers as well. Bolstering Zeke's receiving corps are Jordy Nelson of the Green Bay Packers, Mike Evans of the Tampa Bay Buccaneers, and a secret weapon: Cleveland Browns wide out Josh Gordon, who has missed substantial time due to suspensions but possesses the ability to be a top receiver.

Zeke also snagged Carolina Panthers tight end Greg Olsen, one of the few reliably top producers for the position. Though his roster of running backs is questionable with DeMarco Murray new to the Tennessee Titans and Jeremy Langford still an uncertain commodity for the Chicago Bears, his quarterback position is helmed by Phillip Rivers of the San Diego Chargers,

who has seen a resurgence as a top fantasy quarterback.

Overall, Zeke has a strong roster that is poised to get stronger as he hits waiver wire targets. It would be surprising not to see him in the championship round.

**Team 2: Extremely Dank Team**

Sports editor Alex Wood knows the game of football inside and out. He wants winners, and his roster has plenty of them. With the second overall pick, he decided to take fantasy's best quarterback of 2015: Cam Newton of the Carolina Panthers. The dual threat Newton will generate plenty of points on the ground and through the air. He next picked Dallas Cowboys wide receiver Dez Bryant, and then next chose top ten fantasy running back Mark Ingram of the New Orleans Saints, who I had been eyeing but just missed out on.

After rounding out his starting receivers with T.Y. Hilton of the Indianapolis Colts, he selected Thomas Rawls of the Seattle Seahawks, the heir apparent to Marshawn Lynch.

He then chose top ten fantasy tight end Travis Kelce of the Kansas City Chiefs and then took the Seahawks defense. His next pick could potentially be the steal of the draft: Danny Woodhead of the Chargers, who finished as the third best running back overall last year. Rounding out his starters was Patriots kicker Stephen Gostkowski, the gold standard of fantasy kicking.

Alex's starting team is highly talented and playoff bound, but his bench seems somewhat questionable. If he shores up his roster through the waiver wire or trades, he will certainly be a strong contender for the championship.

**Team 3: Lieutenant Doodle**

Sarah makes her triumphant return to Fantasy Football ... by being "too busy" to draft for any longer than two minute intervals. At third overall, she made the surprising decision to reach for Patriots tight end Rob Gronkowski. It's undeniable that Gronk is the top tight end, but the other talent available makes the move either bold or reckless.

Some elements of last year's team have returned for Sarah. Seahawks quarterback Russell Wilson, Jets running back Matt Forte, and the aforementioned McManus have all returned to her squad. Sarah also decided to take a risk on Panthers wide receiver Kelvin Benjamin, who missed last year due to injury. She may be onto something since he scored 21 points on Thursday, strongly outperforming his ten point projection.

Sarah has the advantage of knowing more about football than most members of the league. Whether or not that translates to success will depend on many factors, but she seems to have a solid roster coming out of the gate.

**Team 4: Dreamland Warriors**

Honestly, I never expected to return to Fantasy Football. Two years ago, my team claimed victory over my friends from high school, and I was content to go out in a blaze of glory. Giving Sarah advice last season, however, rekindled my interest in the game, and when I was asked to be a part of the Tartan II league, I agreed for the sake of The Tartan.

At fourth overall, I was surprised that New York Giants wide receiver Odell Beckham and Minnesota Vikings running back Adrian Peterson were still on the board. While I was tempted to grab Peterson and heed traditional fantasy advice, Beckham was a critical part of my championship team two years ago, so I grabbed him off the board. I overcompensated for bucking tradition by selecting three running backs in a row: Doug Martin of the Buccaneers, LeSean McCoy of the Buffalo Bills, and Jamaal Charles of the Kansas City Chiefs. Soon, I reached for a quarterback, but it's worth it to me as a New Orleans Saints fan to have Drew Brees.

I'd say my roster looks solid now, but it could still fall apart terribly if misfortune strikes.

**Team 5: Masshole Knickerbockers**

Lula Beresford's entry into the world of Fantasy Football definitely started well as she got an excellent first round steal: the aforementioned Peterson. Despite his negative off field presence, Peterson is a phenomenal runner who

should be a consistent source of points for her. Her wide receivers include Jacksonville Jaguar Allen Robinson, Brandon Marshall of the Jets, and Oakland Raider Amari Cooper at the top of the list.

Of note is that Lula made the first two free agency selections of the year. Since Patriots quarterback Tom Brady is on Goodell-imposed exile, Lula added Bears quarterback Jay Cutler. Because Cincinnati Bengals tight end Tyler Eifert is injured, she added Colts tight end Dwayne Allen. Both should be serviceable replacements while she waits for those two players, but the hole might become too deep for her to recover from later in the season if the rest of her team isn't up to snuff.

Still, Lula's team is nothing to scoff at, and it will be interesting to see how it evolves given how active Lula seems to be combing through available players.

**Team 6: Pladdie Daddies**

India Price's entry into the world of Fantasy Football is a mixed bag. On the one hand, I loved her picking Bengals wide receiver A.J. Green in the first round, as he has proven to be extremely reliable in fantasy. I liked her picking up Titans tight end Delanie Walker, and I can see why she would believe in Steelers running back Deangelo Williams.

On the other hand, some of her other choices seem very boom or bust.

Giants quarterback Eli Manning may or may not ruin his passing performance with turnovers. Houston Texans running back Lamar Miller may make the transition to another team or not.

Finally, there are some troubling signs of management on her choice of defense and kicker. The Raiders defense has not been known for quite some time to be a force either in reality or fantasy. In addition, she has not replaced Steelers kicker Shaun Suisham, whose questionable status for Monday night leaves her no cover if he doesn't play.

India's team may win greatly one week and lose horribly the next. It's all up to how she manages the week to week changes. She can choose her own fate, but it will be tough to compete against the stronger teams especially without experience.

See **FANTASY**, *A11*





# 2016 season begins with high expectations for NFL teams

NFL, from A10

**Team to stumble: Denver Broncos (11–5)**

Last year, the Broncos be-came the worst team to ever win the Super Bowl. Football Outsider’s Defense-adjusted Value Over Average (DVOA) ranked them 8th overall and even that feels a bit high. The Broncos’ Pythagorean win expectation, a predicted number of wins based on the number of points scored by and against Denver, was 8.7, indicating that they were closer to an average team than the top seed in the AFC. They then won two squeakers in the playoffs before trampling the Panthers in Super Bowl 50. Further, the Broncos went a completely unsustainable 9–3 in one-score games. That number moves up to 11–3 if you include the play-offs. The Broncos started this season on a similar note, getting away with four helmet-to-helmet hits on Panthers quarterback Cam Newton and still needing Panthers kicker Graham Gano to shank a game-winning field goal wide left. Teams tend to regress towards .500 in one-score games, so that alone would portend some slide in the Broncos record, however, the Broncos offseason carries even more bad news. The most obvious hole for the Broncos is quarterback, but Peyton Manning, who is now retired, and Brock Osweiler, who is now a Texan, combined to be pretty useless last season, so the combination

of Trevor Siemian and rookie Paxton Lynch can’t possibly be much worse than last year. The drop off comes in other positions. The loss of both linebackers Danny Trevathan and Malik Jackson dismantled the dominant Broncos middle linebacker pair from last year. Jackson in particular was probably the most underrated player in the NFL and was a destructive force in both the run and the pass, using his rare combination of speed and strength to get to holes created by the offensive line and then plug them. The Broncos missed both of them on Thursday. Despite their win, the Broncos looked useless against Carolina’s rushing attack, only succeeding when their offense gave them a lead and forced Carolina to pass. Running back CJ Anderson might have a great season and replicate his performance from Thursday night a few times, but if the Broncos’ offense is that reliant on one player, there will be games when they can’t build a lead and teams will run right up the middle. That could be a very successful strategy against these Broncos.

**Team that will win the Super Bowl: Pittsburgh Steelers (10–6)**

The Steelers have the best offense in the NFL, and it’s not very close. The right side of the Steeler’s line is a destructive force, putting defenders on the ground and leaving tons of

room for the Steelers talented backfield to work their magic. Center Maurkice Pouncey and right guard David DeCastro keep the a-gaps very clean for Steelers runners. The left side of the line is not quite as good and will miss left tackle Kelvin Beachum who left for the Jaguars, but it’s still solid. Missing running back Le’Veon Bell for three games will hurt the offense, but running back DeAngelo Williams was very productive replacing Bell as Bell missed most of last season and should continue to succeed in that role. Steelers quarterback Ben Roethlisberger has been an excellent quarterback for years, extending plays with his footwork and hitting receivers at all levels of the field. The fact that he now gets to throw to Antonio Brown — the best wide receiver in the league — is why the Steelers have finished in the top three in offensive DVOA each of the last two seasons. Losing wide receiver Martavis Bryant for a full season is not good, but wide receiver Markus Wheaton should capably replace Bryant. Offensive production also tends to be stable. A team can alter their game plan much more reliably to fill in for lost offensive talent since they control where the ball goes on any given play. This means the Steelers offense isn’t likely to crater without an obvious cause like some defenses do. The Steelers’ defense has been their weak point for the past several years and it could

stay that way this year, but there are reasons to believe the Steelers can improve. Their defense is very young and stocked with promising players who can take this team from an average defense to a solid defense if they continue their current development. Linebackers Jarvis Jones and Ryan Shazier have shown they have the talent to be great NFL linebackers since they were drafted in 2013 and 2014, respectively. They should both continue to improve and, combined with linebacker Lawrence Timmons, could become one of the better linebacking groups in the NFL. That’s

also assuming linebacker Bud Dupree will not come back this season. He’s currently expected to miss eight games, and if he is able to take over for Arthur Moats towards the end of the season, the Steelers could have some of the scariest blitz packages in the league. All four of those linebackers are capable rushing the passer, covering, and stopping the run, making the defense very versatile. Defensive end Cameron Heyward should continue to be an excellent pass rusher and rookie defensive tackle Javon Hargrave has shown both the explosiveness and quick hands required to

get past interior linemen in the NFL and also play at many spots along the defensive line. Hargrave adds to the collection of talent that could make this Steelers front seven scary. The Steelers capably stopped the run last season, but this year they could have a pass rush we haven’t seen from them in years. The secondary is still very weak and this defense won’t be among the best in the league, but if it can be in the second tier, this offense should be good enough to propel the Steelers to a 7th NFL championship, which would be the most in the NFL.



Courtesy of Brook Ward via Flickr Creative Commons  
Steelers wide receiver Antonio Brown concentrates on running down field to the end zone after catching a pass.

# Heated competition in The Tartan Fantasy Football league



Courtesy of Parker Anderson via Flickr Creative Commons  
Cam Newton winds up for a pass. Newton is expected to be one of the highest scoring fantasy players this year.

## SPORTS BRIEFS

**Women’s Soccer**  
The Carnegie Mellon women’s soccer team started their season with a 12–0 win at home over Franciscan University on Sept. 2. Nine different players scored for the Tartans. Junior forward Grant Wilmer began the scoring in the fourth minute. Shortly after, junior midfielder Tori Iatarola scored a goal of her own. Senior forward Megan Bartoshuk was the next to score, in the 14th minute. Sophomore forward Katja Brackelmanns-Puig scored her first career goal in the 28th minute. One minute later, junior forward Sienna Stritter scored the fifth goal of the game. The Tartans scored two goals in the 39th minute from sophomore forward Kaili Bruch and first-year forward Ryan Casey. Wilmer scored her second goal of the game 13 seconds into the second half. Iatarola scored the ninth point for the Tartans in the 65th minute. First-year midfielder Emery Noll recorded a goal in the 77th minute, while Casey scored her second of the game two minutes later. Junior forward Haili Adams scored the final point for the Tartans in the 80th minute. On Saturday, Sept. 3, the Carnegie Mellon women’s soccer team fell at home to the ninth-ranked Thomas More College Saints. The Tartans fell

2–1. The Saints scored first, but the Tartans managed to equalize the game in the 52nd minute with a goal from junior defender Katie Strycharz. Four minutes later the Saints would score on a free kick, putting them up 2–1 over the Tartans for the final score. The Carnegie Mellon women’s soccer team traveled to Christopher Newport University on Friday, Sept. 9, and fell 2–1 to the Captains. **Men’s Soccer**  
The Carnegie Mellon men’s soccer team opened their season on Thursday, Sept. 1 at home against Muskingum University. The Tartans defeated the Fighting Muskies 9–2. The Tartans scored first in the 15th minute with a goal from first-year Elliot Cohen. In the 28th minute, junior midfielder Jimmy Jameson rebounded a shot off the opposing keeper to put the Tartans up 2–1. The third score for the Tartans came from sophomore Zack Masciopinto in the 40th minute. The Tartans held a 3–0 lead until the 60th minute, when first-year John Painter scored the fourth point for the Tartans. 12 minutes later the Tartans scored again as senior forward Devin Keane headed a pass into the goal to put the Tartans up 5–0. Sophomore forward Anthony Gulli added

to the Tartan lead in the 75th minute, and four minutes later first-year midfielder Cooper Tubiana put the Tartans up 7–0. The Fighting Muskies broke their scoring drought in the 81st minute, but the Tartans answered as junior forward Harry Landis scored his first career goal three minutes later to make the score 8–1. Muskingum scored their second and final goal of the game in the 85th minute. The final score for the Tartans came in the 87th minute from first-year forward Nicolas Poveda to end the game with a 9–2 victory. On Saturday, Sept. 3, the Carnegie Mellon men’s soccer team visited the University of Mount Union in Alliance, Ohio. The Tartans were victorious with a 1–0 score and the win was also the 200th career victory for Tartan head coach Brandon Bowman. The only goal of the game came in the 42nd minute when Masciopinto scored on a penalty kick. First-year goalkeeper Jack Sampiere made crucial saves in the 63rd and 71st minutes to keep the Purple Raiders from tying the game. Mount Union could not convert any scoring opportunities, and the game ended 1–0.

Compiled by  
**ALEX WOOD**

## FANTASY, from A10

**Team 7: Mr Rogers’ Neighborhood**  
Jade, your pun is clever, but it doesn’t work unless you add the “d” for Packers quarterback Aaron Rodgers. Anyways, she seems bullish on Cowboys rookie running back Ezekiel Elliott, who has the potential to be rookie of the year. Her starters seem very solid, with the likes of Broncos wide receiver Demaryius Thomas, Cowboys tight end Jason Witten, and the Panthers defense. Her bench may only have a few notable names, but she may be geared up for the first waiver wire. Surprisingly strong for a rookie team. We’ll see what happens in the next few weeks. **Team 8: Team Tayal**  
Team Tayal begins pure autopick teams. Autopick granted

Pillbox Editor Abhishek Tayal Atlanta Falcons wide receiver Julio Jones, Washington Redskins tight end Jordan Reed, Steelers running back Le’Veon Bell, and the Chiefs defense. The rest of his roster is bare bones, and the fact that he hasn’t set a running back in place of the suspended Bell suggests he will not take this league seriously. This team will likely fall apart unless Abhishek starts paying attention. **Team 9: Team Foley**  
Forum editor Sinead Foley’s first autopick generated team is actually really darn good. Falcons running back Devonta Freeman was last year’s surprise top rusher in fantasy. Arizona Cardinals quarterback Carson Palmer has had a renaissance with the team, and Los Angeles Rams running back Todd Gurley looks

to contribute to the team as well. Her wide receivers are of good quality: Sammy Watkins of the Bills, Jeremy Maclin of the Chiefs, and John Brown of the Cardinals are all worthy talents. If she decides to take control of this team, Sinead might surprise the rest of the league. **Team 10: Team Foley (again)**  
Apparently, Sinead decided to helm two teams in the league and promptly forgot about it. Cardinals running back David Johnson, Texans wide receiver DeAndre Hopkins, Chargers tight end Antonio Gates, and Jaguars quarterback Blake Bortles are the only notable performers from last year. Colts quarterback Andrew Luck will likely rebound from last year, but the rest of her roster is bleak and will likely degenerate over time.

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# Sports

## Tartan football falls to conference rival in a heartbreaker

IAN TANAYA  
Assistant Sports Editor

The Carnegie Mellon football team opened up their season against Washington University in St. Louis on Saturday. In a hard-fought matchup, the Tartans fell to the Bears 41–34 in overtime, falling to 0–1 overall and in University Athletic Association (UAA) standings.

The Tartan offense took the field first. After going three and out, a 54-yard punt by junior punter and kicker Tyler Kohman put the defense in a good position. The Bears tried to pick up the pace by going no-huddle, but the Tartan defense stopped them in their tracks. After taking a delay of game penalty, junior quarterback Bryan Jangro nearly made the first down himself on a scramble, but fell just short of the first down. After two great stops by the Tartans, Washington University accelerated, getting two

quick first downs before senior safety Malcolm Guya stopped their progress with an interception, setting up the Tartan offense with great field position. After two plays of nothing for the offense, junior wide receiver John Prather hauled in a pass for the Tartans’ first first down of the day, and junior running back Sam Bengier took advantage of the momentum, running all the way to the end zone and putting the Tartans up 7–0.

On the next drive, the Tartan defense once again shut down Washington University. Bengier made a few first down runs, as the Tartan offense dominated the line of scrimmage. On third down, senior wide receiver Matt Forjan made a diving catch for a critical first down conversion, allowing Prather to haul in the next pass for a touchdown, going up 14–0. The Tartan defense once again pressured the

Bear offense, and junior inside linebacker Sean Graff made an interception deep in Washington’s territory. Bengier brought the Tartans to the goal line before taking it in himself after a few more plays, putting the Tartans up 21–0. Washington University caught a break as the ensuing kickoff went out of bounds, giving the Bears the ball at their 35-yard line, but the defense once again shut them down.

In the second quarter, Washington got the ball back quickly, and went to work at trying to cut the Tartan lead down. The Bears made a deep pass, getting into Tartan territory, and another pass quickly brought them to the goal line. Offsetting penalties removed a touchdown pass for Washington, forcing them to settle for a field goal and cutting the Tartan lead to 21–3. On the next drive for the Tartans, Jangro completed a deep pass to get to

Washington’s side of the field, but the Tartans were unable to go much further. The Bears began approaching with a more tempered offense, running the ball for decent chunks of yardage. Still, Washington tried for some deep passes after running out of patience, and the Tartan defense was able to cover well. The Bears once again caught a break as the Tartans fumbled on their next possession, and Washington went deep for a touchdown, making the score 21–10.

The Tartans went back to work, with Bengier giving the Tartans a bit of breathing room after a poor kickoff return. A pass from Jangro got the Tartans to the other side of the field, but a tripping penalty on the next pass put an end to the drive. Kohman pinned the Bears within their 10-yard line, and the Tartan defense was able to keep them from gaining much traction. Jangro gave the ball back to the Bears on his next pass. Washington marched down the field toward the goal line, but the Tartans forced the Bears to settle for a field goal as the 21–13 score turned the early blowout into a one possession game. At the end of the half, the Tartans hurried to the other side of the field, managing to give Kohman a chance to make a field goal. The kick sailed right of the post, and the Tartans went into halftime with the 21–13 lead.

The start of the second half went fantastic for Washington University. A 78-yard run got them a touchdown early, bringing the game to a slim 21–20 Tartan advantage. The next drive saw the Tartan offense picking up the pace, with Prather taking the Tartans to the Bears’ side of the field, but Jangro once again threw an interception after his pass missed his receiver’s hands. The defense bailed the offense out of the difficult position, allowing the offense to get the ball back

with the lead. This time, the Tartans relied more on running to drive down the field, getting to the goal line with only one pass on the drive. The Tartans made a field goal, pushing their lead to 24–20. The Bears then proceeded to march down the field, scoring a touchdown and taking their first lead of the game at 26–24. The Tartan offense fizzled on their next possession, but the Tartan defense got the ball back quickly. The Tartans made it to the other side of the field before the third quarter ended.

The start of the final quarter saw the Tartans fail to convert on third down, but a penalty for roughing the kicker gave the offense another shot. Jangro scrambled to bring the Tartans to the red zone, and Bengier kept pushing through Washington’s defense before finally getting the touchdown to take back the lead at 31–26. The Bears marched back to the Tartans’ side of the field, but Guya got his second interception of the day. The Tartans began to wind the clock down, with Bengier helping the Tartans take a good amount of time off the clock. Senior kicker Gabe Renna got the Tartans up 34–24 with 3:35 left to play.

The Bears once again got great field position after a kickoff out of bounds, but the Tartan defense came up with another stop. Though the Tartans went three and out, they forced Washington to burn all their timeouts.

The Bears’ final drive saw the Tartans aggressively go after the quarterback, generating incomplete passes but allowing Washington to drive close to the Tartan goal line. The Tartans had chances to finish the Bears off, but Washington scored the touchdown and two-point conversion, forcing overtime at 34–34.

Though the Tartans won the toss, they allowed the Bears to take the football first. The Bears scored another

touchdown bringing the game to 41–34. On the Tartans’ turn, Jangro completed a pass to Prather to get a first down, and Bengier brought them close to the goal. On a scramble, Jangro took a heavy hit and was forced to leave the game. With Jangro out, everything depended on Bengier’s running ability, but the junior wound up one yard short of converting a fourth down, and the door closed on the Tartans’ season opener.

The close loss is tough to swallow. The Tartans outplayed the Bears for quite a long time. They ran up the score early, and showed a great ability to milk time off the clock as the game headed toward the end. Bengier became the second best rusher in Tartan history, his career yardage now behind just one other player. The defense was phenomenal at stopping the team that had trounced them 45–24 one year earlier.

Still, the mistakes made throughout the game added up. On three separate occasions, the Tartans tried to return kickoffs instead of take touchbacks at the 25-yard line, losing seven to eight yards of field position each time. Making the field goal at the end of the second half could have prevented the Bears from being in a position to tie the game with only one score. The turnovers provided Washington with much needed momentum as they were trying to claw their way back into the game. These mistakes could prove to be even costlier in future games if they persist.

The Tartans, however, remain a resilient team. Last year, they overcame a 1–3 start to win their last seven games. They have the capability of turning things around quickly, especially with Bengier continuing to perform well for the team.

The Tartans will next play against Waynesburg on Saturday, Sept. 17.



Courtesy of CMU Athletics  
Senior defensive lineman Jack Fagan fights a defender in the loss to Washington University of St. Louis at home.

## Men’s soccer undefeated after tough overtime victory

ALEX WOOD  
Sports Editor

The Carnegie Mellon men’s soccer team took the field at home on Saturday against Frostburg State University in the Carnegie Mellon University DoubleTree Showcase. The Tartans took the match in an exciting 1–0 overtime victory.

The game was an even matchup for most of regulation time, although the Tartans played with a man advantage after the Bobcats were given a red card. This man advantage only lasted fourteen minutes, however, because the Tartans were handed a red card of their own.

The teams spent almost 35 minutes of regulation time with only ten men. Despite the man advantage that the

Tartans carried until the red card, they could only find one scoring opportunity when sophomore midfielder Zack Masciopinto headed a shot toward the goal, but it was deflected and ended up wide of the goalpost.

Before the teams had to play with a man out of the game, first-year midfielder Cooper Tubiana tried his hand at getting the Tartans a lead. He made back-to-back shots on goal in the 21st minute, but neither attempt was successful.

The Bobcats found just as much success in scoring as the Tartans did, and only saw a glimmer of hope in the 65th minute when a free kick nearly made it into the Tartan goal but ricocheted off the goalpost instead.

The game remained even at zero goals until there was 49 seconds left to play in overtime. A foul was called against Frostburg, and Carnegie Mellon was given a free kick from 35 yards away from the goal. Sophomore midfielder Philip Petrakian played the kick to the far goalpost, and Tubiana leapt into the air over every other player and headed the ball into the Frostburg goal, ending the game with a 1–0 victory for the Tartans as they gathered on the field in celebration. Sophomore goalkeeper Alec Lam earned his first shutout of the season as well as his second win with three saves on the day.

With this victory, the Tartans improve to 3–0 on the season while the Bobcats fall to 1–3.

## Women’s soccer holds on for double overtime victory



Courtesy of CMU Athletics  
Junior forward Haili Adams beats two defenders and takes a shot. Adams scored the winning goal on Saturday.

ALEX WOOD  
Sports Editor

The Carnegie Mellon women’s soccer team traveled to Christopher Newport University on Saturday, Sept. 10 to compete in the Captains Classic. The Tartans competed against the Virginia Wesleyan College Marlinns and were victorious in the double overtime contest with a score of 2–1.

Virginia Wesleyan struck first in this contest when in the 29th minute a Marlin player snuck the ball past junior goalkeeper Sarah Mahler to give Virginia Wesleyan a 1–0 lead.

Carnegie Mellon eventually answered in the 40th minute, but not without a fight from the Marlinns. It began as first-year forward Vayda Farino took a hard shot at the Marlin goal, but the goalkeeper made a diving save to deflect it. On the following

corner kick, sophomore forward Katja Bracklemanns-Puig made back-to-back shots on goal, the second of which would be rebounded by sophomore forward Kaily Bruch into the Marlin goal for the score to tie the game at 1–1.

Through the rest of the game and all the way into the second overtime period, the Tartans appeared to have control on the field, but could not score another goal to close out the match. That was until 30 seconds remained in the second overtime period, when junior midfielder Tori Iatarola took a corner kick that was headed by junior forward Sienna Stritter. Her header fell at the feet of junior forward Haili Adams, and Adams launched the ball at the back of the net with a strong kick, ending the game 2–1 in favor of the Tartans.

The Tartans improve to 2–2

on the season, which means they already have as many losses in four games as they did over the entirety of last season. This could be a point of concern for the team, but it is still too early in the season to tell.

Their opponents so far have not been easy, and the majority of the season is ahead of them to capitalize on the momentum of this win and roll into the rest of the season with the confidence to win.

Almost every game this season has ended with a score of 2–1, win or lose. The Tartans are playing every opponent closely and have plenty of talent.

The Tartan women will compete again on Wednesday, Sept. 14, as they take on the Presidents of Washington and Jefferson College at home. The game is scheduled to start at 7 p.m.



Courtesy of CMU Athletics  
Sophomore midfielder Zack Masciopinto focuses on landing a high kick. He has been a key player this year.







Brandon Hong/Photo Staff

# EOC and BOC return as EncompassCMU; TOC eliminates nametags

**CLAIRE GIANAKAS**  
*Editor-in-Chief*

Career fairs are an important step in the job search process, providing students with the chance to interact with companies and employers in the hopes of attaining an internship or full-time employment. In the next two weeks, Carnegie Mellon students will have the opportunity to attend two major career fairs on campus — EncompassCMU and the Technical Opportunities Conference (TOC). Both of these career fairs will give students the opportunity to network with employers and explore their career options.

As always, the Career and Professional Development Center (CPDC) has a variety of resources to help students prepare for EncompassCMU and the TOC. CPDC Drop-In hours are Monday through Friday from 11:30 a.m. to 1:30 p.m. Drop-In hours allow students to meet for 15 minutes with a career counselor in the CPDC Advising Center, located on the second floor of West Wing. The CPDC is also holding a résumé blitz in the CPDC Advising Center on Monday, Sept. 12 and Friday, Sept. 16 from 10 a.m. to 4 p.m.

This program allows students to meet with a career counselor for 15 minutes to review a hard copy of their résumé or to practice their elevator pitch. No appointment is necessary for either event.

**EncompassCMU**

EncompassCMU, which will be held in the Cohon Center in Wiegand Gymnasium on Sept. 13 from 10 a.m. to 4:45 p.m., is new this year. Hosted by the CPDC, the fair will combine two career fairs that were held in previous years — the Employment Opportunities Conference (EOC) and the Business Opportunities Conference (BOC). By combining these two fairs, the CPDC has created a career fair that will offer jobs and internships to students of all majors and class years.

In an email to the student body, the CPDC highlighted the diversity of the career fair, noting that the fair will “bring together arts, business, computer science, engineering, humanities, and science students in one location,” and that “employers from all industries looking to fill numerous and varied roles are encouraged to attend.” Specifically, the CPDC noted that “over seventy

employers have registered” who represent “a multitude of industries from finance to non-profit to technology and everything in between.”

EncompassCMU will be split into two sections. The first, from 10 a.m. to 12:45 p.m., will be reserved for students who are looking for internship opportunities. The second, from 2 p.m. to 4:45 p.m., will be reserved for students seeking full-time employment. Although these times are split between internship and full-time opportunities, students are welcome to attend either session if their schedules conflict with their designated section.

Students must have their Carnegie Mellon student ID to enter the fair and are not allowed to bring coats or backpacks into the gymnasium. A coat and backpack check will be provided in Peter, Wright and McKenna.

**Technical Opportunities Conference (TOC)**

The TOC will be held in the Cohon University Center in Wiegand Gymnasium and Rangos Ballroom on Sept. 19-21 from 10 a.m. to 5 p.m. each day. The event, which is sponsored by the College of

Engineering and organized by the Carnegie Mellon Society of Women Engineers (SWE), offers internship and full-time job opportunities for technical majors as well as traditional engineering and basic science majors.

There are several changes to the TOC this year, most notably the lack of name tags. In previous years, name tags were required for entry into the TOC. Students who pre-registered for the event online were provided printed name tags on the day of the event, while students who did not pre-register were required to handwrite a name tag each day. This year, name tags are not required for entry and will not be provided for pre-registered students.

Organizers believe that this change will help the TOC run more smoothly and be more environmentally friendly. “Many [name tags] were put to waste due to students’ failure to pick up their name tag,” said Anna Bandecca, a senior chemical and biomedical engineering double major and one of the two TOC directors along with Alex Cerny, also a

senior chemical and biomedical engineering double major. “With several thousand students attending throughout the TOC, this created a lot of excess waste again, as well as excess confusion and lengthy lines that congests the TOC entrance. We are constantly trying to improve the entry process to the TOC, allowing students to have more time

with recruiters, so we think this change will help.”

Like EncompassCMU, the TOC will be split into two sections each day, the first from 10 a.m. to 1 p.m. for internship opportunities, the second from 2 p.m. to 5 p.m. for full-time positions. The TOC will be closed for lunch from 1 p.m. to 2 p.m. There will be no admittance into the TOC after 12:45 p.m. for the lunch break and after 4:45 p.m. for the end of the day.

While the TOC will be open the same times each day, the majors being recruited will vary. Sept. 19 will host companies interested in all technical majors, while employers present on Sept. 20 will recruit students in computer science, electrical and computer engineering, and other computer/IT majors. The third day, Sept. 21, will be open to non computer/IT majors including, but not limited to, biology, biomedical engineering, chemical engineering, and mechanical engineering.

As with EncompassCMU students must have their student IDs to enter the fair and will be required to check any coats/bags in baggage check, which will be located in the Activities Room on the second floor of the Cohon Center.

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“We are constantly trying to improve the entry process to the TOC, allowing students to have more time with recruiters”

— Anna Bandecca, senior chemical and biomedical engineering major, TOC director

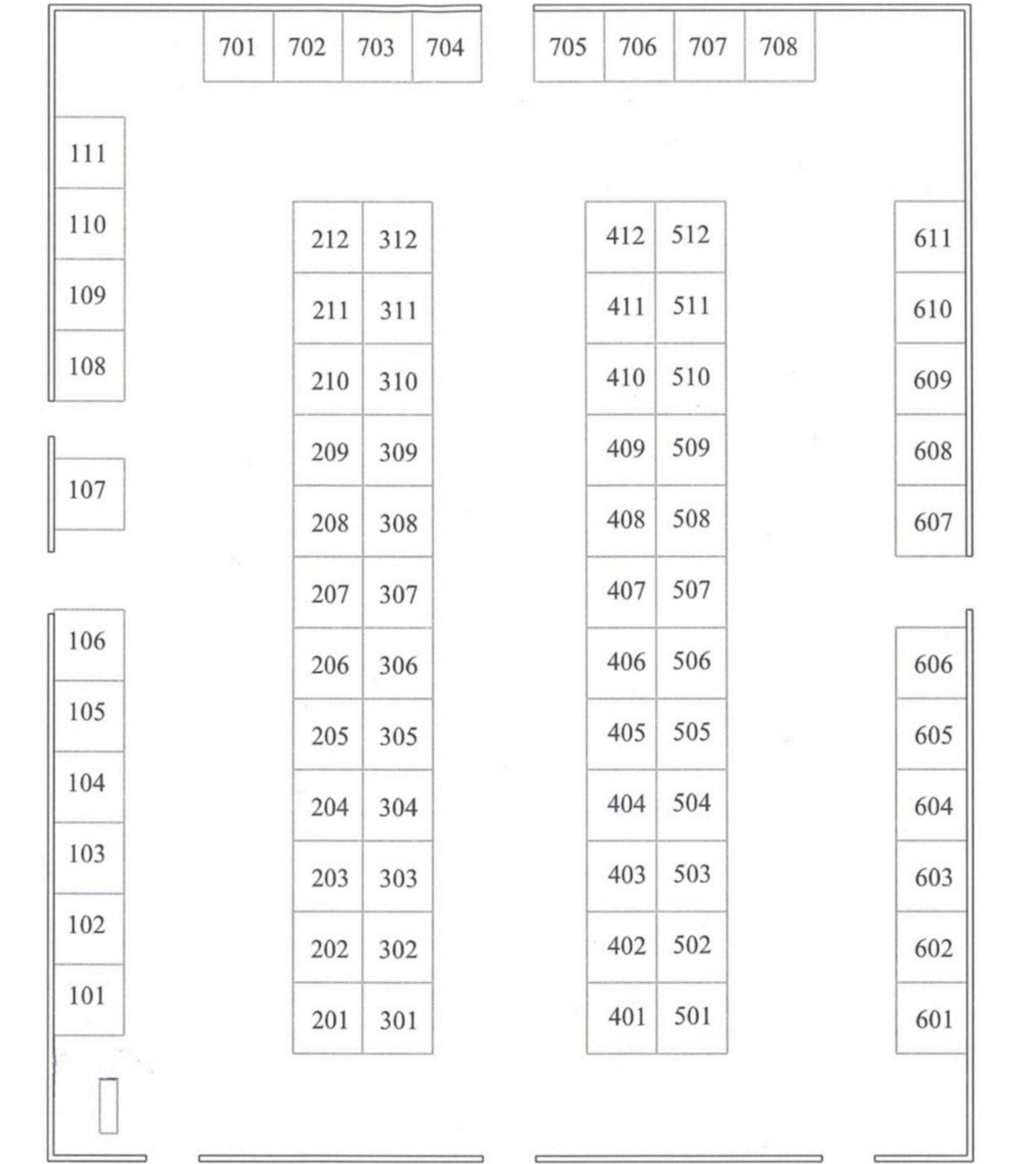
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TUESDAY, SEPTEMBER 13

EncompassCMU

10:00 a.m. – 5:00 p.m. in Wiegand Gymnasium



Company Name	Booth	Company Name	Booth	Company Name	Booth
Accenture*	501-502	Grant Street Group	503	PPG Industries	206
Akuna Capital	205	Highmark Health	606	PwC	608
Alcoa	407	i360, LLC	406	Reckitt Benckiser	310
Allegheny Health Network	102	IBM*	601	Restaurant Brands International	411
Amazon	708	Infinera	302	SapientNitro	604
American Eagle Outfitters	506	KPMG LLP	202	SCA Technologies+	703
Bates White Economic Consulting	603	Labatt Food Service	308	SDLC Partners+	607
Blue Apron	309	Lenovo	110	The Ayco Company, L.P.	701
Capital One*	201	Lighthouse Electric Company, Inc.	109	The Bank of New York Mellon (BNY Mellon)	505
Chewy	306	LORD Corporation	103		
Crown Castle*	207	Los Alamos National Laboratory	304	Town Square Trading*	203-204
DC Energy	403	M&T Bank	508	Twitter	311
Deloitte Consulting	509	Mastercard	507	U.S. Army Research Laboratory	105
Department of Energy - National Energy Technology Laboratory	210	Menard USA	404	Uber*	401
Direct Energy*	301	Merck & Co., Inc.*	107	United States Army Career & Opportunies of Pittsburgh	108
Duo Security*	211	Mimosa Networks	307		
Epic	706	Mu Sigma, Inc.	303	UPMC	609
Express Scripts	705	Mylan	209	Urban Teachers	305
EY - Advisory	504	National Security Agency (NSA)*	106	Vallourec USA Corp.	111
Federal Deposit Insurance Corporation (FDIC)	511	Navy Cyber Warfare Development Group	605	Venture for America	409
FreeWheel	707	NetApp	702	Verizon Wireless	408
Goodyear Tire & Rubber Company	104	Niagara Bottling, LLC	410	Visa Inc.	602
Google	TBA	Nucor	610	VMware, Inc.*	101
Grainger	405	Nylas	208	Wabtec Corporation	704
		Peace Corps	402	West Monroe Partner	611
		PNC Fnnicial Services	510		
*Company is a CPCD Career Partner		+Company was founded by a CMU alumnus			

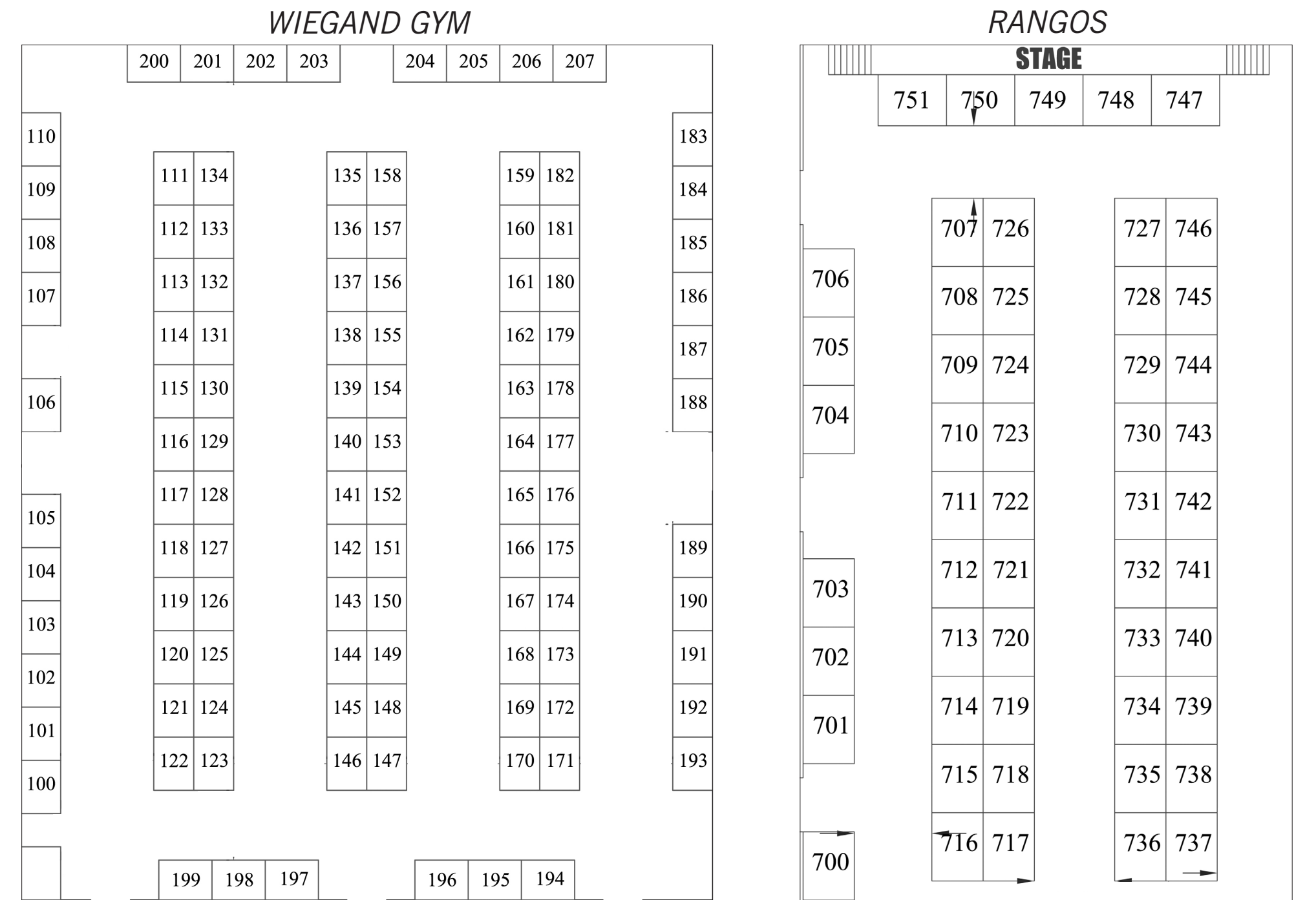
Editor's Note: Attending companies subject to change.



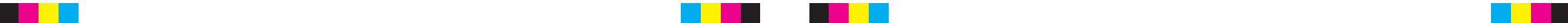
MONDAY, SEPTEMBER 19

Technical Opportunities Conference

10:00 a.m.–5:00 p.m. in Wiegand Gymnasium and Rangos



Company Name	Booth	Company Name	Booth	Company Name	Booth
A9	180, 181	General Electric	195, 196	PwC	107, 108
Addepar.	751	GoDaddy	183, 184	Qumulo	162
Affirm	190	Google, Inc	204	Raytheon Company	194
Airware	112	Grant Street Group	105	Redfin	743
Akamai Technologies, Inc.	160	Groupon	124	Riot Games	119
Allen Institute for Artificial Intelligence	723	Hewlett Packard Enterprise	120	Robinhood	166
Amazon	177	Hudson River Trading	745, 746	Rockwell Automation	709
American Eagle	171	Hyllion	134	Ropes & Gray LLP	178
American Intistutes for Research	148	IBM	701, 702	Sandia National Laboratories	102
Adresessen Horowitz	132, 133	Improbable	721	SDLC Partners	199
ANSYS Inc.	203	In-Q-Tel	130	Snapchat	719
Appboy	152	Indeed	742	Software Engineering Institute (CMU)	109
Appdynamics	128	Innovative Systems, Inc.	186	Space and Naval Warfare Systems (SPAWAR) Center Pacific (SSC PAC)	170
Areté Associates	103	Intel Corporation	739	Squarespace	126
Battelle Memorial Institute	740	InterSystems	161	Stevens Capital Management LP	154
Belvedere Trading, LLC	136	Intuit, Inc.	169	Susquehanna International Group, LLP	139
BlackRock	712	Intuitive Surgical	114	Synopsys	127
Blend Labs	116	IXL Learning	111	Tapad, Inc.	182
Bloomberg	200, 201	Johnson & Johnson	106	Tesla Motors	197
Bose Corportation (MA)	735	Justworks	138	The Advisory Board Company	205
BrightEdge Technologies, Inc.	175	Langan Engineering and Environmental Services	172	The Aerospace Corporation	173
CACI	158	Levant Power Corporation	125	The Bank of New York Mellon (BNY Mellon)	163
Caesar Creek Software	179	Lexmark International, Inc.	713	The Hershey Company	157
Capital One	155	Liquidnet	164	The MITRE Corportation	176
Cisco Meraki	187	Lutron Electronics Company, Inc.	191	Tower Research Capital LLC	142
Citadel LLC	730	MathWorks	165	Tradeweb	129
Cloudera	710	MemSQL	135	Trading Technologies	115
Comcast NBCUniversal	113	Merck & Co., Inc.	147	TransMarket Group	167
Credit Suisse	131	Microsoft	207	Trip Advisor	117
Datto Inc.	722	MongoDB	733	Two Sigma	717, 718
DC Energy	714	NASA Jet Propulsion Laboratory	706	Uber and Uber ATC	707, 708
Dell EMC	703	National Geospatial-Intelligence Agency	737, 738	Union Pacific Railroad	123
Deloitte	726	National Robotics Engineering Center	736	UPMC	140
Deloitte Consulting	725	National Security Agency (NSA)	145, 146	Vatic Labs	121
Delphi	174	Naval Nuclear Laboratory (Bechtel Marine)	122	Veritas Technologies Corportation	101
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Domo, Inc.	161	Navy Officer Programs Pittsburgh	732	Voloridge Investment Management	720
eBay	700	Netsuite	150	Walmart Stores, Inc.	202
Edge Case Research	104	Next Jump Inc.	118	West Monroe Partners	188
Enova	137	Nike	729	WhatsApp	750
Etsy	156	Nutanix	144	Wolf Den Associates	189
EY	711	Oculus	749	Wolverine Trading	206
Facebook	747, 748	OSIsoft, LLC	153	Yahoo!	727, 728
FactSet Research Systems, Inc	731	Oscar Health Insurance	100	Yext	715, 716
Federal Reserve Bank of Cleveland	741	Philips North America	110	Zazzle	185
Fidessa Corporation	159	Pinterest, Inc.	724	Zillow	143
Fitbit	704, 705	PNC Financial Services	168		
Ford Motor Company	192, 193	Point72 Asset Management	149		
General Dynamics Mission Systems	744				





TUESDAY, SEPTEMBER 20

Technical Opportunities Conference

10:00 a.m.–5:00 p.m. in Wiegand Gymnasium

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307	313	332		337	356		361	380	386	Key Tech		365		
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305	317	328		341	352		365	376		MAGIC LEAP		369		
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												Pure Storage		351
												Quartet Financial Systems		321
												Rakuten, Inc.		404
												Rethink Robotics		329
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												Salesforce		356, 357
												Samsung Research America		352
												Schlumberger		367
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												Tapad, Inc.		382
												Tata Consultancy Services		360
												Tinder, Inc.		341
												Turnitin		374
												Twilio		361
												Union Pacific Railroad		323
												United States Postal Service		317
												Uptake Technologies, Inc.		339
												VMware, Inc.		366
												Wayfair		353
												WorldQuant, LLC		312
												Yinzcam		363
												Zazzle		385

Company Name	Booth	Company Name	Booth
AB (formerly AllianceBernstein)	303	Deutsche Bank	390
Accenture	304	Dice	320
Adobe Systems	307, 308	Draper	331
Aerovironment Inc.	355	Duolingo	338
Aetion	325	Electronic Arts	389
Amazon Robotics	319	Exelon Corporation	386
American Eagle Outfitters	371	Fetch Robotics, Inc.	372
Anki	395	Fidessa Corportation	359
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Applied Predictive Technologies	314	Flatiron Health	399
Applied Research Laboratory at The Pennsylvania State University	334	Ford Motor Company	392, 393
Autel Robotics	337	Gaumard Scientific	354
Automatic Date Processing (ADP), LLC	388	General Electric	396
Bank of America	406	General Motors	397
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Blend Labs	316	GoDaddy	383, 384
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Branding Brand	375	Green Hills Software	348, 349
CACI	358	Heap	368
Certified Security Solutions	318	Highmark Health	394
Cisco	362	Hulu	328
Compunetix	343	Illumio	364
Cruise	402	IMC Chicago	387
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		Jane Street	324

WEDNESDAY, SEPTEMBER 21

Technical Opportunities Conference

10:00 a.m.–5:00 p.m. in Wiegand Gymnasium



# pillbox

The Tartan's arts & culture Magazine



09.12.16 • C4 CMOA NIGHTTIME • C6 Dorm Storm • C8 Archer





4 CMOA NIGHTIME: music, lights, history



6 Dorm Storm: an evening serenade tour



8 Archer: offbeat, capricious Bond

3 Advice for Awkward People: bare feet and adaptability

---

3 *Don't Breathe*: Movie Review

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10 *Tokyo Fiancée*: an undiscovered Netflix gem

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11 Comics: savagery, equations, and Filbert

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13 Puzzles: your weekly mental warmup

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14 Horoscopes: what the stars are telling you to watch

**Publisher** Sarah Gutekunst **Editor-In-Chief** Claire Gianakas  
**Pillbox Editor** Abhishek Tayal **Assistant Pillbox Editor** Apeksha Atal  
**Comics Editor** Julie Sanscartier **Art Editor** Maegha Singh

**Photo Editor** Theodore Teichman **Copy Manager** Rena Miu **Cover** Theodore Teichman



# advice for awkward people

Sarah Gutekunst | Publisher

on bare feet and adaptability

Dear Sarah,

Something I've become familiar with is the distressing amount of bare feet that I've seen all over campus.

Recently during one of my classes in a lecture hall, this guy sat down right next to me and put his bare feet up on the seat in front of us. No matter how hard I tried to focus on the lecture and taking notes, all I could think about were his feet. He had yucky yellow toenails that hadn't been trimmed for weeks, and with his hairy toes all spread apart on the chair's hard back, I could see all of the toe cheese.

And this is just one of many instances. I see people with their dirty toes up on study tables, walking across the Pausch bridge, waiting for the elevator. Doesn't it hurt to walk around on all kinds of surfaces without the protection of footwear? How much dirt do they have to scrape off in the shower?

*This widespread insistence on barefootedness is just too much for me to understand, let alone accept. Is there something we can do about this?*

Sincerely,  
*Feeling Overtly Obnoxiously Terrorized Finding Really Egregious Toe Showing Shoeless Hooligans*

Dear FOOTFRETISH

Here at Carnegie Mellon, we have an assortment of people unlike any other in the world. We usually apply this diversity to geography, but it's also important to consider the diversity of personalities, opinions, lifestyles, and ideologies. There are going to be times when you come in contact with people that you will just never agree with, and that can be a frustrating but important experience. The guy in your class and the countless other barefooted oddballs are part of that experience. It's his right to choose whether or not to

wear shoes, and your discomfort doesn't change that. But it is your right to sit somewhere else.

It's easy to walk around ignoring everything that makes you uncomfortable. But what will that teach you? How will you grow? The real challenge is to embrace what is foreign to you, understand it, and accept it. This is one of the most important gifts Carnegie Mellon can offer us. If it really super grosses you out, then maybe this isn't your opportunity for growth and you should just try to focus on your lecture. But walk around campus with a spirit of open-mindedness that will help you to understand other points of view.

Lovingly,  
Sarah

Need advice?  
Send queries to [advice@thetartan.org](mailto:advice@thetartan.org).

## Don't Breathe: Movie Review

Sarah Gutekunst | Publisher

*Don't Breathe* delivers on conventional horror movie tropes while offering some surprises

I've only recently come to tolerate horror as a genre. For 90 percent of my life, I found scary movies physically repellent.

For example, as a peer-pressured pre-teen forced to watch slasher classic *I Know What You Did Last Summer*, I tried to throw my hands to my face to cover my eyes, except that I was eating a muffin on my mom's nice Pfalzgraff plate. I chipped my tooth. A few years later, trying to be brave, I joined my uncle to watch Stephen King's *The Mist*. I slept with my sister for a week.

But at Carnegie Mellon, having both a best friend and a boyfriend who inexplicably love horror movies, I bit the bullet. As I sit through more scary movies with them, I gradually numb to their effects, and occasionally, I even enjoy them. So as a back to school treat, said best friend and I indulged in dinner and a movie: Burgatory and *Don't Breathe*.

When I saw the trailer for it, innocently enough trying to enjoy *Sausage Party*, I nearly released fluids. So going into *Don't Breathe*, I viewed it as a real challenge to my horror tolerance. But just in case, I appealed to another of my low tolerances and went in two margaritas deep, stuffed to the gills with the burger of the day. We picked out seats, I put up my feet, and I unbuttoned my pants. I was ready to roll.

The opening scene of the movie feels like *Bling Ring* — three smug, reckless teens (Alex, Rocky, and Money) rummaging through a stranger's home with an air of dangerous excitement. Then we get some vague characterization. Alex loves Rocky, but is meek and probably thinks she "friend-zoned" him. Conveniently, his father owns a home security company and keeps all the keys and alarm codes in their home. Alex helps Rocky and Money break into houses so that Rocky will like him? Rocky is tough because she had to be. Money is just a thug. We know he's going to die first. They find out about a blind old Gulf War veteran sitting on a large cash settlement from the rich parents of a drunk driver who killed his daughter. Naturally they decide to go for it.

The build is slow and uncomfortable from the moment they walk in his door. As the band of idiots tiptoes around searching for the buried treasure, the camera pans across parts of the house that will eventually contribute to their downfall. The tension builds. Naively I assumed the whole film is going to be this silent, adrenaline-filled hide and seek game gradually building to a big confrontation. But no.

The confrontation comes much earlier than expected, and the rest of the movie is hard to describe. Not scary, but certainly disturbing. I didn't throw my hands into my face, but I did gag several times. The real horror unfolds as we discover what's hiding in his basement.

Spoiler: it's the girl who killed his daughter. But because he was down there chasing Alex and Rocky (Money is already dead, obviously), he takes a literal shot in the dark and kills his prisoner. This sets off a grueling chase that ends with Alex presumed dead.

Then we find Rocky all locked up in the dead girl's harness. Here begins the only scene in the movie that truly haunts me. Because this is the justice system that we have established, Rocky has to give him a baby. And as if that concept isn't bad enough on its own, he hoists her up with the harness, suspends her in mid-air, and pulls out a container of unspeakable human fluids. I'm gagging and wishing I'd had a third margarita. The whole theater is screaming. And just as he's about to do the deed, Alex comes back from the dead to knock the old man out and unstrap Rocky.

Alex is presumed dead one more time before coming back to die once and for all for Rocky, who gets away and makes it to California (perhaps a drastic oversimplification of the final hour of the movie). The rest of it isn't memorable. This movie is much more complicated and even more stressful than the trailer let on. It's not just a jumpy, or campy summer horror flick. It's an episode of *Fear Factor*. Word to the wise: don't go to see *Don't Breathe* with your parents or younger brother or anyone you don't want to look at semen with.



# CMOA NIGHTTIME / LIGHTTIME



You walked into the golden gilded vaulting ceilings of the Carnegie Music Hall — hallmarks of old money — and they were aglow with the pulsing neon pastels of LED shells and vibrating with the sounds of some of the hottest electronic artists of the local music collectives VIA and Hot Mass. The event was the Carnegie Museum of Art's NIGHTTIME Party from 7 p.m. to 4 a.m. this past Friday, Sept. 9, which was held to kick off the Hillman Photography Initiative's LIGHTTIME year-long series.

The evening began with smaller events in the Carnegie Museum of Art itself with some new installations of light based art and an interactive three-dimensional time lapse of the Forbes and Craig intersection where you are able to "move through time" by moving your body.

These exhibits existed along side the traditional art museum exhibits, only augmented by a photo-booth style event in the middle and the distant, subtle oozing of electronic beat and bass through the walls and floors. The CMOA has been working at making these kinds of late night events with contemporary DJs and bands a more regular thing in an effort to make the museum more "relevant" and "approachable."

However, these events still continue to be a bastion of a specific kind of elitism, that is merely the yuppie, new-money version of the gilded columns and expensive paintings housing this event. Beginning with the \$25 entrance fee, the event primarily focused on the party side and less on the

art. The event is actually the kick off of a year-long photography initiative looking at how light can be used to tell stories, with the themes of perception, environment, movement, and social justice.

To be fair, the information about these topics and this series were on fairly underwhelming information cards and the exhibit parts were somewhat unclear. However, the general vibe of the event-goers was focused on seeing and being seen rather than finding out more about the art itself.

The typical interaction many of the partygoers had with the exhibits was in drunkenly stumbling past them. The sense of trendy elitism aside, this event was all around a fantastic and surreal landscape of techno and bright lights reflecting on the facades of this parallel world of gold and marble as people danced with hula hoops and balloons and flower crowns.

As a nightclub, the event and experience were well designed. As an art series, conceptually it is very interesting and should be exciting as these photography exhibits are unveiled over the year.

However, it feels like the party aspect in some ways relegated the art side to being a temporary diversion or backdrop for these young professionals dressed in their designer clothes, rather than promoting the art.

Theodore Teichman | Photo Editor

Photos by Theodore Teichman | Photo Editor







# Dorm Storm

## Carnegie Mellon's a cappella groups take a tour of the freshman dormitories and enthrall

It was quiet at 8 p.m. on Tuesday night in Mudge. The last dewey drops of the afternoon rain were settling into the cobble stone flooring around the koi pond, and the grass took on a lustrous sheen that glowed under the dim light being thrown from street lamps around the courtyard. The printer was attended to a couple times, and I sat with my camera to my right and a little potted plant to my left, on the damp steps down to the courtyard, because I seemed to know what was coming better than the unsuspecting residents of the mansion.

As the time approached a quarter to nine, muffled voices began to fill the air, along with the shuffling of footsteps. First-years all around began to take note of the congregation developing in the lobby and moving into the courtyard, and shifted their attention to finding seats or good places to stand.

"What's going on?" I heard a voice whisper behind me.

"I think these are the a cappella groups," another responded.

I tapped my fingers on my knees in excitement and steadied my hand on my camera ready to listen, as Counterpoint took center stage and introduced themselves.

As the first years poured in, so did their chances of getting involved in the Carnegie Mellon community. With the Activities Fair this Wednesday, and over 150 organizations present to pull people in, picking activities that will shape your college career can be a daunting experience. Thus, to alleviate some of the confusion, groups around campus find other ways to reach out and find students, and spark intrigue where it may have not been expected.

One of these events is now the famous and highly attended Dorm Storming event hosted by the various a cappella groups around campus. Dorm Storming takes place in freshman dorms the night before the Activities Fair, and constitutes many short performances by the a cappella groups around campus. I had the opportunity to sit in on the Mudge wave, which was the first in the Morewood Avenue leg of the groups' tour.

The groups in attendance, as well as the songs they sang over in the Mudge courtyard, were as follows:

**C#:** A soulful co-ed a cappella group with a choir counterpart known as Db (D-flat).  
Song Performed: Super Smash Bros Theme Medley  
Highlight: Definitely the song choice, with lyrics in Latin.

**Saans:** An all-female South Asian group that performs upbeat fusion mash-ups, bringing the west and the east together.  
Song Performed: Mash-up of "Nagada Sang Dhol" (from the Bollywood movie Ram Leela) and "Here" by Alessia Ciara  
Highlight: What made this mash-up work so well was the ease with which the both the songs and the leads' voices melted into one another.

**Soundbytes:** A co-ed group with wonderful spunk and deep, jazzy vocals.  
Song Performed: "Let's Get It On" by Marvin Gaye  
Highlight: Catherine Mondo's incredibly smooth lead vocals and the liquid chocolate lull of the rest of the groups backing vocals. Always a treat to listen to the Soundbytes.

**Counterpoint:** An all-female group that continuously prove what a powerhouse they are.  
Song Performed: "What You Don't Do" by Lianne La Havas  
Highlight: Seeing Kristen Smith move away from vocal percussion and flaunt her stellar pipes. I also want to acknowledge the beautiful smiles that Counterpoint always dons while making great eye contact with each other and the audience.

**Joyful Noise:** The co-ed Christian group on campus, with chilling sets and glorious chemistry.  
Song Performed: "Bleeding Love" by Leona Lewis  
Highlight: This entire song. I remember hearing it for the first time at almost midnight a cappella last year and squealed when I heard the first few seconds this time. Phenomenal from all angles.

**Deewane:** The all-male South Asian group that pulls in singers and music lovers of all ethnicities to indulge in some good old-fashioned Bollywood serenading.  
Song Performed: Mash-up of "What Makes You

Beautiful" by One Direction and "Subha Hone Na De" (from the Bollywood movie Desi Boys)  
Highlight: Deewane's incredible energy is always infectious, and I would like to apologize here for being the only one to clap incredibly off-beat during the "What Makes You Beautiful" segment of the mash-up. Everyone in the audience was bobbing their heads and singing along where they could. Great atmosphere.

**Treblemakers:** Co-ed and polished, always full of surprises.  
Song Performed: "I'm on a Boat" by The Lonely Island  
Highlight: Sunglasses and attitude. The Lonely Island never really gets the credit it deserves, and I appreciate this rendition of one of my middle school favorites a little more everytime I see it.

**Originals:** The runners-up from the 2016 Varsity Vocals International Championship of Collegiate A Cappella (ICCA), this all-male group is full of finesse.  
Song Performed: "I Can't Feel My Face" by The Weekend  
Highlight: The Originals use their voices and body language to bring a whole new layer to all the songs they do. At times it felt like I was listening to something that had been digitally manipulated, and as always I felt goosebumps running down my arms.

A cappella is, and will be for many years to come, a very integral part of our community here at Carnegie Mellon.

Whether it's the Soundbytes singing at the Hillary Clinton rally late last academic year, the Originals making their way to the ICCA finals in New York, or even Almost Midnight A Cappella, with all the groups around campus, the music and vibes that linger in the air long after the last bar is sung are always memorable.

It is with this in mind that I was drawn back to my freshman dorm once again, and hopefully Tuesday night was an opportunity for many future a cappella singers to find a group they connected with and want to audition for.

**Apeksha Atal** | Assistant Pillbox Editor



# The Originals



## Soundbytes





# Sterling Archer will leave you in splits



Lana Kane, Archer's ex-girlfriend, is a far better superspy than he is. However, as his mother runs the spy agency they work for, she constantly lives in his shadow.

Sterling Archer, a suave superspy on the surface, is a spoilt and irresponsible womanizer who always seems to get away without any consequences for his actions.



The name's Archer. Sterling Archer. A super spy who's as deadly as he is juvenile and irresponsible. Add to this one of the most hostile workplaces you'll ever see on TV, a spy agency run by his dominating mother. To this, also add his ex-girlfriend, another super spy, a ditzy receptionist, the genetic clone of a genius Nazi scientist, an HR representative with an eating disorder, and a socially awkward accountant, and you've got yourself a TV show that is as intriguing as it is infuriating.

If you've ever wanted to be a super spy, you're exactly like most of us. When you see characters like James Bond or Ethan Hunt, dressed to kill, deadly and charming, it is impossible not to want to live that life. If you could only be let loose in that glamorous world, right? With no consequences? *Archer* lets you live that life, and with a lot more humor and fun. Think James Bond meets *Arrested Development* and hop the whole thing up on steroids. It's got plenty of references to sex, drugs, alcohol, and violence.

Although it is an inappropriate animated show, it's a very different beast than, say, *The Simpsons* or *South Park*. It's been drawn much more intricately, and while each individual scene looks like a comic book strip come to life, the frames are further apart than you'd expect, and the animation has this really unusual and janky feel to it that's not as smooth as other shows. *Archer* stars some of the most talented voice actors out there; with names like H. Jon Benjamin, Judy Greer, and Jessica Walters, you will very quickly have a connection with all the characters, and will know what they're like.

If you like constant rapid-fire one liners that leave you in splits, this is the show for you. There are very few serious moments, and the ones that are there are very quickly broken by Sterling Archer being the daft ignoramus that is Sterling Archer. His ability to not take things seriously is what makes this show, and is actually profoundly enviable. A bullet to the foot? Ran out of ammo surrounded while you're surrounded by bad guys? In a crashing airplane with no parachute? Eh, could be worse. All in a day's work. Running jokes are aplenty, and once you go through a couple episodes you'll start to guess what Archer is going to say and how he's going to manage

to turn everyone's life upside down. It's weirdly liberating to put yourself in his shoes and be the most selfish, arrogant, and deadly person on the planet. He's a 6'2" Dennis the Menace, built like a soldier, and with a gun.

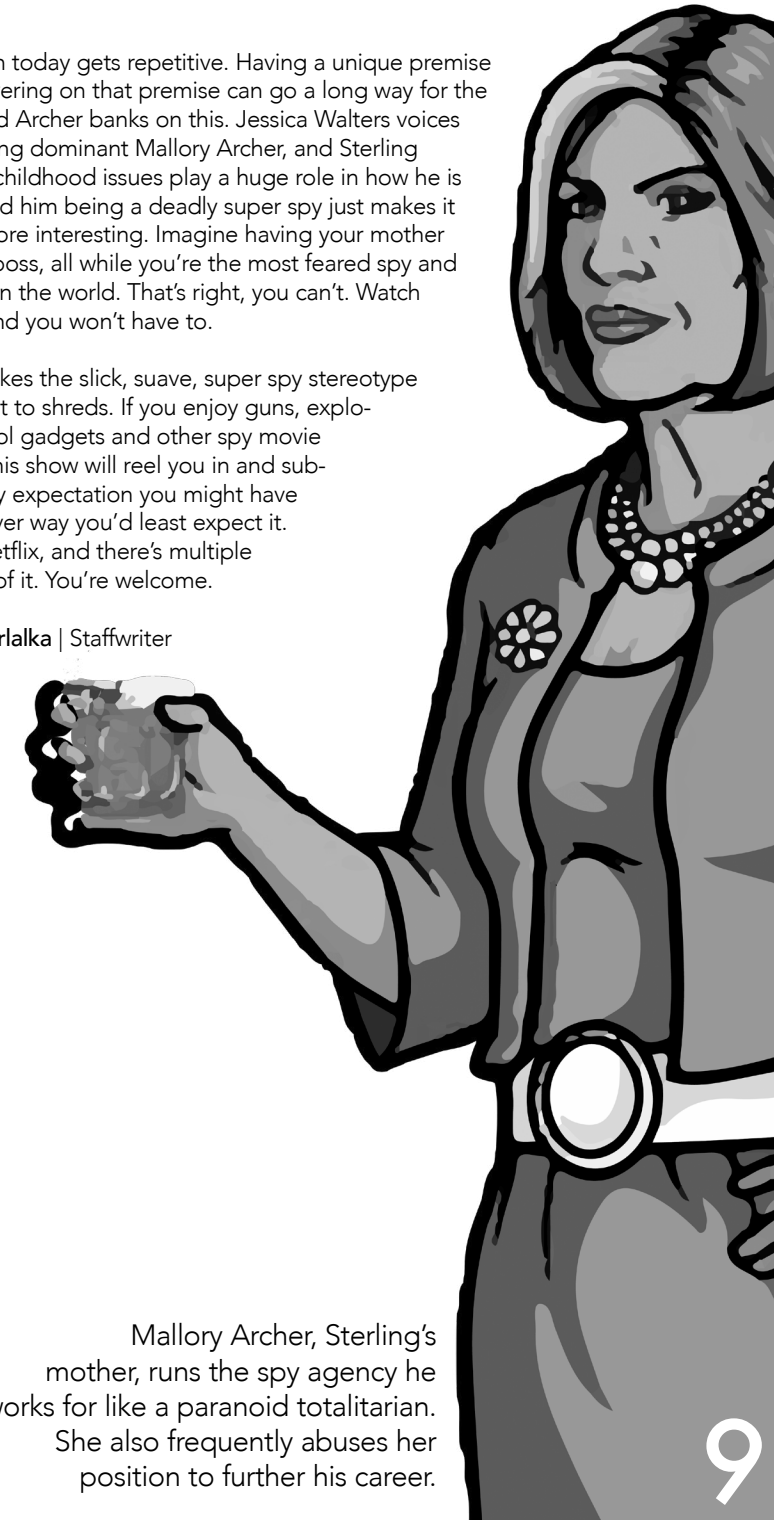
Lana Kane, Archer's ex-girlfriend and super spy, is another very interesting character. She's a far better spy than Archer, but is always in the shadow since Archer's mother literally owns and runs the spy agency. She still loves Archer, but him being the overgrown child he is, she just cannot trust him with her feelings. She's also one of the most badass female characters in any show I've seen, with her twin TEC-9s.

Judy Greer voices the ditzy secretary (minor spoiler — who's also a billionaire related to the Tunt family, that owns most of the railroad in the U.S.) is one of the most critically acclaimed characters in the show. She's unpredictable, addicted to sniffing glue, and very very into violence.

Television today gets repetitive. Having a unique premise and delivering on that premise can go a long way for the show, and Archer banks on this. Jessica Walters voices an amazing dominant Mallory Archer, and Sterling Archer's childhood issues play a huge role in how he is today, and him being a deadly super spy just makes it all the more interesting. Imagine having your mother be your boss, all while you're the most feared spy and assassin in the world. That's right, you can't. Watch *Archer* and you won't have to.

*Archer* takes the slick, suave, super spy stereotype and rips it to shreds. If you enjoy guns, explosions, cool gadgets and other spy movie tropes, this show will reel you in and subvert every expectation you might have in whatever way you'd least expect it. It's on Netflix, and there's multiple seasons of it. You're welcome.

Rohit Harlalka | Staffwriter



Mallory Archer, Sterling's mother, runs the spy agency he works for like a paranoid totalitarian. She also frequently abuses her position to further his career.



# Tokyo Fianceé

Shreeyagya Khemka | Junior Staffwriter

This obscure Netflix gem will take you to Japan from the comfort of your bed

There is nothing like discovering a great movie on Netflix on a lazy Saturday morning after a crazy night out on Friday. You wake up in a daze, and your mind doesn't help by letting you know that Monday is far away. So you turn to social media; you go through your Facebook newsfeed, you buzz through Buzzfeed articles, you checkout Instagram, and you check snapchat for reminders of exactly how crazy last night was. Finally, you turn to Netflix, browsing through the titles of things you don't want to see. However, you decide that today you are going to take a chance and watch that one movie that doesn't look that tempting in the hope that it is something original, something that makes you smile, something that makes your day. You find *Tokyo Fianceé*.

This movie is told from the perspective of Amélie, a 20-year-old Belgian girl who was born in Japan. Although Amélie was born in Japan, she only lived there until she was five. Now she returns to immerse herself in Japanese culture. To support herself and her Japanese lessons she starts teaching French to Rinri, a boy from a wealthy traditional Japanese family, who, ironically enough, aspires to emulate European culture. Soon they start dating and the story progresses with Rinri showing Amélie his Japan.

This is when we are transported from our couches and chairs — or, in my case, bed — to Japan and taken on a grand tour by a local. I love movies which transport you to different places and immerse you in different cultures. Movies have this ability to give you the feel

of a place, and that is exactly what this movie does so well: it makes you feel like you are in Japan.

Yes, yes, I hear you movie buffs chanting *Lost in Translation* by Sofia Coppola — Yes, I have watched it! Yes, I really liked it! But let's not be so lost in translation anymore! Let's attempt to understand each other. That's what this movie is about: Amélie's attempt to understand Japan, and to understand Japan through Rinri.

This happens in several ways, such as when Amélie visits Rinri's home. We get to see all the ultra-modern amenities in his kitchen and his robot pet, but we also get to see a hidden basement full of old books and antiques. Another way is through Rinri's preferences: his Yakuza films, his karaoke, and his liking for pole dancing clubs. We also get to understand Japan through the couple's adventures. One scene stands out among others — Rinri takes Amélie to see the trains, and behind the train lines is a man who sings when the trains are passing by. Amélie asks why the man sings in that spot since it's impossible for him to hear his own voice. To this, Rinri responds that he doesn't want to disturb anyone.

Other than getting Japan's image right, this movie also does little things that make me smile. For example, whenever Amélie imagines her future, it is shown inside a traditional Japanese house with Japanese music. In one instance, when Amélie imagines that Rinri has become her Japanese lover,

she breaks out into song and dance wearing a shirt with the Japanese flag on it and singing in Japanese. These scenes really help dissipate the tension of the film and add a little humor to it. Another thing that made me smile while watching the movie was how it introduces another western girl, a French woman who, like Amélie, wants to be Japanese. The movie progresses to show her getting married to a Japanese man; this serves as a great parallel to Amélie and Rinri's story. One more thing that made me smile was the way food is shot in the film. There is a lot of it, and it looks really really good! You have been warned: do not watch this film on an empty stomach!

Having mentioned these great things, I have to say that every movie does have its flaws. There was an entire section of the movie about Amélie rediscovering herself when she got lost while trying to climb a mountain that I didn't quite get the significance of. Also, in a crucial scene in the film, when she is about to mention something important, an octopus literally got her tongue. Eating live octopus actually is a thing in Japan. I thought that was a little too ironic, a little too coincidental.

Imperfections and minor quibbles aside, I really enjoyed the movie. The ending, I can say without giving too much away, is bittersweet. You may wish for another payoff, but with the way the story goes no other payoff would have truly satisfied you as a viewer. So, give it a watch on a lazy Saturday — maybe it will leave a smile on your face too.

MoviesInMcConomy

Abhishek Tayal | Pillbox Editor

## X-Men: Apocalypse

Friday Sept. 16th  
8 p.m. & 11 p.m.

Sunday Sept. 18  
9:45 p.m.

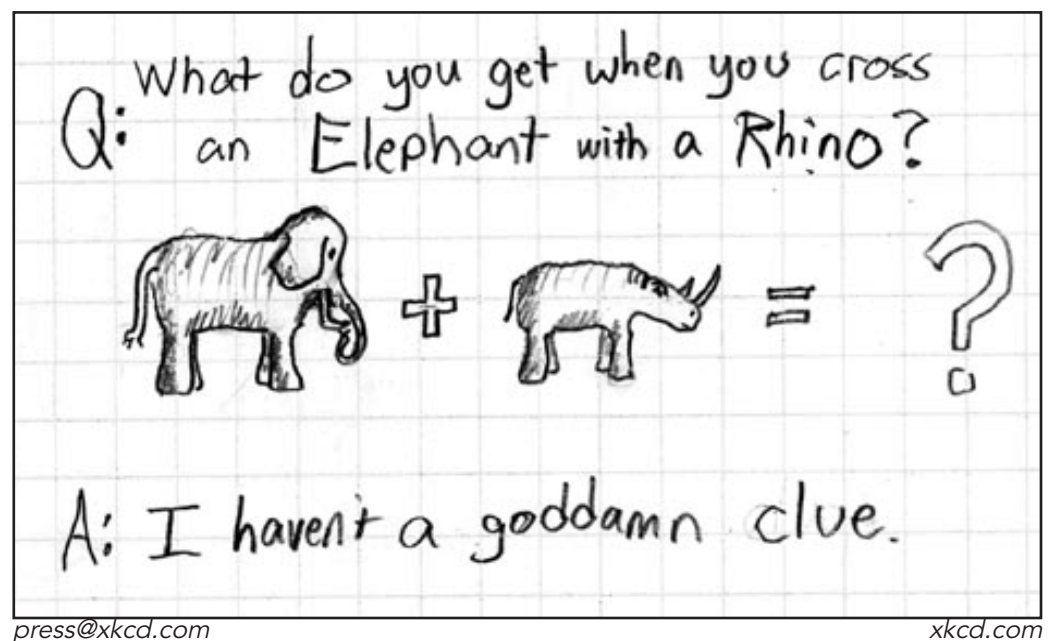
The grand conclusion of the X-Men saga, *Apocalypse*, puts our mutant heroes through their most trying ordeal yet. An ancient mutant named En-Sabab-Nur, played by Oscar Isaac, who ruled the world as a God millennia ago, has risen again to wipe out modern civilization and remake it in his image and reclaim his place as principal deity and ruler. In the process, Sabab-Nur runs up against the X-Men, led by Charles Xavier. Faced with their toughest enemy ever, the X-Men must make decisions that will leave permanent scars on every one of them. *Apocalypse* touches on several interesting themes — leadership, family and belonging — and takes familiar characters in interesting new directions.





Wave of Nostalgia  
by John Atkinson

Animal Addition  
by xkcd





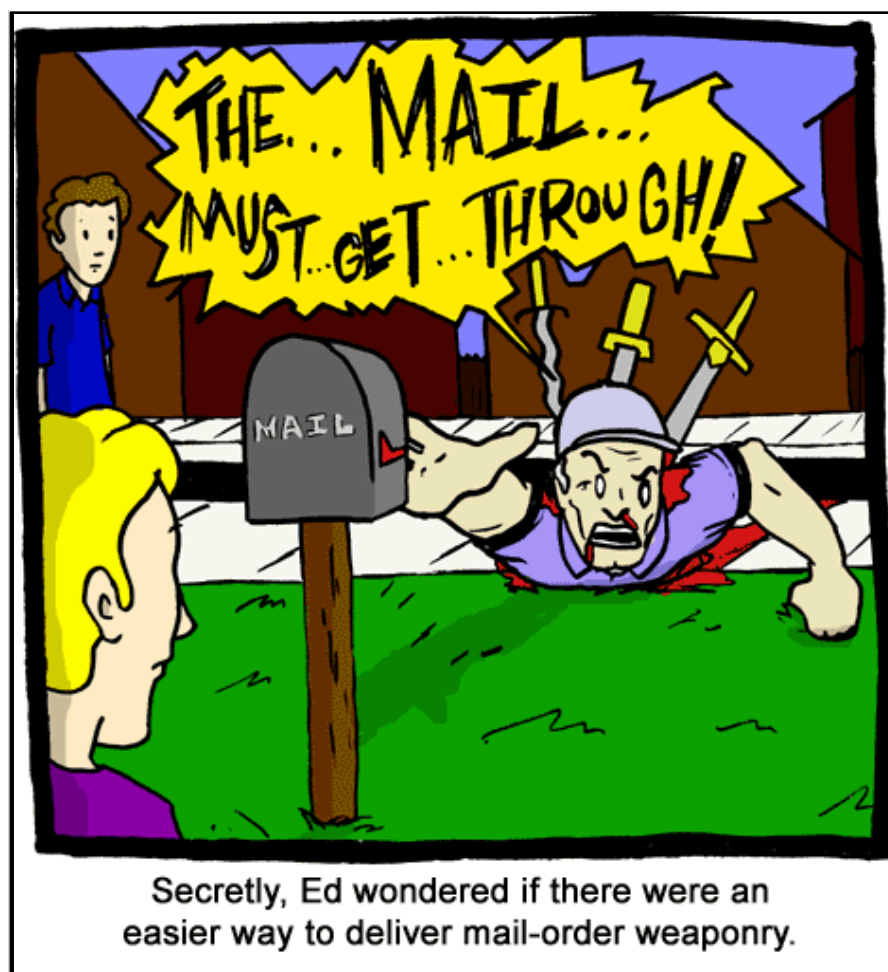
# I'm My Own Mascot by Kevin Bolk



info@interrobangstudios.com

mascotcomic.com

## Saturday Morning Breakfast Cereal by Zach Weinersmith



zach@smbc-comics.com

smbc-comics.com

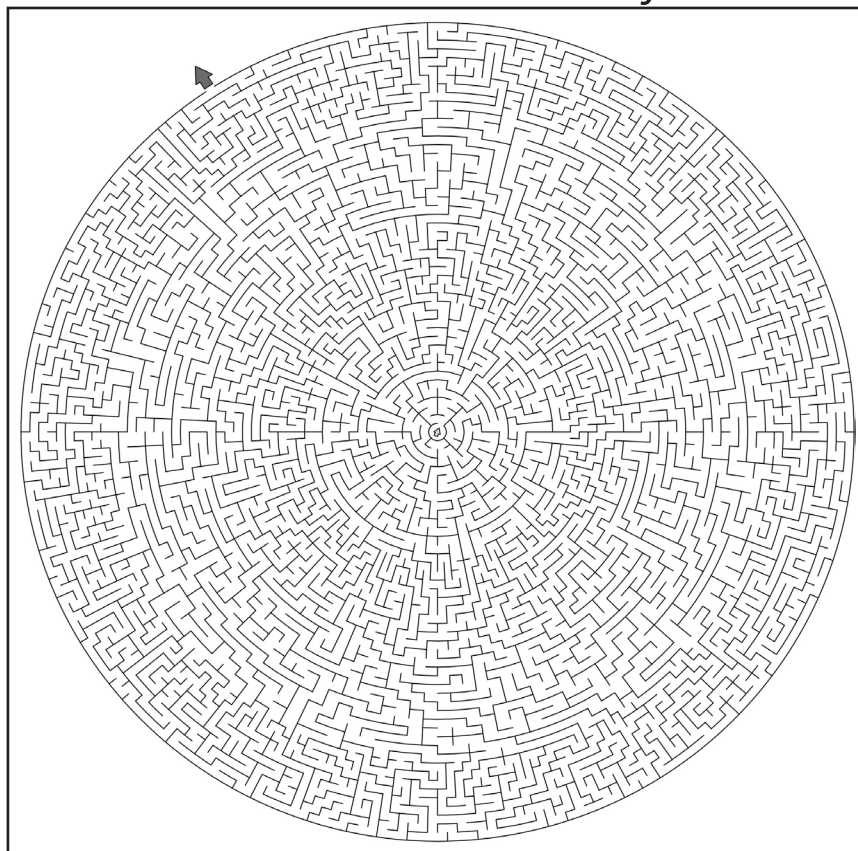


## Sudoku — super hard difficulty

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

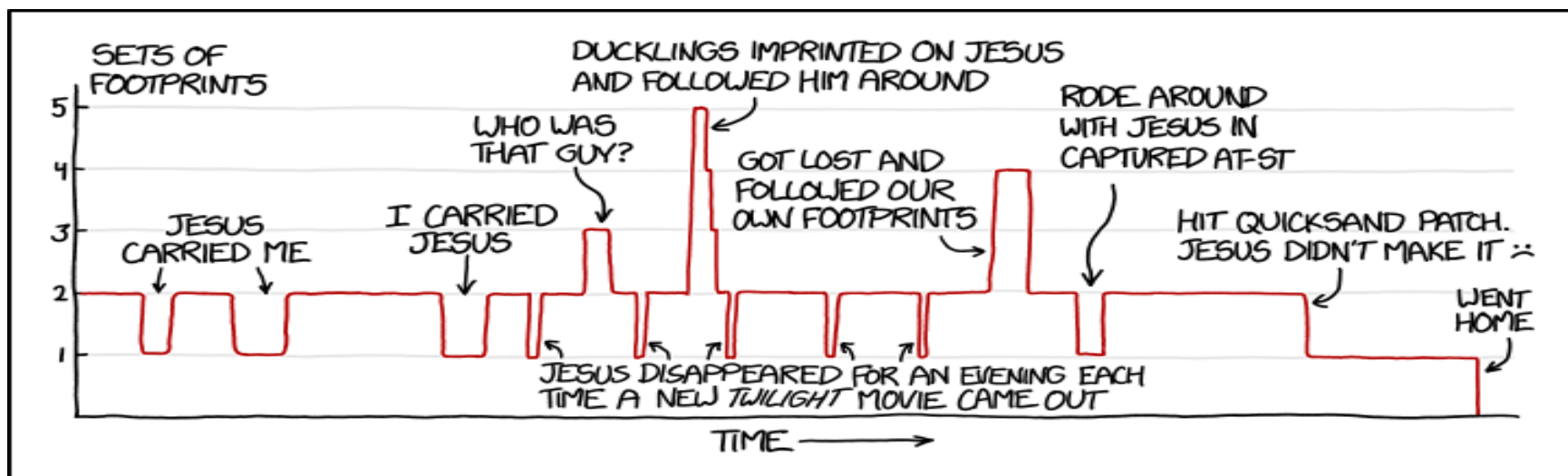
sudoku courtesy of [www.krazydad.com](http://www.krazydad.com)

Maze — very difficult



maze courtesy of [www.krazydad.com](http://www.krazydad.com)

# Footprints by xkcd



press@xkcd.com

xkcd.com



horoscopes: binge-watching for your sign

crossword

**Aries**  
march 21–april 19

*Doctor Who* — You are a strong and caring leader. You want to save the world from destruction, even if all you have to work with is a ball of string and a toaster. In your next chunk of free time, watch some *Doctor Who*.

**Taurus**  
april 20–may 20

*Bones* — You are curious, but apprehensive of change, much like the main character of the show, Dr. Temperance Brennan. Watch a few episodes this week!

**Gemini**  
may 21–june 21

*Orphan Black* — Take your independent trailblazing to new levels with the seven clones and fast-paced storyline of *Orphan Black*.

**Cancer**  
june 21–july 19

*Gilmore Girls* — You are a bit of a contradiction, dealing with obstacles as they present themselves. You always put others’ problems before your own.

**Leo**  
july 20–august 20

*How I Met Your Mother* — You are honorable and do your best to uplift and care for your friends. You will empathize with the varied characters of this TV show.

**Virgo**  
august 21–sept. 21

*Criminal Minds* — It takes a sharp mind and observant nature to truly fall in love with the characters of this show. Dive into the analytical world of *Criminal Minds*!

**Libra**  
sept. 21– oct.19

*Parks and Recreation* — No one is more dependable and diplomatic than Leslie Knope (except you, of course).

**Scorpio**  
oct. 20–nov. 20

*The Office* — You are passionate about everything you do, even if it’s being Assistant (to the) Regional Manager of a paper supply company.

**Sagittarius**  
nov. 21–dec. 21

*Game of Thrones* — You are a strong and independent Khaleesi who needs no Khal! Explore your fiery nature with some *Game of Thrones* episodes.

**Capricorn**  
dec.21–jan. 19

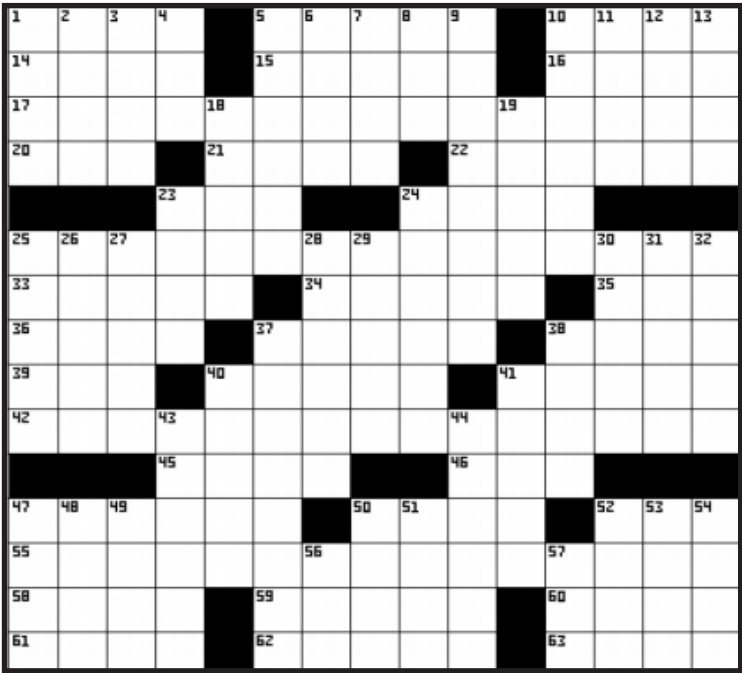
*Orange is the New Black* — Even in the roughest of situations, you know that slow and steady wins the race. You are willing to wait (and sometimes power-move) your way through the bad times.

**Aquarius**  
jan.20 –feb. 20

*Grey’s Anatomy* — You are totally capable of being a strong-willed surgical intern who also deals out hella brutal but honest advice.

**Pisces**  
feb. 21–march 21

*Star Trek* — You are down to earth while simultaneously being an adventurous space traveller who sometimes messes up intergalactic things (but always means well)!



Crossword courtesy of [FreeDailyCrosswords.com](http://FreeDailyCrosswords.com)

across

- 1. Pervasive Clown
- 5. You, in Peru
- 10. ABC drama about plane crash survivors
- 14. Footnote notation
- 15. Nary a soul
- 16. Stuff in a dump
- 17. Buried the hatchet
- 20. Leafy Tolkien character
- 21. Boomers’ kids
- 22. Round gaskets
- 23. Steely Dan album pronounced like a continent
- 25. Got on everyone’s nerves
- 33. Let in or let on
- 34. Man with a code
- 35. Prohibit
- 36. They may be black or green
- 37. \_\_\_ Waldo Emerson
- 38. Ask for proof of age
- 39. Street in “Freddy vs. Jason”
- 40. \_\_\_ colony
- 41. With “en,” hot, in sports slang
- 42. Showed disapproval
- 45. Western tribe
- 46. Remote cells
- 47. Evening get-together
- 50. Venus de Milo knockoffs?
- 52. Stat for Chris Sale
- 55. Type of auto found in the 3 other longest puzzle answers
- 58. Fine spray
- 59. Meathead’s ‘70s TV mother-in-law
- 60. Scintilla
- 61. Bump on a lid
- 62. Tony of “Who’s the Boss?”
- 63. Seemingly forever

down

- 1. Kid’s wheels
- 2. Ruler of the Valkyries
- 3. Get-up-and-go
- 4. Mantra sounds
- 5. Like zombies
- 6. Rise dramatically
- 7. Oodles
- 8. Word with tight or loose
- 9. Reduce to rubble
- 10. Pretentious
- 11. Writing on the wall, so to speak
- 12. Complacent
- 13. Bikini parts
- 18. Joe Namath, notably
- 19. Came up
- 23. Without warranty
- 24. Flowery, as prose
- 25. Provide fare for an affair
- 26. “A Passage to India” heroine
- 27. Savory taste
- 28. Some re Fridgerators
- 29. “Interstellar” director Christopher
- 31. Things in a hold
- 32. Fund, as an academic chair
- 37. Got money for
- 38. Team that hasn’t won a World Series since 1908
- 40. Fizzle (out)
- 41. Elaborate spread
- 43. French police force
- 44. Steinway competitor
- 47. Virtual citizens in a video game
- 48. Doing the job
- 49. Teeny
- 50. Deuce follower, in tennis
- 51. Cracker brand
- 52. Chamber effect
- 53. Drops from above
- 54. Part of MFA
- 56. Writer LeShan
- 57. Farm female



# calendar

## wednesday

09.14.16

**Heart Strums: Concert of Persian Classical Music**  
**Kresge Theater, 8 p.m.**  
**Admission: General \$30, Student ID \$20.**

Persian music is famous for its intricacy, whirling melodies, and deeply emotional nature. Heart Strums features four maestros — Hossein Alizadeh, Hossein Behroozinia, Behnam Samani, and Saba Alizadeh — performing a series of pieces meant to take the audience on a grand journey from melancholy and romance to joy and adventure.

**Sound Series: Yo La Tengo Feat. Lambchop**  
**Carnegie Music Hall, 8 p.m.**  
**Admission: General \$20, Student ID \$15.**

Yo La Tengo is one of the most respected and unwavering bands in the indie scene. They've put out more than 14 albums over the course of 30 years. In a similar vein to classic 60s indie acts such as The Velvet Underground, Yo La Tengo can seem less like a band and more like an experiential project. For their first concert in Pittsburgh, Yo La Tengo is joined by Lambchop, a Kurt Wagner-led experimental country group from Nashville.

## saturday

09.17.16

**Shadyside Farmers Market**  
**Liberty Elementary School**  
**9 a.m. – 12 p.m.**  
**Admission: Free.**

The Shadyside Farmers Market brings in vendors from across the Pittsburgh area that stock everything one might need for a week of delicious, fresh supplies, including produce, eggs, chicken, beef, pork, trout, hummus, flowers, herbs, honey, olive oil, vinegar, fresh pasta, cold-pressed juice, cheese and more. Also featured will be live music from 10 a.m. onwards by Greg McVicker.

**AfroArt PGH**  
**Flagstaff Hill**  
**12 p.m. – 8 p.m.**  
**Admission: Free.**

AfroArt PGH is a celebration of black culture and innovation in the Pittsburgh area. The event will feature music, activities, speakers, and visual art meant to promote a positive image of the black community in Pittsburgh. Participating organizations include SPIRIT from Carnegie Mellon, BAS from the University of Pittsburgh, BSU from Carlow University and BSU from Point Park University.

## sunday

09.18.16

**Mac Miller**  
**Stage AE, 7 p.m. – 10 p.m.**  
**Admission: Advance Booking \$29.50, Day of Show \$35.**

Pittsburgh native Mac Miller returns to his hometown for a performance as a part of his GO:OD AM Tour. The rapper is famous for his unusual view of suburban life, unique take on otherwise ordinary themes, and a delivery that is as iconic as it is brilliant.

**Sun Ra Arkkestra**  
**New Hazlett Theater**  
**7 p.m. – 10 p.m.**  
**Tickers Available on [showclix.com](http://showclix.com)**

Head on over to see the band of the late Sun Ra, a self-proclaimed alien space god, who aimed to spark change through his unique persona, surrealist ideologies and moving music in both arts and social action. Ra's influence over a plethora of both modern and contemporary jazz musicians is unparalleled, and this event is one of the best opportunities out there to see his Arkkerstra up close and in the flesh.



# send silence packing.



Abhishek Tayal | Pillbox Editor

Send Silence Packing was a 4-hour-long outdoor art exhibit on the CFA lawn meant to spread awareness about mental health on the Carnegie Mellon Campus. Organized by Active Minds @ Carnegie Mellon, the exhibit featured the schoolbags of students who took their own lives from across the country, donated by the parents of the students, often with a touching message.