

Tech firm donates \$35 million, seeks student recognition



Left: Subra Suresh shakes TCS CEO Natarajan Chandrasekaran’s hand. Right: Panelists addressed the implications of the partnership between TCS and Carnegie Mellon in Rashid Auditorium on Tuesday.

BRIAN TRIMBOLI
Editor-in-Chief

The university announced a \$35 million donation earlier this week from Tata Consultancy Services (TCS), the fifth-largest donation in the university’s history and one of

a string of recent gifts. TCS is a worldwide technology services and consulting company, operating in 46 countries and generating billions of dollars in revenue. TCS is a household name in India, where it is headquartered, and has a growing brand

both in the United States and worldwide. TCS is among the largest Indian corporations, as measured by its \$80 billion market capitalization, and is the largest Indian IT company. Natarajan Chandrasekaran, CEO and managing director of TCS, hopes that the

donation and ensuing partnership between the company and Carnegie Mellon will make TCS well-known to college students at Carnegie Mellon and across the country. “In the future we’re looking to see some CMU graduates and undergraduates joining TCS as

the place to be,” Chandrasekaran said. “Because we’re going to be focusing on creating a future which will solve not only industry problems, but create great breakthroughs in solving some of the societal problems.”

The donation was

announced on Tuesday by a campus-wide email from University President Subra Suresh, along with a panel discussion and meeting of members of the Innovators’ Forum. According to the email, “The

See **DONATION**, A3

New faculty lunch program created

LAURA SCHERB
Publisher

Over the summer, Student Senate’s Academic Affairs Committee, the Office of Student Affairs, and Dining Services came together to forge bonds between the students and professors of Carnegie Mellon with a new initiative. The program, called Faculty Student Lunch, will be piloted throughout the fall semester. Proposed by senior information systems major Evan Wineland and sophomore computer science major Eric

Zhu, the program aims to strengthen relationships between the faculty and student body. Zhu serves as the chair of the Academic Affairs Committee for Senate, and from that post, he and Wineland have coordinated with Dean of Student Affairs Gina Casalegno and Vice Provost Amy Burkert to make the program a reality. Through the program, 825 students will have the opportunity to get a free lunch at the Schatz Dining Room between 11:30 a.m. and 2 p.m. with a faculty member of their choice. “This program will provide a structured entry point to help

students make a connection with a faculty member who has opted in to the program,” Casalegno wrote in an email to The Tartan. “Developing relationships with faculty outside the classroom can further students’ educational goals through opportunities like undergraduate research, doing community outreach and service, or developing one’s plans for graduate study or career after CMU.” Similar programs exist at many of Carnegie Mellon’s peer institutions, including Princeton University, Dartmouth University, and the University

of Pennsylvania, according to Zhu. He said that compared to the students at these universities and colleges, students at Carnegie Mellon tend to be less connected to the professors, often notable researchers in their respective fields. “These relationships aren’t built during office hours, which are used at CMU for getting extra learning and problem sets in. Students are missing out until junior and senior year, when they finally talk to professors outside of class,” Zhu said. One of the goals of the program is to

See **LUNCH**, A3



Department of Defense renews SEI contract for \$1.73B

BRIAN WALSH
News Editor

The United States Department of Defense renewed its contract with the Carnegie Mellon Software Engineering Institute (SEI) this summer for \$1.73 billion. This is over twice the value of the previous

contract agreement the SEI made with the government over five years ago. As per the school’s part of the agreement, the SEI will provide crucial services to the United States government. The institute will research ways to increase the reliability and security of

government software systems. Paul Nielsen, SEI CEO, said in a university press release that “Our new contract guarantees that the SEI can continue to develop breakthrough technologies in collaboration with Carnegie Mellon University, the Department of Defense, and our industry partners.”

This contract renewal may come as a relief, as the past few years, Carnegie Mellon has experienced problems with funding. “Like many colleges and universities, we faced the government shutdown, decreasing federal funding due to the sequestration and rising costs associated with growth

and expansion,” Chief Financial Officer Amir Rahnamay-Azar said in his 2014 fiscal report for the university. Azar continued by noting that even bringing in more talented individuals has become a challenge, as the current higher education hiring climate is extremely competitive.

Last year’s fiscal shortages motivated University President Dr. Subra Suresh to raise money for the university, including by way of government contracts. In addition to these contracts, among which is a small one with the Federal

See **CONTRACT**, A3

FEATURE PHOTO

Class of 2019+ battles in House Wars



Kevin Zheng/Assistant Photo Editor

On Friday night, the class of 2019+ took part in House Wars, during which the first-year houses compete in a series of games and contests to see which one has the most spirit. This year, Stever took first place, the Hill took second, and Mudge took third.

Campus Crime & Incident Reports

Plant Theft

August 21, 2015

University Police responded to Porter Hall after a plant was taken unlawfully from the second floor. A Carnegie Mellon staff member told the police that the plant was taken between July 23 and August 3.

Suspicious Activity

August 21, 2015

University Police were dispatched to Cyert Hall after receiving reports of suspicious flyers around the building. A Carnegie Mellon staff member told University Police that the flyers had Computing Service's logo, but offered services that Computing Services did not. An investigation determined that the flyers

were fraudulent, and all of the posters were removed from campus.

Underage Drinking

August 24, 2015

A Carnegie Mellon security officer called University Police after seeing an intoxicated male outside of Stever House. The student was provided with medical attention and cited for underage drinking.

Mulch Fire

August 24, 2015

University Police were dispatched to the intersection of Forbes and Morewood Avenues because of a small mulch fire. The Pittsburgh Fire Department responded and extinguished the fire.

Underage Drinking

August 25, 2015

A university shuttle escort driver contacted University Police after observing an intoxicated male lying on a bench outside of Tepper Hall. The Carnegie Mellon student was cited for underage drinking after being provided with medical attention.

Bicycle Theft

August 25, 2015

University Police responded to the Tepper School of Business after receiving a report of a bicycle theft. A Carnegie Mellon student told University Police that he secured his bike at 1 p.m. in front of the building, and discovered his cable lock cut and his

bicycle missing when he returned at 6:39 p.m.

Odor of Marijuana

August 26, 2015

University Police responded to Margaret Morrison Apartments after receiving reports of an odor of marijuana. A University Police officer arrived at the scene and saw three males running away on foot. Officers briefly pursued the males, but were unable to locate them. University Police recovered various drug paraphernalia from the scene.

Compiled by
BRIAN TRIMBOLI

CAMPUS NEWS IN BRIEF

Simon Initiative hires learning engineer Law

Carnegie Mellon's Simon Initiative, focused on education research and the science behind learning, recently hired learning engineer Kimberly Law. Law's position is supported by a two-year, \$1 million grant from the Carnegie Corporation of New York. The Simon Initiative hopes to overcome some of the difficulties presented by technology-enhanced learning (TEL).

Law's role will be to develop new TEL courses in statistics in computer science, drawing on a background at the National STEM Consortium.

Law's work will rely on Open Learning Initiative (OLI) resources and a team-based, scientific approach to higher education.

"Kim brings a wealth of

experience in improving technology education," said Norman Bier, OLI director and executive director of the Simon Initiative, in a university news release. "Her experience, along with key collaboration with faculty, will allow us to appropriately determine how to overcome typical obstacles to TEL adoption, which is the first, crucial step in making this work more broadly available."

Law is an alumna of the University of Virginia, where she earned a bachelor's degree in civil engineering, and of Boston University, where she earned a master's degree in business administration. Law has also taught high school math and science, created online learning models, and developed and implemented curricula.

Brainhub engineers receive NSF grant

In mid August, the National Science Foundation (NSF) awarded assistant professor of biomedical engineering Steven Chase, assistant professor of electrical and computer engineering and biomedical engineering Byron Yu, and University of Pittsburgh associate professor of bioengineering Aaron Batista an \$869,000 grant to study how variability in movement is encoded in the brain.

"These teams are building on creative ideas from within and beyond neuroscience," said Kenneth Whang, NSF program director in the Computer & Information Science & Engineering Directorate, in a university news release. "We're seeing

some dynamic new research collaborations that will have huge impacts on fundamental questions, and on what we can discover or invent in the future."

This award is one of 16 that the NSF gave out this year, totaling more than \$13.1 million, to support cognitive and neural systems research.

The researchers will record the neurons in the motor and premotor cortices of moving animal models, hoping to establish a connection between variable neural responses to motion, performance, and learning.

Compiled by
BRIAN TRIMBOLI

WEATHER

TUESDAY	WEDNESDAY	THURSDAY
90° / 66°	90° / 64°	91° / 64°
FRIDAY	SATURDAY	SUNDAY
91° / 66°	91° / 64°	90° / 66°

Source: www.weather.com

Corrections & Clarifications

If you would like to submit a correction or clarification, please email The Tartan at news@thetartan.org or 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.



Statistically Speaking

217

the number of students from California represented, as compared to 176 students from Pennsylvania.

46%

the percentage of women in the class of 2019+, making it one of the most diverse in Carnegie Mellon's history.

20.5%

the percentage of students hailing from outside of the United States to attend Carnegie Mellon.

147

the number of Hispanic students in the class of 2019+, making it the class with the largest number of Hispanic students in six years.

Source: www.cmu.edu

Carnegie Mellon’s SEI wins contract renewal with DoD

CONTRACT, from A1

Highway Administration, Suresh has also announced several large donations by private companies and alumni in the past year. Most notably, David A. Tepper is working with the university to create a new campus quadrangle for the business school in what is now the Morewood Gardens parking lot.

This research initiative with the U.S. government more than doubles the total fiscal support Carnegie Mellon received via sponsored projects. With an investment this large, the U.S. government is publicly endorsing Carnegie Mellon’s importance as an innovator and top research institution. The amount of the contract is high enough that the SEI is now an approved Federally Funded

Research and Development Center. The SEI shares this designation with 40 other research and development institutions in the United States.

the Department of Homeland Security.” The Department of Defense dramatic increase in funding demonstrates the im-

“[The SEI] saw significant revenue growth (\$62.3 million for fiscal year 2005 compared to \$12 future 3.4 million for fiscal year 2014) largely from the Department of Homeland Security.”

— Amir Rahnamay-Azar
Carnegie Mellon CFO

According to Rahnamay-Azar, the SEI “saw significant revenue growth (\$62.3 million for fiscal year 2005 compared to \$123.4 million for fiscal year 2014) largely from

portance of software technologies to the U.S. government, even more relevant after recent hacks from China, and a continuing chain of attacks from foreign countries.

Uber hires 40 employees from CMU robotics center

RIDESHARE, from A1

“I’m trying to get a good read on whether the driverless car is going to benefit us. One of the reasons [the Department of Transportation] takes a neutral stance on driverless cars is because we don’t know whether driverless cars or vehicle-to-vehicle communications are viable in the future,” he said in May of 2015.

This makes Carnegie

Mellon, as a top research center for driverless cars, a place to watch for the secretary of transportation. Autonomous and interacting vehicles are already becoming more and more prevalent, and it’s not just Uber who would benefit from autonomous vehicle research. Google has long been developing its own driverless cars, and many other manufacturers have joined in. Modern vehicles also made big

news this summer when two engineers were able to take control of a Chrysler Jeep remotely via the car’s internet capabilities. With the world talking more and more about the viability of the driverless car, Carnegie Mellon has seen its name in many papers and news stories, and that is not about to change; the NREC may just have to deal with some new competition.

Students create new lunch program to bond with faculty

LUNCH, from A1

engage first-year students in an effort to give students and the faculty more time to benefit from these relationships. The program will be run primarily through a website on which students can register, which Zhu said will make it easier for more shy students to get involved. Zhu said another goal of the program is to lower stress. The first part of a longer plan, this program hits at the heart of what Zhu and the Academic Affairs committee work to accomplish.

“[The Academic Affairs

Committee] works to support the academic welfare of Carnegie Mellon undergrads,” Zhu said. “We want to make sure that academically, the Carnegie Mellon experience is as good as possible.” The seven person Committee has ongoing projects to promote awareness of how academics tie into the conversations about the stress culture on campus. According to Zhu, one such project focuses on standardizing syllabi to make professor’s expectations and course work easier to access and understand for students.

“CMU has a reputation for

stress culture,” Zhu said. “And even though it might not be as bad as other universities, we still need to check up on it often and having a dedicated body in student government working on it is crucial.” The program will be publicized by Senate and funded by a special allocation from Senate, as well as gifts from Casalegno and Burkert’s offices. “Great things happen when talented, bright, and committed individuals get together. We have an extraordinary community of individuals who comprise our university,” Casalegno wrote.

Tech firm donates \$35M



Courtesy of Carnegie Mellon University
Top: Dietrich College Dean Richard Scheines moderates panel. Bottom: Governor Tom Wolf and Subra Suresh shake hands.

DONATION, from A1

contribution will fully fund construction of a new building along Forbes Avenue, and support the Presidential Fellowships and Scholarships program.”

This expansion, one of many campus improvements coming in the next few years, will transform Forbes Avenue into what Suresh calls an “innovation corridor.”

The partnership between TCS and Carnegie Mellon, Suresh says in the email, will “play an important role in improving our ability to meet the needs of students, faculty and staff in an increasingly global environment.”

At the event, Suresh spoke about how the donation would be used to further Carnegie Mellon’s expansion. Suresh further explained the role the partnership with TCS will play in the university’s global reputation as a technological innovator. Suresh and Chandrasekaran met about a year ago. The two leaders, Suresh said, discovered immediately that they had the same overarching ideas about the future of global innovation, and have been working together since then to form a mutually beneficial partnership between Carnegie Mellon and TCS.

“We can connect with a

company that has the capacity to engage a certain percentage of the globe,” Suresh said at the event. “Carnegie Mellon, as a global university, can also play a significant role in taking its talents outside of Pittsburgh.”

Chandrasekaran, who traveled from Mumbai for the event, also spoke hopefully of a bright future of collaboration between Carnegie Mellon and TCS. “I am very, very happy and proud that we have this wonderful partnership developing between TCS and Carnegie Mellon,” he said. “As Subra mentioned, I’ve known him only for less than a year, but we’ve developed a very good alignment of thought in terms of what the possibilities are [for the future].”

Pennsylvania Governor Tom Wolf also spoke at the event, emphasizing Carnegie Mellon’s role in attracting money, research, and innovation to the state of Pennsylvania. “[This partnership] shows what we can do when a world-class company and a world-class university partner up,” Wolf said. “This is gonna be really amazing for this place. The spirit of innovation we so rightly attribute to the market — to the free market — is actually magnified by this kind of marriage.”

After the speakers, Dean of Dietrich College and

professor of philosophy Richard Scheines moderated a panel discussion on “Industry-Academic Partnerships: A New Global Era.” the panelists took questions from the audience, and discussed how TCS could work with Carnegie Mellon for mutual benefit.

The panel consisted of Chandrasekaran, Head of the Electrical and Computer Engineering Department and professor of biomedical engineering Jelena Kovacevic, and professor of materials science and engineering and public policy Jay Whitacre. The panelists discussed their own experiences working between corporations and universities, and how the two can best work together.

The panelists spoke on how the partnership could benefit both TCS and Carnegie Mellon. “This combination can really create a powerful impact. The companies have access to top talent, and we, in turn, get access to companies to place our students,” Kovacevic said.

“And finally, there is the education and learning part of it. By placing our students into internships, they get to see what the real world looks like, and they get a gradual ascent from their work being only about education to their work just being work.”

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Science & Technology

Gecko-like adhesives offer variety of product applications

SHARON WU
Staffwriter

It's a typical afternoon at the zoo, and you find yourself looking at the exhibits of reptiles and amphibians in miniature imitations of wild and exotic habitats. At one of the displays you notice a gecko crawling on a window with superhero ease. You see that with each step taken, the lizard-like

animal leaves no trace of a footprint — an observation that is ordinary enough to many, but perhaps extraordinary to a select few.

Suppose that you use your creative and enterprising mind, and you decide to turn this peculiar trait found in nature into a product that could transform the prospects of many businesses and the

lives of many people. That is exactly what Metin Sitti, a mechanical engineering professor at Carnegie Mellon University, has spent nearly ten years working on.

“The source of inspiration was the amazing climbing ability of geckos on almost any surface in nature,” Sitti told

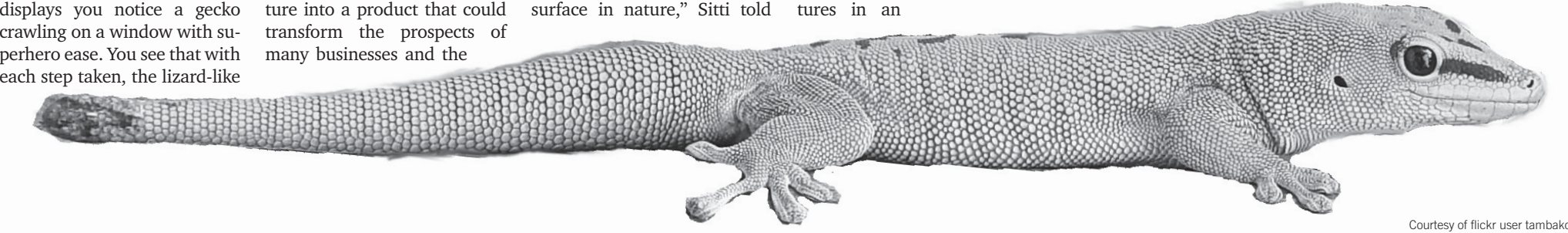
The Tartan in an email, as he described the beginnings of his product, Setex™, an adhesive that functions much like the sticky feet of geckos. A member of both the Department of Mechanical Engineering and the Robotics Institute, Sitti has studied the lizard-like creatures in an

effort to develop micro/nano-fibrillar adhesives. Setex™ is the first adhesive of its kind to be commercialized.

The project started when Sitti was completing his post-doctoral research at the University of California, Berkeley. While on a trip to Thai-

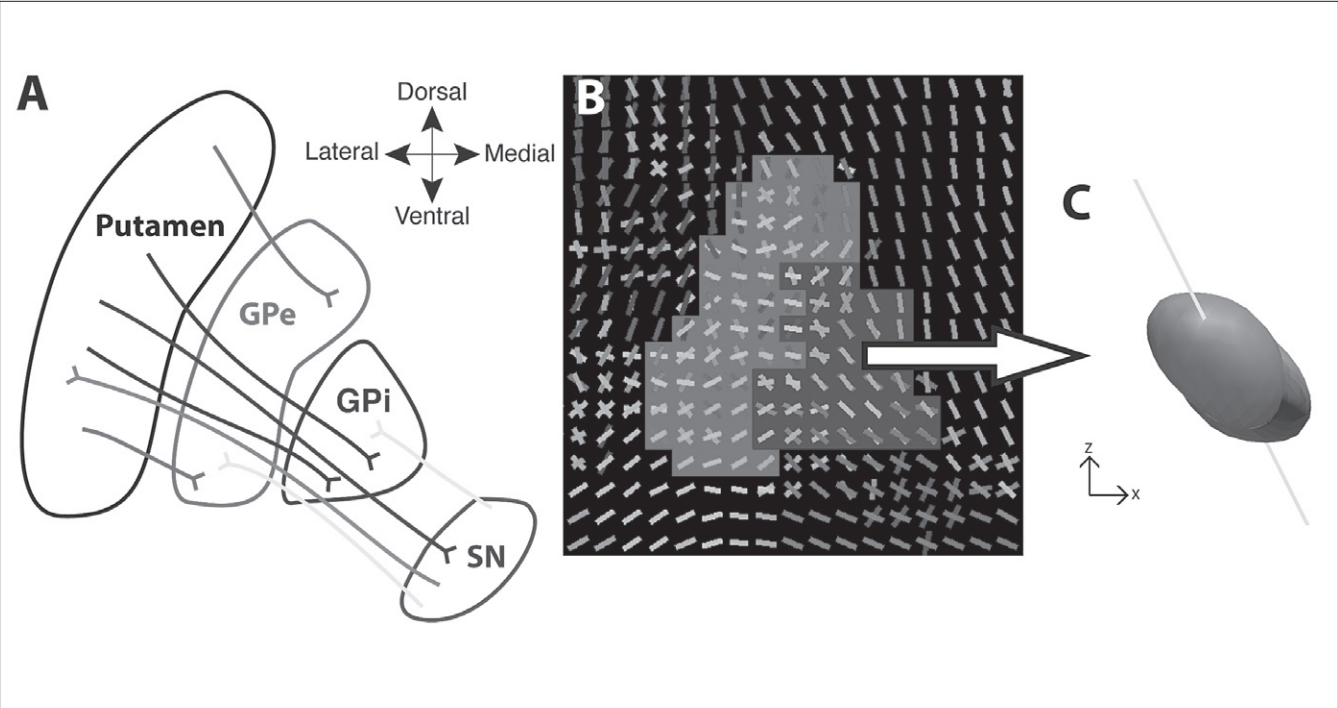
land, a biologist collaborator on the team proposed the idea. Sitti's team then studied the biological dry adhesion principle of gecko foot hairs and, using that knowledge, Sitti created nanostructures that mirrored

See **ADHESIVE**, A5



Courtesy of flickr user tambako

Researchers visualize the basal ganglia



Courtesy of Patrick Beukema

Carnegie Mellon researchers have used neuro-imaging to show the major pathways of the basal ganglia, a portion of the brain responsible for motion.

CLAIRE GIANAKAS
SciTech Editor

Neurological diseases, such as Parkinson's and Huntington's disease, affect millions of people worldwide, making them ideal targets for future research. In the United States alone, Huntington's disease affects nearly 30,000 people, according to the Family Caregiver Alliance, while Parkinson's affects approximately one million, according to the Parkinson's Disease Foundation. The prevalence of these diseases provides a clear motive for understanding the neurology behind the disorders. BrainHub researchers

from Carnegie Mellon University and the University of Pittsburgh have developed a way to visualize parts of the basal ganglia, which could eventually help track the progression of diseases like Parkinson's or Huntington's.

The basal ganglia, the part of the brain that is responsible for movement, is made up of four interconnected sections that, when damaged, can lead to diseases such as Parkinson's or Huntington's. "For reasons that are not fully understood, these connections are highly susceptible to damage and, because they are important for motor control, this damage can result in substantial

motor deficits," said Patrick Beukema, a graduate student in the Center for Neuroscience at the University of Pittsburgh (CNU) and the Center for the Basis of Neural Cognition (CNBC), a joint program between Carnegie Mellon and the University of Pittsburgh. The research team also included Timothy Verstynen, an assistant professor of psychology at Carnegie Mellon and CNBC faculty member, and Fang-Cheng Yeh, a postdoctoral researcher in Carnegie Mellon's psychology department and the CNBC.

These basal ganglia pathways have traditionally been challenging to study.

"Clinically, it is difficult to see the pathways within the basal ganglia with neuroimaging techniques, like the ever popular MRI, because many of the fiber bundles that make up key parts of this circuit are very small and buried within areas of dense cell bodies," Beukema said. "Specifically, many of these fibers are nestled within a set of nuclei that are known collectively as the globus pallidus, or just the pallidum for short." In order to combat this issue, the team turned to diffusion MRI, a non-invasive neuro-imaging technique that measures the movement of

See **BRAIN**, A5

CMU researchers develop depth sensing camera

JULIA NAPOLITANO
Assistant SciTech Editor

The popularity of depth sensing cameras has skyrocketed recently due to the increasing prevalence of video games, yet these cameras could have many other applications, making them ideal for further study. Researchers at Carnegie Mellon Uni-

versity of robotics at Carnegie Mellon University; and Kyros Kutulakos, a professor of computer science at the University of Toronto. The team also included Supreeth Achar, a doctoral candidate in robotics at Carnegie Mellon University, and Matthew O'Toole, a doctoral candidate in computer science at the University of Toronto.

Depth cameras project a pattern of dots and lines over a scene in order to capture it. By doing this, it is possible to calculate the 3-D contours of a scene by analyzing the pattern deformation and the time it takes the light to reflect.

versity and the University of Toronto teamed up to create new 3-D imaging technology that can work in bright light — a trait that many other depth-sensing cameras and 3-D sensors lack.

The research team included faculty members from both Carnegie Mellon and the University of Toronto, including Srinivasa Narasimhan, an associate professor of robotics at Carnegie Mellon University; William Whittaker, a professor

Depth cameras project a pattern of dots and lines over a scene in order to capture it. By doing this, it is possible to calculate the 3-D contours of a scene by analyzing the pattern deformation and the time it takes the light to reflect.

However, patterns are usually washed out due to the low-powered compact projectors commonly used in depth cameras. In order

See **CAMERA**, A5

SCITECH BRIEFS

3-D printed fish robots help detox water supplies

Researchers at the University of California, San Diego have developed fish-shaped microrobots called microfish that are able to swim efficiently in liquids. These microfish, unlike previous microrobots that were limited by simplistic structures, are able to perform tasks that require complex movements. The microfish include platinum nanoparticles in their tails and magnetic iron oxide nanoparticles in their heads, which allow the fish to be powered by hydrogen peroxide and steered with magnets. These microrobots are currently being studied with regard to detoxification. The research team included toxin-neutralizing polydicytylene (PDA) nanoparticles in the bodies of the microfish, which allow the microfish to collect harmful toxins from the surrounding environment. The PDA nanoparticles emit red-colored light when bound to toxin molecules, which allows the detoxification ability of the microfish to be monitored by the intensity of the red light they emit. The researchers believe the microfish could have a multitude of other applications, including directed drug delivery.

Source: Science Daily



New self-healing material could help safety in space

Timothy Scott, an assistant professor of chemical engineering at the University of Michigan, along with a team of researchers, has developed a self-healing material that could provide spacecrafts with another layer of defense against debris in space. Currently, spacecrafts can be outfitted with several different lines of defense. The International Space Station, the most heavily-shielded spacecraft ever flown, according to NASA, is equipped with bumpers that vaporize debris before it hits the walls of the spacecraft. However, if these bumpers ever failed, debris could penetrate the spacecraft walls, which would lead to a catastrophic loss of oxygen stores.

The new material developed by Scott's team is able to heal itself after being shot with a bullet. The material is composed of a reactive liquid in between two layers of a solid polymer. When shot with a bullet, the liquid reacts with oxygen from the air to form a solid plug in under a second. The researchers believe these findings could also be useful for improving technology on Earth, such as automobiles.

Source: ACS Macro Letters

Antibiotic use linked to Type 2 diabetes diagnosis

A team of researchers, including Kristian Hallundbæk Mikkelsen, MD, of Gentofte Hospital in Denmark, has discovered a link between the amount of antibiotics a person takes and their likelihood of being diagnosed with Type 2 diabetes.

In the study, the researchers tracked 15 years worth of antibiotic prescriptions for approximately 170,000 individuals with Type 2 diabetes and 1.3 million individuals without diabetes. Subjects were identified using records from three national health registries in Denmark.

They found that people with Type 2 diabetes used significantly more antibiotics compared to people without diabetes; subjects with Type 2 diabetes filled 0.8 prescriptions a year, while control subjects filled only 0.5.

"Although we cannot infer causality from this study, the findings raise the possibility that antibiotics could raise the risk of Type 2 diabetes," Mikkelsen said. "Another equally compelling explanation may be that people develop Type 2 diabetes over the course of years and face a greater risk of infection during that time."

Source: Science Daily



Permian extinction caused by volcanic activity in Siberia

Around 252 million years ago, at the end of the Permian period, more than 90 percent of marine species and 75 percent of land species vanished. Paleontologists now believe the cause of this mass extinction was volcanic activity.

Scientists knew there was volcanic activity at the time of the extinction, but were previously unable to determine if this was a coincidence. To resolve this issue, the research team analyzed ancient lavas traced back to massive volcanic eruptions in what is now Siberia.

The Siberian Traps eruptions released more than three million cubic kilometers of molten rock, which is enough to bury the entire United States to the height of the Eiffel Tower.

Zircon crystals were found in the ash, which naturally form with small amounts of uranium that gradually decays into lead. Paleontologists now support the hypothesis that volcanic gasses caused environmental changes that rendered the planet uninhabitable for most life on it. Researchers reported these findings on August 28 in *Science Advances*.

Source: Science News



Scientists equip honeybees with micro-sensors

According to the Natural Defense Resource Council, nearly one-third of all honeybee colonies in the USA have vanished. In order to address the global decline in honeybees, an international research team, led by the Global Initiative for Honeybee Health, is equipping the insects with radio-frequency micro-sensors to record the bees' behaviors.

The Sydney Morning Herald recently reported that 15,000 healthy honeybees in Australia and Brazil have been fitted with the 5.4-milligram sensors. "The tiny technology allows researchers to analyze the effects of stress factors including disease, pesticides, air pollution, water contamination, diet and extreme weather on the movements of bees and their ability to pollinate," Dr. Paulo de Souza, a science leader with Australia's Commonwealth Scientific and Industrial Research Organization said. "The time is now for a tightly-focused, well-coordinated national and international effort, using the same shared technology and research protocols, to help solve the problems facing honeybees worldwide before it is too late."

Source: The Huffington Post

Blood test can predict breast cancer relapse

Researchers reported on August 26 in *Science Translational Medicine* that a blood test could predict up to 80 percent of breast cancer relapses after surgery and chemotherapy by identifying tumor DNA circulating in the blood. This blood test detected cancer nearly eight months before scans detected the tumors.

In the study, researchers took blood samples from 55 women who underwent chemotherapy and surgery to remove breast tumors and were at moderate to high risk of having a relapse. After two years, 15 women had a relapse, and researchers found tumor DNA in the blood of 12 of them as early as two weeks after surgery.

The team also noted that the blood test was unable to detect tumor DNA in the brain, which was likely due to the blood-brain barrier preventing the spread of the tumor DNA.

This blood test could potentially help doctors determine which breast cancer patients will have relapses in the future.

Source: Science News
Compiled By
CLAIRE GIANAKAS AND JULIA NAPOLITANO



New adhesive mimics gecko biology

ADHESIVE, from A4

those hairs.

Despite their initial efforts, however, Sitti's team at Berkeley had issues creating large pieces of adhesives that could mimic the gecko's ability to firmly grip and repeatedly attach to a surface. Sitti later became a professor at Carnegie Mellon University, where he continued his work as the principal investigator of the NanoRobotics Laboratory. In the laboratory, he and his colleagues focused on the design and mass production of the gecko-like adhesives.

"We could not achieve high performance for [the] first two to three years, and my PhD students at Carnegie Mellon were almost giving up" Sitti said. "However, after changing the tip ending shape of our gecko adhesives, we suddenly started having similar and even better performance than biological gecko adhesives!"

The breakthrough allowed Sitti's team to eventually patent the design and creation of the synthetic fibers in the adhesive, which are made from elastomeric polymers. Thanks to the saucer-shaped endings of the fiber tips, the millions of tiny, micron-scale fibers have the ability to stay in steady contact with a surface through intermolecular forces. Rather than altering the chemistry of the adhesive, Sitti and his researchers were able to create an adhesive tailored to a specific application by engineering its microstructure.

The researchers also



Courtesy of Mettin Sitti
Mettin Sitti, a professor of mechanical engineering at Carnegie Mellon, has developed gecko-like adhesives.

focused on developing a method of production for the adhesives. "In my team, from day one, we have aimed at developing a manufacturing process that can produce large areas of synthetic adhesives in high speeds with low cost," Sitti said. While other research groups have also attempted to make synthetic gecko adhesives, their performance does not meet the caliber of Sitti's due to the patent on the fiber tip geometry and design of Setex™.

In collaboration with one of his PhD students, Sitti founded nanoGriptech, a company for his synthetic gecko adhesives. The company received funding

for its first few years from a program within the Department of Defense.

Since 2009, nanoGriptech has been applying their adhesive technology to create a variety of products for their customers in a variety of sectors, including apparel, gloves, manufacturing, medical devices, product design, flexible packaging, and robotics. The company has embarked on many projects, such as creating gripping materials for sports and industrial gloves, flexible closures for sports, and soldier apparel and friction adhesives for medical devices on skin or other tissues. "Setex will perform better than many

existing repeatable adhesive products," Sitti said. "It also has unique features that have not been possible before by any product."

The company is currently working on further improving its adhesive to address the needs of different kinds of product applications. It is also looking to bring more of their product out into the market.

As legions of scientists and engineers look for ways to invent and innovate their products in a technologically advanced world, sometimes nature can prove to be the best place to find ideas. After all, the Pittsburgh Zoo is only a bus ride away.

Neuro-imaging improves view of brain structures

BRAIN, from A4

water molecules and creates a visual depiction of the brain's physical connections, called axons. Two types of diffusion imaging, diffusion spectrum imaging and multi-shell imaging, were used to scan the brains of healthy individuals. The team found that not only could they detect the small fibers of the basal ganglia using diffusion imaging, but

question is whether or not this technique is sensitive enough to be used as the foundation for a novel in-vivo biomarker of the health of these pathways in disease," Beukema said. He also noted the necessity of testing new techniques in patient populations, as opposed to healthy individuals. "The pathways that Patrick has been able to visualize are critical to so many functions, yet we haven't been able to

Two types of diffusion imaging, diffusion spectrum imaging and multishell imaging, were used to scan the brains of healthy individuals.

they could also distinguish between small components of the brain, specifically the internal and external global pallidus.

"Both of these findings suggest that the diffusion signal might serve as a marker of the collective health of key basal ganglia pathways and potentially be used to track the progression of diseases like Parkinson's or Huntington's disease," Beukema said.

He also noted the potential for future research stemming from their results. "This work, of course, raises more questions than it answers. One

see them in the living human brain before," Verstynen said in a university press release. "This opens the door to so many research and clinical opportunities."

The team's research, which was published in NeuroImage, was funded by a National Science Foundation BIG DATA grant, the Army Research Laboratory, and the CNUF. The research also benefitted from open access data provided by Washington University, the University of Minnesota, and Oxford University, known as the WU-Minn HCP consortium.

How things work: Embalming

BRIAN TRIMBOLI
Editor-in-Chief

What happens to us after we die? Well, that's a thorny question — one that has a lot of different answers, depending on who you ask.

There are some things we know for certain, however. When someone dies, his (or her) body begins to decompose. Depending on the environment, this can take hours, days, or weeks. A body in a steamy jungle, for example, will decompose much faster than a body in the frozen tundra.

Humans have been trying for millennia to slow or stop this process of decay. The Egyptians are famous for mummifying their dead and immortalizing the greatest of them in elaborate tombs and pyramids. Native Americans — including the Aztecs, Toltecs, and Mayans — all also had their own strategies for preserving dead bodies.

Today, we still do our best to keep bodies clean and free of rot and decay for as long as possible. Modern embalming began during the Civil War, Mary Roach writes in *Stiff*, a book chronicling what happens to us after we die. The Union contracted Thomas Holmes, a doctor, to find a way to preserve fallen soldiers long enough to get them home.

Holmes started embalming infantrymen in 1861. Embalming got a publicity boost at the end of the war when Abraham Lincoln's embalmed body traveled halfway across the country, from Washington, D.C. to Lincoln's home state of Illinois, by rail. The train made stops along the way for viewing, and those who saw Lincoln's corpse were impressed by how well it was preserved. Although Holmes died at the

age of 70 after going thoroughly insane — an unsurprising fate for the so-called "father of modern embalming" — the practice of embalming lived on.

While early embalmers claimed that embalming was permanent, today's funeral homes set more realistic expectations. An embalmed body is meant to look fresh and (relatively) lifelike long enough for an open casket

Water reverses the chemical reactions that make embalming work, so when an embalmed body is buried under moist soil it soon begins to decompose in earnest.

funeral service, but not much longer. Water reverses the chemical reactions that make embalming work, so when an embalmed body is buried under moist soil it soon begins to decompose in earnest. Although funeral homes sell sealed vaults and coffins, it's hard to guarantee eternal preservation — corpses can contain bacteria spores, or DNA pods that survived the embalming process and will eventually break the body down.

There are different ways to embalm a body, but the most common method is arterial embalming. When a body is brought to a funeral home, an undertaker hooks up a pump to the

corpse's right carotid artery in the neck. The pump circulates embalming fluid, a solution of different chemicals, throughout the body. The most important ingredients in embalming fluid are preservatives, like formaldehyde and methanol. These chemicals work to kill the bacteria that cause decomposition, and keep cells from collapsing.

As a body begins to fill with embalming fluid, the skin fills out and takes on a healthy-looking red flush — embalming fluid also contains dyes to make the body look more natural. The embalmer massages the corpse to help circulate the embalming fluid and break up blood clots and, if circulation is poor, will pump fluid in through other entry points. As fluid fills the body, blood drains out through a tube in the artery.

When the fluid has been distributed through the veins, the undertaker opens the body's main cavity and suction out the natural fluids with a trocar, a vacuum-like instrument. The cavity is then filled with embalming fluid and sealed off.

After all of the blood and other fluids in the body have been replaced by embalming fluid, the embalmer often applies makeup to make the cadaver look its best before it's dressed up for the funeral. The undertaker also puts cotton in the corpse's mouth to make it look natural, avoiding the sunken cheeks so characteristic of death.

Although embalming is not the only way to deal with a dead body, it is the most common in the United States. We may never know exactly what happens to us when we die in a metaphysical sense, but we at least have the basic science of preservation down pat.

Researchers develop depth sensing camera prototype



CAMERA, from A4

to address this problem, the research team created a mathematical model that eliminates extraneous light by programming a camera to work more efficiently with its light source.

"We have a way of choosing the light rays we want to capture, and only those rays," Narasimhan said in a university press release. "We don't need new image-processing algorithms and we don't need extra processing to eliminate the noise, because we don't collect the noise. This is all done by the sensor."

Using the model, a prototype was built that synchronized a laser projector with a rolling-shutter camera, which allows the camera to only detect points illuminated by the laser. "Even though we're not sending a huge amount of photons, at

short time scales, we're sending a lot more energy to that spot than the energy sent by the sun," Kutulakos said in a university press release. "The trick is to be able to record only the light from that spot as it is illuminated, rather than try to pick out the spot from the entire bright scene." Using this technique, the camera works well under bright light and is also energy efficient.

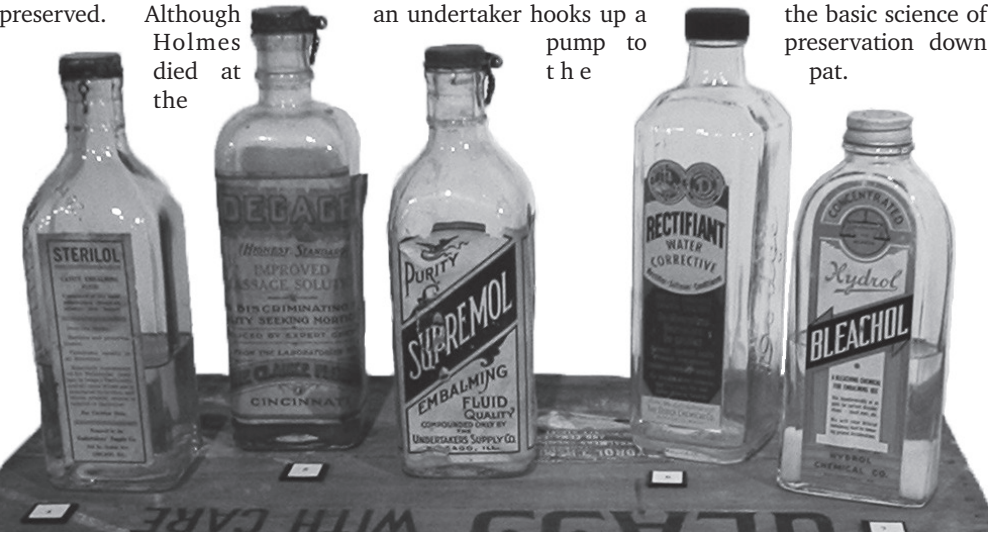
There are many applications for this technology in a wide variety of fields. In the realm of entertainment, the camera could allow videogames to be played in environments with bright light, such as outdoors, without glare.

Other applications include medical imaging, where the camera could be used to visualize skin structures, or manufacturing, where it could help people observe shiny materials.

The research could also have major implications in the realm of space exploration. The camera could be used for extraterrestrial robots, visualizing dark environments such as craters, or in polar regions of the moon, where it can be used to reduce glare.

In a university press release, Whittaker commented on the value of the sensors for use in outer space. "Low-power sensing is very important," he said. "Every watt matters in a space mission."

The research was supported by the National Science Foundation, the Natural Sciences and Engineering Research Council of Canada, and the U.S. Army Research Laboratory. The team presented their findings on August 10 in Los Angeles at SIGGRAPH 2015, the International Conference on Computer Graphics and Interactive Techniques.



Courtesy of Wikimedia Commons

Forum

FROM THE EDITORIAL BOARD



Eunice Oh/Art Editor

CMU computer science should stress ethics

As reported by The Tartan last week, Morgan Culbertson, a junior electrical and computer engineering major at Carnegie Mellon, was charged by the Department of Justice with developing and distributing malware.

This is not the first time a Carnegie Mellon student has been charged with malicious software activities. While it is certainly far too small a sample to call this anything close to a systemic issue, it highlights a need for more prominent computer science ethics courses. This is not to disparage the classes that already exist: Students who are interested have the opportunity to take classes that grapple with very difficult philosophical and ethical issues surrounding the development of technology through classes like Ethics in Policy Issues

and Computing. That is certainly a necessary and great course to offer, but it is insufficient. Carnegie Mellon should offer a course in more practical computer ethics, like the impacts of malicious software.

While most people probably known generally that malicious software is bad, classes do more than drive this point home. Firstly, many people refuse to engage with ethical issues because they do not have the vocabulary or confidence in their ability to discuss them. Ethics classes can address these concerns by offering some background on the issues. Beyond a detailed analysis of the issues surrounding the acts themselves, such as the consequences of identity theft or the legal consequences, ethics classes create a safe space for moral

disagreement and foster discourse using the background that students gain from the class. This helps foster critical thinking about issues and leads to ethics becoming more than a vague notion of badness surrounding an action.

While ethics is not particular to any field, the relative newness of computer science leaves many questions unanswered. Many of these involve very interesting areas of philosophy. However, this does not mean that these issues should comprise all of the ethics education computer science students receive. As technology increasingly impacts large areas of our lives, thinking critically about the role of ethics for computer scientists and programmers is important to computer science and engineering as a whole.

Trump remains favorite despite shortcomings

XIYU WANG
Staffwriter

Donald Trump is the kind of president who would start a nuclear war with Kim Jong-Un over a spat about whose hair is dumber. Why then is he leading the polls among the Republican candidates? I assumed at first that it must be the work of a group of political trolls, like the people who wrote in Darth Vader as a candidate for Ukraine's prime minister. However, there seem to be a number of people who sincerely support Trump, which completely baffles me. Here are my best guesses to what constitutes Trump's appeal.

Trump has always been known for his talent of shameless self-promotion, and is undoubtedly the most famous of all the 28 declared GOP candidates. As such, it is no mystery why Donald Trump has had more media exposure than any other candidate in the election.

Through Trump's personal celebrity may explain his appeal to some uninformed or disinterested voters, Trump's popularity among active, discontented voters is the most confusing aspect of his candidacy. I understand the anger over the entrenched, do-nothing political establishment.

I, too, feel that politicians these days are disconnected from average Americans, and that bold visionary leadership is necessary to change the state of American politics. With that said, why is Donald Trump the man some voters want to represent that discontent?

The Atlantic published a letter from a supporter who called Trump "authentic." This is a valid point. Donald Trump is authentically an obnoxious, mean-spirited moron; he spews out whatever stupid thought is on his mind with no filter. As an alternative to the sterile, politically correct statements of most mainstream politicians, it may feel refreshing at first but surely this schtick must become old within a month or so.

Other than his brashness, Trump has very little to offer. He has no political experience, can't take any form of criticism, and is massively uninformed about policy; he honestly thinks deporting all the illegal immigrants in the United States is an

easy process, it's just that we haven't done it yet. Trump supporters often cite his business leadership, but this is questionable. Say what you will about Mitt Romney and his robotic personality, but at least Romney seems like he has the maturity and intelligence to excel in business. What other Fortune 500 CEO in the United States behaves like Trump? Despite running a billion dollar empire, Trump apparently has the time to engage in petty public feuds and frivolous lawsuits; he once filed a defamation suit against an author who wrote that Trump was a millionaire instead of a billionaire. Furthermore, it is very telling that four of Trump's major enterprises have declared bankruptcy in the last 25 years.

Unfortunately, the main basis of Trump's support seems to be the xenophobic narrative he has put forward. Trump's campaign to "Make America Great Again" is solely based on stopping illegal immigration. He has said next to nothing about education reform, income inequality, or foreign policy positions, among countless other important issues. This less than subtle scapegoating becomes particularly egregious given that in the past 10 years, the illegal immigrant population has declined from its 2007 peak, according to Pew Research.

The fact that such a transparently xenophobic platform has gained such a large following in America is highly disturbing, especially in the wake of the recent incident in Boston in which two brothers beat a homeless man simply because he was Hispanic. According to *The Atlantic*, one of the assailants cited Trump as an inspiration behind the attack.

Donald Trump's rapid rise in politics is deeply unsettling in terms of what it says about certain segments of American society: the unquestioning acceptance of shallow political theater, the mob-like anger at the American political system, and the discomforting xenophobia that somehow still persists in a nation of immigrants. Even if Donald Trump fails to secure the GOP nomination, these attitudes won't go away so easily and will be highly influential on national politics in the years to come.

Hugo Awards need to embrace diversity

Last summer, gamers banded together in an attempt to push independent game developer Zoë Quinn out of the industry. Quinn was targeted by hate mail, online harassment, and a tell-all blog post written by a former boyfriend. This deplorable example of misogyny in the gaming industry came to be known as "gamergate," an example of rampant sexism in the video game industry.

Now, science fiction writers are facing their own version of gamergate. In April, the finalists for the prestigious Hugo Awards were announced.

The Hugo Awards are one of science fiction's highest prizes for novelists, and the finalists are determined by ballot. Any member of the 2014, 2015, or 2016 World Science Fiction Convention (Worldcon) can cast their vote, meaning that anyone who paid the \$40 membership fee has a say.

This year, a fringe movement of right-wing voters — the self-named "Sad Puppies," a play on so-called Liberal "bleeding hearts" — influenced the contest to bring their picks to the top. The group, headed by conservative authors Brad R. Torgersen, Larry Correia, and Vox Day, pushed Worldcon members to vote for a specific shortlist of authors.

Although this is the third year that the Sad Puppies have tried to influence the Hugo Awards, this is the first year that their efforts have had a noticeable impact. Three of the five best novelist nominations are on the Sad Puppies shortlist, and the Best Novella nominations match the Sad Puppies' picks exactly.

The authors chosen, many say, are not representative of science fiction as a whole and crowd out progressive and minority authors. John C. Wright, for example, one of the authors nominated for his novellas, is known for his outspoken homo-

phobic viewpoints.

The Sad Puppies' undue influence on the Hugo Awards is a step backwards for a society gradually moving in the general direction of equality. The Sad Puppies represent a fringe group that is fighting against a science fiction scene that is more diverse than it has ever been.

Worldcon must rework its voting system, making it harder for one group to sway the nominations. Beyond this, however, science fiction and fantasy fans and authors should fight against such conservative jury rigging, continuing to make Worldcon and the Hugo Awards more inclusive of diverse, progressive authors.

Fans should embrace the more nuanced science fiction and fantasy created by the younger, more diverse crowd of authors that would not have gained the same kind of recognition in the seventies or eighties, rather than trying to strike it down.



Emily Giedzinski/Staff Artist

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Orientation staff must improve diversity to better reflect CMU life

VINAY VISWANATHAN
Junior Staffwriter

For an incoming first-year student at Carnegie Mellon, Orientation Week is a special time to start your college experience, make new friendships, and expand your identity. First-year students are guided through this first week of college by a cast of volunteers from the Department of Student Affairs, known as Orientation staff: Orientation Counselors (OCs); Orientation Leaders (OLs), who supervise OCs; and Head Orientation Counselors (HOCs), the student Orientation coordinators for a given first-year housing community who direct OLs and OCs.

These positions are complemented by paid RAs and, in certain communities, mentors or ambassadors unaffiliated with Orientation staff. For many first-year students, their OCs, OLs, and HOCs form their first impression of Carnegie Mellon and set a foundation for the rest of their time at our school.

Carnegie Mellon prides itself on its diversity. The university's Diversity Resource Guide reads that Carnegie Mellon is "a community that understands diverse perspectives and backgrounds breed the intellectual

vitality essential for the health and progress of the university."

Yet, the Orientation staff does not reflect this diversity. A current OL, who asked to remain anonymous, said that "[Orientation] gives an inaccurate representation of what Carnegie Mellon is really like."

Perhaps the most notable sign of a lack of diversity in Orientation staff is the gross overrepresentation of Greek students, which is linked to an underrepresentation of international students and minorities. As of the Spring 2015 Greek Report, 23 percent of Carnegie Mellon's student body is involved in Greek life. 100 percent of HOC's (8/8) and 75 percent of OL's (18/24) are members of Greek organizations on campus.

A first-time OC, who also asked to be quoted anonymously, said that "When I decided to apply to be an OC, I was told by a lot of people that the odds of me being accepted weren't that great because I wasn't Greek. Therefore, when I did get accepted, I saw it as an achievement and my non-Greek status as one of my strengths. However, once training began, I quickly came to realize that me not being Greek was actually an initial setback. The Greek community at CMU is pretty tight knit and

as a first-time OC who is not active in Greek life, I felt like an outsider. Everyone knew each other and it was really hard for me to talk to people I had never even seen before without any context. I especially felt like a minority, which was uncomfortable and unnerving."

The high proportion of Orientation staff who are members of Greek organizations causes a sense of exclusivity within the staff. As ambassadors of the student body as a whole, Orientation staff should give an accurate representation of the student body and promote the inclusion of varied perspectives, backgrounds, and organizational involvement.

The aforementioned OL suggested, "being Greek doesn't make a bad OC, but creates an unrealistic expectation that you have to be a member of the Greek community to be involved on campus," adding, "We also need more international students and people of color." In order to showcase the diversity of Carnegie Mellon's campus community we need to focus more on diversity as a criteria for OC selection.

While the exact number of international students in Orientation staff is hard to determine due to the lack of public information about a student's

citizenship status, the total number of international students is estimated to be between 3 and 6 percent of the total Orientation staff, despite the student body boasting a makeup of 19.3 percent international students (from 69 unique countries).

The previously mentioned OC lamented, "There are barely any international students who are OCs, and that's a problem because of our increasing international student population." International students have the greatest need for a smooth acclimation to campus, since they are adjusting to an entirely new country and culture in addition to a new educational institution. The Orientation staff needs more international students as OCs to make incoming international students feel welcome and comfortable.

The Orientation staff selection process is largely student driven, with some involvement from the Division of Student Affairs. With the group interview and the individual interview, both guided by HOCs and OLs, these students have a major influence in the pick of OCs.

A 2014 Morewood E-Tower OC who requested to be anonymous cites the Orientation selection process as the key issue here, mentioning,

"because of the overwhelming number of HOCs and OLs who are Greek, there were a lot of applicants who had Greek relationships with HOCs and OLs, it gives the people who know the HOCs priority and helps them be distinguished from the rest of the pool."

Some may argue that the lack of diversity is due to the initial applicant pool rather than the selection process itself. Of course, if the general applicant pool is itself overrepresented with Greek students and underrepresented with international students, finding a diverse set of OCs and OLs becomes difficult. If this is the case, a greater effort to recruit OC applicants through different channels, such as academic advising, multicultural organizations, and RAs.

If the fault is with the selection process itself, perhaps greater faculty and staff involvement is necessary in each cycle of interviews. Additionally, diversity could be more readily used as a metric when housing communities and their HOCs choose their Orientation staffs.

In either case, a solution is both possible and necessary. Carnegie Mellon is a rich, diverse community — it is imperative that our Orientation staff reflect that.

CMU should accomodate expansion

RUSSELL HOLBERT
Junior Staffwriter

This past week, Carnegie Mellon welcomed more than 1,580 first-year students to campus, the largest class of incoming students in its history. Because of the massive influx of students, the university had to make some accommodations. A handful of Donner doubles have been repurposed as triples, and many first-year students are now living in Shirley Apartments on North Dithridge Street: a location past the former first-year housing boundary, the Residence on Fifth.

The University is expanding at a rapid rate. Academic buildings reach past Forbes Avenue and deeper into Oakland, Carnegie Mellon's living alumni number 100,000, and the student body is experiencing rapid annual growth. A side effect of this growth is a redefinition of what's considered "campus" and how the student population is spread across it. Carnegie Mellon offers many a partment-style, university-owned housing options, such as Fairfax, Shady Oak, and Webster.

The purpose of this style of housing is to give students the independence of living off-campus while still living on university property. These locations also come with physical separation from campus, which juniors and seniors

often prefer.

With this geographical distance, Carnegie Mellon has made great efforts to ensure that students can safely commute between campus and their residence. These measures include the 217 emergency phones stationed throughout campus and the vigilance of University Police.

However, there is no separation from the risk that distance presents. Shirley Apartments is privy to that risk, being the same distance from the Residence on Fifth as the Residence on Fifth is from campus. In the realm of housing, especially when it comes to

first-year students, the Carnegie Mellon campus is far from contiguous.

This is not to say that Housing Services and University Police are not doing their jobs — they are, in fact, performing very well. Housing was quick to adapt to the size of the first-year class, and University Police are constantly patrolling university areas to ensure safe living and learning environments.

As the school year continues, Housing Services and the university administration should keep an eye on the distance between campus proper and the newest addition to the first-year residential community — if not just for the sake of safety and security, then for the sake of community.



Presidential candidates speak on immigration

BRANDON SCHMUCK
Staffwriter

Every time I see the words, "Make America Great Again," I imagine an enormous, medieval-style wall following the Rio Grande, complete with Trump Casinos at every mile. Immigration is an important topic this election season, which is made clear by the fact that the only position on Republican presidential candidate Donald Trump's website is immigration reform.

Trump supports tightening our borders, calling illegal immigrants rapists, murderers, and straight-up criminals. In addition, many conservatives trumpet stolen American jobs, a high cost to society, and violation of American law as downsides of immigration.

While Trump's site describes the details of a brutal murder conducted by an illegal immigrant, it turns out that these "criminals" have a lower crime rate than nearly every ethnic group of U.S.-born citizens.

According to a report conducted by the Migration Policy Institute, American-born citizens have an incarceration rate of 3.51 percent. In comparison, foreign-born American Hispanics have an incarceration rate ranging from 0.2 percent to 2.2 percent, depending on their nation of origin.

Trump describes how \$4.2 billion in tax credits were given to illegal immigrants in 2011. However, this reveals not an issue with illegal immigration, but with our nation as a whole.

If we are giving \$4.2 billion to 11 million illegal immigrants, how much are we giving to the 300 million citizens present in this nation? Of course, most illegal immigrants are not contributing to our

tax revenue, due to the fact that if they submitted their income to the IRS, it may be the last income that they submit in the U.S.

Trump and other conservatives argue that these people should not be crossing our border because it is against the law. However, the law is not a perfect, unbreakable contract handed down by a higher power. It is a structure of rules created by fallible people. According to Cambridge attorney and author Harvey Silvergate, the average American committed three felonies a day in 2009. Since then, the thousands of pages added to the U.S. Code likely increased that number.

Illegal immigrants are not stealing American jobs on a large scale; they are simply filling a void in the American economy. Many are working well below the minimum wage, as more and more Americans begin to support increasing it. According to a Hart Research Associates study, 63 percent of Americans support a \$15 per hour minimum wage. Increasing wages and benefits, however, cripples small companies, many of which may have no other option than to find labor under-the-table.

While it is clear that our country needs some kind of immigration reform, kicking 11 million people out of the country is not the answer.

The Great Wall of Trump, which experts estimate to cost tens of billions, according to NBC, is also not the solution.

The solution is giving people the chance to become citizens and the chance to contribute to society. As people shout more and more about closing the border, they forget the origin of our nation. We are all immigrants, and we are all part of the American Dream.

A PERSON'S OPINION

Compiled by Sarah Gutekunst

The Tartan is gearing up for the first week of classes, so we asked students,

What are you most looking forward to this semester?



Amber Paige
Mechanical Engineering
First year

"Getting involved at the school and meeting like-minded people who are passionate about what they do."



Evelyn Reuss
Chemical Engineering
First year

"I'm looking forward to meeting new people with different perspectives and interests."



Yvonne Chen
Business Administration
Junior

"Being a 'real' upperclassman!"



Evan Wineland
Information Systems
Senior

"I'm excited to complete my bucket list of things to do in Pittsburgh. This city as so much to offer, and my friends and I plan to take advantage of the great restaurants and destinations."



Alan Hodge
Materials Science & Engineering
and Biomedical Engineering
Sophomore

"I'm beyond excited to join Evan in his adventure to complete his bucket list. Specifically getting to see Fallingwater."



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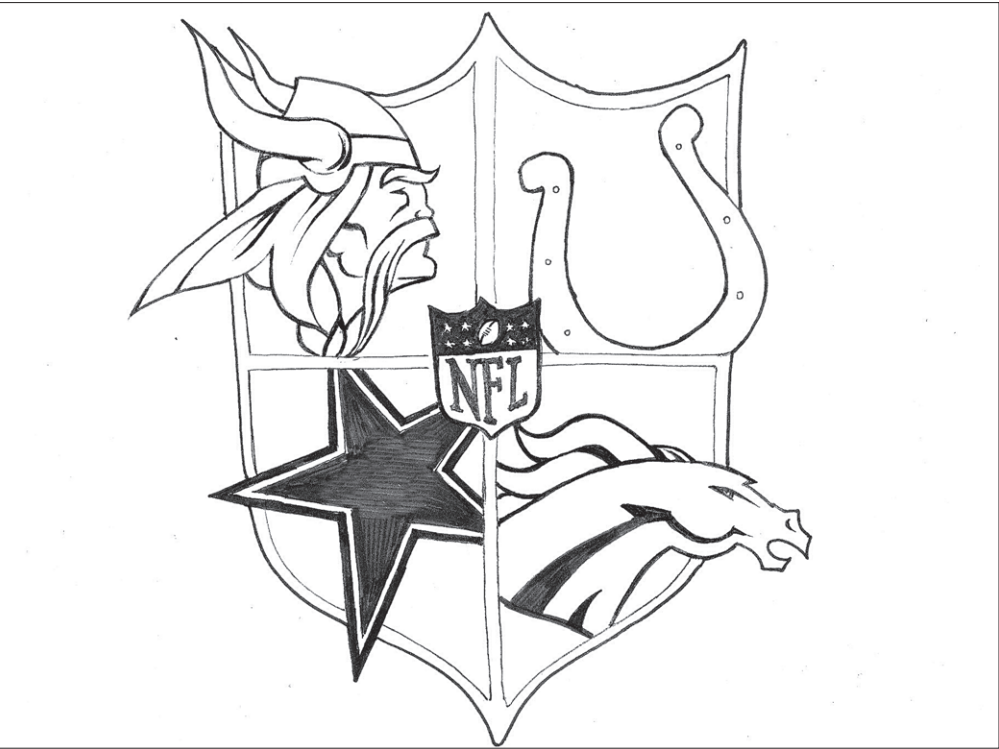
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Sports

Rising Vikings and waning Broncos might shift standings



Eunice Oh/Art Editor

ZEKE ROSENBERG
Sports Editor

As the NFL season approaches, the short season and massive rosters in football always result in a few surprises as the year goes along. This article will look at two teams who may have some surprises in store — one team to im-

prove and one to regress.

Minnesota Vikings

The Vikings are relying on second-year quarterback Teddy Bridgewater to turn in a stellar year in his second season. The good news for Minnesotans is that Bridgewater’s success is an increasingly

likely proposition.

Bridgewater’s poise in a collapsing pocket and pinpoint accuracy are hallmarks of successful quarterbacks. While Bridgewater is not as proficient on deep routes, he improved vastly as last season went on.

Minnesota’s offseason acquisition of wide receiver Mike

Wallace helps give Bridgewater a deep threat to open up more space for the medium length routes the quarterback is best at.

The return of running back Adrian Peterson may help, but the team seems to have qualms about letting him play after his run-in with the law for abusing a child last fall.

On the defensive side, the Vikings’ youth means the defense will naturally continue to improve.

Cornerback Xavier Rhodes, safety Harrison Smith, linebacker Anthony Barr, and defensive lineman Everson Griffen are all likely to improve on excellent campaigns last year. Barr, in particular, showed off both his raw athleticism and the coaching ability of head coach Mike Zimmer with his incredible ability to disrupt offenses and discipline necessary to not leave giant gaps in coverage to chase big plays. This defense could be exciting next year.

There are still obstacles for the Vikings, though: their offensive line is atrocious. While running back Jerrick McKinnon and Bridgewater can succeed behind a bad line, they could be in for a tough year if guys like left tackle Matt Kalil

continue to be turnstiles. The schedule might be one of the toughest in the league. However, this young and talented team can improve from where they were last season and maybe find their way into the playoffs if things break right.

Denver Broncos

The Broncos’ most obvious weak link is their quarterback. Peyton Manning’s hall of fame career is moving toward its end, and for the last few weeks of last season, it was starting to look ugly.

It became clear by the end of the season that Manning had strained a muscle in his leg, and he has been losing arm strength for quite a while. This could be the season he finally does not have enough zip on his throws to be a dominant quarterback based purely on his excellent ability to predict defenses.

Losing tight end Julius Thomas also takes away one of Manning’s key targets, and hurts the underneath spacing as tight end Owen Daniels also approaches the twilight of his career.

The Broncos also suffered major losses in other areas. They are playing with a second

year center, Matt Paradis, who came in as a sixth round pick. They’re also stuck with rookie tackle Ty Sambrallo — neither he nor Paradis have ever started an NFL game.

Though guard Evan Mathis is excellent, continuity is important on an offensive line. In order to know what gap a player should cover, he has to know the range of the player next to him. Mathis’s late signing could damage the chemistry of the group. Manning has a quick release, but he is basically immobile and can have a hard time escaping the rush if the line falters. Some hits could do serious damage.

Furthermore, the defense lost a major presence in tackle Terrance Knighton, on top off the loss of safety Rahim Moore. Neither player was given a meaningful replacement. Further, cornerback Chris Harris’s amazing season last year might have been a case of playing over his head. Any regression could pull the Broncos back to Earth.

The Broncos will still be a playoff team, but it will be hard for them to secure a first round bye and they might be vulnerable if the Chiefs or Chargers play beyond expectations.

Despite eighth ranking, CMU Football remains optimistic



IAN TANAYA
Assistant Sports Editor

Last Friday, the Carnegie Mellon men’s football team held a scrimmage with the Waynesburg University Yellow Jackets. The two teams engaged in 7-on-7 drills and linemen drills before pitting their special teams, offenses, and defenses against each other in earnest.

Both teams generated plenty of excitement from the crowd in the stands. The first 7-on-7 play for the Tartans saw senior quarterback Andrew Hearon connect with senior wide receiver Max Reinertsen. They reconnected on their first drive against the full Waynesburg defense, converting a fourth-and-long situation and setting up the stage for a touchdown on the next play. The defense was able to make some good plays, too, including a few interceptions against the various Waynesburg quarterbacks.

Going into the season, the Tartans are optimistic about their chances in their second season as an affiliate member of the Presidents’ Athletic Conference (PAC). Last year, the Tartans finished in seventh place out of eleven teams with

a 4–6 record, tying the records of St. Vincent College, Westminster College, and Thiel University.

Though they are projected to finish in eighth place according to the 2015 PAC Pre-season Poll, the players and coaches feel differently.

“We had a great offseason with those kids, they work extremely hard and spring ball went well,” head coach Rich Lackner said at a question and answer session in early August. “I put a lot of stock in chemistry and hopefully we will have great chemistry with this team this season.”

Senior wide receiver Chris Herrera agrees. “A lot of us took summer workouts seriously,” the civil engineering major said.

Herrera cites the returning talent on offense and defense as reason to believe the Tartans will be able to outshine their opponents in the upcoming season. He believes the chemistry the team has will allow them to withstand anything their opponents throw at them.

The Tartans will open up their season away from home against the Washington University in St. Louis Bears on Sept. 5.



Matt Nielsen/Staff Photographer

Top Left: Junior safety Samer Abdelmoty brings down the ball carrier. **Middle Top:** Senior running back Evan Englert hurdles his way past traffic. **Middle Bottom Left:** Sophomore safety Drew Fizzsimmons tangles with a defender. **Middle Bottom Right:** Junior running back Mike Minjock carries the ball. **Bottom Left and Top Right:** The Tartans huddle on the field at the scrimmage.

Diving coach Alicia Gorman named Director of Aquatics

ZEKE ROSENBERG
Sports Editor

On Sept. 1, head diving coach Alicia Gorman will begin her time as Director of Aquatics and Facility Manager.

In her own words, Gorman is “responsible for all activities that happen within our aquatics facility at the Cohon University Center” in her new role as aquatics director. This includes scheduling classes and practices for various teams that use the pool as their main athletics facility, as well as supervising lifeguards.

Gorman is, for the most part, happy with what the pool currently has to offer,

saying that she is “looking forward to continuing the excellent programming that we have been able to offer to our campus community.”

With new upgrades to the pool, Gorman is “excited to see what programming we will be able to expand. I will be working with Sara Gaunter, Assistant Director of Athletics, and Pattye Stragar, Fitness Operations Manager, to expand our offerings in the aquatics arena.” Gorman will also begin teaching fitness classes in Spring 2016.

Her position as Aquatics Director will not prevent her from continuing as head diving coach, however. She will

retain that position in the coming year.

As the diving coach, Gorman believes that “participating in collegiate athletics should fully enhance each student athlete’s college experience.”

She says she finds coaching to be collaborative. She works with the coaches to help drive the team to its goals as well as students. Gorman said that it is her job to teach students the value of collegiate sportsmanship by “meet[ing] them where they are academically, athletically, and socially to help them fulfill all of their goals.”

Some of the practices

themselves will be moved to morning to accommodate Gorman’s new position as aquatics director, but the rigor of the practices will not change, featuring 5–6 days a week of practices and two days a week of weights. In order to get nearly equal time training on both diving boards, Gorman has divers alternate each day between the 1-meter and 3-meter boards.

According to the Carnegie Mellon Athletics Department, Gorman will also open the athletics facilities in the Jared L. Cohon University Center and will manage the fitness center that will be opening in May.



Courtesy of CMU Athletics

Alicia Gorman will begin her time as Aquatics Director on Sept. 1.



Drama on *The Bachelorette*

ABC's matchmaking show finds itself in a new role that might affect the future of the franchise • B4

Me and Earl and the Dying Girl

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Find out what's happening around town.

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Class of 2019+ exhibits talent

First year showcase on Saturday night brings variety of passions

On Saturday night, students of the class of 2019+, Orientation staff and members of the Carnegie Mellon community had the privilege of witnessing just a few of the talents of those in the first year class. After a week of Orientation craziness — Playfair, House Wars, and information sessions galore — hundreds of people gathered in the Baker Lawn tent to celebrate the diversity of the passions present on campus.

The evening started out with an endearing and heartfelt performance by two Boss House students, Ghalyea Alsanea, pianist, and Johanna McAllister, vocalist. They sang a rendition of Regina Spektor's *Folding Chair*. Though there were a few bumps along the way, the duo charmed the audiences when they incorporated a hill cheer into a part of the song, demonstrating to the crowd that house spirit was still alive and well.

Next was a first-year from Donner House named Riki Khorana, who explained to the crowd his desire to transform their ideas about what ukuleles can sound like. He cited Jake Shimabukuru as his inspiration, and then proceeded to play a wildly virtuosic classical piece. Not only was the sound that Khorana coaxed out of the ukulele amazing, but he was a dynamic and captivating showman as well. Like so many of last night's performers, his academic interests, which include engineering, are focused in a completely different area than the talent he demonstrated.

Morewood E-tower first-year Gaurav Balakrishnan also played ukulele while singing a very beautiful Coldplay song. His soothing voice was comforting and wonderful to listen to.

The theme of home — new and old — was present throughout the showcase. Slam poet Hamza Qureshi, Mudge first year, recited a spoken word poem that he had written the night before he left to come to Carnegie Mellon. Before his

performance began, he explained to everyone in the tent that they should snap if they felt connected to what he was saying. Over the course of the piece, Qureshi eloquently described his experience of saying goodbye, and how when faced with saying goodbye an individual realizes

things they might not have otherwise. As the poem went on, more and more individuals inside the tent snapped their appreciation. After his performance, Qureshi invited those who wanted to learn more about slam poetry to ask him about it, inviting members of the community to come enjoy and get engaged in a passion of his.

Other highlights of the evening included an impressive hula hoop performance by Allison Black that had individuals whooping and hollering, two very different dance performances by Yuyan Sun and Janet Lee, a yo-yo performance by Alex Nelson, classical guitar by Joseph Kim, show tunes sung by Daniel Brennan and Emily Gallagher, and the performance of an original song by Nicole Korogodsky.

The evening wrapped up with the orientation slideshow, giving students the ability to reflect on their jam packed week and the amazing, passionate individuals they are embarking on a university adventure with. Support, enthusiasm, and kindness radiated throughout the event.

Lula Beresford | Pillbox Editor



Advice for awkward people

About balancing and stuff

Greetings, Joshua

I am a first year in the class of 2019(+?), majoring in 15-112 and Red 9, and I am experiencing some major issues. Orientation was such a stimulating experience, but this week, classes are going to start. Throughout my life, I have been an avid collector of street art, such as lightly chewed gum, mint-condition bottle caps, and blurry iPhone pictures of graffiti.

I am having major anxiety because I do not know whether or not I will be able to balance my passion for collecting and my passion for my school work. Could you provide me with some advice, oh wise one?

**Signed,
Majorly Anxious Girl,
Pacing In Earnest**

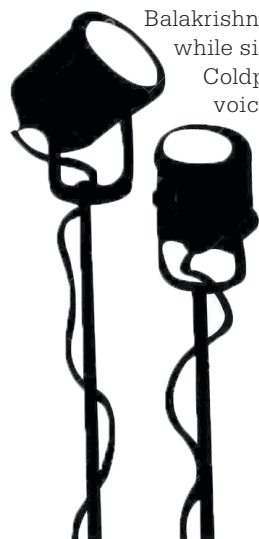
Dear MAGPIE,

College is a balancing act. There are hundreds of things vying for your attention at any given time, and it's part of the growing process to figure out what to focus on and what can fall by the wayside. Maybe you'll find that you need to concentrate your collecting to just bottle caps and photos and let the gum go. Or maybe not.

What you will find, though, is that being very busy forces you to prioritize, and this prioritization allows you insight into your true passions.

So collect that street art, code some amazing games of Tetris, and use all \$810 of those Dinex dollars on chips and cheesecake. This is your year. You've got this.

**Or just get some Trident from Entropy,
Joshua Brown.**



The Bachelor franchise lacks diversity

This summer's season of *The Bachelorette* demonstrates power of show's platform

ABC's *The Bachelor* franchise is one that continues to endure years after its conception. A show in which one individual seeks true love by combing through and kissing a wide variety of impossibly beautiful suitors, *The Bachelor* and its spin-off *The Bachelorette* have a devoted fan following and viewership continues to skyrocket. As one of the franchise's devoted fans, I am overeager when it comes to trying to predict the winner, avoiding online spoilers, and grabbing snacks for viewing parties with friends, but I also spend time thinking about the issues that are front and center within the franchise, including diversity issues. There is little to no diversity, and there hasn't been since the nation's introduction to *The Bachelor*, *The Bachelorette*, or any other spin-off show.

This summer's bachelorette was no exception. In fact, since the beginning of the show twelve years ago, only one star, of either *The Bachelor* or *The Bachelorette*, was a person of color. After a rise in the number of contestants of minority backgrounds in the 2013 to 2014 seasons — to two or three out of roughly 30 — that number has once again slipped to one or two per season. Even then, minority contestants are almost always voted off immediately. During Chris Soules' season last winter, Saturday Night Live aired a skit making fun of diversity issues on *The Bachelor*, claiming that all individuals of color were voted off by the fourth week. It's hard to understand why, in this day and age, ABC and franchise producers find it challenging to come up with a diverse cast. In fact, *The Bachelor* has faced two separate lawsuits relating to problems of diversity by potential contestants. The franchise, however, sticks by its First Amendment rights to cast whoever it wants on the television show.

The show is also exclusively heteronormative. There is nothing wrong with a male bachelor looking for love from a big group of women — besides, you know, how weird a situation it is — but after 12 years and almost 20 seasons, it is necessary and important to have a bachelor or bachelorette contestant who identifies as bisexual or gay. As a huge cultural staple, whatever that says about our nation, it would be my hope that this bizarre and ridiculous television show could attempt to represent more Americans.

This season's bachelorette was Kaitlyn Bristowe, a dance instructor from Vancouver, whose funny laugh and inappropriate jokes made her a favorite contestant from Chris Soules' season. While diversity issues persisted, Kaitlyn's season was able to address a serious issue that came up during the course of the show's run. While the show does not shy away from showing some pretty serious make-out sessions, the topic of more "serious" hook-ups, and sex, go unspoken.

Toward the end of each season, the last few remaining contestants are allowed to spend a night in the "fantasy suite" with the Bachelorette. This is a chance for them to spend the night together and have some off-camera time, and, presumably, sleep together if they so desire.

While this is the implication, Bristowe is the first bachelorette to admit to sleeping with someone on the show, in an episode where she slept with one of her potential suitors halfway through the season. This generated a lot of hate mail for Bristowe, and a lot of wildly offensive slut shaming from the American people. In the "After the Final Rose" special, an episode that airs after the bachelorette has picked a man, Bristowe and host Chris Harrison shared a lot of the terrible tweets and messages that Bristowe had received as a result of her confession. While reading them out loud on live television was a bit of a strange choice, the amount of positive feedback and support for Bristowe was impressive. Bristowe defended her actions and her decisions with poise, and called out her haters for their bigoted, shameful, and hateful comments.

I felt that this demonstrated the power of the bachelor and bachelorette, and the show itself, to enact change and open people's minds. Even more than before, I feel like this shows the untapped potential of *The Bachelor* and *The Bachelorette*. I think people often feel as though reality shows need to be pure fluff, or that a stupid premise begets a stupid message. I don't think reality television show producers should be resigned to making a show that's all pretty people and no substance. While I don't believe that *The Bachelorette* will all of a sudden blossom into a show that preaches love and kindness and depth of emotion, I do feel like there is a way to turn this side of pop culture into a place where other Americans can see themselves and important issues can be addressed. Then I would love these shows even more.

Lula Beresford | Pillbox Editor



Courtesy of Wikimedia Commons

Kaitlyn Bristowe, the star of this season's *Bachelorette*, and the focus of this summer's controversy, accepts a ring from the winner of her season, Shawn Booth.



Summer coming-of-age film embraces Pittsburgh

Me and Earl and the Dying Girl uses the city as a backdrop while examining adolescent life

It's always cool to see your city on the silver screen, and even cooler when you're missing that city like crazy due to summer break distance. This summer, a movie came out that was not only set in our lovely Pittsburgh, but was also really good and had a killer cast.

Me and Earl and the Dying Girl, based on the book of the same title by Point Breeze, Pennsylvania native Jesse Andrews, is a story about awkward high school senior Greg Gaines (Thomas Mann). Greg is neither popular nor unpopular; he likes to float through Schenley High School — recognize the name? Remind you of a certain campus-adjacent park perhaps? — never settling within a single group. His only friend, Earl (RJ Cyler), is referred to as a “business partner.” The two eat lunch in the office of their history teacher Mr. McCarthy (Jon Bernthal).

On his first day of school Jesse, learns that Rachel Kushner (Olivia Cooke) has leukemia, and after being informed of this by his mother, he is also told by his overbearing parents, Connie Britton and Nick Offerman, that he must befriend Rachel. This leads to a plan between Greg and Earl, suggested by Greg's high school crush Madison (Katherine C. Hughes), to make Rachel one of their intentionally-terrible movie parodies, such as “Pooping Tom”, which up until this point have been based on odd foreign films and have been seen by no one.

Throughout the course of the film, Greg and Rachel's friendship develops and we get to see them navigate

senior year, illness, and uncomfortable friendship. We also get to see them explore a fair amount of Pittsburgh. As a Carnegie Mellon student and a member of the Pittsburgh community, it was pretty cool to see Cathy (The Cathedral of Learning) peeping out over the houses on Earl's street, and through Rachel and Greg's windows.

Viewers may also recognize the record store Greg, Earl, and Greg's father visit in Polish Hill to find inspiration for their Rachel film and the corner shop they stop to get popsicles after accidentally eating pot cookies. A lot of the food the Gaines family eats, primarily Dr. Gaines and Earl, has Polish heritage, giving a nod to the cultural communities throughout the city. The director was careful to make sure the Pittsburgh vibe made it into the film, becoming a character in and of itself.

Though not included in the on-screen adaptation, the book tells us that Dr. Gaines is a professor of the classics at our lovely alma mater, which is a little strange because we do not have a classics department. Greg also explains what a Yinzer is, so if you're not yet aware, check out that description at the beginning of Chapter 12.

Each character also lives in a different Pittsburgh neighborhood — Greg and Rachel in Squirrel Hill and Earl in Braddock, which is where you'd end up if you were to take the 61A or 61B outbound to the end of the line. These neighborhood names will mean next to nothing to anyone not from Pittsburgh, but for those of

us who call the Burgh home — even if it's just for four years — it gives the film that much more depth. We can envision the layout of these characters' lives, map their paths for ourselves, and, if tempted, could even retrace their steps.

If you enjoy quirky, indie comedies like I do, I highly recommend this film. It has a vibe much like *Submarine* (Ayoade, 2010), *The Way Way Back* (Faxon & Rash, 2013), or *The Perks of Being a Wallflower* (Chbosky, 2012) which was also shot in Pittsburgh.

Another interesting Pittsburgh movie note: the “Rocky Horror” scene from *The Perks of Being a Wallflower* was shot at Hollywood Theater in Pittsburgh and included most of the theater's “Rocky Horror” shadow cast. I highly recommend going to a “Rocky Horror” showing there, but make sure you're dressed for it!

All in all, *Me and Earl and the Dying Girl* does a great job of being a movie about teenagers in Pittsburgh. It fully encapsulates the difficult task of existing in a clique-filled world while being an awkward 17 year old. It conveys the difficulty and annoyance of applying to college — Greg applies to the University of Pittsburgh, our Oakland neighbor. It places the characters in a world that the director and writer understand, making Pittsburgh both a place and a character and making it fun for those of us who live in the city to find our landmarks.

It also tackles the incredibly difficult topic of childhood cancer while not making it the film's only point. The characters keep their teenage-angst I-don't-care attitude while being affected by the fact that one of them has leukemia. They exist in the wake of mortality. Greg struggles to not constantly remind Rachel that she's dying, and Rachel tries to remain a teenager in her senior year. There are a lot of laughs and a few moments that make you tear up; there are existential questions and poop jokes; funny accents and weird food; Nick Offerman (who is always perfect), and behind it all is the Pittsburgh sky, with Cathy looming and no overly photographed landmarks making sure you notice them.

Whether or not you live in Pittsburgh, this film is great, but since we're here, it's nice to notice our home around it all.

Keaton Shapiro | Junior Staffwriter



Courtesy of Wikimedia Commons

Olivia Cooke, Thomas Mann, and RJ Cyler star in this story about coming to terms with oneself and finding one's place in the world.

Inside Out: a film with internalized conflict

Summer Pixar film teaches it's okay to feel lost and confused by emotions

There's a joke about Pixar that their movie premises can be boiled down to "What if [blank] had feelings?" What if toys had feelings? *Toy Story*. What if fish had feelings? *Finding Nemo*. What if robots had feelings? *Wall-E*. And the list goes on

Pixar is really good at applying human experiences to non-human entities; they've boiled it down to a formula that keeps viewers coming back every time. *Inside Out*, Pixar's critically-acclaimed summer blockbuster, took the exploration of emotions to a new extreme. In this sense it's the quintessential Pixar flick. Except there's one element that gets flipped on its head: the conflict.

We're used to being handed a classic tale of good versus evil. The protagonist must look within him or herself, find the strength that was there all along, and defeat some kind of villain. There is probably some kind of epic battle or showdown.

Inside Out breaks the mold with an internal struggle. There's no super villain, no school bully, just dealing with emotions. The entire conflict is inside the main character's mind. Her name is Riley; she's a little girl whose life is completely changed when her father's job moves their family from Minnesota to San Francisco. The audience sees her struggle to adapt to this new life from the perspective of her emotions.

In Pixar's creative imagination of our brains, there are five little people up in Headquarters controlling our actions: Joy (Amy Poehler), Sadness (Phyllis Smith), Fear (Bill Hader), Anger (Lewis Black) and Disgust (Mindy Kaling). They all work in chaotic but perfect harmony to maintain Riley's memories and core values, keep track of dreams, and help her make important decisions. Through their narration,

we meet Riley, learn about her life, and watch as she grows more and more uncomfortable in her new home. What really sets the movie into motion is when Joy and Sadness get lost in long-term memory and Fear, Anger and Disgust are left running the show — clearly a pleasant combination.

With these three at the helm, Riley turns into every pre-teen just hitting the crest of adolescence. As she makes rash, destructive choices in real life, the consequences in her mind are dire. Hockey island, family island, goofball island, and honesty island, representing the values and interests that make up her personality, start crumbling into the abyss, sending the emotions into a panic. Riley's relationships with her parents and peers weaken, and she can't figure out how to control her moods.

As Joy and Sadness attempt to make it back to Headquarters with the help of Riley's childhood imaginary friend Bing Bong (Richard Kind), Sadness finally realizes her purpose. Before, she only seemed to cause tantrums, crying, and more sadness. But through revisiting these sad memories, Joy helps her realize that sadness is Riley's way of asking for help and support.

The two return to Headquarters just in time to stop Riley from making an irreversible mistake, and get her home to her parents where she is finally able to share the way she has been feeling since their move. The final half hour of the movie comes with the heartfelt softness of all Pixar movies, and there's a good chance it will even make you cry.

But what sets this movie apart is the takeaway. Because the conflict was internal, so was its resolution. Riley's struggle can teach an important lesson to viewers of all

ages and backgrounds, but my hope is that it will resonate with children who still have time to change. The lesson is that feelings are okay.

The movie also shows the cast of emotions in Riley's parents, which makes for an entertaining scene, but more importantly shows that everyone has feelings. It's perfectly natural to have emotions of all kinds, not just happiness, but sadness, fear, anger, disgust, all of the above and otherwise. It's part of being a human, especially at Riley's age.

Many of the kids that saw *Inside Out* this summer are coming up on puberty and will start having these kinds of hormone-driven episodes of angst. Riley can show these kids and other teens that they aren't alone in it; many of their friends and peers are probably experiencing something similar.

The resolution of the film teaches a more important but less popular lesson: that it's beneficial to express your emotions. Tons and tons of people have a hard time talking about their feelings in order to come to a positive solution, opting instead to internalize them. This is easier at the time and allows you to save face, but in the long run, it only damages your emotional well-being and maturity.

I sincerely applaud Pixar for creating a movie that focuses on more a personal, sentimental concept with real-life applications to its viewers. *Inside Out* has the potential to inspire a vast audience to become more sensitive, which can benefit everyone.

Sarah Gutekunst | Operations Manager



Courtesy of Flickr Creative Commons

Anger, Disgust, Joy, Fear, and Sadness make up the five characters integral to the story as they control Riley's life from inside a creative imagining of the brain.



Coverage of primaries changes U.S. television

Donald Trump and others’ campaigns significantly impact the landscape of American media

This summer has been an interesting one. There hasn’t been a summer this politically charged in recent memory. From Greece’s financial crisis to the presidential race in the U.S., it has been a lot to keep track of. Lately, entertainment and media have focused on the presidential race, especially the Republican primary race. Although we are still 6 months away from the actual primaries, every single news channel has been hyper-focusing on one special person in the primary race. No, it’s not the old man from the Northeast that calls himself a “democratic socialist,” it’s also not the former First Lady running for President for the third time, not even the son of a former President, and brother of another one, and it’s not even the neurosurgeon. Yes, it’s Donald Trump.

Donald Trump is a genius, but only when it comes to manipulating media to his advantage and how to become the most annoying person in all of television. Otherwise, though, he’s terrible for America. I have been devoted to understanding American politics for the longest time, so a lot of my friends constantly come to ask me about how I feel about the current

political scene and how they are portraying Trump lately.

In the past few weeks, Trump has been ubiquitous on every television screen for yelling racist, xenophobic, and misogynistic remarks, to just being good old Donald and hating on everybody for everything always. Media and news outlets revere him as king for leading early polls among Republicans, but they have failed to produce any true political analysis of his campaign and what it means for the future of the Republican Party and the nation. Podcasts, however, have been a bit more critical of his campaign and most of the ones I have been listening to, even the conservative ones, agree on the same scenarios: One, he wins the primary and then only gets 20 to 35 percent of the general population’s vote, securing the election for the Democrats; two, he loses the primary, goes as an independent and “steals” around 15 percent of the vote from the Republican candidate, securing the election for the Democrats; and three, he steps out of the race, leaving the rest of the election to the Democratic and Republican candidate and letting them battle it out.

The other two most important things about Trump that I am excited for are his contributions to SNL (this will be great for *Saturday Night Live*, all of the Late Night people have taken their jabs at Trump, he’s proven to be comedy gold), and how this will impact Miss Universe (NBCUniversal and Univision are not broadcasting the event, and several Latin American nations have dropped from the race — they tend to win these pageants, so it should be an interesting year)

For the rest of this semester, all of these topics will continue to come into fruition as they develop and are covered by many outlets.

José Lopez | Staffwriter

moviesinmconomy

McConomy Auditorium, Cohon Center

Lula Beresford | Pillbox Editor

Fast & Furious 7

Friday, Sept. 4

8 11

Sunday, Sept. 6

8

Vin Diesel and Paul Walker star in the latest Fast & Furious installment. After defeating Owen Shaw, an international terrorist, Dominic Torette (Diesel,) and Brian O’Conner (Walker,) have split up, and begin to live their lives as normally as possible. However the older brother of the late terrorist Deckard Shaw, played by Jason Statham, is eager to exact his revenge. In a slightly skeezy deal, Toretto and O’Connor agree to rescue a computer hacker who has been kidnapped because he developed a crazy good surveillance program, and in return, government agents promise they will get rid of Deckard Shaw. Helicopters, drones, stints in prison. If you’re looking for non-stop action and high intensity chase scenes then come on down to McConomy to enjoy a film that is the pinnacle of its genre.

Pitch Perfect 2

Saturday, Sept. 5

8 10:30

Elizabeth Banks’ directorial debut, Pitch Perfect 2 brings even more raucous laughs and bizarre singing situations to fruition. Star Anna Kendrick and her classmates from the first film are now college seniors, and are faced with the intimidating task of winning world championships. After a flashing incident at Lincoln Center, the Barden Bellas are threatened by the a cappella association to win world’s, or else lose any and all performance opportunities. Kendrick’s character Becca Mitchell tries to balance her life as an intern at a recording studio and her commitment to the Bellas as pressure mounts. With fresh talent and a weird adventure to a summer camp retreat, the Barden Bell’s prepare to go head to head with an intimidating German a cappella group. The masterful a cappella group Pentatonix has a guest appearance.

Want to get off campus and relax with friends? Special: Fall Activities Board Preview

Here are some fun things to do to get your mind off academics and explore this great city

When given respite from Carnegie Mellon's typical 25-hour work day, we have a wealth of things to do in the city we study in. Pittsburgh, once dominated by dreary steel mills and heavy industry, has long moved on to establish itself as the major cultural nerve center of the region. From museums and art to sports and concerts, Pittsburgh has something for you no matter what your inclinations. Things are especially interesting this coming Fall semester, with such a wealth of things to do that you'd actually feel sorry you didn't have more time.

Watch a Game

Pittsburgh happens to be one of the most sports-crazy cities in the U.S., and for good reason. In the Steelers, Pirates, and Penguins we have world class football, baseball, and hockey teams, respectively.

What's more, their respective home venues — Heinz Field, PNC Park & the CONSOL Energy Center — are landmarks of their own. PNC Park, for example, offers some of the best views of downtown Pittsburgh. Even if you don't particularly understand sports, the sheer enthusiasm of thousands of fanatical Pittsburgh fans all around you is so infectious that you'll find yourself jumping up in your seat and cheering along with everyone else.

Catch a Concert

Pittsburgh is a regular stop for most artists on tour. Most play at Stage AE, Mr. Smalls Theater, or the First Niagara Pavilion, with a few of the largest acts taking over the CONSOL Energy Center. The third week of September, for example, is jam packed with concerts. Of Monsters and Men is coming to Stage AE on Sept. 16, Death Cab For Cutie is coming to Stage AE on the 17th, and Lady Antebellum is coming to First Niagara on the 18th. So if you're a fan of folksy, introspective rock, you might want to pick up tickets as soon as possible.

Later in the semester we have Mac Miller, Pentagram, Seether, Mark Knopfler, Stevie Wonder, Jason Aldean, Janet Jackson — you name it. There's some concert or another on nearly every weekend; tickets, for most part, can be found on Ticketmaster. You might want to book reasonably early though, as concerts do fill up pretty quickly.

Fright Nights @ Kennywood

Kennywood is a local amusement park around a 20 minute drive outside of the city. For most of the year, Kennywood is best known for its timeless wooden roller

coasters, several of which were conceived in the early 1900s and have won numerous accolades in the decades since. Every weekend leading up to Halloween, however, the park hosts Fright nights.

Open from 7 p.m. to 1 a.m. on Friday and Saturday for Fright Night, Kennywood undergoes an extensive Halloween-themed Makeover. Fog blankets the park, spooky music fills the air, costumed actors scare unsuspecting park guests, and up to thirteen haunted houses are set up for guests to explore. Added to this is the thrill of some of Kennywood's regular attractions in the dark. The Black Widow offers some of the most amazing views of nighttime Pittsburgh to distract you as you hurtle to the ground face first, held in place by a simple shoulder harness. The Phantom's Revenge, the park's biggest roller coaster, is so much scarier when you can't see the fog covered ground. Fright Night is a great thing for those October nights when you want to have a little adventure.

Go To A Museum

Pittsburgh happens to be home to a plethora of museums ranging from massive to niche establishments, most of give Carnegie Mellon students free admission. The Carnegie Museum of Art, the Carnegie Museum of Natural History, and Phipp's Conservatory, are within walking distance of campus.

The Carnegie Museum of Art especially is a nice place to spend a free afternoon, featuring tons of thought provoking contemporary art. The Carnegie Cafe within the museum also happens to serve some of the best food in Oakland. Another noteworthy visit is the Andy Warhol museum downtown. The Andy Warhol is the largest museum worldwide to be dedicated to a single artist, and yet manages to be surprisingly accessible to people not well versed in Warhol's work. Pay the Warhol a visit for an introduction to Pop Art, and to learn about the life of one of Carnegie Mellon's most illustrious alumni.

My personal favorite, however, has to be the Mattress Factory, a small independent establishment in North Pittsburgh. Although it is a little difficult to get to without a car, the Mattress Factory is well worth a visit at some point. Its exhibits are room sized installations, created by on-site artists. Each exhibit ends up being less a discrete work of art and more an entire space that inspires you to think about the world around you in a new way.

Abishek Tayal | Staffwriter



Courtesy of Wikimedia Commons

Chair of Activities Board highlights the exciting events they have planned for the semester

Hey everyone!

My name is Abhi Kelkar, the Main Chair of Carnegie Mellon University's Activities Board for this upcoming year. We are the campus' primary entertainment booking organization in charge of your concerts, lectures, comedians, movies, special events, political speakers, and more. Here's a special glimpse at just some of the events we have coming up this Fall (with many more)!

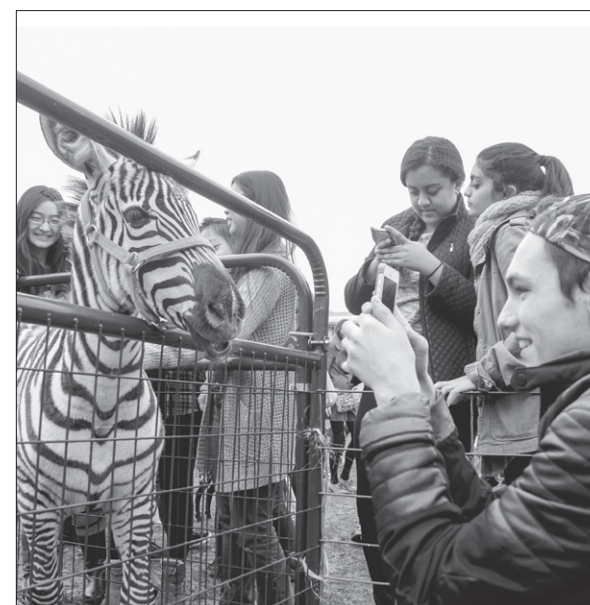
September's Welcome Back Concert is The Mowgli's! They're best known for their hit "San Francisco" and the show will be Tuesday, September 8 at 7 p.m. in CUC Rangos.

October will feature the now-annual Activities Board Petting Zoo, featuring animals such as goats, piglets, llamas, and alpacas you can pet and feed. It will be on October 27 on the CFA Lawn unless there is rain.

November features a double-hitter with our not-yet-announced Fall Concert (past bands have included Walk the Moon, Timeflies, and Sleigh Bells) in Weigand Gym on November 21 and AB Films' showing of *Straight Outta Compton* on November 20 and 22 in McConomy Auditorium!

Keep an eye out for hints on who the Fall Concert will be in and around October. We may even do a special announcement at one of our events and through The Tartan's Pillbox section. To keep up to date with information on Carnegie Mellon's events, follow us on Facebook at facebook.com/activitiesboard.

Sincerely,
Abhi



Yeongwoo Hwang | Systems Manager



Matt Nielsen | Staff Photographer



Ryan Oh | Staff Photographer



Kevin Zheng | Assistant Photo Editor

What's coming up in 21st century cinema

Be informed about some exciting collaborations and controversial castings happening now

This Week In Movies: August 31, 2015

Twice a year we enter, what I like to call, "The Movie Offseason." Along with January–February, we're coming into the late-August–September season of movies that just don't measure up. Studios take some time to catch their breath after an explosion-fueled summer and gear up for the playoffs — Oscar season. I anticipate these next weeks to be slow at the theaters, but the PR Department of major studios are still at work cranking out some interesting news to keep us all biting our nails. Let's get into it.

Toby Kebbell up for *Kong: Skull Island*

This is a shining light for Hollywood. There was a time, quite recently in fact, when one bad movie could set an actor back years in their career. Mike Myers (*The Love Guru*) and Ryan Reynolds (*Green Lantern*) know this all too well. Seeing *Fantastic Four* and knowing Toby Kebbell, the young, unsung talent that he is, is still being sought after puts a big, wide smile on my face.

Kebbell would join the ranks of Tom Hiddleston (*Thor*, *The Avengers*) and Jason Mitchell and Corey Hawkins (*Straight Outta Compton*) along with other actors in negotiations: Samuel L. Jackson, Brie Larson, and John C. Reilly. The Legendary and Universal Studios film is described as, "a team of explorers venture deep inside the treacherous and primordial home of the king of the apes." Kebbell's role is undisclosed, but his marvelous work as Koba in last summer's *Dawn of the Planet of the Apes* might just give us a clue.

Christian Bale to star as Enzo Ferrari in new biopic

Director Michael Mann has a special talent for getting the best performance out of his actors. Previous biopics, such as *Ali* and *Public Enemies*, along with celebrated works: *Collateral* and *The Insider*, prove that point, and harping on Christian Bale's talents is like harping on Yo-Yo Ma's — I think we all understand he's great. Based on the book *Enzo Ferrari: The Man, The Cars, The Race, The Machine*, I hope the pieces come together once again for another Oscar-level film.

Jennifer Lawrence & Amy Schumer team for sisters comedy

I don't know what kind of writing skills J-Law has, but her charisma and free-spirited lifestyle make this writing duo an obvious match and extremely intriguing. Amy Schumer's "pull no punches" comedy style is a breath of fresh air in the politically correct world we've entered, and pure comedy is Lawrence's last frontier. She's taken action heroine (*X-Men* and the *Hunger Games* series),



Courtesy of Wikimedia Commons

Amy Schumer, star of *Inside Amy Schumer* and this summer's *Trainwreck* is partnering with star of *The Hunger Games* and *Silver Linings Playbook* Jennifer Lawrence for what is sure to be a ridiculous comedic experience.

drama (*Silver Linings Playbook*, *American Hustle*, and *Joy*: coming soon), and horror (*House at the End of the Street*) but starring in a laugh-out-loud popcorn comedy, in the vein of Kristen Wiig and Melissa McCarthy, alongside Schumer might be just what the doctor ordered.

In an interview with *The New York Times*, Lawrence admitted they're "almost done writing" and put roughly 100 pages worth of comedy on paper. Considering Lawrence's level of stardom and talent and Schumer's newfound, and long awaited, film comedy power, don't be surprised when this project gets put on the fast-track for theaters.

First photo from *Assassin's Creed* film featuring Michael Fassbender in costume

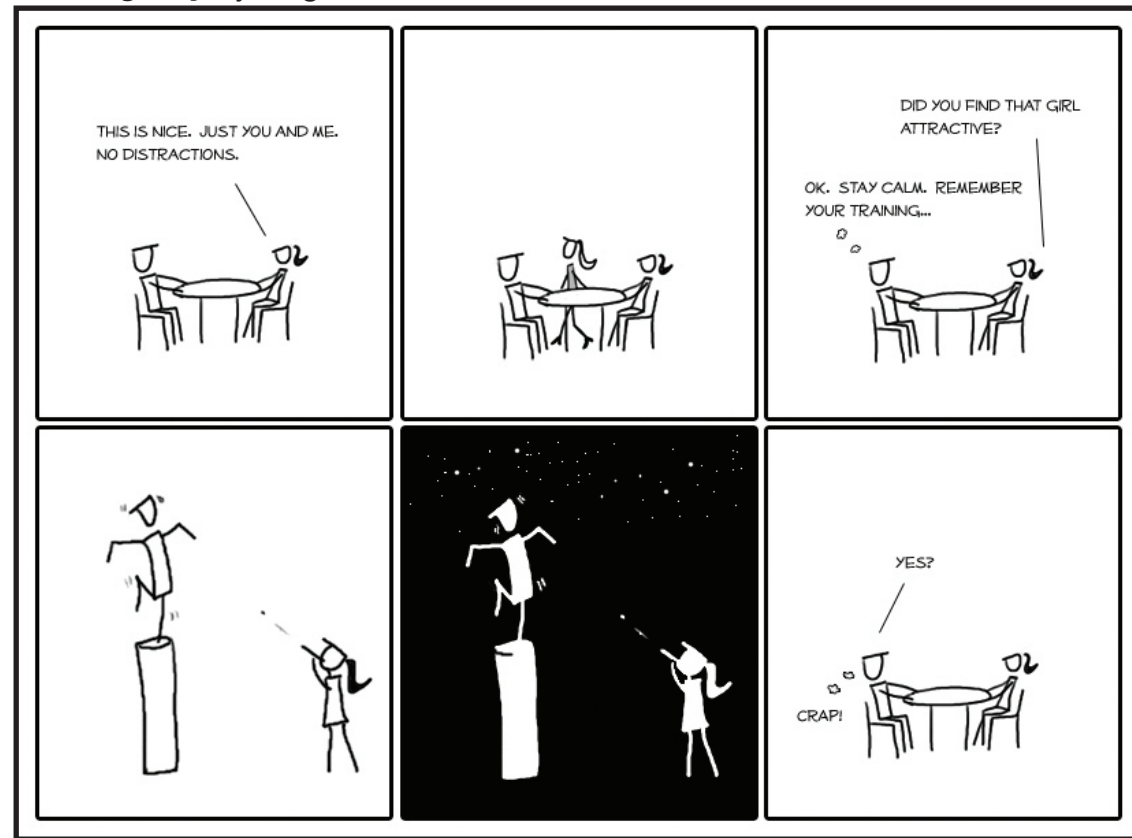
With comic-book movies still at bat, video game movies are certainly on deck. We've been hearing rumblings of video game adaptations swirling around for years, but only now are we getting some real results. First up is Duncan Jones' *Warcraft*, set for June 2016. Forthcoming are the likes of *Splinter Cell*, *Metal Gear Solid*, *Minecraft*, *The Last of Us*, *Uncharted*, *Portal*, *Angry Birds* (Yes, *that* Angry Birds), and, of course, *Assassin's Creed*. Michael Fassbender stars as Callum Lynch, a descendent of family in a secret order of assassins. Directed by Justin Kurzel, who directed Fassbender to critical acclaim as the title role in the upcoming *Macbeth*, Fassbender's newest character will utilize his deadly lineage to experience the life of Aguilar, his ancestor, in 15th century Spain on a mission to dismantle the Knights Templar.

The picture looks perfect! It's Affleck in the Batsuit. Reynolds as Deadpool. Upcoming movies are so shifty that we can never know until we know. When real photographs of characters get released, or announcements of production schedules happen, movies become real and we can finally say, with authority, how excited we are to see it on screen. Truthfully though, this pic has little significance. It's simply a man in a costume. But because this time it's *that* man in *that* costume, we can all rejoice and be glad.

Ryan LaBarbera | Junior Staffwriter



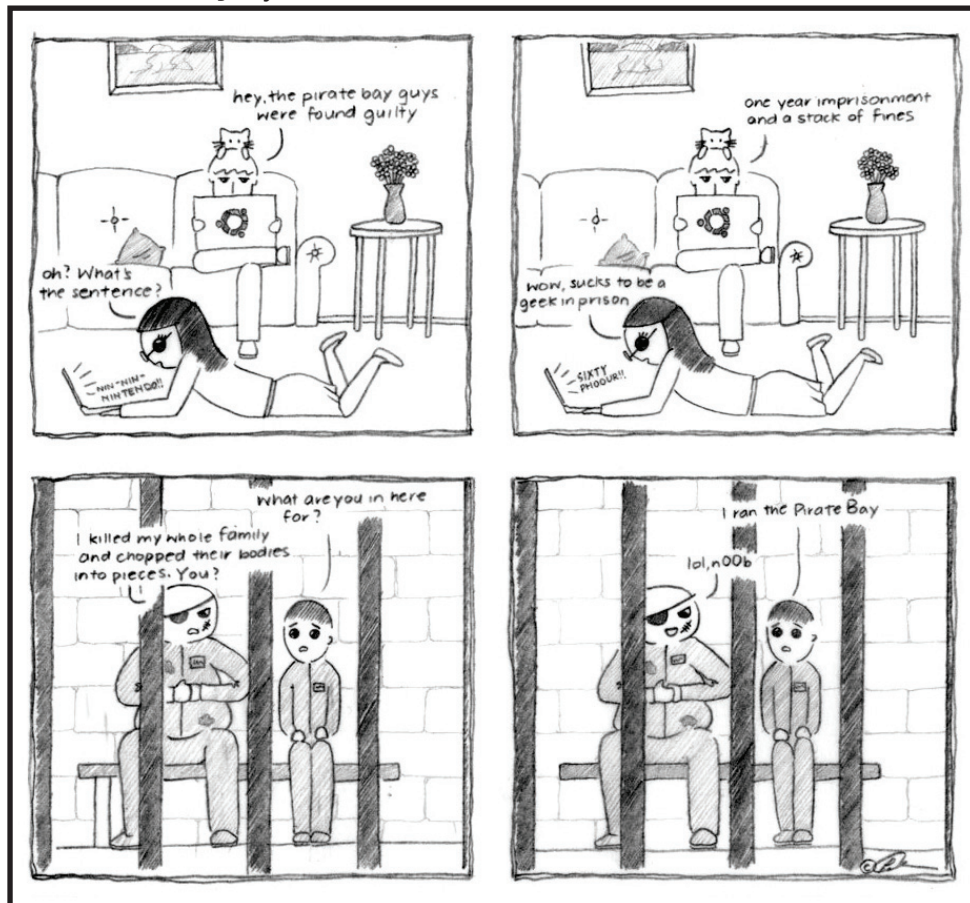
Training Day by Doghouse Diaries



doghousediaries@gmail.com

thedoghousediaries.com

Extra Ordinary by Li Chen



email@exocomics.com

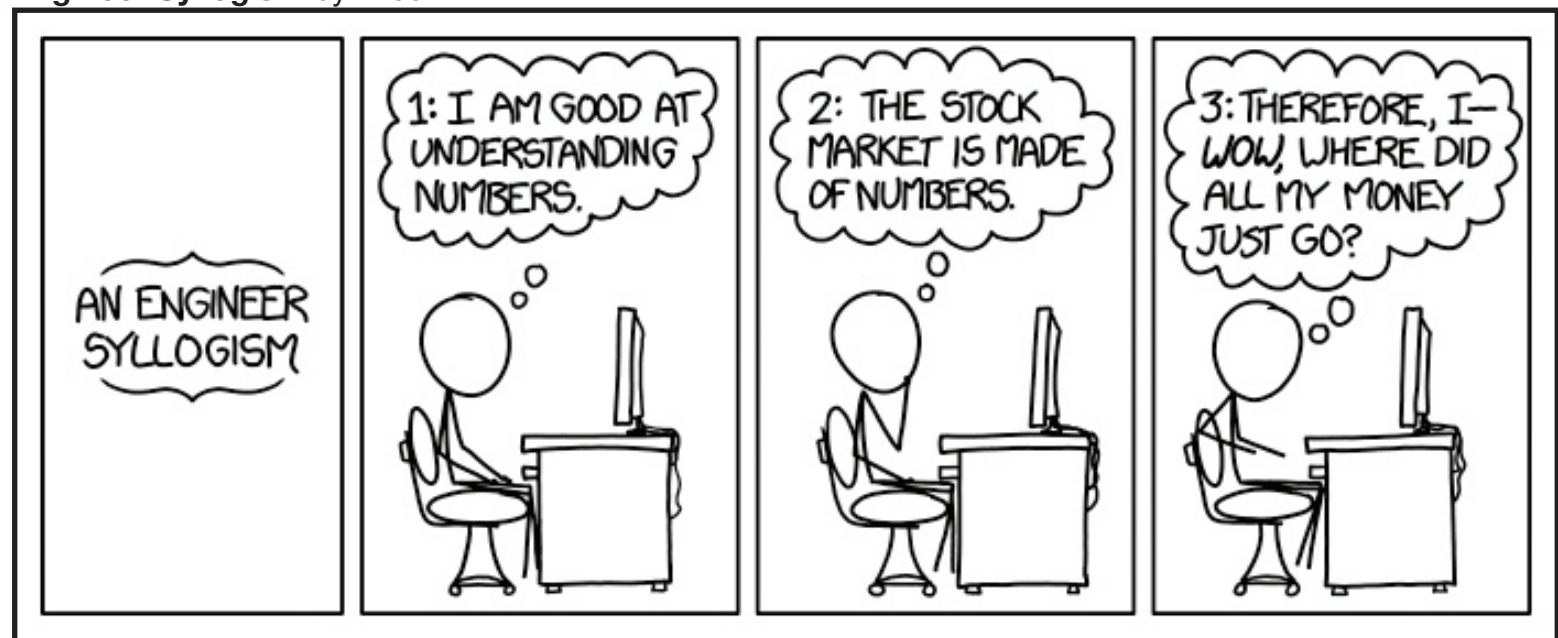
exocomics.com



buttersafe@gmail.com

buttersafe.com

Engineer Syllogism by xkcd

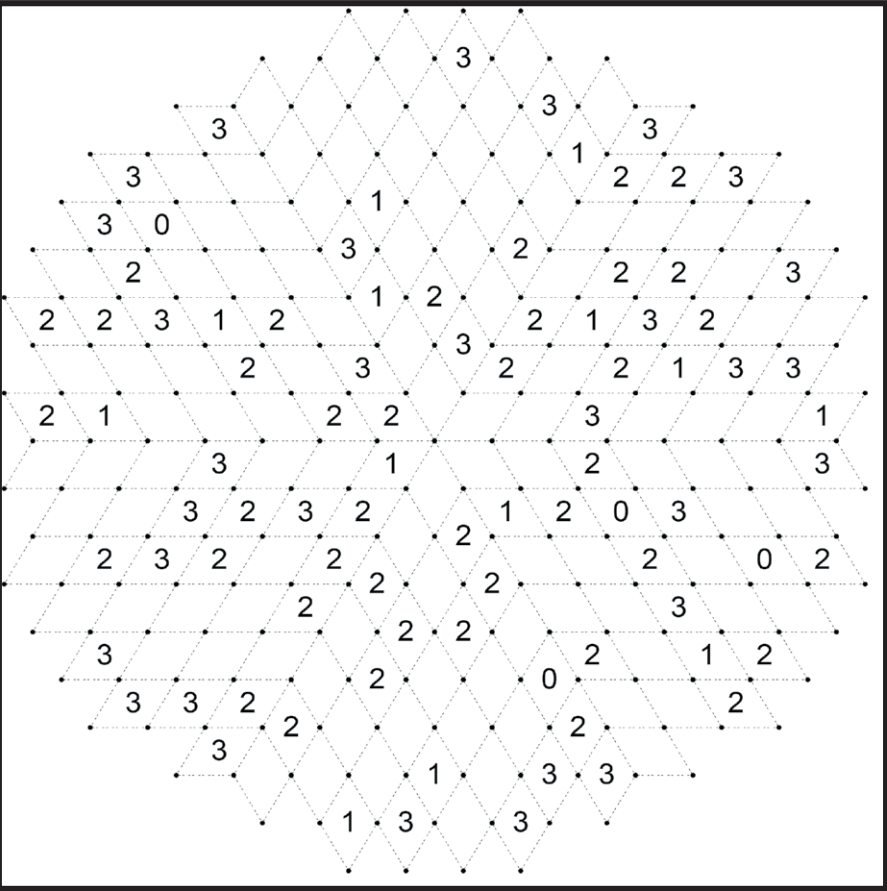


press@xkcd.com

xkcd.com



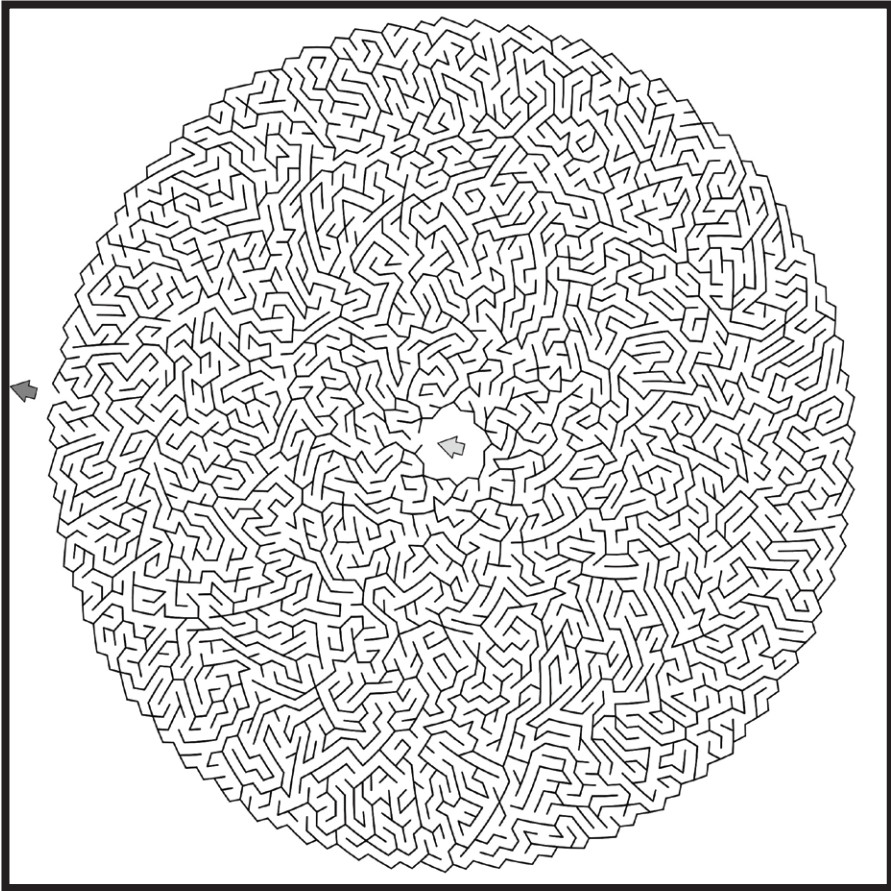
Slitherlink Puzzle: Very Hard Difficulty



Slitherlink courtesy of www.krazydad.com

Connect adjacent dots so that the lines form a simple loop with no loose ends. In addition, the number inside a rhombus represents how many of its four sides are segments in the loop.

Maze Puzzle: Hard Difficulty



Maze courtesy of www.krazydad.com

Start from the center of the maze and find your way out to the other arrow.

Solutions from Aug. 22

1	2	3	4	5	6	7	8	9	10	11	12	13			
A	P	E		E	T	T	A	S		R	A	B	I	D	
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
G	E	T		D	E	B	I	T		E	T	A	P	E	
29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	
R	E	H	Y	D	R	A	T	E		N	E	R	O	S	
44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	
E	V	E	R	Y					A	U	D	I	T		
59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	
E	E	L	S		A	T	I	L	T		N	E	A	P	
74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	
89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	
F	L	O	T	S	A	M				N	F	L			
104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	
U	P	S	T	A	I	R	S			I	N	D	I	A	
119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	
S	H	O	R	T	E	N			H	O	S	I	E	R	Y
134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	
A	I	M	E	E			C	A	E	S	A	R	E	A	
149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	
164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	
G	A	M		D	A	P	H	N	I	A					
179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	
E	L	E	E		O	N	E	A	L		T	R	O	U	
194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	
209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	
L	A	T	K	E						P	E	A	R	L	
224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	
D	A	I	S	Y			U	N	T	R	O	D	D	E	N
239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	
S	T	E	E	N			M	A	H	A	L		A	A	A
254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	
T	E	R	S	E			A	B	O	I	L		R	D	S

Crossword

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

Sudoku



Maze

Horoscopes

Connecting with spirituality

aries

march 21–april 19

taurus

april 20–may 20

gemini

may 21–june 21

cancer

june 22–july 22

leo

july 23–aug. 22

virgo

aug. 23–sept. 22

libra

sept. 23–oct. 22

scorpio

oct. 23–nov. 21

sagittarius

nov. 22–dec. 21

capricorn

dec. 22–jan. 19

aquarius

jan. 20–feb. 18

pisces

feb. 19–march 20

Loosen your fire element and approach life with passion and courage. Get more rest until the 20th of the following month and give more attention to the ankles and calves.

Jupiter’s move will bring a serious love you deserve. Meantime enjoy yourself now that Saturn has left — your overall health is wonderful.

Death and resurrection are normal parts of life. If something in your life seems like it’s dying, rather than mourn, rejoice that its resurrection is not far behind.

This is the time for detox and cleansing, both in the mind and the body. It’s a good idea to rid your body of what it does not need.

Learn to enjoy your work in a more productive way. Jupiter’s leave last month in your sign gave high spirits and a party attitude.

Relationships will be tested. Good relationships will survive. With Saturn affecting the love planet, it can be difficult to express feelings so be sure to continue being creative and mindful.

It’s time to buckle down for school and work harder at your studies. If you do, you will become successful.

This month is excellent for students, teachers, and writers. Keep an eye on your financial status and major purchases, and investments should best be delayed.

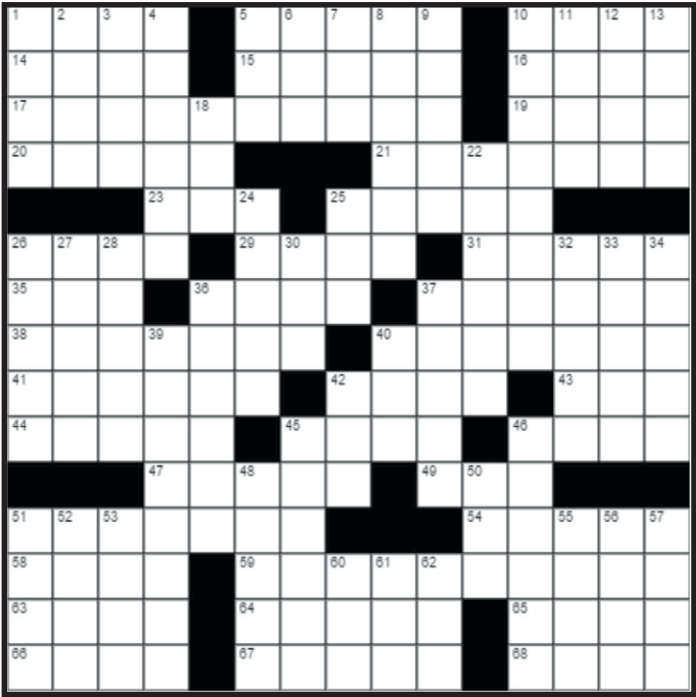
You’re a happy-go-lucky person with boundless optimism. But now optimism will be tempered by obstacles, so be prepared.

Your week will start off with stress, both from relationships and from work. But if you hang on tight, your workload will improve.

Saturn is going to weed out mediocre friends from your real friends. This is not always pleasant, but in the end it’s better to have a few close friends than handfuls of mediocre ones.

Your challenge will be to keep your feet on the ground — to stay in your body and not float off to Nirvana. Nirvana is wonderful, but not while your are engaged in worldly activities.

Maryyann Landlord | Comics Editor



Crossword courtesy of *BestCrosswords.com*

ACROSS

- Golf stroke
- ___ lunch
- Sphere
- God of thunder
- Dens
- “A Death in the Family” author
- Containing gold
- Later!
- Egg exterior
- Primitive form of wheat
- Clear tables
- Deplete
- A hobgoblin
- Part of MIT
- Homerun king Hank
- Faulkner’s “___ Lay Dying”
- Plumlike fruit
- Sheath
- Lacking depth
- Floating ice
- Trojan War hero
- Diet successfully
- Pathetic
- Caesar’s tongue
- Achy
- Extremely
- Backpack part
- Caustic chemical
- Legging
- Church instrument
- Surf sound
- Crookedness
- Kitchen addition
- Chip maker
- Bacchanalian cry
- Saudi king
- Discharge
- Equinox mo.

DOWN

- School orgs.
- No way
- Ripped
- Hat
- Bullfight cheer
- Nasser’s org.
- Juan’s uncle
- Most loyal
- Actor Davis
- Knapsack
- Currency exchange fee
- Goneril’s father
- Boxer Spinks
- Sick “season”
- Subtle difference
- Grain stores
- Function
- Kind of metabolism
- Milo of “Barbarella”
- Huge
- Immediately
- Elevate
- Academy award
- Destitute
- Biases
- Stand used by painters
- Unhurried
- ___ favor
- Chop off
- Loose. fitting skirtlike garment
- Stanzas
- Knot again
- ____. hoo!
- Not kosher
- Roster used to assign duties
- Pledge
- Bestow
- Looking down from
- Russian no
- Numbered hwy.
- French possessive
- Last: Abbr.



Friday 9/4/15

Your Life: the Musical

Arcade Comedy Theater. 10 p.m.

Ever want to be the inspiration behind a piece of art? Ever want to see a musical be created before your very eyes? You might have the opportunity to do so at Arcade Comedy, where a lucky audience member's life story will become the inspiration for a wonderful piece of theater. Tickets are \$10.

Friday 9/18/15

TRANS-Q Live!

Andy Warhol Museum. 8 p.m.

With performances of dance, music, comedy, poetry and more, Trans-Q Live will be a night full of queer fun. Immediately following the performances there will be a reception and party hosted by DJ Sassy Suggestions. The event is co-presented by Trans-Q Television, a project of the Center for the Arts in Society at Carnegie Mellon. Tickets are \$10 for general admission and \$8 for students and members.

Saturday 9/19/15

Pittsburgh Pierogi Fest.

Stage AE. 12-5 p.m.

Back for its 3rd year, the Pittsburgh Pierogi fest is here to celebrate the city's most delicious dumpling. The event will feature over 30 pierogi vendors, with live music ranging from polka to rock, paint your own pierogi lessons, balloon animals and face painting. Tickets are \$12.50.

VIA Festival.

Throughout Pittsburgh.

VIA Festival happens each fall, featuring over a week's worth of local Pittsburgh artists in a unique meeting of music and visual arts. The self-described "Festival as Laboratory" tries every year to redefine what constitutes a music festival, offering an immense variety to suit many tastes. For information about the lineup and ticket prices, which vary per show, visit www.via-2015.com/pittsburgh.

Friday 10/16/15

21+ Night: Back to the Future

Carnegie Science Center. 6-10 p.m.

Celebrate the month that Marty McFly traveled into the future at Carnegie Science Center's monthly 21+ night. Highlights of the event include the Steel City Time Machine, a replica Back to the Future DeLorean, a High Voltage show featuring a Tesla Coil, and a screening of *Back to the Future 2*.

Tuesday 11/3/2015

Sufjan Stevens.

Heinz Hall. 8 p.m.

Sufjan Stevens is a multi-instrumentalist singer-songwriter with a wide range of talents. His discography ranges from indie pop and electronica to folk. He is on tour this year following the release of his most recent album *Carrie and Lowell*, which critics have deemed Stevens' best yet. Tickets start at \$48.

Aftersound: Frequency, Attack, Return.

Regina Gouger Miller Gallery. Through November 22, 2015.

This exhibition, which officially opened August 21, explores the place that sound has in art. It specifically focuses on sound visualization, physics of sound, political implementations of sound such as sonic warfare, and experiments attempting to use sound to access new sensory experiences. There will be a reception on Friday September 25 from 6 to 8 p.m. Entrance to the exhibit and the reception are free.

HACLab Pittsburgh: Imagining the Modern.

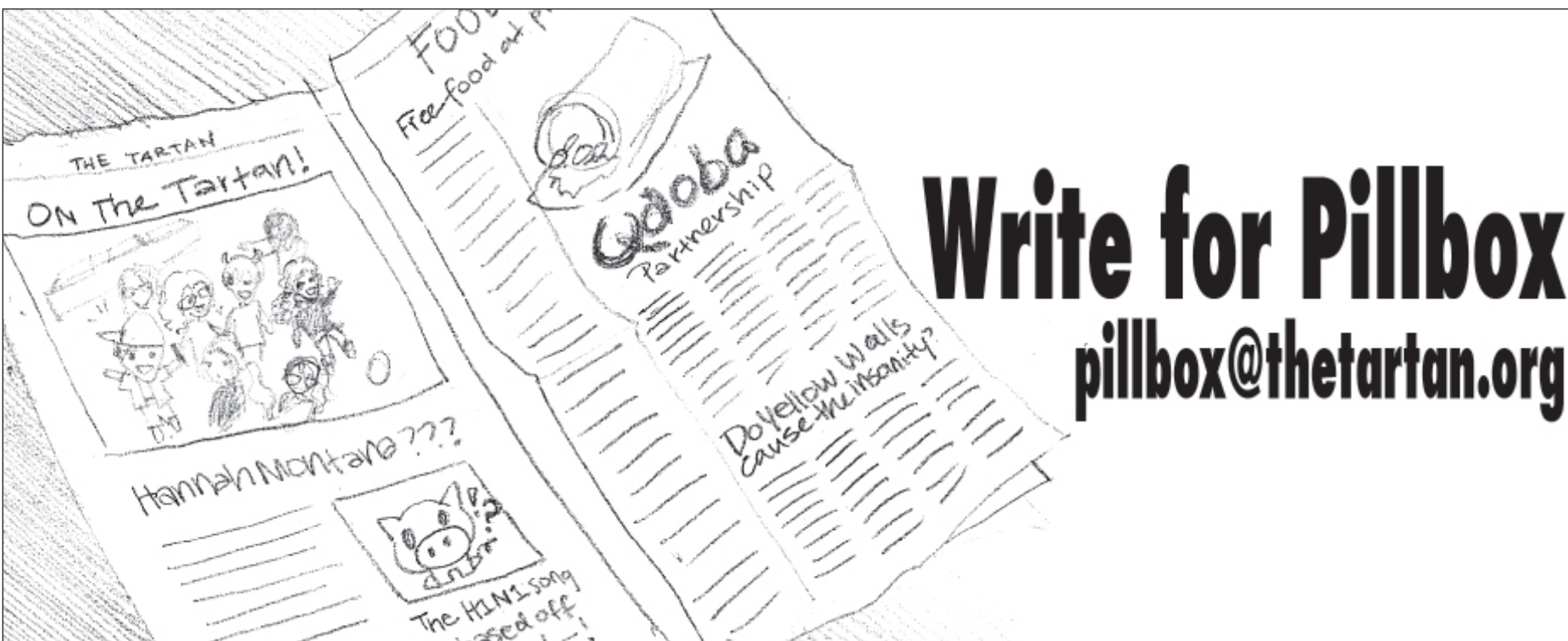
Carnegie Museum of Art. September 12, 2015 through May 2, 2016.

Featured in the museum's Heinz Architectural Center, the exhibition looks at Pittsburgh as a city from an urban revitalization and architectural perspective. The "experimental presentation" narrates the successes and failures the city has had, also featuring historical archives, an actual architectural studio, and a salon for discussion.

Warhol by the Book.

Andy Warhol Museum. October 10, 2015 through January 10, 2016.

This exhibition curated by Chief Archivist Mat Wrbcian puts on display the work Andy Warhol did with books. While much of the collection was never published, it gives insight into his creative processes. Admission to the exhibit is free with admission into the museum.

Compiled by **Sarah Gutekunst** | Operations Manager

community collage.



José Mario Lopez | Staff Photographer



José Mario Lopez | Staff Photographer

On Monday, current students gave the class of 2019+ some words of wisdom to help them with their school experience, and showed them the diversity of talent and passions here at Carnegie Mellon University. **Top:** Carnegie Mellon Bhangra performs a high energy and joyful set. **Bottom:** Head orientation counselor Zuojun Gong talks about his experience at Carnegie Mellon while standing in front of his head orientation counselor colleagues.

