



Prof Personalities: Michal Bajcsy

Page 6



Rodrigo Duterte Elected Filipino President

Page 3



Broskies on Brewskies: Battle of the Brews

Page 10

facebook.com/TheIronWarrior

twitter.com/TheIronWarrior

iwarrior.uwaterloo.ca

Muhammad Ali: A Champion of His People



Cliff via Flickr



**RAEESA
ASHIQUE**
2N ELECTRICAL

Muhammad Ali, boxing legend and political, social, and religious activist, passed away late last Friday at age 74 from septic shock. He had been suffering from a respiratory illness, and was admitted to hospital the previous day. Fellow athletes, political figures, civil rights leaders, and many others are joining the general public in paying tribute to "The Greatest". Among them, US President Barack Obama has said "He shook up the world, and the world is better for it." Former US President Bill Clinton, Bryan Gumbel, Billy Crystal, and Ali's wife Lonnie will be giving eulogies at the interfaith funeral service in his hometown of Louisville this Friday.

Ali's professional career of twenty-one years resulted in 56 wins out of 61 fights, including 37 knockouts. He won one Olympic gold medal and captured the title of heavyweight world champion on three separate occasions. However, he is known for more than his long list of honours and accolades: the public loves him for his wit, outspokenness, and impromptu poetry, as well as unique fighting style and strength of character. Ali was truly a champion of the athletic and political world: a champion of his people.

The Making of a Legend

Muhammad Ali was born Cassius Marcellus Clay on January 17, 1942, in Louisville, Kentucky. His journey began at age twelve when his bike was stolen at a local fair. He reported the crime to policeman Joe Martin, angrily threatening to "whup" that thief if he ever found him, and was advised to learn how to fight before he started making threats. Clay was a determined and dedicated student when he joined the boxing gym, and Martin coached him to six Kentucky Golden Gloves titles and two national Amateur Athletic Union titles

over the next six years.

At age eighteen, Clay qualified for the 1960 Olympics in Rome, but almost backed out because of a fear of flying. The parachute he bought to wear on the plane proved a great investment, as Clay defeated the 1956 bronze medallist to win gold.

The Legend

After the Olympics, Clay's professional career was born. He set out to become the greatest, and was known to brag and trash talk his opponents. He fought with the agility of a lightweight, describing his style in the famous couplet "Float like a butterfly, sting like a bee, his hands can't hit what his eyes can't see." He made boxing an art.

Clay "shook up the world" by claiming his first heavyweight world champion title in 1964 with a win over undefeated Sonny Liston, whom he referred to as "the big ugly bear", despite the public's lack of faith in his ability.

Shortly after, he announced his affiliation with the Nation of Islam (NOI), and his new name: "Cassius Clay is a slave name. I didn't choose it, and I didn't want it. I am Muhammad Ali."

Ali was drafted to fight in Vietnam in 1967, but made the extremely controversial decision to refuse because "I ain't got no quarrel with them Vietcong." Besides, helping the American government oppress another race of people clashed with his beliefs. This objection led him to be stripped of his world title, boxing license, and passport, convicted for draft evasion, fined \$10,000, and sentenced to five years in prison. This interrupted a key period in his career, from age 25 to almost 29.

Ali was not particularly well-liked at this time, and the public's negative opinion increased by his refusal to serve his country. During exile Ali toured colleges and spoke on faith, racism, and his objection to the Vietnam War. Although he preached racial segregation in line with NOI doctrine that white people are "the devil", the conscientious decision not to compromise his beliefs helped him to grow

and develop as a person. When he returned, it was to a much higher pedestal in the public's eye.

After three years the Supreme Court unanimously overturned the ruling, and Ali returned to ring the following year, but a toll had been taken on his skills. In 1971, Ali was dealt his first professional loss by Joe Frazier, who had become the heavyweight champion, in the "Fight of the Century" that was watched by millions around the world.

Ali sought to reclaim his title in the "Rumble in the Jungle" in Zaire in 1974. George Foreman, the new world champion, was favoured to win, but Ali beat the odds to take back the world title at age 32 in an eighth round knockout.

By this point, Ali had a tied record against Frazier, and beat him in their third fight in the "Thrilla in Manila" in the Philippines in 1975.

He defended his title six more times in the next couple years, before losing to Leon Spinks in 1978, but won it back for the third time in a rematch later the same year at age 36.

He finally lost his title in 1980 to Larry Holmes, who commented, "I'm prouder of sparing with Ali when he was young than I am of beating him when he was old." After a final loss to Canadian Trevor Berbick in 1981, Ali retired at age 40.

Religion

Ali thought he had found his place when he was recruited by Malcolm X to the Nation of Islam, a black separatist religious group led by Elijah Muhammad which labels white people as the devil, and whose teachings oppose orthodox Islamic values. Soon after, Malcolm X began questioning his own beliefs and affiliation with NOI after being exposed to white Muslims on his pilgrimage to Mecca, and converted to Sunni Islam. Ali remained with NOI for years before converting to Sunni Islam in 1975, and later said that "Turning my back on Malcolm was one of the mistakes that I regret most in my life." After this point, he dramatically changed his tune.

Religion became very important to Ali's identity and decisions. In 1977, he received a question on British television from a young boy: "I'd like to know what you are going to do when you retire from boxing?" Ali's answer was deep and inspirational: "Get ready to meet God." He continued on to voice his conviction that God will one day judge everyone based on his or her actions, and that he wants to be prepared. "God don't praise me because I beat Joe Frazier... He wants to know how do we treat each other? How do we help each other? So I'm going to dedicate my life to using my name and popularity to helping charities, helping people, uniting people."

"Getting Ready to Meet God"

Ali developed a speech impediment after retiring from boxing, and was diagnosed with Parkinson's in 1984. His doctor said it was the culmination of too many hits to the head, but Ali staunchly denied that boxing was the cause of his illness. He became a philanthropist and the public face of Parkinson's, raising millions for the Muhammad Ali Parkinson's Center. He also supported the Special Olympics, the Make-A-Wish Foundation, and UNICEF, among other organizations.

Ali devoted himself to humanitarian work, and in 1998 was chosen to be the UN Messenger of Peace because of his many appearances in the developing world. He was sent on diplomatic missions by the American government, negotiated for the release of American prisoners held by Saddam Hussein, and brought aid to countries such as North Korea, Afghanistan, and Cuba.

He was given many other honours as well. In 1996, he carried the Olympic torch and lit the cauldron in Atlanta despite his degenerative illness. He was voted Sports Personality of the Century by BBC, and received a similar award from Sports Illustrated. He was awarded the Presidential Citizens Medal and

**Continued on Page 13 as A
Champion of His People**

Letter from the Editor

Seeing Double



BRYAN MAILLOUX
EDITOR-IN-CHIEF

Hello all, and welcome back for Issue #2 of the *Iron Warrior*! It's crazy that we're already rushing headlong into midterms – sometimes it feels as though the term started only yesterday. To everyone preparing for exams, good luck! You'll do great!

I was really sad to hear that Muhammad Ali passed away this past week. As well as being an inspiration for African-Americans, Muslims, and other oppressed groups in the USA and around the world, he was a symbol for those who refuse to betray their morals, and for those who would take a hit themselves rather than hurting innocent people. Ali was a legend, and he will be missed.

This issue of the *Iron Warrior* is really Elections Edition Part 2 – we're covering the recent election of Rodrigo Duterte as President of the Philippines, and Caitlin's *Five Things You Don't Want to Know* returns with... more things you don't want to know, but this time about elections. Professor Michal Bajcsy stars in this issue's *Prof Personalities*, and Brigita recounts her homemade deodorant mishaps in *Leafy Thoughts*. (Don't use candle wax as deodorant. Got it.) Tom and Donovan duke it out in this issue's PCP, arguing about whether video games should follow an iterative development cycle or not. In *POP 101*, we've got some Canadian Indie bands you should give a listen, perhaps while tasting some Brewskies recommended by the Broskies. (It's their 10th issue special! For this issue, the Broskies are tasting some of their old favourites!) Donovan talks about cool dinosaurs (literally) in his new column *Old News*. And finally, in the *Benchwarmer Report*, Elizabeth talks Lord Stanley's Cup.

Now that that's out of the way, I want to talk about a conversation I had the other day with a teenager from small-town Ontario whose perspective on current world events I found to be both astonishing and a little (by which I mean *very*) worrying.

Luke, as we'll call him, has recently been suspended from high school for getting in a fight, as kids do. At this point, the standard parent response is to sit down and have a chat with their kid to get them to shape up. Not Luke's mother, though. She wants to send him to a Bible camp in Florida. Which is, in my opinion, a little excessive and not necessarily useful – I went to one of these Bible camp things myself in Richmond Hill one summer and gained absolutely nothing out of it, except for a homemade drum made out of a margarine tub. One worry I have is that

this Bible camp might teach him some of the intolerant attitudes all too prevalent in the southern United States, but then again I trust him to hold true to his Canadian values of “not arbitrarily hating someone because they're different”. But what's more concerning is what he said afterwards: the reason he was worried about his trip is that while he's there, the US is going to be “nuke EMP'ed by ISIS agents recruited by Russia, and everyone would go back to the dark ages”. (An EMP, or electro-magnetic pulse, is commonly used in popular fiction to cripple the electrical infrastructure of a city or region.)

Something tells me he's not kidding when he says these things.

I used this example to illustrate what I think is a common trend with the way we think. This is our tendency to see things in a dualistic manner, with two forces opposing each other – black and white, harmony and chaos, yin and yang. And for most of history, this has been the basis for a majority of people's mindsets, from the most powerful emperors to the lowliest peasants. Why? Because it's the easiest way of thinking – it's a way for us to simplify our world into a format upon which we can quickly make decisions. In a world where resources are scarce, such as the world for most of history, up to and including the current day, this mindset makes sense: if someone wants to raid your village for food, the fastest and safest thing to do is to band together with your fellow villagers and attempt to fend off the invaders. Naturally, this becomes an “us versus them” situation. And like most of the historical baggage humanity has dragged along with it as the centuries have gone by, this mindset has persisted.

So where does our dear adolescent protagonist fit into this? Well, is Luke really in danger of having his food, shelter, or life taken from him? Certainly not – his family is rather well off, and The-Middle-Of-Nowhere, Ontario, isn't exactly known for being a target for... well, anything really. In other words, in the grand scheme of things, he shouldn't even be thinking about “us and them”.

But obviously, he is. It's easy to see where Luke got this outlook from – as a kid growing up in small-town Ontario, and as part of a family that doesn't find travelling to be a suitable family activity, the only exposure he really has to the outside world is through mainstream media, social media, and video games. (Like many teenagers, he's a pro at first-person shooters like *Call of Duty* and *Halo*.) These sources of information are clearly geared to make us think dualistically about the world. While I'm not necessarily against the dualistic interpretation of the world – it has served us well for thousands of years and will continue to do so for many more – I think we can attribute many of the problems in

the world today to this mindset.

As you'd expect, video games, and really games in general, are notorious for being dualistic in nature. This makes sense: back when sports and games were invented, people needed a form of entertainment that could be completed quickly, so that enough time could be spent gathering resources to survive. But when games, and specifically violent games like *Call of Duty*, begin to portray current events, and not history or fiction, people *have* to start taking sides because that's just how games work. Usually the bad guys in video games such as *Call of Duty* represent the bad guys in real life. That's fine. However, what if someone plays the game, but they don't know where to draw the line between good and bad in real life? What if they can't distinguish the terrorists from the people on the street?

Mainstream and social media don't fare much better when it comes to helping people draw that line appropriately. It depends which media outlet you get your information from, but some of them are happy to blow some threats far out of proportion compared to the danger they realistically pose, because that sells best. Having people fear the enemy is how media CEOs pay for their fancy houses and cars, and the more enemies there are, the more cars the CEOs can buy. They make sure to tactfully avoid outlining where the line stands between the bad guys and everyone else who could be mistaken to be part of the bad guys. Once the media has formed people's opinions for them, social media can then step in and amplify the effects of the mainstream media: by offering people the choice of what they want to like and who they want to follow. Social media effectively limits people into seeing only what they want to see, and reading only articles that agree with their point of view. And before you know it there's a whole group of people who refuse to listen to any kind of reason or opposing arguments.

Of course, most of us here at the University have enough common sense to take what the mainstream media says with a grain of salt. We can tell when the whole story isn't being told, and we know how to ask the questions that haven't been answered. We also have the advantage of being a part of a community that prides itself on its diversity, and we have the opportunity to work and make friends with people of different origins than our own. As such, we can see the *humanity* of groups that are not our own. They may not have the same ethnicity, gender, or sexual orientation, but we can very clearly see that they are *not* the “enemy” the media wants us to believe in. Ultimately, the University is a place where we can see people as people, and not as enemies, regardless of our past prejudices. Ultimately, love is our resistance.

THE IRON WARRIOR

The Newspaper of the University
of Waterloo Engineering Society

Editor-in-Chief

Bryan Mailloux

Assistant Editor

Donovan Maudsley

Layout Editors

Donovan Maudsley
Brigita Gubins
Cameron Soltys

Copy Editors

Elizabeth Salsberg
Cameron Soltys
Caitlin McLaren
Brigita Gubins
Tiffany Chang
Isabel Vilchis

Circulation Manager

Donovan Maudsley

Advertising Manager

Brigita Gubins

Photo Editor

Thomas Willert

Web Editor

Bryan Mailloux

Social Media Manager

Sarah Chan

Staff Writers

Seamus Bannon
Sarah Chan
Tiffany Chang
Brigita Gubins
Gabrielle Klemm
Ashlyn Low
Donovan Maudsley
Caitlin McLaren
Elizabeth Salsberg
Cameron Soltys
Ratan Varghese
Thomas Willert

Contributors

Tristan Kuehn
Hannah Gautreau
Teresa Lumini
Kieran Broekhoven
Don Tu
Anson Chen

ADVISORY BOARD

Off-Stream Editor-in-Chief

Caitlin McLaren

Executive Members

Sarbjay Majumdar
Teresa Lumini

Students-at-Large

Megan Town
Maya Deen

Advertise With Us!

Want to reach a wide, intelligent audience which includes students, faculty and staff at the University?

We are the official newspaper of the University of Waterloo Engineering Society representing the entire undergraduate engineering student body of over 6000 students.

Our newspaper is distributed all across campus and is the perfect medium to advertise your event, employer information session, service, etc.

For more information, please visit iwarrior.uwaterloo.ca/advertising or contact us at iwarrior@uwaterloo.ca, 519-888-4567, Ext. 32693

Issue #3 Deadline: Friday, June 17 at 6:00pm for publication on Wednesday, June 22

Send your submissions to iwarrior@uwaterloo.ca

Spring 2016 Publication Schedule: May 25, June 8, June 22, July 6, July 20

The Iron Warrior is a forum for thought-provoking and informative articles published by the Engineering Society. Views expressed in The Iron Warrior are those of the authors and do not necessarily reflect the opinions of the Engineering Society.

The Iron Warrior encourages submissions from students, faculty and members of the university community. Submissions should reflect the concerns and intellectual standards of the university in general. The author's name and phone number should be included.

All submissions, unless otherwise stated, become the property of The Iron Warrior, which reserves the right to refuse publication of material which it deems unsuitable. The Iron Warrior also reserves the right to edit grammar, spelling and text that do not meet university standards. Authors will be notified of any major changes that may be required.

Mail should be addressed to The Iron Warrior, Engineering Society, E2 2347, University of Waterloo, Waterloo, Ontario, N2L 3G1. Our phone number is (519) 888-4567 x32693. E-mail can be sent to iwarrior@uwaterloo.ca

The Last Stand of a Great Band: The Tragically Hip

Canada's Rock Icons Stand Tall



THOMAS WILLERT
3A MECHANICAL

As I sit here listening, writing and well, not doing school work, I can't help but feel chills down my spine and a general sense of melancholy. Though this is the emotion usually provoked by the Tragically Hip, it is felt doubly now. For those of you who haven't heard yet, Gord Downie, lead singer and songwriter of the best and undoubtedly most Canadian band of all time, was diagnosed with terminal brain cancer.

The man was the force behind genre defining hits like: "New Orleans is Sinking", "38 Years Old", "Nautical Disaster" and "Locked in the Trunk of a Car", as well as awesome songs regarding our home land: "Wheat Kings", "50 Mission Cap", "Bobcaygeon", and "At the Hundredth Meridian". Gord was diagnosed in December and has been fighting a tough battle ever since. The band broke the news to the public on May 24th along with the announcement of one final tour, as they stated themselves they're "going to dig deep, and try to make this our best tour yet." After 30 years together this isn't just a statement - this is a promise. With 4 nights to be spent in Toronto alone, this is bound to be one of the greatest Canadian rock history mo-



Seth Meister via youtube.com

Gord Downie performing with the Tragically Hip in Cranbrook BC, 2013

ments of all time. Not only will it be an emotional journey for the band, but for the audience as well. There are many of us young and old who grew up with the Hip guiding our musical taste, as well as enjoying their antics. So, with this being the final time we can see them all together, this is bound to be something too big to miss and too big to forget.

With tickets on sale already and the

presale tickets already all picked up in minutes, many are upset with Ticketmaster for allowing scalpers and bots to pick up vast amounts of tickets rapidly for resale at a ridiculous markup for what is obviously a once in a lifetime concert.

Overall this is going to be a big hit to Canadian music culture. One of the last great Canadian rock bands will never be the same. The group that played the 2002

Salt Lake City Olympics and in the same year played for Queen Elizabeth, shared the stage with Midnight Oil, Ziggy Marley and has done tons of free charity concerts is making its last stand. Unlike most bands that fizzle out and then come back to make money for a cushier retirement, the Hip have been going strong for their 30 years and this, this is their final concert.

Duterte Named Filipino President in Landslide Election



TIFFANY CHANG
1B CHEMICAL

On May 10, Rodrigo "Digong" Duterte was announced to have won the presidency in the Philippine 2016 elections. Duterte is known by some as "The Punisher" for his tough stance on how the government should deal with criminals.

As mayor of the city of Davao, a city on the southern Philippine island of Mindanao, he transformed law and order in the city. Davao used to be the murder capital of the Philippines, but it is now called "the most peaceful city in Southeast Asia" by some tourism companies.

He hopes to impose some of the municipal policies that he had implemented in Davao to reduce crime throughout the rest of the country, such as "a late-night drinking ban and a curfew for unescorted minors after 10 p.m." Overall, Duterte vowed to get rid of corruption and illegal drugs within six months.

According to election officials, there was a record turnout at polling sta-

tions—over 81 per cent of the 54 million registered voters cast ballots. As one of six presidential candidates, Duterte won by a clear margin—nearly twice as many as some of his opponents.

Duterte has not included many stances on international issues compared to his intended policies for domestic issues within the Philippines. He has already maintained that disputed islands in the South China Sea belong to the Philippines, but has asserted that the Philippines would not go to war with China over the conflict. Related to the South China Sea dispute is Duterte's doubt that the U.S. would not deliver on their commitment to protect the Philippines in its maritime dispute with China. As a result, he wants to ditch a deal that allows American military personnel to enter the country for regular military exercises.

Despite the controversy surrounding some of Duterte's campaign and past cases of direct involvement in human rights violations, he has the right idea of focusing on domestic issues, such as fighting corruption and decreasing national crime rates. From the extremely high voter turnout, it appears as though Filipino citizens are eager to elect a gov-

ernment that is driven by action rather than inaction, especially when it comes to dealing with issues that are stunting the Philippines' development—despite enjoying economic growth (5.8 per cent in 2015 even though international demand for Filipino exports dropped).

I am particularly fascinated with Duterte's stance with China and the U.S. On one hand, he is firm with the Philippines' ownership of the islands in the South China Sea; however, he would not be willing to burn bridges with the Philippines' close neighbour. Let's face it: families, let alone neighbours, will never always see eye-to-eye. But in the end, everyone has to live in relative peace together. Who would benefit from going full-out bonkers against the other?

Duterte's position on U.S. military personnel in the Philippines is another wild card: The Philippines is one of the closest allies to the U.S. in Asia, and the majority of Filipinos view Americans favourably. Can Duterte's position be foreshadowing that the two nations are starting to fall out? Perhaps they are, perhaps they are not. Who really knows? My guess is that Duterte is keeping his cards close to his chest and prefers to

side with no country but his own.

In times as turbulent as these, who can really blame him?



Ryan Lim via Wikimedia Commons

Rodrigo Duterte, Filipino President-elect

UWaterloo Hosts Vigil for Residents of Fort McMurray



GABRIELLE KLEMT
1B GEOLOGICAL

On May 31st, one month after the fire entered the city, WPIRG hosted a vigil for those affected by the Fort McMurray fires and those who wanted to show their support. Having never personally been to a vigil before, I went, ready to be educated.

Before the vigil started, I talked to an engineering student from Fort Mac. Al-

though I've heard so much about the fire and its devastating impacts, I hadn't actually met anyone directly affected by the fire. Luckily, she was in Waterloo by the time the fire spread to her city, but her family was, of course, home.

Yet, to hear her talk about it, the fire, though devastating, has had a positive impact on her as well. It has helped her to see where she's from in a whole new light. "I have a family back home of 88 thousand people," she said, "I really feel the love and outpouring of support from around the world".

Fort McMurray is an extremely small city, but also extremely diverse with people from all four corners of the world. Since the fire spread into the city, fire-fighting help and donations have been pouring in from countries barely connected to Fort Mac.

The vigil itself was an acknowledgement of the disaster, but also a show and acknowledgement of support given to the victims of the fire, especially by the First Nations people living near Fort McMurray. People who barely have running water are offering their houses and food for

those displaced by the fires. As was said at the vigil, "tragedy is terrible, but tragedy brings people together and truly brings out the best in people."

It seems crazy to me that there can possibly be a light in this situation. However, hearing the first-hand experience of someone who had to deal with family in Fort McMurray, and the possibility of losing everything they held dear to them, and then hearing them say that they feel closer to their community and have regained faith in humanity, well that's pretty inspiring.

Austrian Elections

Split By A Hair



CAITLIN MCLAREN
3T CHEMICAL

On the 23rd of May, the winner of Austria's presidential election was announced: Alexander Van der Bellen, with 50.35% of the vote. His opponent, Norbert Hofer, won the remaining 49.65%. The margin of victory was little over 31,000 votes, out of a pool of almost 6.4 million eligible voters and a turnout of nearly 73%.

The president-elect, Alexander Van der Bellen, is a retired professor of economics at the University of Vienna, and a member of the Green Party of Austria, which, as its name suggests, has a strong platform on ecological issues and supports liberal social policies. Van der Bellen, however, ran as a nominally independent candidate endorsed by the Green Party, as he is personally more popular than the party itself. Van der Bellen is in favour of the European Union and supports European federalism.

He could not stand in further contrast to his narrowly-defeated opponent, Norbert Hofer, a relatively young and outspoken right-wing populist politician who has been compared to the more notorious Marine Le Pen of France and Geert Wilders of the

Netherlands. He is a member of the Freedom Party of Austria, a party that is currently right-wing, anti-immigration, anti-Islamic, and broadly nationalist and eurosceptic. Hofer ran on a platform of "putting Austria first". If Hofer had won, he would have been the first far-right Western European head of state since the Second World War.

Hofer won a plurality of votes in the first round of the election, receiving about 35% of the popular vote, while Van der Bellen received 21%. In third place came another independent candidate, Irmgard Griss, with 19%, followed by Rudolf Hundstorfer of the Social Democratic Party of Austria and Andreas Khol of the Austrian People's Party, with about 11% each. Interestingly, the latter two parties are the current governing parties in Austria; thus, even the preliminary results indicated a great shift in the public opinion.

According to the Austrian electoral system, if a candidate fails to obtain a majority of the vote in the first round of the election, the two candidates who received the highest numbers then face off against each other in a second round. The second round took place on May 22; at first, Hofer received 51.9% of the vote, but when the absentee ballots were counted the next day, Van der Bellen had a very slim majority. There was a recount, and even some allegations of electoral fraud, and the Freedom Party of Austria considered a

legal challenge to the results; the leader of the party, Heinz-Christian Strache, publicly questioned "irregularities" in the way the votes were counted. However, to his credit Hofer himself urged his supporters to "pull together" and accept the results, saying "There are no signs of electoral fraud".

In the political system of Austria, the office of the president is not a particularly politically powerful one; Austria operates under a parliamentary system and, while presidents theoretically have a great deal of authority, the role is largely one of a figurehead. However, the results say a great deal about the current political climate of Austria and, in fact, Europe and the world in general.

Austria is deeply polarized on issues such as immigration, the best ways to combat radical Islam, the place of government, and the balance of national interests and individual freedoms. The economic situation and the recent refugee crisis have brought these issues into the foreground. Furthermore, Austrians are dissatisfied with the way the current government operates on these issues and others, paving the way for non-traditional candidates to achieve victory. Election statistics also bring up some telling, though not necessarily surprising, results, such as a rural-urban split, with rural and working-class areas leaning to the right, and

urban and economically privileged areas leaning more left. There was also a gender divide, with around 60% of men leaning right and the same number of women leaning left. Overall, the country was very much split down the middle.

Austria is thus a microcosm, with a political situation that reflects and emphasizes similar rifts around the world; in Europe, where candidates such as the aforementioned Le Pen and Wilders, and other far-right leaders gain in popularity due to the economic and refugee crises and threats of terrorism, and in America, where the rise of the populist Republican Donald Trump and the democratic socialist Bernie Sanders highlight the country's division into ever more deeply entrenched right and left camps. This is a world where partisan politics are beginning to threaten countries' abilities to function.

Van der Bellen is hopeful that this can be overcome. His words have been conciliatory; he declared that the results show that "the country is made up of two equally important halves", and that he would "certainly endeavour to build bridges over the trenches that have been dug, to certainly not dig them deeper, and to make an effort to take everybody in this country with me". The world will be watching to see if he can succeed.

Western Europe Experiences Wide-Scale Flooding

Water Expected to Recede Soon



CAMERON SOLTYS
3N MECHANICAL

Extremely high rainfall in Europe has caused major flooding, displacing thousands of people. The most wide-spread flooding occurred in France, where 20 000 Parisians were evacuated. Substantial damage was also done in Germany, where 51 people were injured by lightning at a music festival, and 11 were killed in other flood incidents. Additional reports of at least two dead in Romania and one missing in Belgium highlight the extent and severity of the damage.

In Paris, the river Seine rose 6.1 m above its normal height. The Zouave statue, a soldier on a pedestal above the river, was covered to his waist. This statue is often used as an informal indicator of the severity of flooding of the Seine, based on how much of him is covered.

All over the city, work is being done to mitigate the worst damage of the flood. Two famous museums on the river, the Louvre and Musée d'Orsay, closed so they could move the parts of their collection that were in basement storage to safety; they are not expected to reopen until Tuesday. All boats except emergency vehicles have been forbidden from the river. This prompted the city to open two gymnasiums to accommodate homeless people; they often find shelter on the river barges that are no longer present. Tourists, unable to take part in the popular river boating activities, have been flocking to other attractions like Notre-Dame cathedral.

While the flooding is devastating, leaving 17 000 homes in the Paris region without power, worse flooding has occurred in 1910, 1955, and 1982. 1910 was the worst of these floods, with the Seine peaking at 8.6 m higher and remaining flooded for two months. Regions outside of Paris are also affected; parts of northeastern France

received 6 weeks' worth of rain in just 24 hours.

The Weather Channel website attributes the substantial rainfall to a weather phenomenon known as a "blocking pattern" in the jet stream. The jet stream formed an Ω -shaped pattern, stretching north along the west coast of Europe, east

across Iceland and the Nordic states, and south near Ukraine. Within this geographic area—i.e. most of Europe—a low pressure system developed as expected, drawing moist air up from the Mediterranean. The extreme extent of the blocking pattern has caused this weather system to persist and not move on, resulting in heavy rains

across a restricted geographic area.

The worst of the flooding seems to have come to an end. The waters in Paris are not expected to rise any further, and the BBC reports France's environment ministry as predicting that the floods would be stable over the weekend before dropping in the coming week.



Greudin via Wikimedia Commons - original sculptor Georges Diebolt

The Zouave Statue on the River Seine, at a normal water level

Point Vs. Counterpoint

Should Companies Update Products Periodically?

POINT

COUNTERPOINT



THOMAS WILLERT
3A MECHANICAL

To counter the idealistic perfect world that the complete revolutionary video game is produced in, we the consumer must remember that this is a business. A business that is made to entice the player to continue the story through the next game, as well as feel out the way the user likes to play and make changes to ensure they are happy with what they feel.

The greatest examples of successful long term video game studios are Infinity-Ward and Treyarch. These two companies are producing games at a rate that matches the fast turnover of the market. The producers and designers of the *Call of Duty* series have a model of one game a year combined. With each company producing a game every other year, they keep advancing two stories providing the audience with regular content and keeping the plot fresh. As well as this, releasing games regularly allows for the game to be up-to-date with the latest technology advances.

The most recent example of this is with their upcoming release of their new game *Call of Duty: Infinite Warfare*. This game, to be released in November this year, is the 6th installment of the *Modern Warfare* Series, and last years' release *Black OPS 3* is the 4th installment of their historical combat series. With two entirely unrelated series, they are able to advance content in one based on information from the other, gaining the best of both worlds. This also allows for greater advancement in-story, as ideas that don't fit one game may suit the other better. Furthermore, the fast turn-around allows for rapid response to dislike for game style, allowing for the market to forget it quickly and lose any resentment for the company rather than having the bad reputation brew over for the many years between game releases. The latest and most brilliant move of the studio was to remaster the classic *Call of Duty 4: Modern Warfare* and release it as part of a special edition package deal with their newest release. This means that the multiplayer that was well loved by all players will once again be available to play; the only catch is that they can only be purchased together. While this seems like a tricky move, it is giving the purchaser two games for slightly over the price of one. For years, video games have been capped at stores for

the price of \$60USD per game, but now studios have a way to break that barrier in a way that caters to the gamer better.

As well being able to be consistent and well updated in style, this plan also provides the company with greater financial security, as there is consistent cash flow into the company. Not only does it bring constant inflow of cash, but it also allows for cheaper production costs by being able to only have to deal with updates rather than full overhauls on the game's core engine. The constant outflow of games allows for a less pressing need to renovate the engine entirely between games, as the one has many different ways to be updated before it needs to be replaced.

Overall, this system has proven worth in a variety of games, the most common form being with first person shooters where there is a heavily competitive online community, but it was also proven with a variety of single player story games where the engine doesn't require big changes. A great example of this is *Assassin's Creed*, where there is a very complex story but the game style is similar from game to game, due to the unique way they styled the player's movements and weapons. Where *Call of Duty* prides itself in being a shooter with a good story, *Assassin's Creed* takes the stance of a great story with a unique and interactive game play style, which is highlighted heavily by the way and rate Ubisoft produces the game.

Lastly, the largest and easiest to dismiss concern from this style of game is the "day one patch", which is when a studio releases a game slightly early and the purchaser then has to deal with a glitchy game for a day before all of the issues are addressed. This is actually a very clever way of completing all of the finer and nitty-gritty QA checks that need to be completed. Though no developer wants to do this as a primary option, as the game studios get larger it becomes more of a corporate decision than an individual's decision. Therefore, if the company wants a specific marketing ploy or a fancy release date and the game only needs final touch ups it is easier to get the sales and release a patch to fix the issues that arise, and it is easy to do now that most consoles are online at all times. Overall, releasing games rapidly stimulates the market and allows for consumers to diversify their collection with more games and different play styles. As well as this, it allows for quick response from the company as the next game is only a year away, rather than having the stigma of a bad game stay with them for many years and impact their next sale.



DONOVAN MAUDSLEY
3A MECHANICAL

Releasing a product before it's finished is a slap in the face to anyone that buys it, but is becoming more and more the norm in the software industry, specifically in gaming. I can name numerous products from the last few years that have fallen victim to this trap. *Assassin's Creed Unity*, from November 2014, is one of the most well known. At the time of its release it was plagued with a glitch that's become known as the "face glitch," where the games graphics engine was not generating the characters' faces. It led to some of the funniest cut scene videos ever seen. This is in stark contrast to the earlier *Assassin's Creed* games, that had a much more relaxed release schedule and very few release issues. One glaring counter to this is that content was very deliberately left out of *Assassin's Creed 2* to ensure a timely release. At one point, the game literally skips a section of the story, which was released later as downloadable content.

Having errors like this present in a game can significantly affect the retail sales numbers of a product. Two very recent games, which are both part of large and successful franchises, had very similar issues. *Star Wars Battlefront*, released last November, and *Street Fighter V*, released February of this year, both had a significant amount of single player content cut from the final game. *Battlefront's* designer DICE has been criticized in mainstream and social media for their decision to cut *Battlefront's* campaign in order to release it ahead of the movie *Star Wars: The Force Awakens*. DICE has even reacted to this and is planning on releasing more single player content for free once it is complete. While *Battlefront* was a commercial success, the number of players who have stayed interested is far below what DICE was hoping for.

The *Street Fighter* series by Capcom is an entirely different animal, but ran into essentially the same problem. Released with only two offline modes and the promise of an extensive story mode to be released later, the critical reception of the game was less than desirable. Some reviewers declined to score the game, concluding that the studio rushed the release to meet a financial deadline. *Street Fighter V* is expected to sell about 2 million copies within its first year of release. *Mortal Kombat X*, a complete product in direct competition with *Street Fighter V*, sold around 4 million copies in its first year of release.

Releasing content in chunks has become a norm in the modern gaming market. Commonly known as downloadable content,

companies charge sometimes upwards of fifteen dollars for content that would have been included with the release ten years ago. One of my favourite things about *Super Smash Brothers Melee* was unlocking characters by completing challenges and tasks in the game; in today's market these are characters you need to buy. The inclusion of downloadable content in this manner is simply a way for the studios to increase their profits, not a way to augment the users' experience.

Companies typically don't like to admit that they've done anything wrong, but one glaring admission of guilt is the concept of a "day one" patch. On release of their product many studios prepare a large patch of last minute fixes, admitting that they sent their code away for physical pressing before they had finished thoroughly testing it. Corporate timelines overpower artistic integrity.

Content patches like this can lead to more harm than good. Encompassed bugs are software bugs that are side effects of a main software patch. These encompassed bugs will require even more content patches, often referred to as hot fixes, where the server for the product is updated, but never brought online. These encompassed bugs can lead to vulnerabilities in the code structure for opportunistic hackers to exploit. There is no way to tell how a bug fix will react to the larger world of the server, so there is no way to predict these encompassed bugs.

Replacing your content on a yearly basis is also a poor way to keep the market interested. Microsoft's Office programs are a terrific example of this. Compare the amount of the population uses Office on a daily or weekly basis to the amount of the population that owns Office 2016. I myself use Office 2007, and have never had any issues with compatibility or features. I find the newer versions that I've used on the school's servers to be too flashy and crowded with redundant functions. Word is Word, and Excel is Excel. By spending money to create new editions of this every year I believe that Microsoft is wasting valuable resources.

A studio that is taking the right path, and reaping the rewards, is CD Projekt Red. Their most recent game, *The Witcher 3: Wild Hunt*, won many Game of the Year awards and was almost universally recognized as a masterpiece. Instead of releasing costumes or different weapons as downloadable content, the studio released 2 full campaigns, each taking days of playing time to complete fully. They've begun work on their next project and instead of citing a date or year for its release have simply stated that it's coming "when it's ready." This studio respects their hard won audience and knows that they will be expected to reproduce the high level of quality they've delivered previously. This is how every company should view their products.

Editor's Note:

Point Vs. Counterpoint is a feature meant to stimulate discussion on thought-provoking topics. The views and opinions expressed here do not necessarily reflect those of the authors, *The Iron Warrior*, or the Engineering Society.

CHAINSAW
Since 2009 Until 2024
WWW.CHAINSAWLOVERS.COM

\$2 BUCK TUESDAYS
EVERY TUESDAY

\$10 PITCHERS
THURSDAYS BEFORE 11 PM

PABST ATTACK
\$4.50/TALL CAN
WEDNESDAY - ALL DAY
FRIDAY & SATURDAY - BEFORE 11 PM

DIRTY BURGER DAYS
\$2 BURGERS AND WINGS \$6.50/LB
TUESDAY, AND WEDNESDAY

BIGGIE-UP
ANY DAY ANY TIME
A BURGER AND A BEER FOR \$4 BUCKS!!
ADD FRIES FOR \$2
ADD WINGS FOR \$2
PRESENT THIS COUPON AT TIME OF ORDERING
LIMIT 1 COUPON PER PERSON. OFFER DOES NOT INCLUDE APPLICABLE TAXES. NOT VALID IF REPRODUCED, SOLD OR TRANSFERRED.

SAWDUST AND BEER AT 28 KING ST N, UPTOWN WATERLOO • (519) 954-8660 • LIKE US ON FACEBOOK • FOLLOW US ON TWITTER

Prof Personalities: Michal Bajcsy



Ballroom dancing, surfing, Game of Thrones, which awesome professor did the *Iron Warrior* find for this issue? None other than Professor Michal Bajcsy!

Professor Bajcsy joined the Institute of Quantum Computing in 2014 after receiving his Bachelor of Science in Electrical Engineering and PhD in Applied Physics from Harvard University and completing his postdoctoral research at Stanford University. An Assistant Professor in the Electrical and Computer Engineering Department, Professor Bajcsy kindly took some time out of his busy schedule to Skype in with us from California to answer a few of our questions.

Q: Which courses do you teach?

I have taught ECE 106 (Physics of Electrical Engineering), ECE 404 (Geometrical and Physical Optics) and ECE 770 (Quantum Electronics and Photonics).

Q: Why did you choose to pursue a career in Engineering?

It was a family business. My dad, aunt, uncle, and two older brothers are all electrical engineers. I also enjoy math and physics, and this was a field that combined them both.

Q: What was your most memorable experience as an undergraduate student?

Hmm I have to come up with some that are actually appropriate for this interview! There were several. I took a geology class which was a lot of fun; it ended with a camping trip to the surrounding mountains to look at some rocks. A class on Celtic poetry was also very interesting.

I also took a class on the history of science, which basically went over the most important scientific developments of the 20th century, such as the making of the atomic bomb, the green revolution, the genome study, and so on. So it was an interesting overview of what science was actu-

ally good for and how it changed things.

Another class was an engineering class called Junior Capstone Project. It was like engineering consulting 101; the professors would bring in clients from outside with a real problem and the students would work in a group to suggest a solution by the end of the semester, and we had to give a presentation and propose our solution.

It was certainly an interesting social dynamic to figure out how to work in a team without killing each other, and it was also very good training on how to give presentations and effectively communicate your ideas.

Q: What was your first impression of Waterloo?

Well, the land is very flat. In the States I was always either on the east or west coast, and in both of them you can get to mountains in just a couple of hours. Whereas Waterloo is more rolling hills and like a Midwest style. But the surprising impression was that there were way more students than I was expecting. I mean, the school doesn't look like it would fit 30 000 students.

Q: What are your research interests?

On the large scale of things, I am trying to make single photon gates. In other words, trying to make logic gates that work with single photons. Experimentally I am trying to implement it in a combination of nanophotonic structures and cold atoms, and occasionally warm atoms. The point is that the nanophotonic structures can keep the photons confined and the atoms add the non-linearity that we need to implement the logic gate.

Q: What is your favourite part about teaching?

I like that I still learn new things. I was very surprised that I still learned new things in ECE 106 even after teaching it the second time. Another favourite thing is when students get it, you sort of see that "aha" moment which is quite enjoyable.

Q: What is the most challenging part?

Board technique. I suck at that. Some

professors are really good about it and you can basically make a print-out of their board, I haven't quite gotten there yet. I'm still trying to improve it to a reasonable level. It makes it easier for the students to learn, but there also seems to be a strong correlation between your board technique and the overall happiness of the class, particularly with the first years.

Q: Do you have any advice for your students?

One is a quote from Louis Pasteur. The gist of it is that in science or life in general, "chance favours the prepared mind." Basically, a lot of things happen by chance, but you wouldn't be able to take advantage of that chance if you weren't already looking in that area or aware of what was going on. Another is a quote that I saw in a lab in Nebraska, which says that "a few months of working in the lab can often times save you a couple of hours in the library." The last one would be to keep working on your writing and presentation skills. We do so much of our communication through writing, and presentation is very important because that is how you sell stuff. Even if you come up with something interesting, there's no point in it if you can't explain to people why it is interesting or how it works.

Q: Do you have any hobbies?

I used to, and I hope to come back to them at some point. I used to be an avid ballroom dancer. I used to do it competitively in college and in grad school. I quit about halfway through grad school when I realized that I actually needed to graduate at some point. So when I was a postdoc I didn't compete anymore but the Palo Alto area had a really good social ballroom scene so I was still enjoying that. I also enjoy skiing, and during a trip after finishing my postdoc I picked up surfing. I'm still really bad at it but I really enjoy it. Apparently you can also surf in Ontario. In some of the Great Lakes they have good waves for surfing.

Q: What is your favourite TV show?

Lately I have been addicted to Game of Thrones. This season has been really good, it seems like they are really trying to get it going and the pace has been picked up a



Professor Bajcsy has travelled to Hawaii, Japan, the Caribbean, and the United States, where he is currently completing his postdoctoral research. He is also a fan of ballroom dancing and Game of Thrones.

lot. It seems like they are trying to wrap up the whole thing and I guess there's still a lot of characters that need to be killed off. I'm also a big fan of Family Guy and American Dad.

Q: Interesting places you have traveled to?

Hawaii has been one of my favourite places. I also visited Japan for a few days which was very interesting. In the Caribbean I've made it to St. Maarten and St. Barts so far. They are neighboring islands but they are very different. St. Maarten is super touristy, but at St. Barts the cruise ships have to anchor a few miles off the coast and then they will have small boats come in. Another interesting place I've visited in the last several years is Antelope Canyon in Utah. It's this canyon where the water has cut through the sandstone, and it's absolutely amazing. And California is pretty amazing as well.



Professionalism.
Leadership.
Communication.

There's more to an engineering education than engineering.

Debates

For the last several years, the University of Toronto has won the debating contest at the Ontario Engineering Competition. This shall not pass. If you like to argue with your classmates for fun, even if you've never debated before, then you need to come and try to argue for the pride of Waterloo Engineering (and for cash prizes). Only by entering the SFF debate competition can you prove that Waterloo engineers will never be content to be second place. You must sign up to compete.

The SFF debate competition will be held on Tuesday, July 19, starting at 5:30pm in E5-3052. Cash prizes will be awarded to First, Second and Third place teams. The top team is eligible to represent UW at the annual Ontario Engineering Competition. The debates will be in teams of two, so please register your teams by emailing sff@uwaterloo.ca. Questions regarding policy and format can be addressed to atrivett@uwaterloo.ca. Let's make it so, number 1.

Technical Speaking Competition

Do you have a passion for engineering design, communication and public speaking? The SFF Technical Speaking Competition is a great way for you to show off your technical speaking skills and personal projects, and to win cash prizes for it.

The Technical Speaking Competition will be held in mid-July. Students wishing to participate must submit a 100 to 200 word abstract and a preliminary deck of slides in pdf, pptx or ppt format. Six students will be selected for the competition, based on submitted material.

Questions about competition rules can be addressed to the coordinator, Jason Grove, at jason.grove@uwaterloo.ca. Prove your mettle in the SFF Technical Speaking Competition!

Sandford Fleming Foundation
E2-3336, Extension 84008, sff@engmail.uwaterloo.ca
www.eng.uwaterloo.ca/~sff

Discover WiE 2016



TIFFANY CHANG
1B CHEMICAL

It's fascinating how life goes full circle.

During the last weekend of May, I had the amazing opportunity to volunteer with Women in Engineering to host 80 Grade 12 girls as they percolated one of the most important decisions of their lives thus far one last time.

Last year, I was also invited to the Discover WiE event; however, I did not attend it.

Fast-forward a couple of months to moving into residence for the first time. It turns out that some of my dorm-mates knew each other from attending this event. Later, I also discovered that some of my fellow Chem 2020 peers had also met each other through this event.

Thankfully, life has the unique characteristic of coming full circle. As soon as I found out that WiE was still looking for volunteers for this special day, I immediately signed up.

After my circuits CDT, I made my way to St. Paul's. Once again, construction got the better of me for a couple of minutes while I figured out which entrance to take, but I was lucky to have made the right decision. A couple of turns and a staircase later, I came across the soon-to-be registration table and Lyndia Stacey, the new Program Coordinator for Women in Engineering. Other volunteers trickled in, and from there, we designated roles and waited for our participants to arrive.

On top of being able to experience living in residence for a night, our girls heard from Mary Wells about the purpose of Discover WiE and her advocacy for increasing female enrolment and engagement in STEM; Dr.

Stacey Scott spoke of her representation on behalf of the Faculty of Engineering for UW's HeForShe campaign; two strong, inspiring women who work at Square also gave our girls some insight into their journey to where they are today; and finally, current B-Soc President Hannah Gautreau also shared four years' worth of university, EngSoc, and co-op experience. To wrap up the night, The Water Boys performed for us at St. Paul's—what a treat!

The next morning before wrapping up the event, we heard from another three amazing ladies from Christie Digital about the benefits of co-op; they provided our girls with some insight on how to craft a résumé and how to make up for the lack of work experience—I remember worrying about that not too long ago.

At times, I'm still in dismay that I was one of those girls less than a year ago—eager, excited, and nervous to pen a new chapter to my life in UW Engineering.

I remember chatting with Ryan Pyear during March Break Open House 2014 and asking him about choosing 4-stream versus 8-stream co-op. While eating dinner at the Sedra Student Design Centre in E5, I had a moment to recall that moment two years ago with Ryan. It's probably something he hears a lot from current students, but from what I can imagine, it's what keeps him and other faculty members involved with Recruitment motivated to continue inspiring and encouraging future generations of engineering students.

Hopefully, the majority—if not all—of our girls have accepted their offers to Waterloo Engineering. Who knows? Maybe next year, some of them will be the ones volunteering with Women in Engineering for this special day.

And who knows? Maybe they will find themselves as part of this circle, too.



RATAN VARGHESE
1B ELECTRICAL

Industry interest in live streaming video has been surging over the past two months, as Facebook launched and expanded its live video API while other web companies scramble to respond. The first frame of this spectacle was during Facebook's F8 conference on April 12, when it announced a Facebook Live API to allow third-party organizations to stream live video over Facebook. Facebook Live allowed for mixing multiple video and audio sources: quite like a desktop streaming application and unlike the phone-focused, Twitter-owned Periscope app. Live videos could be rewound and replayed later. On-screen graphics of Facebook comments and likes were available. Perhaps most interestingly, Facebook partnered with the drone-maker DJI to allow live streaming from above.

Throughout May, Facebook's rivals responded by expanding their own live video ambitions. Periscope added 24-hour video saving to its mobile app, as well as support for the aforementioned DJI drones. Twitter has started allowing phone users to launch the Periscope app from the Twitter app (this still requires installing both). Twitter has also tried easing its famed 140 character limit to allow links and multimedia to be more easily tweeted. Mobile streaming may be in Google's sights as well, as they are rumored to be adding livestream recording to the YouTube mobile app.

On May 23, Facebook's next play in the streaming game was revealed. The Live API as it currently exists only supports

90-minute long streams, but the new Facebook Continuous Live will allow persistent streams of any length. They were inspired by some of the creative uses of Facebook Live; *explore.org* used it to record a bald-eagle nest all day, every day. They also wanted to enable 24-hour views of major landmarks. These ludicrously long videos will not be stored for long: unlike the current Live API, Continuous Live will not support rewinding or late viewing.

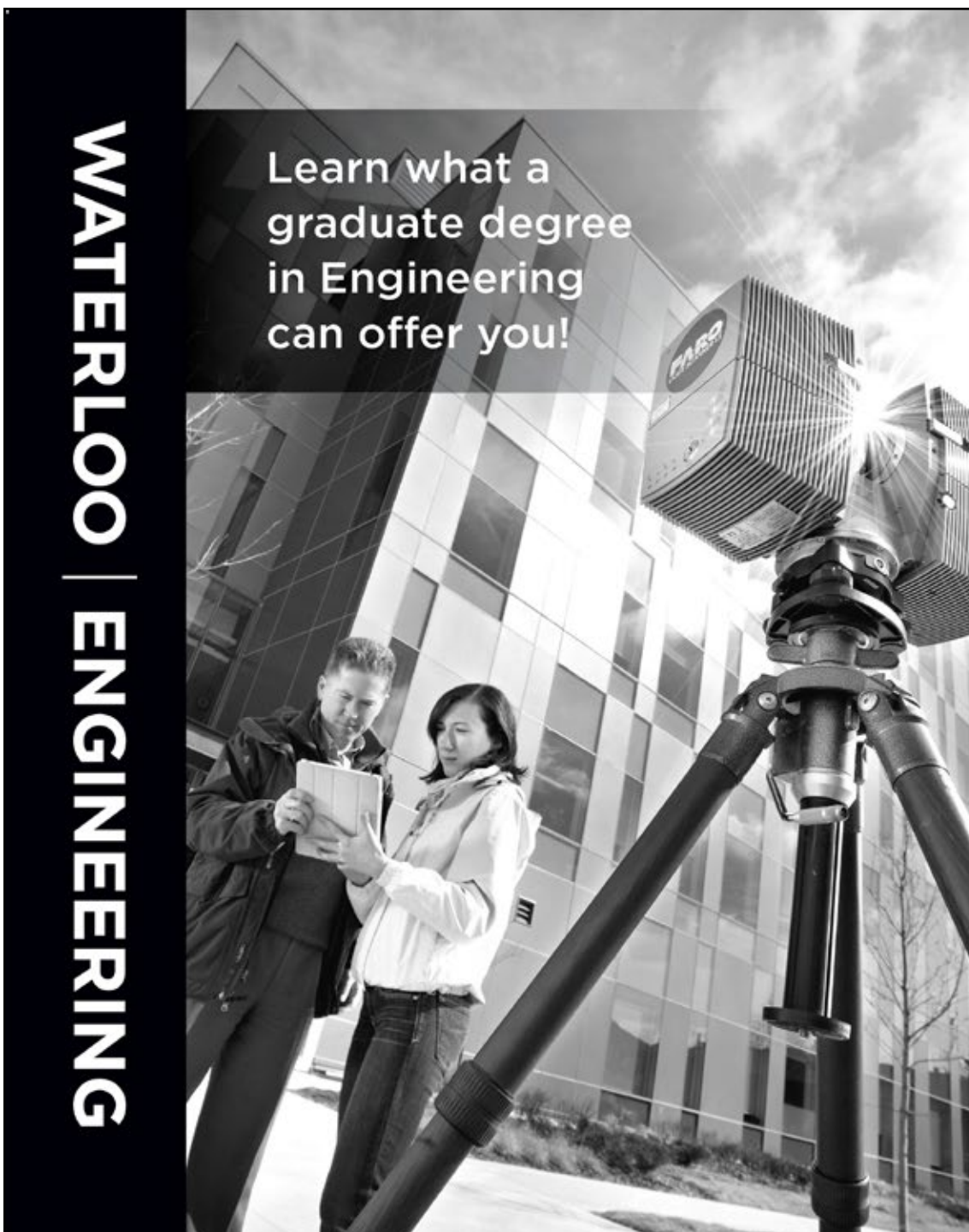
What does this mean, beyond the Silicon Valley rivalry and the sophisticated technology? It is becoming easier and easier for ordinary people to broadcast live videos to enormous digital audiences. Now that both Periscope and Facebook support drone-sourced video streams, pretty much anyone will be able to passively record hundreds of people in real-time in a critical location... or a single person in every location.

On the other side of the coin, the creepier aspects of this were possible for years. The difference now is that events can be observed live, rather than after the fact. Perhaps this will be a killer feature for sports and conference observers, and the rest of humanity will be content with their existing "dead" video uploaders.



B Ystebo via Flickr

The DJI Phantom 2 Drone



WATERLOO | ENGINEERING

Learn what a graduate degree in Engineering can offer you!

WEDNESDAY, JUNE 8, 2016
5:00 - 6:00 P.M.
E5, Sedra Student Design Centre

GRAD STUDIES INFO RECEPTION

Speak with faculty members and current grad students about the benefits of a graduate studies degree. All engineering departments will be represented.

- » Food and beverages provided.
- » All undergrads welcome!

uwaterloo.ca/engineering



PREZenting

Another Presidential Update



HANNAH GAUTREAU
PRESIDENT

Hi, Waterloo Engineers! I hope you all have time to enjoy the beautiful weather we have been having. It's hard to believe that it's already Week 6!!

Mental Health

Our mental health directors have been hard at work this term! The first Let's Talk Mental Health ran on Thursday, and it was extremely successful. Come out to POETS on Thursday, June 9th for "Eat Your Words". We will be making cookies and writing a negative word on them using icing, then you get to eat it and never speak it again. Mental Health Awareness Week is also coming up from June 20th to June 24th, so make sure to participate in that!

New Ranking System

The faculty has recently implemented a new rankings system, where instead of receiving your class rank in an email, you will have to go to a website to get this information. This was implemented because there were a lot of student complaints about getting the rankings, so this system allows the student to decide if they want to see their class rank. In addition, all of your rankings from now on will be stored on this system, so you will be able to see how your rankings have changed over time.

International Student Tuition

At the first council meeting this term, the Executive was mandated to take a stance against the rapid increase of international

student tuition. I have reached out to the Student Relations Officer to get more insights on why international student fees have gone up so much. Stay tuned for more information!

Elections!

We will be finding out who our next President, VP Operations and Finance, VP Student Life, and VP Communications are this week! There will be a By Election for VP Academic coming up soon, so stay tuned for that!

Second Council Meeting Summary

We had our second council meeting on Wednesday, May 25th. We elected our Sponsorship Committee, Chief Feedback Officer, and the Teaching Award Committee. In addition to this, council mandated the VP Education, Anson Chen, to write a letter to the WatPD Engineering Committee to take the stance that we want to conduct a survey to gauge student satisfaction regarding the PD program. There was a lot of great discussion about the letter, and it will be presented again at the next council meeting.

There was a great Q&A for all of the EngSoc Election candidates. Lots of great questions were asked. If you are interested in what they had said, check out the minutes from EngSoc meeting 2 that were sent out on the mailing list!

For more information about council meetings make sure to check the EngSoc website, and subscribe to the mailing list! If you have any questions about our council meetings, please contact executive.b@engsoc.uwaterloo.ca and we would be more than happy to answer your questions. The next meeting will be held on Wednesday, June 8th at 5:30 in CPH 3607.



DON TU
VP FINANCE

VP Finance Update

I Want You TU Use These Services

in if they aren't going to the people who really want them?

In a similar way, Novelties needs a bit of a publicity boost. However, inventory is less of an issue. In fact, we just shipped in two brand new patches, and we've got some more planned! On top of that, we're going to be restocking on glassware and bringing in a completely new item: baseball tees!

Lastly, we have the Sponsorship program, which is now accepting proposals until July 2nd! Although this program hits a smaller subset of students, I do feel that we are providing something that matters to the student groups that we do sponsor. At the last Engineering Society meeting, I was very happy to speak to the leader of a group that we sponsored last term. They had some kind words about how far their sponsorship money had gone towards enabling learning for the team.

So, those are our services. What can you do to take advantage of them and make Waterloo Engineering better?

Go to the Orifice and get your Student Deals sticker! We have 8 partners and more on the way, so get your sticker!

Go to the Engineering Society website and make an ECIF proposal. Whether you want more comfortable chairs in the student labs or smart water fountains in CPH, you could end up improving the lives of your fellow students!

Like the Novelties and RidgidWare Facebook pages in order to get up-to-date information!

As always, if you want to shout out to me, you can reach me at vpfinance.b@engsoc.uwaterloo.ca. Thanks again for reading! Until next time!

The other day, I was working in the Orifice and overheard a conversation between two fourth-year students. They were talking about the Student Deals stickers and how useful it was. However, they also mentioned that it was a shame that the Engineering Society didn't advertise it better. Seeing as how the Student Deals sticker falls under my responsibility, I started asking myself questions.


Do people think that Engineering Society services aren't useful? Or do people not use them because they don't know about them? How do we fix that? Step one would probably be... well, talk about them!

The two Engineering Society programs that are arguably the most beneficial to the average student are the Student Deals sticker and the Engineering Capital Improvement Fund (ECIF). Tragically, I think these are two of the most under-used services we offer! I think this especially about ECIF, since we didn't receive enough proposals last term to use up all of the money we allocated towards new projects.

RidgidWare is also a service that the Society offers that isn't really seeing its time in the limelight. I've spoken at length about RidgidWare in previous issues, but the gist is that the store is still young and adjusting to what students want/need it to be. The RidgidWare team and I are working on maturing it by bringing in new stock and expanding hours, but we are still trying to see what advertising strategies work best. After all, what's the point in bringing more things

RIDGIDWARE

Upcoming Events Calendar

Wednesday June 8	Thursday June 9	Friday June 10	Saturday June 11	Sunday June 12	Monday June 13	Tuesday June 14	Check out up-to-the-day event postings on the EngSoc website at engsoc.uwaterloo.ca/event-calendar/
EngSoc Council Meeting #3 5:30 PM - 7:00 PM	Eat Your Words! 11:30 AM - 1:30 PM Summer Films and You! 7:00 PM - 10:00 PM		Movie Night in POETS 7:30 PM - 10:30 PM		Upper Year Hell Week Introduction to Solidworks 6:30 PM - 7:30 PM	Eat Grilled Cheese 11:30 AM - 12:30 PM	
Wednesday June 15	Thursday June 16	Friday June 17	Saturday June 18	Sunday June 19	Monday June 20	Tuesday June 21	 
Puppies in POETS! 11:30 AM - 1:30 PM		Job Hunting Skills Seminar 6:00 PM - 7:30 PM	Day at The MUSEUM 9:00 AM - 3:00 PM Dungeons and Dragons 12:00 PM - 3:00 PM		Mental Health Awareness Week WebDev Workshop 5:00 PM - 7:00 PM TalEng 8:00 PM - 11:00 PM	Eat Grilled Cheese 11:30 AM - 12:30 PM	

VP External Update

So What's Really Going On?



**KIERAN
BROEKHOVEN**
VP EXTERNAL

As some of you may be aware, as VP External my role includes attending conferences with the Engineering Student Societies' Council of Ontario (ESSCO) and the Canadian Federation of Engineering Students (CFES). But what on earth do we actually do at these conferences? Well a big part of it is professional and leadership development for our delegates. But then at the end of every one, all the VP Externals sit down

in a meeting (plenary) and get things done. We pass motions that affect the way ESSCO/CFES run or affect students across the country. I thought in this article, having just attended my final conference as VPX, I'd give you an idea of some of the things that have been happening that have been relevant to you!

One big thing ESSCO and CFES have been pushing for recently is advocacy. For this reason, both have recently introduced a new position for this purpose. There now exists an ESSCO Director of Academic Advocacy and a CFES VP Academic. Each has the responsibility of working towards the development of better engineering education in Ontario/Canada.

The CFES elected their first VP Academic in January, while ESSCO approved the new director at the end of May and will be hiring one soon. They will be responsible for addressing issues that are brought to individual engineering societies by their members that the societies are not well enough equipped to handle. Something CFES has recently been fighting for is for a voting seat on the Canadian Engineering Accreditation Board. The VP Academic will continue this effort, so hopefully we, as students, might get a vote in engineering accreditation in the near future!

On the note of new positions, ESSCO has also introduced a director of sports! This director will be responsible for

facilitating communication between engineering societies' sports teams. Hopefully this means more Ontario engineering sports tournaments in the future!

Finally, at CFES Congress in January, we mandated the CFES executive to put together a plan for helping students in Canada achieve employment. The VP Academic will look into increasing the employability of students, as well as improving employment opportunities.

Those are the big ones! There are plenty more so if you'd like to hear about them just shoot me an email, message me, or just come chat.

Thanks for reading!

VP Education Update

ED-Vocation, PD, Co-op and Moar



ANSON CHEN
VP EDUCATION

Hey B-Society! I hope you're all enjoying the super warm weather, because I sure am.

Speaking of warm weather: Q) Which is faster, heat or cold?

A) Heat, because you can catch a cold.

Haha... ha... *booed off the page* Here are some updates for you on the VP Education side.

WatPD Satisfaction

One of the faculty committees that I sit

on is the WatPD Engineering Curriculum Committee. This group consists of 2 associate and academic directors for PD, professors from each engineering department, and myself. The goal of the group is simply to improve PD and to evaluate its usefulness.

Last Wednesday at the committee meeting, something happened that has not happened before. A professor from ECE presented on the results of a survey run by one of his students who graduated this year. The survey asked 75 engineering students across a variety of programs to rate how useful PD was to them, and whether it increased their employability at all. The responses were rather negative. Furthermore, the results contrasted the satisfaction ratings in the formal end-of-course surveys, which average at 3.5/5 (70%). The professors sug-

gested it might be useful to have EngSoc run a survey to verify whether students really are this dissatisfied with PD. If students are discontent, PD may have to be changed.

Sidebar for your interest: Nanos, Trons, and Softwares rate PD more negatively than all the other engineering programs.

I am planning to present a letter to the committee in favour of conducting the survey. The letter is currently undergoing refinement with the EngSoc Council. If you have input regarding whether or not you think EngSoc should survey student satisfaction in PD in order to initiate change, feel free to send me an email at vpeducation.b@engsoc.uwaterloo.ca.

Co-op Updates

Another Engineering committee that I sit on is the Co-op Working Group. This group also consists of representative department professors and CECA representative(s). The

goal of the group is to improve Engineering co-op.

A few interesting things I learned from last week's meeting:

The Engineering employment rate for the Spring 2016 work term is 93% (of which 7% are hired by UW in research or other positions). The overall rate is 2% higher than Spring last year, while the percentage hired by UW is more or less the same.

Nanos have the highest number of students hired by UW in research positions.

Civils are not taking as many research positions, leading to a 4% lower first work term employment rate than last year.

For Fall 2016, 300 more students will be looking for employment than last year, leading to the largest Fall term to date.

WaterlooWorks continues to be on track to launch in Winter 2017. WaterlooWorks will offer features such as improved job search with location map, unlimited document upload, and the option for employers to provide salary information and interview feedback.

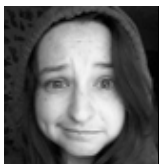
Exam Bank

Throughout the term, we will be raffling away \$25 Cineplex gift cards, and all you have to do to enter is submit an exam (or multiple) to the EngSoc Exam Bank. The first raffle is on Friday June 3rd, and we will do at least 2 more this term. For more details, see the blog post on www.engsoc.ca!

Finally, if you are interested in running for VP Academic for the next Executive term, look out for an upcoming by-election!

VP Internal Update

This Might Pique Your Interest



TERESA LUMINI
VP INTERNAL

Hey hey hey!

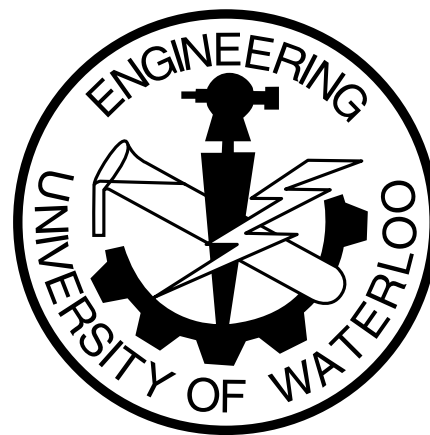
Lots of cool events are coming your way before Hell Week begins that you should for sure check out! First off, we had some amazing candidates for the next coming exec and would like to thank them for their hard work during their campaigning period as well as thank all the students who took the time to vote!

We have some pretty awesome things coming your way in the next couple of weeks, starting with Summer Films and You! and Eat Your Words! I'm particularly excited for that second one. Here is an opportunity for those suffering with mental health, abuse in the LGBTQ community and anyone who has struggled with words that have hurt them or that they don't like. Now you can write these words on a cookie and eat them and not use them again. This event is promoting inclusivity and taking the time to consider how our words affect others and I would like to give credit to Sarah Martin for coming up with this amazing event idea!

We also have Puppies in POETS coming up on the Wednesday of Hell Week! This event has changed from previous terms as, unfortunately, the National Service Dogs were not available this term, but don't you fret! St. John's Ambulance will be bringing their dogs for you to enjoy before those crazy midterms. And as for after midterms, TalEng will be coming up on

June 20th and sign-ups will be opening up on Monday June 6th. So be sure to dust off those keys, warm up those voices, practice your talents, and sign up to perform at our termly showcase of engineering talent!

Finally, we're bringing back on-term SCUNT this year! Remember that amazing event from OWeek? Well now you'll get to experience the on-term version! Be sure to sign up on the facebook event with your team! We'll be having a McMaster and an alumni team participating this term, so that will be some great fun on June 24th!



KITCHENER WATERLOO

TRAVEL  **Clinic**

Travel Vaccines
& Advice
by Appointment

Health Canada Certified for Yellow Fever

519.570.4208

www.kwtravelclinic.ca

Physicians Certified in Travel Medicine

Goldilocks and the Three Deodorants



BRIGITA GUBINS
YEAR 2
ENVIRONMENTAL

LEAFY THOUGHTS

How do you know when you've crossed the line to full out barefoot hippie? How can you distinguish between the pseudo-science of using crystal energy to cure pneumonia and the actual enzymatic production of hydrogen peroxide in honey, rendering it a mild antiseptic?

If you've ever Googled a recipe for homemade/DIY anything, you'll already be aware that almost all of the results come from "natural health" blogs, damning the "bad chemicals" in various products and linking them to cancer, Alzheimer's disease, etc. etc. Essentially, posts by well meaning, but often very misguided individuals that don't fully understand the science behind the thing they claim is bad.

To be fair, the internet is full of click-bait

headlines like "Scientists link aluminum compounds found in deodorant to higher cancer rates." News sources, even relatively reliable ones, are also notorious for paraphrasing new scientific studies to sensationalize the otherwise boring content. In the case of the aforementioned headline, the studies actually cited were two conflicting experiments that are now 13 and 15 years old, both of which had major flaws according to the oncologist interviewed by the writer, Dr. Philippa Darbre, of the University of Reading. These studies examined the correlation between aluminum, parabens, other estrogen-mimicking compounds, and the growth rates of cancerous cells caused by excess estrogenic compounds. But attempts to link these factors in human subjects instead of petri dishes is still inconclusive, over a decade later.

With decade-old studies being cited, I really didn't care. In the attempt to create zero waste, my only criteria for homemade deodorant were no packaging and the requirement of no special tools. Yet everywhere, the only recipes are from those

well-meaning "green mommy" blogs. Not very promising.

So I went ahead and tried them all anyway, with wildly different results. Most of the recipes are some ratio of a starch (corn, potato, arrowroot, whatever), baking soda, oil (shea, coconut, olive, and a number of others I swear they made up), and some kind of scent like an essential oil. Some variations included beeswax so it would form a solid bar, while others worked as a paste.

My kitchen cupboards already contained olive oil, baking soda, and cornstarch, so I mixed those three and poured it into an old, empty deodorant tube, which promptly leaked all over the table and made right mess. This was 1:1:1 oil to starch to baking soda.

In the second attempt, I had an idea as I spotted an Ikea candle on the table, thinking, "beeswax can't be that different from paraffin, all it's doing is thickening the mixture." Ha. Hahaha. It thickened it, to the point where applying it left chunks of waxy goo. On me, on my shirt, and on the container. It was gross; 0/10 do not

recommend. The worst part is that the candle wax was just soluble enough in the oil that with body heat, it would melt into clothes, then harden, then melt, then harden, etc. I learned the hard way that wax will not come out of cloth. Same 1:1:1 ratio, just with some shredded wax melted and mixed into it.

The third attempt was preceded by getting beeswax and some other form of oil with a higher melting point. I was lucky enough to find a honey vendor in a certain farmers' market here in Waterloo that also sold beeswax by the brick; however, those decorative beeswax candles will also work. The beeswax definitively made all the difference in the consistency, in addition to using coconut oil in the place of olive oil, as it remains solid below 25C. This version had less oil, more starch, as well as approximately a tbsp's worth of shredded, melted beeswax.

If you take away nothing else: don't smear candle wax with olive oil on your armpits. It will not be a fun time. That, and those "green homemaker" blogs often have good ideas for the wrong reasons.

Antarctic Dinosaurs

i.e. Cool Dinosaurs



DONOVAN MAUDSLEY
3A MECHANICAL

OLD NEWS

Last issue, I delved into the history of mass extinctions. This time I'm going to talk specifically about the K/T event (Cretaceous-Tertiary extinction), with emphasis on some of the creatures that it took with it. The K/T event happened around 66 million years ago and is the major extinction event that most people know about, catalyzed by the meteor impact on the Yucatan Peninsula in Mexico, causing the majority of life on Earth to go extinct. For a long time, paleontologists thought that life in different sections of the world would have been affected differently, but recent evidence from Antarctica disproves this. Over a six year long study conducted by the University of Leeds and the British Antarctic Survey, researchers were able to identify over 6,000 fossils which mark a dramatic series of extinctions concluding 66 million years ago.

Most of the popular dinosaurs, the likes of which are seen in Jurassic Park, come from areas which today are dry and arid, like the badlands in North Dakota and Alberta. But Antarctica also housed some pretty amazing creatures in its time. During the age of the dinosaurs, Antarctica was still a very southern continent, but the global climate was much warmer. The frozen plains of the modern South Pole probably resembled Brazil more than the frozen expanses seen today. Here are some of my favourites from the Antarctic creatures of the dinosaur age.

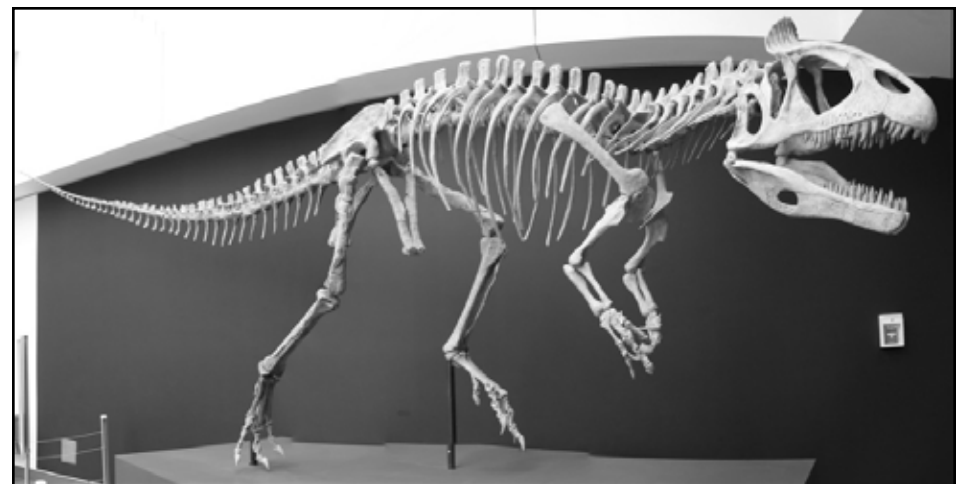
The first carnivorous dinosaur to be found in Antarctica was the Cryolophosaurus Elliotti, whose name comes from the Latin for cold, crest and lizard. Cold, though true today, is largely a misnomer. During the Early Jurassic period, the time when the Cryolophosaurus lived, Antarctica was actually close to the equator. This creature was a theropod, the same family as the Allosaurus or Tyrannosaurus, and closely resembled its more well known cousins. Large for its time, the Cryolophosaurus

measured only around twenty feet long, on average eight feet smaller than the Allosaurus. Eight feet might not seem like a huge difference, but the extra size meant that the Allosaurus could take on larger, more dangerous prey than its ancestor. The Cryolophosaurus' defining trait was the crest that sat above its head, likely used simply to attract a mate.

A counter to the Cryolophosaurus is the Glacialisaurus Hammeri, a herbivore that also lived during the Early Jurassic and may have been the prey of the Cryolophosaurus. The Glacialisaurus is one of the smaller sauropods that has been discovered, weighing an estimated 5 tons. Compared to its larger cousins the Brachiosaurus (39 tons) and Brontosaurus (17 tons), the Glacialisaurus would have been positively cute. As an earlier breed than its larger family, the Glacialisaurus may have even stood on its hind legs to reach the leaf canopy it ate from. As natural selection worked on the Glacialisaurus, the larger of the species thrived and evolved into the larger sauropods I mentioned earlier.

The last dino I want to discuss is the Antarctopelta Oliveroi, an ankylosaurid from the late Cretaceous. The Ankylosaurus is one of my favourite dinosaurs, and is fairly underrated (maybe because its name is harder for children to pronounce). As armoured herbivores that likely traveled in herds for protection, they may have been a natural enemy of the Tyrannosaurus. The Antarctopelta may even have had spikes protruding from its front shoulders, giving it a very menacing look.

The Antarctic peninsulas likely house many, many more fossils, but because of the harsh conditions, excavating them is difficult and dangerous work. It took a team of paleontologists over a decade to excavate a single Antarctopelta Oliveroi skeleton. Storms have been known to degrade and sometimes destroy partially exposed fossils during digs as well. Due to Antarctica's location during the age of the dinosaurs, in particular in the Triassic and Jurassic Eras, it may house many fossils that help us learn more about the evolution of dinosaurs. For example, the first two dinosaurs I discussed today help tell the tale of the early sauropods and theropods. Let us hope we can keep studying and uncovering new species!



Hello!mrsax via Wikimedia Commons

A full Cryolophosaurus Elliotti Skeleton on display in Vancouver, BC at the Ultimate Dinosaur Exhibit. Note the crest on top of the skull. The shape of this crest has drawn comparisons to the hairstyle of Elvis Presley, earning it the nickname the "Elvisaurus".



Nobu Tamura via Wikimedia Commons

An artistic depiction of the Glacialisaurus Hammeri, showing it standing on its hind legs. The Glacialisaurus may have needed to do this to reach the leaf canopy to eat. Its descendants, the large sauropods Brachiosaurus and Brontosaurus, were many times its size and would not have needed to do this. No full Glacialisaurus skeletons have been recreated.

What's the Canadian Space Agency Up To?



CAMERON SOLTYS
3N MECHANICAL

SPACE CAM

When the topic of Canadian space contributions comes up, there is one thing that almost everyone will surely know about: the Canadarm. Even now, 35 years after the first arm was delivered to NASA, it is the most celebrated Canadian space achievement. In November 2012, Google Canada displayed a Canadarm-themed doodle celebrating its first deployment on the Space Shuttle Columbia in November 1981. The current \$5 bill depicts the Canadarm2, a similar device that represents a substantial amount of the Canadian contribution to the International Space Station. The Canadarms are remarkable devices that have served their space shuttles and orbiting space stations well, but there is more to the Canadian Space Agency (CSA) than that.

It should probably be noted outright

that the projects that the CSA is currently leading and supporting are not super flashy and exciting; to leave it unsaid would be skirting an important point. The CSA is not currently controlling a flotilla of robots on the surface of another world. Nor is it landing on a comet or whizzing past Pluto. What it is doing is supporting the global space industry, making new technologies that others will use, and providing important services to Canadian scientists to conduct space-related experiments.

One of the aforementioned services the CSA supplies is parabolic flights. Famously used in the NASA "Vomit Comet" program, parabolic flights provide a short-duration microgravity environment inside of a plane. They work by having a plane climb quickly through the air, throwing the occupants upwards. The plane then makes a parabolic arc, following the trajectory that the occupants take under gravity alone. In other words, the passengers free-fall through the sky while the plane adjusts its speed to follow their path. The

result is 20 second of weightlessness, during which experiments ranging from materials science to fluid dynamics can take place. The CSA has three planes for the purpose; a KC-135 and an Airbus A300 that can each carry a dozen experiments at a time, and a smaller Falcon 20. In any case, the planes fly tens of parabolas over the course of a few hours, giving researchers time to conduct their experiments.

Another project supported by the CSA is the "iRings" project from McGill University. This project, which gets its name from the Iron Rings that obliged engineers all across Canada wear, has designed a wheel suitable for use on a lunar rover. The wheel has chain-mail integrated into its structure to provide durability and puncture support and is filled with granular particles instead of air. This design has several advantages, not least of which is the inherent shock-damping characteristics. This damping would allow a rover to use smaller shocks, saving weight—something that is always a limiting factor on spacecraft.

One final project that the CSA takes on is that of stratospheric balloons. Much like the parabolic flight program, this is a service that the CSA offers to scientists who need to perform high-altitude experiments. Stratospheric balloons are most-frequently thought of as weather balloons, but they can be a platform for all sorts of data acquisition and experimentation. They travel up to 42 km into the atmosphere and remain there for up to 10 hours, with longer-duration tests currently under consideration. The balloon plummets to Earth while its scientific payload parachutes down. According to the CSA website, these balloons offer a unique ability to study the stratosphere since it is "too low for satellites, too high for aircraft and cleared too quickly by rockets."

These are just a few of the many projects that the CSA is involved in. Some of these, and other, projects are sure to reap great economic and scientific rewards. While the Canadarm may remain Canada's most prestigious foray into space, it is hardly the only one.



NASA via Wikimedia Commons

Space cadets training in the weightlessness of the vomit comet

3D Printed Rocket Flies

UC San Diego Students Prove Themselves



RATAN VARGHESE
1B ELECTRICAL

On May 23, a group of University of California San Diego students launched a rocket in the Mojave Desert with a fully 3D-printed engine. The rocket, named the Vulcan-1, was about 5.7 metres long and 20 cm in diameter. Despite contending with 30 mile-per-hour winds, the rocket managed to fly a ground distance of about 1220 m, and reach an altitude of 3,000 m. The team was not the absolute first to do this: one of their Kickstarter backers, Bagaveev Corporation, managed to launch a 3D-printed rocket several years ago.

SpaceX and NASA have also been pursuing 3D-printed rocket components for several reasons. 3D printing allows for new component geometries which are impossible to create with traditional machining and welding. Using 3D printing

during testing can reduce development time and cost. Consider SpaceX's 3D-printed SuperDraco Engine Chamber: it took just about three months to develop from an initial design to a functional prototype capable of being used in thrust tests. The improved components and quicker development could both help reduce the final cost of rockets. In fact, 3D-printing is considered one of the key technologies that will eventually allow US rocket manufacturers to undercut the Russians on cost, so that the Americans will once again have an independent heavy-lifting rocket industry.

There is still much work to be done until rocketry reaches that point. SpaceX and NASA have yet to attempt making entirely 3D-printed engines. Meanwhile in the Mojave Desert, the Vulcan-1 was destroyed on its maiden flight because its parachute failed to deploy. Governments, corporations, and students alike are grinding through tests and sweating through calculations, trying to create our 3D-printed future in the stars.

Ride the [PRESTO] Rocket

TTC Implements Electronic Fare System



ELIZABETH SALSBERG
3B NANOTECHNOLOGY

PRESTO! PRESTO! The service may not be PRESTO but you can now use PRESTO to board select TTC vehicles at select locations. That's right folks, the TTC is officially moving to the PRESTO payment transit fare payment system in what's being called "the largest mass deployment of new fare technology in TTC history."

The TTC expects the PRESTO payment system to be fully operational sometime in 2017, though customers will be able to use cash, tickets, Metropasses, and tokens halfway into next year. PRESTO payment devices have been installed on all 247 street cars. PRESTO pay stations also exist in 28 of 69 TTC subway stations, while roll-out onto buses is ongoing. As of now, 10 more buses at the Queensway garage in the

West end are outfitted with a PRESTO payment system each night between 9pm and 3am. With a second garage starting up PRESTO installment operations in the near future, the rate of installation will double to 20 buses a night!

In the meantime, customers are heavily encouraged to continue to carry cash, tickets, Metropasses, and tokens as it is highly unlikely that the next bus after that really crowded one you waited over an hour for is going to have PRESTO payment capability.

Though the system is being rolled out in a so-called "piece-meal" approach, humour aside, this is the right direction. Transit systems in the Ottawa, the GTA and nearby Hamilton areas are also in the process of switching to PRESTO. As Toronto follows suit, we will eventually reach a more integrated approach on transit fares, making life easier for transit-goers everywhere. While riding the rocket is already a fun experience, the convenience of PRESTO will make it better for everyone.

Tragedies of Everest

More Deaths on World's Tallest Mountain



RATAN VARGHESE
1B ELECTRICAL

Last year, Mount Everest was closed early for climbing during the Nepalese earthquake. The year before that, the mountain was closed after 16 Sherpas were killed in an avalanche. This year, Everest was re-opened and 6 climbers died on the journey to the summit.

First was Dutchman Eric Arnold. Then Maria Strydom, who had climbed with her husband, was too exhausted to join him on the last 15 minute stretch to the summit, and died in his arms during their trip down. Finally, Subhash Paul, Paresh Paul, and Gautam Gosh, who didn't heed their Sherpa guide's advice to stay off the summit for lack of time. The fourth climber in their expedition, Sunita Hazra, nearly died as well: luckily for her another climber, Leslie Binns, found her screaming and oxygen-deprived. Binns abandoned his own climb to the summit to help her down.

The extreme effort and biting cold are dangerous in and of themselves. On top of that, the low oxygen near the summit

takes a toll on the bodies and minds of climbers: they start making dangerous decisions and overestimating their stamina. Nevertheless, the allure of achievement for climbers, and fortune for the Nepalese and Sherpas enabling the climbers seems strong enough to ensure still more people will risk life and limb next year. Some people climb to brag, some crave a sense of control over their life, some are playing hero.

Even as more attempt to climb Everest each year, the romance of the task is being chipped away with time. Now that thousands have reached the summit, it is no longer quite an exclusive achievement. The lower section of the mountain is littered with trash and human excrement: cleaning it up would be dangerous and expensive. Higher up, the dead bodies of past climbers remind their successors of the risks they are taking. There are over 200 corpses on Everest: some are encountered so often that they acquire nicknames, particularly Tsewang Paljor, now often called "Green Boots", much to the distress of his family.

The Sherpa guides who accompany mountaineers are becoming less willing to face the deadly peak. After the 2014 avalanche, many of them refused to

climb again until they were offered higher insurance and benefits, which they received. Some have considered offering guides to mountains other than Everest. Others are considering looking to other lines of work altogether. Easier said than done in Nepal's tourism-focused economy: experienced mountain guides have a higher salary than the Nepalese prime

minister. The Nepalese government, by the way, tends to avoid regulating this extremely potent source of income.

All this means that despite the massive risks and recent tragedies, there will likely be mountaineers eager enough to climb Everest and Sherpas opportunistic enough to join them for many years to come.



Rdevany via Wikimedia Commons

Everest in 2015

Broskies on Brewskies

Battle of the Brews



DONOVAN MAUDSLEY
TRISTAN KUEHN
3A MECHANICAL
3A SYSTEMS

BROSKIES ON BREWSKIES

Tristan and Donovan are off-again-on-again roommates and good friends from London, Ontario. Good, local food and beer are just some of the common interests these two share. While they realize that they don't know everything there is to know about craft beer (and cider) (and mead), they're always willing to try something new for the greater good. Neither is a beer snob, and both have been known to drink beer store favourites such as Molson Canadian, Budweiser, and their old friend James Ready. They also encourage any readers to recommend their favourite craft beers for review, just email the Iron Warrior!

For our tenth issue of Broskies on Brewskies we wanted to do something special, so we went into the vault and decided to do a "best-of" showdown. We found five different beers at the LCBO that we had given at least four out of five previously, and tasted them again to see if we still liked them as much. As such, the ratings in this issue reflect higher standards than normal.

The first all-star brew we tried was the Spark House Red Ale from the Lake of Bays Brewing Company. From the first sip we knew that we still liked it. We were a little parched after our trip to the store (some weather we're having, eh?), so we started a little fast and didn't really let up. Light and slightly bitter, the Spark House has a pleasant taste that's fairly accessible. A bitter aftertaste doesn't overpower the beer at all, and actually adds to our overall enjoyment. The malts used in making it are a nice counter to the hops used heavily in most craft beers. It's also a very dry beer, similar to a white wine. We were unsure of how to rate this on our more intense scale, so we gave it

four out of five.

Up next was the Fire in the Rye, a roasted rye pale ale from Double Trouble Brewing company. With a 6.1% alcohol content, this might actually be double trouble for those not used to craft beers. Fire in the Rye has a bite to it, which Donovan in particular really likes. As a fan of rye whiskey, this makes sense. It's a very similar beer to the Spark House, but less accessible. Bitter and sour, all the flavours meld very well together. Discord began to brew amongst the Broskies when it came to rate this beer, as Tristan liked the Spark House more, and Donovan preferred Fire in the Rye. After a heated debate the two beers ended up totally tied.

The halfway beer was the Jubilee Amber Lager. Lagers are typically more subtle in their taste than Ales, and the Jubilee

Amber doesn't disappoint. It's still bitter, but has a milder and less aggressive feel to it. Once you get past this it's similar to the first two. It feels heavier than both of them though, and is very easy to drink. We liked this one a lot, and gave it top marks, a full five out of five.

For the first time ever, we drank a fourth beer on the night. The Harbinger American Pale Ale from Descendants Beer and Beverages wins the best can design award for the year with its simple, flat white can and cool/mysterious hooded figure. The Harbinger itself is dry, and less bitter than the other beers. A fruity sweetness is one of many undertones that blend together nicely with the malts. We found that this beer was similar to the first two beers in every way that the last beer was different. While still a very good craft brew, on our harsher scale we

settled on three out of five for the Harbinger.

Last up was the Cassel Brewery's Golden Rail, a honey brown ale. We particularly remember liking this one, and were a little disappointed the second time around. We had put it up on an unreachable pedestal of craft beer awesomeness. The honey flavour comes through with a mild flavour that most would appreciate. After we finished our first of this beer we had another, and then another. This beer also received full marks.

Overall this was a difficult contest. All of the beers we had are very good, and we recommend that you try any and all that you can get your hands on. Please remember to taste responsibly, and that we're not experts, by any stretch. We'll be back in a few weeks with another set of all new craft beers!

WIN CASH EVERY WEDNESDAY

LE SHIN SWAH TABLE TENNIS LEAGUE

Join our Le Shin Swah Table Tennis and Foosball League.

Register at www.leshinwah.com

Party Like It's 1999 What Was Happening at UW Back Then?



GABRIELLE KLEMT
1B GEOLOGICAL

In an attempt to bring you, the student, some new and exciting information, I went searching through Iron Warriors of old to find out what I could about the university we call home. I thought it would be cool to tell you about what we published in issue 2 of the summer term 17 years ago, but when I went looking, it turns out ... well 17 years isn't all that long ago, and today we're still talking about exactly the same things we were talking about then.

As a small recap, if you were curious, Midnight sun was getting ready to head to Sunrayce '99, ESSCO AGM was taking place in a mystery location, gas prices were ridiculous (59 ¢/L whaatt?), Systems Design class of 2003 won the '99 Havenger Scunt, and Waterloo went to Wonderland for the math and science day.

So, instead of talking about those very common-place things, I thought I'd give you some perspective from 1999 to lighten up your day. Specifically, how much better off we have co-op now. Better? You say incredulously. Yes, better surprising as that is.

Although it can be agreed how horrid

Jobmine is and how ridiculous it is that WaterlooWorks is... still in the works... one thing is definitely also true, the students of 1999 had it worse. Imagine, if you will, a world without the Jobmine Glitch to let you know you have an offer, imagine not even having an online database for jobs, the terror is unimaginable.

Imagine having to go around campus looking at co-op job boards or going to the CECS building, definitely not the nice Tatham Centre, to ask about job postings. Then, once you've found out about jobs, you can go drop off up to 24 (yup, twenty-four whole resumes) in various job-boxes in Needles Hall. How they told you if you got interviews, God only knows. Probably by carrier pigeon.

Unlike now, interviews did not happen at the TC and you were paged to your interview room over crackly speakers and a bad mic. The next stage after interviews, rankings, was even worse. Apparently, there was a place with the inviting title "the Pit" where you went and stood in line for 15 minutes during your lunch break to find out if you even got ranked, if not you were probably fed to the lions for a gladiator show or something.

Personally, although I won't stop complaining about Jobmine, I will secretly be grateful I'm a GeoE 2020, not 2003, and maybe you'll appreciate your birthdate a little more now too!

A Champion of His People

Continued from Page 1

the Presidential Medal of Freedom: two of the highest civilian awards, for "exemplary services" to the country. In the 2012 Olympics in London, he was designated as an honorary flag bearer. Too frail to actually carry the flag, Ali stood for part of the ceremony with the support of his wife, Lonnie.

The Legacy

It's amazing that this man became such a beloved figure and icon at a time when black people lacked civil rights. He experienced discrimination first-hand: he grew up in segregated Kentucky, and even returning home from Rome with an Olympic gold medal proudly around his neck was not reason enough to be served at a whites-only restaurant. This incident caused him to throw his medal into the Ohio River, although he claimed to have lost it. He said he was fighting "to uplift my little brothers who are sleeping on concrete floors today in America. Black people who are living on welfare, black people who can't eat, black people who don't know no knowledge of themselves, black people who don't have no future."

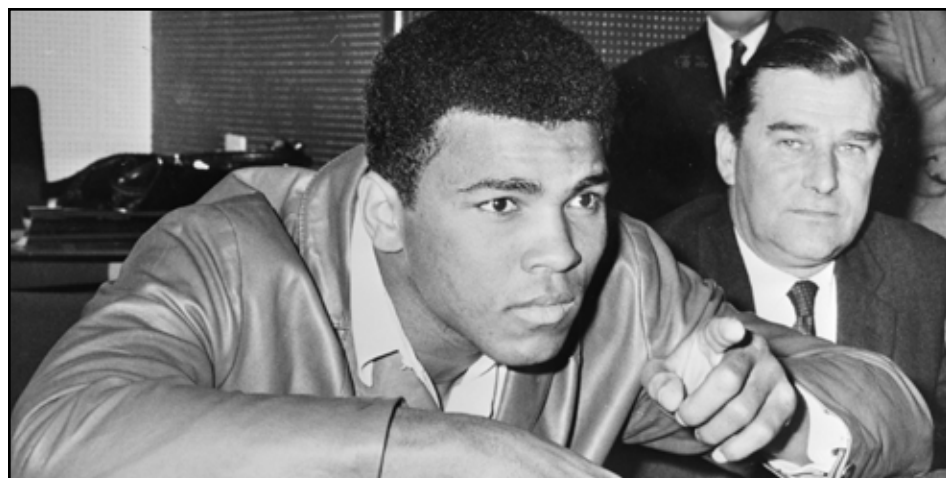
It's amazing that this man is so universally

loved and respected at a time when America fears Muslims. He represents real Islam, saying, "True Muslims know that the ruthless violence of so-called Islamic jihadists goes against the very tenets of our religion." Even Donald Trump – the same Trump who would ban Muslims from the country – paid tribute to him: "A truly great champion and a wonderful guy. He will be missed by all!" Is this perhaps a sign that humanity can get past race and religion? That talent, philanthropy, and good character are more important? Or perhaps it's just another example of Trump's characteristic lack of logic. Ali was very proud of his religious identity (not to mention, he had the most Muslim name possible): how can you claim to love Muhammad Ali yet hate Muslims?

When asked, Ali said that he would like to be remembered as: "a man who won the heavyweight title three times, who was humorous and who treated everyone right.

"As a man who never looked down on those who looked up to him...who stood up for his beliefs...who tried to unite all humankind through faith and love.

"And if all that's too much, then I guess I'd settle for being remembered only as a great boxer who became a leader and a champion of his people. And I wouldn't even mind if folks forgot how pretty I was."



Ira Rosenberg via Wikimedia Commons

Muhammad Ali in 1966

Five Things: Election Edition



CAITLIN MCLAREN
3T CHEMICAL

5 THINGS YOU DON'T WANT TO KNOW

Hello again, readers! Enter at your peril. This is the column wherein I remind you of all the ways you should be ashamed of your ancestors. Yes, all of you. There are no exceptions, whatever country or continent you are from. Oh, you come from Antarctica, smartypants? Bet you don't know that Dr. George Murray Levick, the first naturalist to study penguin breeding habits, was so shocked at their "constant acts of depravity" (including necrophilia and molestation of chicks) that he recorded his findings in Greek to hide them from curious non-scientists? We've all had professors like that.

That little fact was a bonus, because it is, as you all know, election season in the United States (as it seems, it always was and will always be). Everyone is talking about how the world will absolutely end if one of these crazy people is elected, though they can't agree on which one is the non-psychotic saviour. For once, I won't get into that. Instead, I will talk about all of the psychotic things that our leaders did, which we somehow survived. I'm not talking about the notorious Caligulas and Draculas; I'm talking about the leaders who are still respected for their legitimate accomplishments, but did insane and revolting things on the side.

Sir John A. Macdonald and his Drinking

If there are three things you learn in history class, it is that Sir John A. Macdonald was our first Prime Minister, a Father of Confederation, and built the Canadian Pacific Railway. Your teacher also probably mentioned that he was an alcoholic.

However, he wasn't a regular alcoholic or even a Boris Yeltsin, who got drunk in his off time. No, Sir John A. Macdonald would drink in the House of Parliament, and would be too drunk to participate. Time to entertain members of the Royal Family? Nope, he was too drunk. When Irish Nationalists attempted to invade Canada (yes, that was a thing that happened), he was too hammered to read communications. Once, during a debate, he vomited onstage. When the opposing candidate quite naturally pointed out: "Is this the man you want running your country? A drunk!", Sir John A. Macdonald claimed that he had vomited in disgust at being forced to listen to his opponent talking. Impressively brazen-Try that next time a police officer accosts you.

Edward VII and his Furniture

King Edward VII of England had many accomplishments in his short reign. He encouraged class and racial tolerance, as well as improving relations with much of Europe. He was also an inveterate ladies' man, and had dozens of mistresses. However, that still was not enough for him, and he was a frequent customer at high-class Paris brothels. In fact, he had a special chair constructed for his personal use: it was intended to support his very great weight, which posed a risk of crushing the unfortunate prostitutes. Experts disagree on how

exactly the chair worked, so if you are good with Ikea furniture, or just really dirty-minded, see if you can figure it out and write in to us. We need to know for scientific reasons.

Napoleon and Waterloo

The battle of Waterloo (not to be confused with our yearly tangle with the geese,) was one of the turning points of history. Wellington's defeat of Napoleon led to the British Empire being the undisputed most powerful state in the world for a long time. However, the battle was a very near thing, and some historians think that Napoleon may have won if he didn't have a serious pain in the ass.

See, Napoleon suffered from severe haemorrhoids, which is when the veins in the rectum get swollen and painful. Normally, the doctors treated these with leeches, because medicine back then sucked, even for emperors, but two days before the battle they lost them. (One has to wonder how you lose leeches.) The doctors then tried dosing Napoleon with a buttload of opiates, but they accidentally gave him an overdose of laudanum, which he was still feeling on the morning of the battle. The rest, as they say, is history.

Lyndon Johnson and his Exhibitionism

President Lyndon B. Johnson makes today's macho posturing look tame. He was known for urinating in public, and when in public bathrooms he liked to turn around and ask people "Have you ever seen anything as big as this?" He would then wave his genitalia (which he nicknamed "Jumbo,") around to impress and frighten the poor sod who just needed to pee.

In fact, he did exactly that thing when asked by a reporter why American soldiers were fighting in Vietnam, which is... remarkably honest, actually. He also liked to invite other world leaders to go swimming naked with him, in order to "establish genital dominance." Again, at least he admitted it directly. From time to time, we need a leader who will bring us back to our primate roots.

Peter the Great and his Museum

Peter the Great: it's in the name. He modernized Russia and made it into a major power, patronized science, and opened up trade and cultural exchange with the rest of the world. Wait, what was that middle one? Can't be nothing wrong with patronizing science, right? Well, that was 18th century science. Thus, when he decided to build the first museum in Russia, he decided that instead of boring old pottery, he would include lots and lots of dead babies.

Don't worry, he didn't kill any babies. Instead, he issued an imperial order that stillborn infants, especially deformed ones, should be sent from the entire country to be added to his collection. He didn't put them in a heap or anything; instead, he had them taxidermied and set up in various scenes and in different positions. Sometimes they would have props made of bones and skin and various other bits. Just for good measure, he also had the pickled severed head of his mistress' brother, because reasons. If you are interested in seeing any of these exhibits, the Kunstkamera is still in operation today.

X-Men: Apocalypse

X-Men Doing X-Men Things



**DONOVAN
MAUDSLEY**
3A MECHANICAL

If I could only use one word to describe *X-Men: Apocalypse* it would be “Epic”. Thankfully, I can use more than that. The third chapter of the reboot/prequel X-Men series lacks the finesse of *First Class* and the depth of *Days of Future Past*, but it makes up for it in grand style. Clearly a summer blockbuster, *Apocalypse* brings massive set pieces and full teams of combatants to the silver screen. If I’m being completely honest, the third act was a total mess, but I still enjoyed it. A long standing love of the X-Men means that I’m more accepting of large stretches of X-Men doing X-traordinary things than most viewers.

Apocalypse begins with a cool sequence from the past, with the title character in his assumed role as the god-ruler of Egypt and preparing to transfer his consciousness into another body. During this, he is ambushed by rebels and is stuck in a meditative state until he is awoken in the 80s by CIA agent Moira MacTaggart. This awakening is what kick-starts the plot, with four strong and angry mutants becoming Apocalypse’s Horsemen and everyone else in the world trying to figure out exactly what’s going on. The events of *Days of Future Past* are frequently mentioned throughout the first act, with Mystique being shown as a hero among mutants and Magneto almost universally feared.

Overall, *Apocalypse* the character was underwhelming. The *Apocalypse* source

material shows him as having diverse and interesting powers, but they only ever really show his telekinesis, heightened reflexes, and his ability to augment other mutants’ powers. He was essentially just a bullet sink for the majority of his action sequences. Sure, moving matter on a molecular level is pretty cool, but grew a bit stale by the end. *Apocalypse*’s Horsemen were also underutilized.

Angel begins as a cage fighter, tearing other mutants apart for money. He hits rock bottom after his wings are injured, but *Apocalypse* replaces them and strengthens him even more. He should have been a high flying terror against the X-Men, but only really fought against Nightcrawler. One cool little thing was his musical taste. When *Apocalypse* recruits him, he is listening to “The Four Horsemen” by Metallica.

Psylocke is given such sparse screen time that I almost forgot about her. The

opportunity for a highly choreographed fight between her and Beast was there, but disappointed. *Apocalypse* also reaches out to Magento, whom he needed to further his plans. Blinded by rage, Magneto joins the cause willingly.

Lastly is *Apocalypse*’s first recruit, Storm, played by Alexandra Shipp. Shipp is really able to channel the anger and angst that her character would have been feeling at this time, and gives the best performance out of all the Horsemen. For anyone keeping track, all of the Horsemen are characters that have typically been aligned with the X-Men, which I thought was a little cheap. There are many villainous characters that haven’t been shown on screen which would have made amazing Horsemen. Off the top of my head comes Post, an adaptive mutant who has had many different power sets over the years. Pyro would have also made a good addition to *Apocalypse*’s roster.

The strongest point of *Apocalypse* is its depictions of the new, young, X-Men. The establishment of the Jean Grey-Cyclops dynamic is clumsy at times, but still charming. Nightcrawler was my favourite part of the new roster. While keeping him timid and shy, Kodi Smit-McPhee still shows off Nightcrawler’s goofier and curious sides. Singer also brings back Quicksilver from *Days of Future Past*, and keeps him comical and relatable the whole way through.

I mentioned before that there is a lot of X-Men doing X-traordinary things, the most obvious of these being the Quicksilver scene. After the acclaim that the kitchen scene in *Days of Future Past* received, it was clear that *Apocalypse* was going to have to try to go above and beyond. This time, Peter uses his speed to rescue everyone inside an exploding building, saving people, goldfish, a dog, and even a girl from a horrible looking first kiss. Evan Peters provides a great performance as the speedster.

Near the end of the second act, the young X-Men run into the Canucklehead himself, Wolverine. I thought this was also a cheap fix to the problem they were in at the time. Wolverine has been used so many times that I’m kind of sick of him. In the comics his role was typically as a supporting character until the mid 2000s, and that is where he fits the best. Yes, Hugh Jackman has become an icon as Canada’s most popular superhero, but I think the time for FOX to hang up the claws is well overdue.

While not a perfect film by any stretch, *X-Men: Apocalypse* is entertaining and fun for anyone who has a connection to the X-Men series.



Abdul Wahab via youtube.com

When the X-Men face Apocalypse, only the strong will survive

\$2million
in funding available
for student entrepreneurial ventures

Waterloo Engineering has partnered with Spectrum 28, a Silicon Valley venture capital firm to establish a student venture program for **engineering** undergraduate and graduates students who are seeking ideas or have an idea for an entrepreneurial venture and need cash, mentoring and resources to make it happen.

Pop Up Classes
June 10 & 11, 2016

Fast Feedback Day
July 13, 2016

Demo Day
April 2017

If you’re successful at the Fast Feedback Day you move on to further idea development with mentoring opportunities until Demo Day in April 2017. At that time winning companies are awarded funding by Spectrum 28, founded by Waterloo alumnus Lyon Wong, Systems Design Engineering ’03.

**WATERLOO
ENGINEERING**

SPECTRUM 28
STUDENT VENTURE PROGRAM

For more information and deadlines visit:

<https://uwaterloo.ca/engineering/entrepreneurship/funding>



The Stanley Cup Final

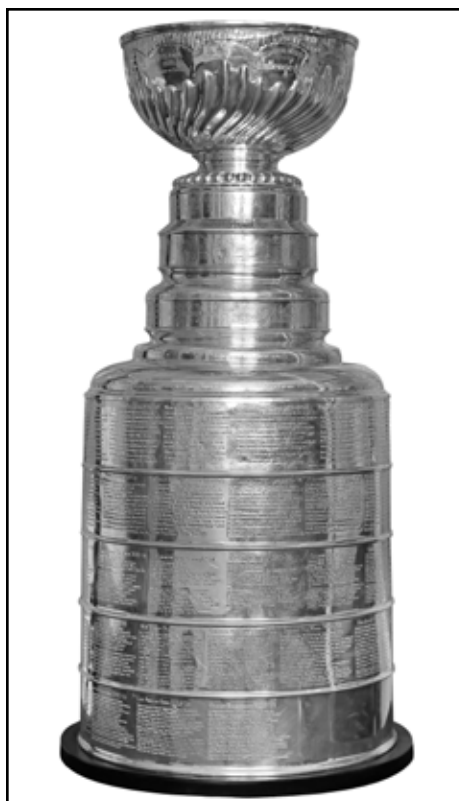
Speed, Skill and Physicality; Oh My!



**ELIZABETH
SALSBERG**
3B NANOTECHNOLOGY

THE BENCHWARMER REPORT

Hockey fans, this is it! The quest for the Cup is coming to a finish, and the seemingly ever-present Chicago Blackhawks are well out of it. Left standing we have Sidney Crosby and the Pittsburgh Penguins along with Thornton, Marleau,



Alex Goykhman via Wikimedia Commons

The Stanley Cup

Pavelski et.al, also known as the San Jose Sharks. The Pens lead the series 2-1 with game 4 set to go Monday night in San Jose.

Both teams have lots of skill through their superstars. For Pittsburgh, Crosby and Malkin are merely starters; the line of Phil Kessel, Karl Haglin and Nick Bonino has been absolute dynamite with their speed. Not to mention Brian Rust, who ranks right up there with Hagelin and Kessel for speediest of the lot. Kris Letang is arguably one of the most skilled, speedy and overall dangerous offensive defensemen around (and he also plays impeccable defense for good measure). For the Sharks, there are the usual suspects: Joe Pavelski, Joe Thornton and Patrick Marleau along with skilled D-man Marc Edouard-Vlasic—and of course let's not forget about Brent Burns. Joel Ward has also been key for the Sharks, continuing his somewhat unexpected yet consistent playoff success with 7 goals so far these playoffs, one being a critical setup goal knotting the score at 2 goals apiece in game 3.

To recap for those of you busy with midterms, the Pens took the first two games in Pittsburgh in regulation time, getting off to an early 2-0 lead. Going into San Jose, the Sharks knew it would be critical to win game 3 so as not to be pushed to the brink. Psychologically speaking, Sharks Coach Peter DeBoer would surely agree that heading into a game 4 down 2-1 would be better than 3-0. Until Ward's goal late in the second period in game 3, it looked like the Sharks were about to go down. But they showed up to play and eventually won

when Joonas Donskoi scored the game winner for a 3-2 Sharks victory.

Despite not playing their best hockey in the first two games, the Sharks only lost each game by one goal, and lost game 2 in overtime. This comes mostly from absolutely stellar goaltending by the fresh-faced Martin Jones (26). With the shot differential being heavily in Pittsburgh's favour, one could argue that the Pens could have had much more lopsided victories save for Jones' outstanding performance.

Speaking of goaltenders, Matt Murray (22) has been sensational these playoffs for the Pens, posting 13 playoff victories this postseason thus far. He robbed Pavelski and Thornton of multiple opportunities in game 3, reminiscent of his stellar performance against the Caps (whom the Pens were able to overcome in six games). The Sharks have done their homework on the youngster, going high glove side at every possible opportunity (albeit mostly to no avail)—in fact, Ward's second goal of game 3 was a simple (but still heavy) slapper on net and 'lo and behold, it went through the five-hole.

Sharks win if:

They can somehow solve Murray more consistently. Gretzky's old adage, "you miss 100% of the shots you don't take," certainly applies here. The Sharks need to get more pucks to the net. The Pens have had more shots on goal in every game thus far, particularly in the first two periods. The Sharks need to get to Murray early and often, while putting their

big bodies in front of him as screens. They also need to hem the speedy Pens in their zone with their physicality and cycle game. If they can manage these feats offensively while playing solid defense, there's no question they have a chance at the 25-year franchises' first Cup.

Pens win if:

It's no surprise that the Pens have the upper hand in the speed category. To win the series, they will need to use this to their full advantage, breaking out quickly through the neutral zone, splitting the D and eventually, wearing down the Sharks D-men late in games. The Sharks defense corps are great skaters, so this will not be easy. Sharks D Justin Braun made sure of that, single-handedly racing back to take out a Sidney Crosby breakaway chance early in game 3. Kris Letang made a couple of critical bad pinches in game 3. He will need to be more cautious if the Pens are going to win. The Pens are speedy enough and skilled enough; behind phenomenal goaltending from Murray they are the better team on paper. Letang and Doumanlin jumping up on the rush add yet another degree of unpredictability. If the killer line of Kessel, Bonino and Hagelin heats up again and the team as a collective piles up the speedy breakaway scoring chances, the Sharks are at higher risk of taking penalties—leading to the Pens potent power play. Enough of these power plays and blindingly fast chances could easily lead Crosby, Malkin and Company to their first Cup in 9 years.

The Verdict: Pens in six.

Canadian Indie Rock

5 Bands To Check Out



SARAH CHAN
2B NANOTECHNOLOGY

POP 101

Looking for some cool new music to listen to? Here are some Canadian indie/alternative bands that you should definitely check out! (Yes, realize the irony that this column is called POP 101 and I am writing about indie bands.)

Alvvays

Who? Alvvays (pronounced Always) is a Toronto-based band whose members hail from the East coast and performed at Coachella for the first time this year. Their self-titled debut album was listed on several critics' best of the year lists and is also one of my favourite albums. Their next album is coming out soon.

Vibe: Dream pop, jangle pop, very chill with lush melodies

Song suggestions: Next Of Kin, Adult Diversion, Archie, Marry Me

Hey Rosetta!

Who? Hey Rosetta! is a seven piece band of multi-instrumentalists (kind of like Arcade Fire) from St John's Newfoundland, known for their energetic live performances.

Vibe: Energetic, beautifully layered instrumentation, feel good and uplifting

Song suggestions: Welcome, Gold Teeth, Harriet, Red Heart

Tokyo Police Club

Who? Tokyo Police Club is an alt-rock band from Newmarket, Ontario

Vibe: Alt-rock, punk pop, energetic, laidback, carefree and nostalgic

Song suggestions: Boots of Danger (Wait Up), Argentina, Not My Girl

Whitehorse

Who? Whitehorse is a husband and wife duo from Hamilton, Ontario. Their album, Leave No Bridge Unburned, won a Juno Award for Adult Alternative this year.

Vibe: Indie folk rock with a bluesy feel
Song suggestions: Tame as the Wild Ones, Downtown, Devil's Got A Gun

The Zolas

Who? The Zolas are an indie rock duo from Vancouver, BC.

Vibe? Indie pop, upbeat and energetic, electronic and makes you want to dance

Song suggestions: Swooner, Molotov Girls, Strange Girl
Thanks for reading!



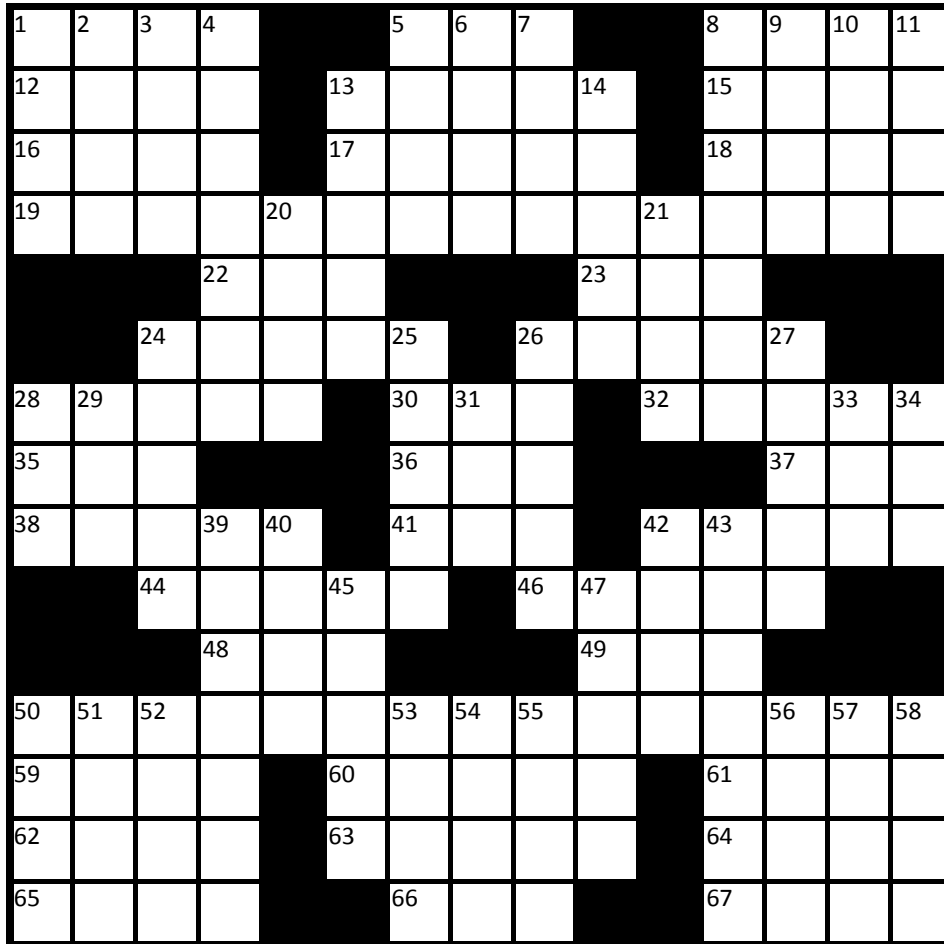
David Lee via Wikimedia Commons

Alvvays performing live in George, Washington at the Sasquatch! Music Festival, 2015

The Iron Crossword

Flavours of the World

CAMERON SOLTYS
3N MECHANICAL



ACROSS

- 1: Glorious and awesome
- 5: "Don't Just Vote" American political engagement organization
- 8: Organization devoted to people of similar interests
- 12: Sound of laughter
- 13: Groom, particularly in primates
- 15: Like none
- 16: Indivisible particles that are actually divisible
- 17: Sound, particularly recorded or reproduced
- 18: "___ Kills Bugs Dead"
- 19: "Peanuts" character named after a chocolate treat
- 22: There are 12 in a foot
- 23: Prime, for instance a bomb
- 24: South American mountain range that spans the continent
- 26: Preface or preamble
- 28: Organizations of crooks
- 30: Exclamation when someone shares

intimate details (abbr)

- 32: Tasteless
- 35: Place
- 36: Way of navigating between webpages
- 37: Organization for the engineering profession in Ontario
- 38: Skilled or proficient
- 41: US secret spy service
- 42: Opposite above
- 44: TV show about working in a nursing home
- 46: $\text{return } 1 == \text{sqrt}(2)$;
- 48: ___ talk, given by a coach
- 49: ___ Eisley, spaceport on Tatooine
- 50: Used to make Starbucks lattes, muffins, and scones
- 59: "Suddenly ___" KT Tunstall song (2 wd)
- 60: Prompting or reminding
- 61: Indicating lack of interest
- 62: Rip
- 63: ___ the Great, Catholic Pope (2 wd)
- 64: Capital to Risk Weighted Assets Ra-

tio (abbr)

- 65: The orange faculty
- 66: Flaky Chinese pastry
- 67: ___ thermic, absorbing heat

DOWN

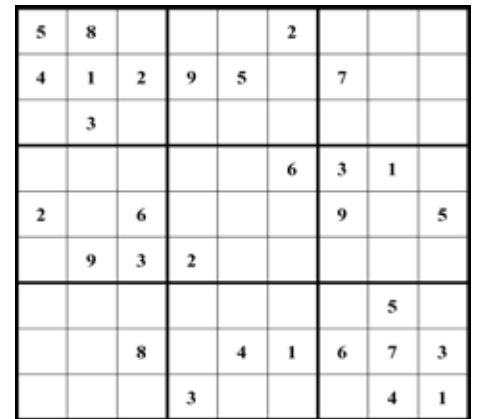
- 1: Electrical Hazards Awareness Program for arborists (abbr)
- 2: Spreadable ground meat
- 3: American restaurant chain specializing in pancakes
- 4: Living outdoors overnight
- 5: Percussion instrument in a rock band
- 6: Occasionally visit 49 Across
- 7: Carries blood from the body to the heart
- 8: Soft, chewy candy
- 9: Test taken by hopeful law students
- 10: Cell, contained area
- 11: Physical structure of a living being
- 13: Interpret, particularly text
- 14: A helicopter without a tail rotor
- 20: "This ___ now" superhero cliché
- 21: "No ___", statement by an experienced worker
- 24: Paid in advance
- 25: Secured with adhesive
- 26: Rice cooked in seasoned broth
- 27: Leaf adorning the Canadian Flag
- 28: Measure of academic success
- 29: Type of money used down under
- 31: Medical scanner that uses magnetic fields and radio waves
- 33: Anagram for "one"
- 34: Company that manufactured Agent Orange and napalm
- 39: Banana ___, spicy vegetable
- 40: Star ___
- 42: Separatist group in Canada
- 43: Basic or invariable nature
- 45: Long narrative poems
- 47: "The three ___" comedy film
- 50: Good bread to cover in hummus
- 51: A person who operates something
- 52: Animal matter meant for consumption
- 53: Tasty seed produced by some trees
- 54: Used to store grain
- 55: ___ matic, related to air
- 56: Poetic word for daybreak
- 57: Larger than an iPhone
- 58: DC Comics professional basketball player/hero

Sudoku

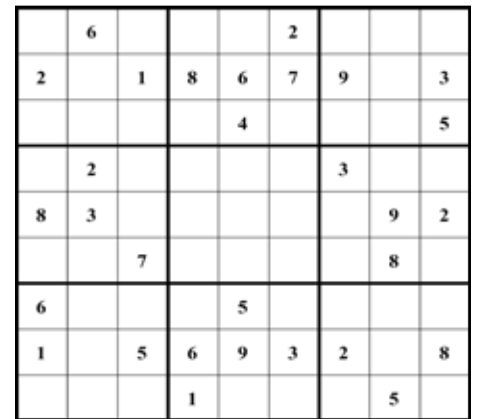
#2016-07

BRYAN MAILLOUX
2B MECHATRONICS

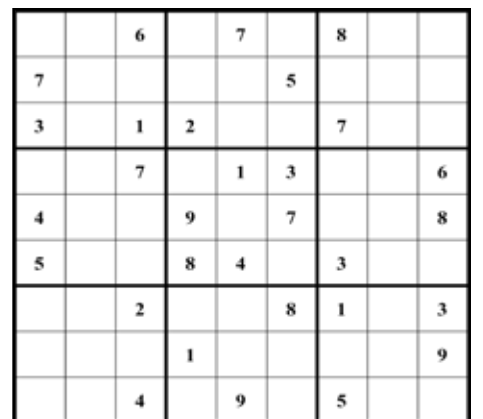
Easy



Medium



Hard



Solutions for previous crosswords can be found on *The Iron Warrior's* website at iwarrior.uwaterloo.ca/distractions.

THE IRON INQUISITION
Thomas Willert, 3A Mechanical

"What would your mutant power be?"



"I would have spider powers."
Joey Duffy, 3A Mech



"I could just cry forever."
Kenneth Wong, 2B Tron



"Superspeed!"
Katie Chin, 4A Mech



"Teleportation."
Jamie Feldman, 3A Mech



"Infinite Liver."
Kieran Broekhoven, 3A Tron



"Being able to time turn."
Lyla Smerchinski, 4A Civil