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THE IRON WARRIOR

THE NEWSPAPER OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

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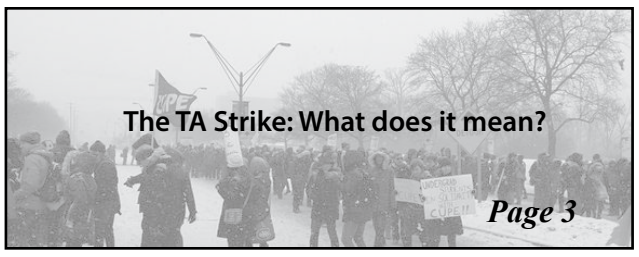

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B-Soc Votes "NO" at E7 Referendum

JENNIFER COLDWELL
E7 REFERENDUM CRO

Dean's Office

Artistic rendition of E5 and the future E7.

From March 10th to 14th, engineering undergraduates had the opportunity to vote on the E7 Referendum. The referendum, proposed by the Dean of Engineering, asked students weather they were in favour of donating a total of one million dollars to student space in the upcoming build of Engineering 7. This donation would be charged as a twenty five dollar optional fee once the building is occupied. Students would be able to opt out of the fee similarly to other optional fees that are currently charged with tuition. Any surplus collected from the fee would be used furnish the student space.

With a vote of 63% against the donation, 'B' Society has officially voted 'No' for the referendum. The vote received significant participation from the undergraduate student body with 1145 participants. The referendum was voted on separately by both 'A' and 'B' Societies with Engsoc 'A' Society voting yes in Fall 2014. In order for the referendum to pass, both societies would have needed to vote 'Yes'. Therefore, since 'B' Society has voted 'No', the referendum does not pass and future undergraduates will not be seeing a twenty five dollar fee as a result of this referendum.

What Does This Mean for E7?

Although the referendum did not pass, Engineering 7 is still scheduled for construction in October 2015. Engineering Society representatives from both Societies will be re-entering discussion with the faculty about space for students in E7. Individuals interested in more information about E7 can stop by the EngSoc Office, the Deans Office, or contact *info@engsoc.uwaterloo.ca.*

I would like to thank Filzah Nasir, Melissa Buckley, and Madeline Amszej for their work as the campaign committees for the referendum. All did an excellent job of campaigning the yes and no sides of the vote and encouraging students to vote. Thank you also to everyone who took the time to participate in the survey, your input was greatly appreciated.

Iran Nuclear Talks

Just what is going on?

CAITLIN MCLAREN
3A CHEMICAL

You've probably been seeing a lot about it in the news lately – Iran may be coming closer to making a nuclear deal with the P5+1 (the 5 permanent members of the UN Security Council, plus Germany.) Some people are happy about this – others, not so much.

What might a deal entail?

Currently, Iran is under many sanctions from numerous governments, mainly the United States. Some date back to the Islamic Revolution of 1979; others are more recent, some in response to Iran's reluctance to cease its uranium enrichment program. These sanctions are very detrimental to Iran's economy.

On the other hand, much of the world is worried that Iran is seeking to produce nuclear weapons. Iran insists that its nuclear program is for peaceful purposes only. Currently, Iran is operating around 19,000 centrifuges for uranium enrichment.

Iran was found in non-compliance with Treaty on the Non-Proliferation of Nuclear Weapons (NPT) safeguard standards in 2006, largely by failing to declare its nuclear enrichment program. It was due to this controversy that many of the new sanctions were placed on Iran.

The negotiators hope that under a deal, Iran will agree to slow down its nuclear program, reduce the number of centrifuges to under 5000, and stop some of the more sensitive nuclear activities. In return, some sanctions will be lifted. Since the negotiations are ongoing, more details are not certain.

Needless to say, the subject is highly controversial. Who is causing the controversy?

Iranian Islamic Hardliners

In Iran, there are a significant number of people who oppose any negotiations completely. Former President Mahmoud Ahmadinejad and current Supreme Leader Ayatollah Khamanei have been criticized for belligerent statements towards the West and Israel in particular, such as the notorious comment often translated as a call to "wipe the Zionist regime off the map." These are the people you might see shouting such things as "Death to America!" On the other hand, these extremists are a minority in Iran. The current President, Hassan Rouhani, is considered a moderate and has made no such threats. He is subordinate to the Supreme Leader, who is seen as conservative and a hardliner; however, it is significant to note that Khamanei, who is very much in favour of the nuclear program, has issued a fatwa, or religious edict, against the use of nuclear weapons.

Benjamin Netanyahu

The Israeli Prime Minister is very much against the proposed agreement, calling it a "bad deal." In his controversial address to Congress (more on that later), he called Iran "a dark and brutal dictatorship," and warned that Iran is less than a year away from constructing a nuclear weapon. (He has been making similar claims for the past 20 years.) During his speech, he declared that no deal that left Iran's nuclear infrastructure intact would be effective, and criticized the ten-year expiry date proposed for the deal.

Furthermore, he claimed that Iran intends to wipe out Israel and the Jewish people as a whole, not only through weapons but through covert funding of terrorism. He also hinted that Iran is encroaching on the sovereignty of its neighbours.

The speech was controversial not only around the world, but within Israel as well. Prominent Israelis such as Meir Dagan, a former head of Mossad, are critical of Netanyahu's policies towards Iran. Undeterred, Netanyahu is making his stance an election issue, and is even using his speech in his campaign ads. Israel's election is taking place on March 17.

Iranian Foreign Minister Mohammad Javad Zarif

Zarif responded to Netanyahu's claims by categorically stating that Iran has no intention whatsoever of producing nuclear weapons. He pointed out that Iran's facilities have undergone numerous inspections, without discovery of any illicit activity. In fact, leaked documents from Mossad also say that Israel has not found that Iran is enriching uranium to levels necessary to build a bomb.

Zarif also drew attention to the fact that that while Iran has signed the NPT, Israel has not, although it certainly does have a nuclear program. He accuses Netanyahu of hypocrisy on these grounds. He also points out that Iran has a sizeable Jewish community who are politically represented by a Jewish member of parliament. On the other hand, the Iranian Foreign Minister stated that Israel, whose behaviour regarding Palestine is widely condemned, has no right to accuse Iran of threatening other countries. In his words, Netanyahu "considers peace as an existential threat."

Ultimately, Zarif hopes that the negotiations will be successful. Iranians are eager to see sanctions lifted, and Iran has no desire for nuclear weapons, he says.

In response to the open letter to the leaders of Iran from Sen. Tom Cotton and 46 other Republican Senators, warning that many Congress members are against the deal and may not honour it, he said "This letter has no legal value and is mostly a propaganda ploy," and furthermore that "Change of administration does not in any way relieve the next administration from international obligations undertaken by its predecessor."

Continued on IRAN on page 4

Letter from the Editor

Fighting hypocrisy and degendering sexual violence in *It's Never Okay*

NANCY HUI
EDITIOR-IN-CHIEF

It's been an exciting two weeks at Waterloo!

Lots of stuff has happened. The draft of my team's 4YDP report has been submitted to the technical advisor for review, the group Biomechanics paper is in, grad school acceptances are rolling in, and a very hotly campaigned referendum has run its course.

Major kudos to the Chief Returning Officer (Jennifer Coldwell), the Yes Committee (Melissa Buckley & Madeline Amszej), and the No Committee (Filzah Nasir) for inspiring so many students in the B-Society to vote! The participation rate for B-Soc was 29.7%, or 1145 students! In comparison, the voter turnout for the EngSoc B-Society elections was 18%, and the Feds Election less than 5%. Even the the voter turnout for A-Soc (Fall 2014) was 686 - and though I don't have percentages for voter participation, one assumes from the KW housing market there are many more students on term in Fall than Winter.

This difference in voter participation can be attributed to the *extremely* aggressive campaigns run by both the Yes and No Committees: the Yes Committee had a head start on posters, though I think the No Committee eventually ponied up for Facebook ads. In contrast, the A-Soc referendum had neither a Yes or No Committee, and though all the candidates for the B-Society Exec positions are undoubtedly passionate about the betterment of engineering at UW, it is a little bit less exciting when most of the candidates run uncontested.

I have no idea why the Feds election turnout was so low, though. The 2015 turnout may have been 5%, but the 2014 turnout was 11%.

Anyways, as a result of the E7 referendum results, E7 will still be built with student space, but the undergraduate students will not get official naming rights to the study area. Check out the Iron Inquisition on the back cover to see what might have been, had B-Society voted Yes to the referendum.

Speaking of the paper - thanks to everyone who contributed to this issue! There was a lot of content but so far this term I haven't had to cut any content but my own. Special shoutouts to Caitlin for her excellent coverage of the US-Iran nuclear talks (incidentally, my favourite article this issue!), and Elizabeth for her rundown of what TA strikes at UT mean for lecturers at Waterloo and beyond.

Also thanks to Nina for moral support, Hank for magically acquiring pizza, Bryan for taking care of the Iron Inquisition, and Emmanuel for supernaturally being able to write an article on Thor while taking seven courses, no electives. I've never taken seven courses. Actually, if one disregards my 4YDP, I'm only taking four courses right now.

And thank you to the legion of copyeditors. It gets harder and harder to keep track of you all, but I sleep well at night because I know you will make sure that all the articles end up nice and readable.

Now it's time to move on to the meat of this editorial: on March 6th, the Ontario government published *It's Never Okay: An Action Plan to Stop Sexual Violence and Harassment*. The plan has the weight of $41 million buckaroos over 3 years to support its implementation. Highlights include a multimedia campaign focussed on overcoming the bystander effect, a new sex-ed curriculum to help children learn about healthy relationships and consent, and workplace safety legislation.

On paper, these are all great things! But when reading this in greater detail, one gets an uneasy feeling.

Premier Wynne opens with the assertion that she'd like to "challenge and change the deep-rooted attitudes and behaviours that contribute to sexual violence and harassment... it is important that our young people learn about gender equality and respectful relationships from the start. We need to talk about sexual violence and harassment in every community, every classroom, and every workplace. And that conversation needs to include everyone - women and men, young people, seniors, people living with disabilities, newcomers and members of culturally diverse communities, aboriginal people, visible minorities, and the LGBTQ community." So far, so good.

Then Tracy MacCharles, the Minister Responsible for Women's Issues, chimes in: "I am grateful to all the courageous men and women who have survived sexual assault and shared their personal and often traumatic stories to help end the violence."

Three sentences later, she says, "With every new report in the media, with every new indication that a woman has been sexually violated or harassed, we recognize anew that there is much to be done and a long way to go."

Read that again: "Every new indication that a *woman* has been sexually violated or harassed."

This is the part where I ask, "What about the men?"

For all its careful gender neutral wording, and Wynne's desire to challenge social norms, *It's Never Okay* betrays its deep-seated conviction that sexual violence is a crime committed by men against women. Which is true.

But I'm bombarded by stats that "one in three women will experience some form of sexual assault in her lifetime", "in 99% of sexual assaults, the accused perpetrator is male", and such gender-specific numbers. So women with disabilities are "three times as likely to be forced into sexual activity by use of threats or force" - how about men with disabilities? Or people with disabilities, period? And "in three-quarters of sexual assaults, the woman knows her attacker" - is this true for men too, or just women?

The authors of this report are perfectly capable of producing some gender neutral statistics: "28% of Canadians say they have been on the receiving end of unwelcome sexual advances, requests for sexual favours, or sexually-charged talk while on the job." In fact, the whole section on workplace sexual harassment is strong in spite of (or because of?) its gender neutrality.

But if you say you want "women and girls, [and] men and boys to know who to call and where to turn if they (or someone they love) experience sexual violence," you'd better not spend 90% of the report crying out about how men should be careful not to assault women, and that if they can't tell that assault is bad, then there exist community support groups for that kind of thing. Women apparently have no need for such groups. The report says that "it is crucial that we leave behind damaging ideas about sex and gender" but fails to address sexual assault on males, or by females, as anything other than an abstract idea.

Have you ever heard of small dog syndrome? Imagine, if you will, taking a chihuahua and a rottweiler on a walk. You encounter a jogger and the rottweiler takes a run at the jogger. It tips the scale at 100 lb, so you hold it back and seriously consider remedial obedience classes. Then the chihuahua scrambles up and humps the jogger's leg. This is considered cute because the chihuahua is 5 lb and can't possibly do any harm, and thus was never trained not to jump up on people.

Do you understand my metaphor yet? If not, watch the Korean movie *My Sassy Girl* (2001) but imagine that the protagonist is a woman who meets a man. And that the man punches her and tells her to drop dead. This is briefly covered in my movie column on page 12 - check out its movie poster and imagine it's a man putting a screaming woman in a headlock, instead of vice versa.

So instead of going the gender-neutral route, the authors have chosen to sensationalize sexual assault as exclusively man-against-woman through the report's tone and choice of examples, which does nothing to expand one's paradigm. Any schmuck, when asked about sexual assault, can conjure up a vague image of a man attacking a woman, and the report doesn't need to help them strengthen that conceptualization of sexual assault. The problem is that your average Joe, Delilah, and Harry won't even consider the case of a woman attacking a woman, a man attacking a man, or a woman attacking a man.

I can't deny that most violence is against women, and perpetuated by men. But there are examples within the report itself that show that it's not that hard to write gender-neutral text and use gender-neutral statistics! Alternately the authors could have included statistics about violence on men, or committed by members of the population who are not cissexual men. Neither of these would have weakened the message that sexual assault is harmful and that social norms and mores must change before widespread sexual violence and harassment become a thing of the past

I am very disappointed.

Let's hope for better news next week.

Until next issue --

Nancy Hui

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How Far There Is To Go

Two Oklahoma students expelled for racist chant

TINA YAO
2B CHEMICAL

For the past few decades, the University of Oklahoma has been seeking to raise its reputation from a local college in the Southwest, to a leading national institution. David Boren, school president and former state governor has made significant strides which involved offering generous scholarships and increasing the enrollment rate for National Merit scholars. However these efforts were jeopardized when members of Sigma Alpha Epsilon (SAE) fraternity, one of the largest fraternities in US, were caught on video singing a racist chant. The chant made light of lynching and stated that African-American students would never be allowed into the fraternity.

The chant, set to the popular children's song, "If You're Happy and You Know It", includes lyrics such as, "There will never be a n***** in SAE. You can hang him from a tree, but he can never sign with me."

Needless to say, the video reopened painful wounds of the state's history with racial violence. Boren quickly severed ties with the fraternity and expelled two students that appeared to be the ring leaders.

However, many agree that this does not really address the discrimination issues that the African-Americans students admit to dealing with on an average school day. Students stated that these prejudices were passed down for generations and there is no clear long-term solution. It is a common notion that racism is practically eradicated in young people due to the increased effort to enforce equality and acceptance principles in public education, but evidently, it is just not true.

Dr. JeffriAnne Wilder, an associate sociology professor at the University of North Florida in Jacksonville— a city with a local high school that was previously named after a Ku Klux Klan leader— stated the incident is a reminder of how far the Oklahoma state and the country still has to go in dealing with racial issues.

"It's saddening and unfortunate that just a few days ago, we were commemorating Selma," Wilder said. "We have to pause and on one hand, we can look back and see how far we've gone and on the other hand, how far we have to go."

Sue Ogrocki, AP

Students rallying outside the fraternity house.

TA/Contract Strikes Highlight Fundamental Academic Flaws

ELIZABETH SALSBERG
2T NANOTECHNOLOGY

Following the expiry of their most recent contract, teaching assistants and contract teaching-only university staff took to the picket lines. For the TA's, lack of graduate student funding is the main issue. Contract staff are seeking pay increases and improved job security.

The strikes have been particularly gruesome at York U, where over half of undergraduate teaching staff is contract or part-time. The strike caused classes to be cancelled for the better part of the last two weeks. U of T contract staff did reach a deal with University Administration recently, however TA's are still on the picket lines.

Though there are currently no plans for a strike at UW at this time, these fundamental issues plague members of our University community just the same. The strikes highlight several flaws in the academic working world, particularly in regards to undergraduate teaching and graduate research funding.

Teaching-only contract staff make up a significant portion of undergrad teachers at many Universities across the country. They are important because they are focused specifically on teaching, and the good ones take that job seriously. Several people in these jobs cited hopes for promotion into research-based tenure-track positions as their motivation for taking contract work, particularly early in their career. However, most have not achieved this goal despite all of their work and were perhaps not aware that contract work was not the optimal path towards a tenure-track position.

Lack of awareness aside, there is no question that these staff members deserve higher pay (many, particularly part-time/course-by-course staff make half of what their tenure/tenure-track colleagues earn), but also, insofar as possible, increased job security. Not knowing if you are going to be employed the following year can make managing life a tad difficult, especially for those with families to support and food to put on the table.

The reality is that contract staff are band-aid solution Universities are using to handle steadily escalating undergraduate enrollment rates on a budget (or simply, a budget they'd rather not spend on having undergrad teaching done by tenure/tenure-track professors). Furthermore, some institutions are also hiring tenure faculty to contracts without a teaching requirement, thereby relying more heavily on contract staff to fill teaching needs.

This reliance extends to graduate students, many of whom work as teaching assistants to supplement their income throughout their studies. Though TA positions do provide opportunities for these students to make a significant amount of extra money (at U of T, they get $42.50/hr), the number of hours they can (and are allowed to) work are capped. The real issue is with their main source of income, consisting primarily of a research assistantship and/or stipend, possibly with scholarships.

Graduate students at U of T receive a funding package of on average $15,000/year exclusive of other sources of funding such as scholarships and bursaries. At Waterloo, this number is even lower. This is nowhere near enough money to support general living expenses, and puts these young academics too far below the poverty line.

Though Universities may feel that they are saving money for research and therefore ensuring they uphold their reputation in the short-term, they are really just shooting themselves in the foot. Treating graduate students badly is treating their future badly. Graduate students do contribute significantly to undergraduate teaching efforts in the classroom, and thereby influence their younger counterparts.

If Canadian Universities want to comply with recent foreign worker legislation, it is in their interest to invest more in happier domestic graduate students. And where did every graduate student come from? An undergraduate program. Besides graduate students, who else has impact on undergrad classes? Instructors. These classes should be taught as much as possible by research-intensive faculty (yes, right now that means tenure/tenure-track) so that students get a real impression of what the University does. Qualified contract staff members should be given opportunities to progress towards tenure/tenure-track positions and these positions should all have a teaching requirement to be taken seriously. Action on these fronts is absolutely critical to the quality of Canadian post-secondary education and to this Canada's contribution and commitment to research and development on the international stage.

Leafy Thoughts

Earthworx convicted and fined for providing contaminated soil to sheep farm

NINA FENG
3B ENVIRONMENTAL

LEAFY THOUGHTS

When Peterborough County sheep farmer Rucco Braat arranged in 2011 for soil to be delivered to his farm, he did not get the clean fill he originally requested. Instead, the 700 truckloads of fill delivered and graded by Earthworx Industries were found to be highly contaminated.

Upon inspection by officials from the Ministry of Environment and Climate Change, the soil was found to contain many odds and ends, including glass, brick, sea shells, rubber gaskets, metal rods, and wood. Further testing by the Terrestrial Assessment Unit concluded that it was contaminated with heavy metals, with elevated concentrations of lead, cadmium, copper, and zinc exceeding Environmental Protection Act standards. The soil was also tested for leachate contaminants, BTEX (benzene, toluene, ethyl benzene, and xylene), and petroleum hydrocarbons.

Braat had hoped to elevate a portion of the property in order to construct a new sheep barn for his animals, but could not use the soil due to its potential damage to the environment and to his animals. The fill area covered more than 7000 square metres of the farmer's land, and the sheep were prevented from grazing outdoors as usual due to potential poisoning from the contaminants, especially due to copper uptake into plants.

The ministry contacted and ordered the director of Earthworx, Mr. Claudio Villa, to submit a plan for the sampling and characterization of the soil, but the company did not comply. In 2013, the Ministry of the Environment laid charges under Part XV.1 of the Environmental Protection Act (for contaminated sites) on Earthworx and Green For Life (GFL), the company that originally provided the soil. GFL serves as both Toronto's garbage-collecting contractor, and a soil removal company for downtown developments. Both companies currently do work on various other sites in the Otonabee-South Monaghan and Toronto areas.

Earthworx eventually pleaded guilty and was convicted Monday March 2, 2015, and was subsequently fined $70 000, with Mr. Villa being personally fined an additional $14 500. Mr. Villa and the company have 90 days to pay the fines. After having removed a significant amount of soil and with Earthworx pleading guilty, charges against GFL were dropped.

It is yet unclear who is liable for the remediation of the site; however Braat himself is suing both companies for $2 million in damages. GFL is counter-suing for $600 000 for the cost of having removed 192 truckloads of soil from the property.

Liability in cases of contaminated sites has always been a subject of debate. While measures have been taken to ensure that property owners who were not responsible for the contamination of their sites do not have to incur the cost of remediation, they're still stuck with the fees in many cases.

Iran Nuclear Talks

Google Maps

Iran.

Continued from IRAN on page 1

The United States: A House Divided

While President Obama is pushing hard for the deal, and both he and Vice-President Biden did not attend Netanyahu's speech to Congress, many Republicans are in strong opposition. In fact, Netanyahu's visit was arranged for without consulting the President, which is irregular at best.

Furthermore, the open letter from 47 Republican senators to the government of Iran is causing astonishment and no little controversy. Obama points out that the signatories are making "common cause with the hardliners in Iran," while Biden fumed that the letter undermines the President while he is in the middle of "sensitive international negotiations." Others say that the action of sending a letter to a foreign power in order to destabilize the current administration's foreign affairs is little short of treasonous.

What exactly did the letter say? It is easily found on the internet, but essentially it declares that any agreements the president might make that are not ratified by Congress are "mere executive agreements" and warns that "the next president could revoke such an executive agreement with the stroke of a pen."

The implication is obvious: Even if you make a deal, we won't honour it.

Zarif, above, pointed out that the proposed agreement will not be bilateral, but will involve seven countries. The United States does not have the power to change agreements made with Germany or China. He calls any such "revocation" a "blatant violation of international law."

Also shocking is the pointless rudeness of the letter, saying as it does "You may not fully understand our constitutional system," and finishing with the phrase "We hope this enriches your knowledge." As if that was not belittling enough, Sen. Cotton tweeted a Farsi translation of the letter with the caption "In case you needed a translation…" directed at Zarif and Rouhani, both of whom speak English fluently. (Ironically, the translation was embarrassingly bad.)

US Secretary of State John Kerry condemned the letter as "irresponsible" and "absolutely incorrect," and other Republican senators who did not sign the letter criticized it as "not productive" and "not constructive."

Ayatollah Khamenei, for his part, said that the letter "indicates the collapse of political ethics in the United States." On this one issue, it seems that he and many Americans agree.

What will happen next?

The proposed deadline for the rough outline of a deal is the end of March, with negotiations over further details continuing to the end of June.

Elections in Israel are taking place right now.

Obama is serving his second presidential term, and there will be another presidential election on November 8, 2016.

Many worry about what will happen when Khamenei, who is in his seventies, dies and who will replace him.

Whatever the outcome of all these variables, we can only hope for peace.

Daylight Savings Time

Where does it come from?

CAITLIN MCLAREN
3A CHEMICAL

Now is the time of year when we grumble about losing a precious hour of sleep. Of course, we gain one in six months, but that is too far away to be thankful for. Who first thought of this strange abuse of the space-time continuum?

In ancient times, time did not need to be kept as precisely as today. Farmers knew when things needed to be done, and roosters provided handy alarm clocks. In cities, timekeeping was more important. and waterclocks, sundials, and other instruments were used. However, since the length of daylight hours varies, often clocks were used to divide the daylight hours evenly rather than to keep a standard time. Hours were longer in the summer than in the winter.

In 1784, Benjamin Franklin jokingly suggested to the French that they save money on candles by waking up earlier in the summer. This was not taken seriously. In fact, time was not kept very precisely at the …. era? However, as the Industrial Revolution took hold, and the train and telegraph were invented, precise timekeeping became more important.

In 1898, an entomologist from New Zealand, G. V. Hudson, suggested that the clock be altered in order to extend the hours of daylight after he got off work (he had an ulterior motive of wanting more time to study insects). A short time later, and Englishman named William Willett came up with the same idea (his ulterior motive was to gain more time for playing golf).

The British MP Robert Pearce introduced a bill for DST in 1908, but was unsuccessful. It was only during World War I that a country introduced Daylight Savings Time - but the country was Germany. However, the British, the Americans, and most of Europe decided that they wanted in on that too, and introduced Daylight Savings Time in the few years following. The main reason was to conserve coal and other resources by making the most of the daylight hours, and the war effort was what spurred the change.

Canada kept DST after the war, while the United States and much of Continental Europe did not (although it was temporarily re-introduced during WWII). It was only in the 1970s, as the result of an oil crisis, that it was finally adopted for good.

It's only once a year. Don't lose too much sleep over that lost hour - you'll get it back eventually.

Bryan Mailloux

Everything is going to be all right.

To Try a Technocracy

DONOVAN MAUDSLEY
2A MECHANICAL

Politicians are the butt of many jokes; J.F.K once said that "Mothers all want their sons to grow up to be president but they don't want them to become politicians in the process". There is a stigma surrounding politicians, which may be because politicians are typically either lawyers (who are stereotypically two-faced) or businesspeople (stereotypically thought of as greedy). Technocracy is the idea that people should be elected to office based upon their knowledge, which lends itself to the idea of professional engineers becoming elected officials, which I believe would be a breath of fresh air.

Engineers are rational decision makers who must to continually think of the well being of the public while creating ideas. The ability to problem solve and predict the cause and effect scenarios of the decision making process is what makes a good engineer great. Decision making. That's what politicians do! They decide on the best course of action for the people whom they represent.

China, it seems, has already prescribed to the idea of technocracy. In 1990 a study of the various levels of Chinese government found that over 80% of the mayors and party secretaries held at least a four year degree in engineering or the natural sciences, and that this number was still increasing. This trend also seems to follow the idea that the knowledgeable elite should run things, which is strongly engrained in Chinese culture.

Some would argue that despite the aspects of their knowledge that makes them desirable, engineers would not make a positive alternative to the classic politician. Engineers are not well versed in the finer points of the law over which they would govern. The nation's economics are an equation that has too few variables for an engineer to solve. Minds that are rooted in logic and thought cannot comprehend the emotional value that must be thought of when making decisions. Engineers are not good at oral communication and public speaking. Yeah, because all engineers are Vulcans.

There are obvious benefits to a technocratic society, including that politicians would likely be more rational in their thinking, a more thorough decision making process would be observed, projects in the public sector would be streamlined to save the taxpayer dollar and that politicians would likely be more transparent in their deliberation of ideas. As always, you can have too much of a good thing, and I do not believe for one second that a government composed entirely of engineers is a good thing. We need a well rounded group of the individuals who can give the most to every position, and if that happens to be a professional engineer I encourage it.

I might be a little biased though.

Mars One

Brilliant initiative or crazy death trap?

BRYAN MAILLOUX
1B MECHATRONICS

Waterloo graduate Ben Criger was among the one hundred finalists selected to go on the Mars One mission, an ambitious attempt to colonize the Red Planet with the first crew leaving in 2025. Exciting news, isn't it?

Well, maybe for the University. But as far as actually colonizing Mars goes, probably not.

Since the Moon landings, scientists and engineers have envisioned a manned mission to Mars. While the jump from the Apollo missions to a possible manned mission to Mars isn't exactly a small one, technology has advanced enough that a mission to Mars is certainly possible. So why hasn't one happened yet? Such was the thinking of Bas Lansdorp and the rest of the Mars One team. According to the Mars One mission statement, the project will hopefully help to unite humanity, as well as inspire future generations that anything is possible.

So far, however, the Mars One project isn't looking so possible, at least with the current imposed budget and time constraints. Mars One estimates that the cost of putting the first four people on Mars will be around $6 billion dollars, which is ridiculously conservative considering the budget for Project Apollo was over $20 billion dollars in 1970 (about $109 billion in 2010 US dollars). Furthermore, most of the budget is expected to go towards launching the rockets. Realistically, a lot of money will probably go towards R&D as well. We might have the theoretical knowledge to develop the colonization modules and spacesuits the crew will need to survive on Mars for an extended period of time, but no working prototypes of those necessities currently exist, and developing them will not come cheap.

Tech Ethics

People doing radical things with STEM

FILZAH NASIR &
SEPEHR MOHADDES
3B ENVIRONMENTAL &
PH.D MECHANICAL

Last week we talked about why Kevin O'Leary doesn't exactly make a great candidate for engineering students to take advice from. Did you read that column? Go read it now. Go.

All right, now you should be all caught up. Robert Oppenheimer who led the Manhattan Project which resulted in the creation of the atomic bomb and the bombing of Hiroshima and Nagasaki, is symbolic of the danger that the pursuit of science and technology can cause if not contextualized within society.

Today, most STEM degrees are taught not only as separate from the humanities but as superior. A majority of people pursuing and holding these degrees believe themselves to be doing important work with regards to development of technology for the future. Yet we are not taught to use our degrees for positive change, nor are we given the necessary skill-sets to pursue the kind of change that the world desperately needs right now. But believe it not, throughout history and in the present there have been plenty of people using STEM for some pretty important change-the-world type things. Here are a select few that we happen to be fans of.

A name you probably recognize: Edward Snowden. Snowden is world-famous for leaking details about the National Security Agency's (NSA) spy activities on average U.S. citizens. Snowden, who was a high-level employee of the NSA was forced to flee the country in order to avoid arrest. The leaks caused mass outrage with regards to the NSA's activities forcing Obama to make several public addresses in an effort to justify why the U.S. government felt the need to spy on its citizens. Oh, and yeah, Snowden is also an engineer by profession.

A name you probably remember: Rosalind Franklin. Franklin is best known for determining the structure of the double helix in DNA and then having the credit for it being stolen by her co-workers who were later awarded the Nobel Prize for her discovery. Franklin, despite doing most of the work that lead to the discovery was not recognized. It's important to note that Franklin faced discrimination throughout her career for her role as a woman trying to work and research in fields dominated by men. Ultimately she lost out on recognition for her greatest accomplishment because she was a woman.

A name you should know: Rachel Carson. Carson was a marine biologist who wrote a book detailing the effects of uncontrolled pesticide usage on human health and the environment. The book resulted in massive public outcry and the eventual founding of the U.S. Environmental Protection Agency as well as laws regulating the usage of pesticides. Despite the strong scientific evidence presented in her book Carson was ridiculed by media and government officials alike and significant effort was made to discredit both her and her research. Still, her resolution to present her research honestly despite its political implications for the people in power was an important step for the environmental movement as a whole.

Today the echo of Carson's legacy can be seen as more and more scientists take up the political struggle to force governments to take action on climate change. The most famous amongst them is NASA scientist James Hansen who has actively spoken out against both the further development of the Canadian oil sands as well as the building of the Keystone XL pipeline. While public and government opinion on climate change seems to be undecided and subject to change on a regular basis, the scientific opinion is clear and has been for quite some time. Climate change is happening and we need to start taking serious steps to prevent significant adverse effects. These steps include preventing the further development of the Canadian oil sands. Meanwhile at Waterloo, we continue to encourage engineering students to take co-op opportunities in this industry - co-ops which may turn into full-time jobs.

Science and politics intersect. Throughout history they have been intertwined and have complemented each other. Political decisions should be based on scientific evidence and scientific development needs to be weighed against its political implications. Unfortunately we are constantly pushed in a direction that aims to separate the two. STEM is presented as apolitical and neutral, as having no political assignations. History and common sense tell us otherwise.

Prof Personalities

Professor David Harmsworth

ASHLYN LOW
1B NANOTECHNOLOGY

PROF PERSONALITIES

Not many professors at the University Waterloo can say that they have a degree in linguistics and a degree in mathematics; Professor David Harmsworth is the exception. Completing his BA and BSc in Linguistics and Mathematics at the University of Regina, Professor Harmsworth then came to the University of Waterloo to pursue his Master's of Mathematics. He has now been lecturing first and second year calculus courses to engineering students, among others, for over 10 years.

This month, the Iron Warrior took some time to get to know this amazing professor a little more personally.

Here's what he had to say:

Why did you choose to pursue a degree in mathematics AND linguistics?

I started off pursuing a linguistics degree at the University of Regina, but I started to lose interest in my fourth year. I was actually only one course away from finishing my honours degree in linguistics, but I took a year off school, and I moved furniture and played video games for a year. The thing is, when I was doing my linguistics degree, I was taking math courses to boost my average, and I figured that was a sign, so I went back and did a three year general degree in math, and I actually ended up graduating with both degrees at the same time.

I first chose to study linguistics because I appear to have some sort of natural talent for languages, even though I grew up in a monolingual home. My parents are from England, there was no other languages around, different accents of English, yes, but no other languages. And so when I started taking other languages in high school, I found I picked up the basics really quickly, so I thought there was something there, but in the end after I tried getting into it for a while, I realized I have a hard time getting to the point where I'm able to converse in a second language, so eventually I decided that wasn't really the right place to go.

But there are some similarities, in my head at least, between mathematics and linguistics. Languages have rules and exceptions. Grammar is kind of a logical system, so the way I look at it I see a similarity. The way I process language is not that far off from the way I think about mathematics.

If you could go back in time, would you still have taken your linguistics degree?

Absolutely. I wouldn't have changed that. At the time, I wanted to do what I found interesting, and so what I ended up doing was I did one degree that I found interesting, and that turned me into a more well-rounded, educated person, and I did a second degree which led to a career. So I definitely would not change that. I still find that the linguistics degree helps me in ways that aren't clear. I like to think that one of the reasons I do well as a lecturer is because I've had practice in writing and just the way it shaped the way I think, I think helps me in ways I don't necessarily see clearly.

What would you have done if you didn't become a math lecturer?

I think whatever I did, I would have ended up teaching something. I did consider teaching English as a second language at one point. If I was going to use the linguistics degree, that's what it would have been for. If I had gone a different route I might have gone into history; that's where my interests lie. The funny thing is I don't really get excited about math, I like teaching it, but the material doesn't excite me as much. It's the teaching that I like. And so I think I would have been happy teaching anything.

When I went into university, I still had no idea what I wanted to do; I never had a plan, I never had an ambition. I just kind of went where the wind took me, and it has taken me to a pretty good place.

What is your teaching philosophy?

That is a tough question! I don't really know how to answer that question…I think what I do well is simply trying to make things clear. I like to think that I have the ability to take complicate ideas and make them clear, and simplify them. I don't know if that's really considered a teaching philosophy or not. I will generally leave the complicated stuff for reading, like definitions and theorems and complicated examples; those you have in the textbook. And some of that stuff, I don't think it gets adsorbed very well in lecture, so I try to concentrate on concepts and simple ideas in the lecture, and communicate that as clearly as I can.

What has been the most memorable experience so far in your career?

I would say the most rewarding thing is that I occasionally do get emails from students who have graduated, and gone on to work, and once in a while they will remember me because they are doing something that requires something we learned in the course. So I occasionally get these emails out of the blue from students that I haven't seen in 8 years, 10 years, and that always feels good to think that 10 years later, they remember me from their experience at UW. That doesn't happen very often, but there have been one or two who have contacted me, and so that sticks out for me.

What were some challenges you faced as a university student?

The big thing for me was when I came to Waterloo as a graduate student to do my Master's in mathematics. So I did my four years in arts, and then spent a year moving furniture, and went back and did my math degree. I did a three year general math degree, and I completed it in two years, because I already had all my electives. So I had a pretty limited exposure to mathematics when I finished my degree. And when I came to Waterloo, to start my Master's program, I really only had two and a half years of math behind me. Waterloo is a tough place to come to, I mean everybody finds it a shock when they get here I think. And coming here for my Master's was a shock. I had to survive some third and fourth year courses without having the prerequisites. So that first year of my Master's program was tough. At one point I was close to giving up on it, but I stuck it through.

Do you have any advice for your students about how to be successful in their university career?

I don't know if I can give general advice, I think the advice for different individuals needs to be quite different. There's some people who do really well here, and it's the right place for them. I do think for some students, it's better to be a big fish in a small pond, and so there are some students who would actually be happier at another university than they are here. Maybe that's not the advice I should be giving UW students, but realistically I mean, a lot of people are sent here with a lot of pressure on them. Their parents want them to go to UW, they want them to do specific things. So the advice that I think would help the largest number of students would be to think about you, what you want to do and not what your parents tell you they want you to do.

What is your favourite part about teaching?

I guess it's very simple. Being able to see when I have a student who doesn't understand something, and suddenly I see the light go on, and I can see that they finally got it, that's what you do this for. I like to see that happen in front of me.

Do you know any other languages?

I would say not anymore. There was a point when I was 21, 22, where I would say I was fluent in German. So if I needed to I could probably start picking it up again, but that's the only one I was anywhere close to being fluent in. I have little bits of various other languages, like high school French, I took some Russian, I took some Plains Cree, but I don't remember much of those.

Learning German was kind of an accident. I had taken French since grade 3, or whenever they started it, and I never liked it. When I moved to Saskatchewan for high school I was at a school that actually taught German. It was like a Lutheran, semi-independent high school, and because of the Lutheran background and being in Saskatchewan, they had a tradition of teaching German. So I just tried it out on a whim, and I really enjoyed it and discovered that I actually liked languages even though I didn't like French.

In my third year, I was taking German classes at university, and there were scholarships for students in those classes, so back to back years I had scholarships to go study German in Germany. That was cool.

Do you have any hidden talents?

I am very good at pronouncing my students' names when I hand back midterms, that's my party trick that I got out of my linguistics degree.

I also used to be really into sports. I played rugby, until I broke my neck. I was a pretty good runner, but now I'm getting too old for that. That would have been the hidden talent, but that was 10 years ago.

What do you like to do in your spare time?

Now that I don't run competitively anymore, I play a lot of golf, I started curling, and I play an embarrassing amount of video games. I spend a lot of time playing *Civilization IV*.

Ashlyn Low
Professor Harmsworth.

Apple Goes for Gold

SHERWIN KWAN
4B MECHANICAL

One of the intriguing announcements at Apple's Spring Forward event last week was that the Apple Watch would be offered in a variant encased in 18-karat gold (Apple Watch Edition), and will sell for US$10,000 apiece. While the timepiece itself was hailed by many critics, the gold variant elicited a negative reception. Business magazine Bloomberg Businessweek published a scathing review, putting Apple right up there with Gucci as a luxury brand. Actress Anna Kendrick weighed in in much blunter terms, branding the gold watch the "gold standard in douchebag detection."

Apple posted a two-minute video on its website recently, in which VP-Design Jonathan Ive narrates the gold manufacturing process. Pure gold is a rather soft, weak material compared to other metals, with a yield strength of 30 MPa and a Vickers hardness index of 25 (by comparison, 6061 age-hardened aluminium yields at 250 MPa and has a Vickers hardness index of 100).

Apple therefore uses an 18-carat gold alloy for their watch case. Alloying essentially means that atoms of other elements are introduced into a gold crystal lattice in order to improve its mechanical properties. By definition, 18-carat gold must be between 18/24ths and 19/24ths gold by weight. In Apple's video, Ive reveals that the alloying elements which fill out the remainder of the weight are silver, copper, and palladium. In other words, some of the atoms in a gold crystal are replaced with atoms of silver, copper, or palladium. As these atoms have slightly different sizes, they made it more difficult to break the material (metals, being ductile, fail or break due to atoms sliding past each other). This is created by heating a mixture of gold atoms with alloying elements until they melt, and then pouring it into a casting to solidify into an ingot.

Apple achieved further strengthening of the material by cold rolling it. The ingots, once cooled to room temperature, are passed between a pair of rollers, compressing it to a smaller thickness. This also introduces dislocations by sliding atoms out of their places in the crystal lattice. While too many dislocations can cause the material to fail, a limited number of dislocations actually strengthens the material, as they form barriers that make it tough for atoms to slide any further.

The video shows ultrasonic non-destructive testing being used as quality assurance, to identify defects in any of the gold billets produced. The actual watch casing is then machined with a mill, with computer numerical control (CNC) being used to ensure that the finished product

Continued on APPLE on page 10

On the Shoulders of Giants

From Farm Boy to Mad Scientist

SHERWIN KWAN
4B MECHANICAL

ON THE SHOULDERS OF GIANTS

Today's column is about Willis H. Carrier, a genius who can justly be called the "Father of Air Conditioning". Born on a farm near Buffalo, New York in 1876, Carrier's early life was basically the good old American Dream. A typical day for him was getting up at 5 am to milk cows, and delivering the milk to the nearest town, all before school. But his family was poor and he could not afford higher education. For several years, he worked a variety of jobs – lawn mower, high school teacher, waiter – while trying to apply for university. Finally in 1897 he received a scholarship for Cornell University. In 1901, he graduated in Electrical Engineering, and despite forge and turbomachine manufacturing not being his field, took a job offer with Buffalo Forge Company.

As soon as he got to his new job, Carrier began questioning why the company made boilers the way they did. Naturally his bosses weren't too pleased. But Carrier was determined to look for better solutions, even doing unpaid work after hours to improve boiler efficiency. One day, he walked into the owner's office, and announced that he had something worth more to the company than three years' of anyone else's work. (Author's Note: I wish I had his confidence and brilliance …) By the summer of 1902, just one year after he started working at Buffalo Forge, Carrier was the head of a newly-created R&D department.

In the winter that year, Carrier had his Eureka moment. While waiting for a train, he noticed that as the air got colder, there was more fog. It was then when he realized he could use the fact that cold air holds less water than hot air to his advantage – by mixing saturated air of a certain temperature with the air in a room, he could control both temperature and humidity.

Back at the company, his team did a series of experiments which showed that wet-bulb temperature remained constant if air was adiabatically humidified. This meant that you could figure out the humidity and enthalpy in a room by simply measuring the dry and wet bulb temperatures and looking up numbers in a steam table.

In 1904, Buffalo Forge made its first sale of Carrier's air conditioning system. Soon, AC was being used in department stores, in factories, and even in Broadway theatres. In 1914, Carrier and his team formed their own independent company. He continued being obsessed with making his inventions better. His creativity with finances also helped – once, when his company was running short on money, he ran experiments while fixing the ducts at a client's factory without telling them, so they'd be on the hook for the bill. By the time of his death in 1950, air conditioning was ubiquitous in North America.

In front of his peers at the 1911 meeting of the ASME (American Society of Mechanical Engineers), Carrier gave a lecture where he announced a number of humidity and temperature formulas, and unveiled the psychrometric chart – where you could easily look up the humidity, temperature, enthalpy, or density of air for a given state. To this day (and I'm speaking as someone who just wrote an exam on these topics), these formulas and charts are still being used.

Every hot summer, when you walk into a building and get that amazing cool feeling, or every time you step into a bathroom to hear a whirring fan dehumidifying the room, you're experiencing Carrier's legacy. Besides residential uses, facilities from breweries to ice rinks often require a particular temperature or humidity, and air conditioning is used to provide it. Through time, Carrier's invention has become an essential part of today's society.

James Carrier

Perspectives

The potential impact of a roundworm simulation on science, philosophy and ethics

DAVID ROUSSO
1B NANOTECHNOLOGY

PERSPECTIVES

Caenorhabditis elegans. A tiny, 1mm-length transparent roundworm with only 959 cells and 302 neurons. It was the first organism to have its entire genome sequenced and the only organism to have its connectome completed. You may have heard about this worm on the news back in January, when scientists from the OpenWorm Project were able to build a digital recreation of the worm's brain and use it to control a Lego robot.

What they did was basically use data from studies that had figured out the brain's connectome (basically a map of all the neurons, how they are connected, which neurotransmitters they use, whether or not they are sensory or motor, etc.-- I was able to see the database for the connectome and it is indeed quite amazing!) and use it to create virtual neurons on the computer, and have the sensors on the robot send a stimulus to the appropriate sensory virtual neuron which then sends signals to other neurons until a motor neuron gets a signal to trigger a muscle, which the robot interprets as having to move its wheels.

The OpenWorm Project's ultimate goal is to be able to make a fully virtual worm that can be used to experiment with and understand more about the organism and neuroscience. To those who scoff and think that this is way too advanced to be true, it's actually remarkably possible. Back in 2004, a group from Hiroshima began the Virtual *C. Elegans* project and released two papers on how their simulation retracted from virtual prodding. Of course, there are issues with neuron weighting (even though we know how neurons are connected, how strongly they are connected can be different between organisms and is also incredibly hard to figure out) which they tried to get around by using machine learning to get the desired behaviour from the worm. Although it might be considered cheating, it isn't too far-fetched, especially given how it works in real life.

Anyways, by now you might be wondering why this has an effect on ethics and philosophy. Well, if you were just given a human brain, a super powerful computer, and a way to figure out the connectome and neuron weighting of that brain, you would theoretically be able to simulate this brain on a computer. Well that's all wonderful and jolly you might say but that's not possible with today's technology and why would that be useful or related to ethics? The point is that if you had the technology, this would be possible.

When you think about it, the brain is noth-

Continued on PERSPECTIVES on page 13

McGill researchers attempt to control organism size, double the size of ants

NINA FENG
3B ENVIRONMENTAL

A team of scientists at McGill's evolutionary and developmental biology lab have doubled the size of experimental ants, achieving a huge step in defining the role of genetics and the environment on the size of an organism. The researchers, led by Dr. Ehab Abouheif, published a paper in Nature Communications detailing their findings. These findings are huge in the discipline of epigenetics, the study of why and how genetically identical organisms might still display different traits.

Their research allowed them to zero in on a single gene, EGFR (epidermal growth factor receptor), that can be methylated, a chemical process where a methyl group is added into a compound in place of a hydrogen atom. The methyl 'coating' ended up accounting for 70% of ant size differences, depending on the degree of methylation. This is also slightly different from genetic modification, as the genome of the organisms is not altered, removed, or replaced.

Previously thought to be a highly complex task dependent on a mixture of many different genes and environmental factors, size manipulation turned out to be relatively easier than expected. In fact, the scientists were able to grow ants that fell along a continuum of sizes, ranging from 1.6 millimetres long ('minors') to 2.5 mm ('majors'), nearly double the size of your average run-of-the-mill ant. The methylation of the gene can be influenced by many factors, including the types of food consumed, showing the environmental effects on size.

With these findings, further research can be conducted for other traits, and even potentially human applications. Major and minor type ants differ in more than just size – they also tend to adopt different roles in the colonies. The gene could therefore have an effect on behaviour, which is the subject of future tests. It's also possible to extend the work to find links to other traits, such as weight, strength, skin colour, and intelligence. A further connection to food could have applications on human health and wellness.

Maybe not as impressive as Ant-Man, but possibly more realistic.

The Presidential Wind-Down

Referendum Results and General Meeting Agenda

ALLYSON FRANCIS
PRESIDENT

Hello again everyone! If you haven't yet heard, the results of the E7 Referendum are in, and the majority of students voted NO on the question of initiating an optional student donation of $25 per student per term. The full breakdown of the polling results are available on the home page of the Engineering Society's website (*engsoc.uwaterloo.ca*). Thank you to every student who put in the effort to get informed and participate in the referendum! I would like to make a few special thank yous, firstly to Melissa Buckley and Madeline Amszej for running an excellent Yes Committee campaign, and to Filzah Nasir for stepping up to challenge the status quo by putting a lot of effort and thought into her No Committee campaign. I also wanted to recognize the great work done by our CRO Jennifer Coldwell in organizing and running the election!

The other important announcement for this week is the upcoming Engineering Society General Meeting, which is taking place on Monday March 23 at 5:30 pm in CPH 3607. The agenda has been released, and is available following this article for your consideration! Every paying member of B-Society will be eligible to vote on the items presented. If you have any questions regarding interpretation of the motions, please don't hesitate to send an email to the chair of the meeting at *speaker.b@engsoc.uwaterloo.ca.*

If you are unable to attend the meeting yourself, but would still like to be represented at the meeting, a proxy form is available online on the Society's website. Each member in attendance will be allowed to hold their own vote plus one proxy vote, so please make sure you proxy to someone who does not already hold a proxy vote. Hard copies of proxy forms will also be available in the Engineering Society Office (CPH 1327). You must submit your form through your official Quest email address to *speaker.b@engsoc.uwaterloo.ca*, or in person to the Engineering Society Office's front desk.

That's it for this update! Unfortunately, I will be at two separate conferences on the remaining Fridays of this term, but I can always be reached at *president.b@engsoc.uwaterloo.ca* anytime. I'd also encourage any interested students to come out to the next Engineering Society Council meeting, which is on March 25 at 5:30 pm in POETS. The dinner at the end of the meeting is going to be Potluck-style, so if you are planning to stay for dinner, make sure you bring something to contribute! All are welcome, and I hope to see you there!

UNIVERSITY OF WATERLOO ENGINEERING SOCIETY 'B'
General Meeting – Winter 2015

Date: March 23rd, 2015 5:30 PM
Location: CPH 3607

Item	Presenter/Mover	Action
1.0 Welcome/Call to Order		
2.0 Ratification of Chair		D
3.0 Approval of Engenda		D
4.0 New Business		
4.1 Society Updates	Allyson Francis (president.b@engsoc.uwaterloo.ca)	I
4.2 Diversity Policy – Appendix A	Allyson Francis (president.b@engsoc.uwaterloo.ca)	D
4.3 Still Not Bored of Board – Appendix B	Allyson Francis (president.b@engsoc.uwaterloo.ca)	D
4.4 Invest in Board – Appendix C	Allyson Francis (president.b@engsoc.uwaterloo.ca)	D
4.5 Oh Behave – Appendix D	Matt McLean (matthew.mclean@uwaterloo.ca)	D
5.0 Affiliate Reports		
5.1 Senate	Allyson Francis (senate@engsoc.uwaterloo.ca)	I
5.2 Feds Councillors	Julian/Chanakya (fedscouncillors@engsoc.uwaterloo.ca)	I
6.0 Adjournment		

**Note: D=Decision, I=Information

If you have any questions or concerns regarding the meeting, contact
Pierce McCloskey (speaker.b@engsoc.uwaterloo.ca)

Appendix A:

MOTION	
TITLE	Diversity Policy
MOVER	Allyson Francis
SECONDER	
SPIRIT	To add a clear statement about the Engineering Society's commitment to diversity and inclusivity in our governing documents.
WHEREAS	The Engineering Society represents all students within engineering.
AND WHEREAS	The Engineering Society should be trying to create a safe and inclusive space for all its members and others using the Society services
AND WHEREAS	This policy will provide guidance in the event an incident does arise within the Engineering Society in the future
AND WHEREAS	This amendment was passed at the A-Society General Meeting of Fall 2014
BIRT	Policy Manual Section II: Other Policies be modified to include the following section: **Diversity Policy** O-7: Diversity, Equity and Inclusivity A. The Society is committed to promoting diversity, equity and inclusivity among its members, the Faculty of Engineering, and the engineering profession. B. The Society is committed to ensuring a safe, secure, inclusive and accessible space for all of its activities C. The Society is committed to creating an environment free of harassment and discrimination in all of its activities D. Discipline 1. Any member's behaviour that is found in violation of the intent of this policy may be disciplined accordingly at the discretion of the on-term Executive team through a formal warning or removal from a Society event or Service, and a report will be filed with the Student Relations Officer. 2. For Executive, a recommendation shall be made to council to remove the member(s) from a Society leadership position.
BIFRT	The Table of Contents be updated to include the section above.

Appendix B:

MOTION	
TITLE	Still Not Bored of Board!
MOVER	Allyson Francis
SECONDER	
SPIRIT	To elect B-Society students at-large to fill soon-to-be vacant Board of Directors seats
WHEREAS	There are two graduating B-Society students at-large on the Board of Directors, who will vacate their seats at the end of this term
AND WHEREAS	The Board of Directors has voted in favour of delegating the task of filling the B-Society at-large seats to the General Members, to be carried out at the Winter 2015 General Meeting
BIRT	The following members be ratified for the B-Society at-large seats, to serve beginning in May and ending in August: 1. 2.

Appendix C:

MOTION	
TITLE	Invest in Board
MOVER	Allyson Francis
SECONDER	
SPIRIT	Make ECIF allocation a responsibility of the Board of Directors
WHEREAS	The Board of Directors is a joint body that serves for a yearlong term and oversees the finances of the capital account, much like the existing ECIF Committee
AND WHEREAS	There has been an increase in the number of Engineering Society committees, and at this point it would make sense to consolidate wherever possible
AND WHEREAS	The Board of Directors has reached a consensus that supports their adoption of the powers and responsibilities of the ECIF committee
BIRT	The Engineering Society Policy Manual, Section I: Financial Policies, Sub-section F-4: Engineering Society Capital Improvements Fund Policy, shall be amended as follows: B. Accountability 1. In order to ensure proper accountability, the authority of administering the Fund is delegated to the ~~Committee~~ Board of Directors, ~~which is~~ as outlined in Section C of this policy. C. The Board of Directors 1. The powers of the Board of Directors with respect to the Engineering Capital Improvements Fund are as follows: a. The Board of Directors shall be responsible for receiving funding proposals and allocating funds each term. 2. ~~The Capital Improvements Fund Committee is composed of:~~ a. ~~The On-Term Vice President Finance, who will act as Chair and vote only in the case of a tie;~~ b. ~~The Off-Term Vice President Finance or their delegate, as assigned by the Off-Term Vice President Finance;~~ c. ~~The Business Manager;~~ d. ~~Two At-Large Student Members of Society A (as laid out in C.3); and~~ e. ~~Two At-Large Student Members of Society B (as laid out in C.3).~~ 3. ~~Choosing The At-Large Student Members~~ a. ~~At-Large Student Members shall be appointed by their respective Council by the end of the Winter Term or by the first ECIF meeting of the Spring Term, depending on which term the Society is On-Term.~~ b. ~~At-Large Student Members shall serve as Committee members until April 30th of the calendar year following their appointment.~~ c. ~~In the event of a vacancy in the position of At-Large Student Member, the Chair shall ask the President of the Society with a vacant seat to recommend a new member. The new At-Large Student Member shall be subject to ratification at the next Council meeting of that Society, and serve the remainder of the term of the current Committee.~~ E. Application and Allocation Procedure 1. Form F-6.1 (ECIF Funding Application) shall be used as the official application form, and shall be made available by the ~~Chair~~ On-Term Vice President Finance. 2. The application form shall always remain open. 3. Once the fund for that term has been allocated, a report must be made to Council outlining all proposals, new allocations and unspent past allocations. 4. The report of the ~~Committee~~ Board of Directors is subject to ratification but not modification by Council. In the event that Council does not ratify the report, the ~~Committee~~ Board of Directors must reconvene in order to produce a new report that will be subject to ratification by Council. 5. The fund must be allocated and ratified by the end of each term. F. Disbursement of the Fund 1. The ~~Chair~~ On-Term and Off-Term Presidents and Vice Presidents Finance ~~and Corporate Manager~~ shall have signing authority for the Fund. 2. No funds shall be disbursed before the report of the ~~Committee~~ Board of Directors is ratified by Council.

Appendix D:

MOTION	
TITLE	Oh Behave!
MOVER	Matt McLean
SECONDER	
SPIRIT	To empower the speaker to conduct council meetings in a productive manner, and set expectations for behaviour of class representatives.
WHEREAS	Some class representatives' actions during EngSoc Council meetings are counterproductive to the functioning of the meeting, and the speaker is not explicitly able to rectify this issue.
BIRT	Policy Manual Section II: Other Policies Sub-Section O-5: Class Representative Responsibilities be amended to read: O-5: Class Representative Responsibilities ~~C~~A. A Class Representative shall have the following responsibilities: 1. Attend each Council meeting while On-Term, and find a replacement person to exercise the class' vote when no Class Representatives are able to attend~~;~~ . Those in attendance at Council meetings shall not disrupt the proceedings of the meeting. After a verbal warning, the Speaker may remove any such person from the meeting when, in the Speaker's judgment, such person is engaging in improper or disruptive conduct that is detrimental to Council carrying out its business; 2. Communicate the activities of the Society to their Constituency through whichever means they deem appropriate; 3. Represent the prevalent opinion of their Constituency during Council meetings, and voice that opinion when appropriate; 4. Other responsibilities as negotiated with their Constituency and the Executive Officers.

VP Finance Update

Sponsorship and ECIF Allocations!

MELISSA FERGUSON
VP FINANCE

Hello EngSoc!!

This is my second last IW exec article!!! I feel like my 16 months just flew by, where did the time go?

The sponsorship meeting took place this past Saturday. The committee had $8,806.50 to allocate to different student teams on campus, and we had over $32,000 worth of applications. If you feel like doing some quick math, you will see that we have only about a third of the requested funds to give away. The sponsorship allocations will be approved at the next EngSoc Meeting, which will take place March 25th at 5:30 in POETS, so if you want to get a sneak peek at where the money is going you should come to that meeting!! Otherwise they will be in my next (and last!!) exec update.

The ECIF committee will be meeting this Wednesday to go over capital allocations. So far, the requested items include a new button maker, new pool cues, repairs for the pool table, a bill counter, new carrying case for the jazz band keyboard, 2 waffle makers (charity waffles, yo!!), and 2 new electric griddles. The approved ECIF allocations will also be in my next report.

Stay classy, EngSoc, and enjoy the nice weather!!

VP-WINternal Update

MATHIEU TREMBLEY
VP INTERNAL

Hey friends, hopefully March hasn't been too crazy busy for everyone. If it has, I have some sweet events in store for you! This Thursday, Friday and Saturday (March 19th, 20th and 21st) is EngPlay and it's a musical this term! Come out to the Arts Lecture hall at 8:30 pm on Thursday and Friday, and 1:30 pm on Saturday to see the show; tickets are on sale in the Orifice and will be available at the door.

Also on Saturday the 21st, EngSoc is getting a bus to go see the Mac Eng Musical! McMaster Engineering puts on a kickass play once a year and it's bound to be awesome. The bus will leave at 4:30 pm and only costs $10!

On Tuesday the 24th, we've got Battle Of The Bands at Wilf's, so if you're in a band or want to watch some bands, you should sign up or come out respectively!

Then on Wednesday the 25th, we've got a coffee house in POETS, and then EOT in POETS is on Friday the 27th!

On the workshops side of things, this Thursday the 19th at 5:30 we've got SpeedCAD, an AutoCAD competition where you can compete with other competitors to see who can CAD the fastest! Then the following Thursday the 26th we've got a RapidModel Autodesk Inventor competition, which will be pretty much the same as the SpeedCAD competition except it will feature Autodesk Inventor 3D modelling.

That's all from me folks, cheers until next time!

The CANstruction team and Olaf the snowman.

VP Education Update

Teaching Excellence Award

PERMEG KENTH
VP EDUCATION

Hey!

Hope everyone is doing well. I am sure everyone is going through the end of term deadline stress syndrome. Don't worry, stay calm and make sure you are keeping up with the workload. Be sure to manage your time well and to start organizing yourselves for the upcoming exams.

In this week's issue, I would like to inform everyone about the Engineering Society Teaching Excellence Award. The purpose of this award, as the name suggests, is to reward teaching excellence shown by the Engineering Faculty and Staff. Every term, EngSoc recognizes professors, lecturers and laboratory instructors who have shown exceptional contributions towards the learning of undergraduate students.

This is how it works: students nominate the instructors, so if you feel that any of your instructors have shown commitment and dedication towards the academic success of the class please nominate them. When sending your nomination, please be sure to include your name, program, term of study, instructor's name, course the instructor taught and a description outlining why you feel the instructor deserves the award.

This is a great way to recognize the instructors who are determined to help their students academically. This is the chance for students to promote good and effective teaching and to help other instructors realize that the student body acknowledges good teaching skills.

If you have any questions or would like to nominate an instructor, feel free to contact me at *vpeducation.b@engsoc.uwaterloo.ca.*

National Engineering Month

How it's been going so far

SARAH-ROSE LANCASTER
VP-EXTERNAL

National Engineering Month is in full swing and the Waterloo Engineering Society is about half-way through its NEM campaign. In this time we've hosted two events, the NEM Rube Goldberg Machine building and CANstruction. Still to come, we have the K'Nex Bridge Building at THE MUSEUM and the Charity Bus Push.

The NEM Rube Goldberg event resulted in the Engineering Society's successful construction of a creative Rube Goldberg Machine. Over three afternoons in March, Will Klanac lead a small team of students to plan and build the machine. The machine incorporated several fun elements, including a car racetrack, several domino trains and golf ball tracks. The Rube Goldberg machine was then filmed as it connected to several other Rube Goldberg machines, built by other engineering schools in Ontario, via the use of cell phones. The final NEM Rube Goldberg video will be available in late March, where you can see the CN Tower be lit up purple.

The CANstruction event occurred Friday, March 14 where several volunteers, lead by Janna Henzl and Julie Zhang, built a life size Olaf, the snowman from Frozen, out of over 1000 cans of Tuna. The build took approximately five hours at Conestoga mall in Waterloo, where other teams were also building amazing structures out of cans. All of the cans used during the CANstruction event were donated to the Waterloo Region Food Bank.

One of final two events that will round out National Engineering Month is the K'Nex Bridge Building Competition. K'nex bridge building will take place March 21st and 22nd at THE MUSEUM in Kitchener. During this event, elementary school children will be challenged to build the strongest bridge they can build out of K'Nex pieces. Engineering Society members will be at the event to assist the organizers in making the event a success.

Lastly, the Charity Bus Push will take place on Sunday, March 22nd. During this event, University of Waterloo Engineering students will pull a bus over 6.5km from Waterloo campus all the way to Charles St. Terminal in Kitchener. All pushers will collect monetary pledges which will be donated to oneROOF, a charity organization in Kitchener that helps homeless and at-risk youth in the Kitchener-Waterloo area. So far, class visits to first-year classes to help promote and inform them of the event have been successful. If you are interested in helping pull the bus, please pick up a pledge form from the Orifice and meet up on Sunday, March 22nd at 10:30 am in the CPH Foyer.

Upcoming Events Calendar

Wednesday March 18 First Year Mentoring Jeopardy 19:30-21:30	**Thursday March 19** SpeedCAD Competition 17:30-19:30, Multimedia Lab EngPlay 20:30-23:00, Arts Lecture Hall	**Friday March 20** Weekly Exec Hangout 12:30-13:30, CPH Foyer Enginuity 16:00-20:00 EngPlay 20:30-23:00, Arts Lecture Hall	**Saturday March 21** Enginuity 09:00-17:00 EngPlay 13:30-16:00, Arts Lecture Hall Mac Eng Musical 16:30-23:00, Hamilton, ON	**Sunday March 22** Charity Bus Push 10:00-15:00, Kitchener	**Monday March 23** EngSoc General Meeting 17:30-19:30	**Tuesday March 24** Iron Warrior Meeting 18:00-19:00, E2-2347 Course Critique Party 16:30-18:30, CPH 1320B Battle of the Bands 19:00-22:00, Wilf's	**Check out up-to-the-day event postings on the EngSoc website at engsoc.uwaterloo.ca**
Wednesday March 25 EngSoc Meeting #5 17:30-19:30, POETS Coffee House 19:30-22:30, POETS	**Thursday March 26** RapidModel Autodesk Inventor Competition 17:30-19:30, Multimedia Lab	**Friday March 27** EOT 20:00-22:00	**Saturday March 28** GradBall Winter Leader Retreat	**Sunday March 29**	**Monday March 30** Charity Easter Egg Hunt 19:00-20:30	**Tuesday March 31** Easter Egg Party 18:00-20:00 Iron Warrior Meeting 18:00-19:00, E2-2347	

The Benchwarmer Report

Leafs' trade deadline tweaks a sign of what's to come

ELIZABETH SALSBERG
2T NANOTECHNOLOGY

THE BENCHWARMER REPORT

So it looks like someone in the corner office at a certain multi-billion entertainment corporation based in Toronto, known as Maple Leaf Sports and Entertainment, finally figured out that the Toronto Maple Leafs are the team that consistently reels in the most money (by a long shot). They are also one of the richest teams in the NHL. And it looks like a certain individual placed in that corner office, a hockey hall of famer, and former Detroit Red Wings star, Brendan Shanahan, has finally seen enough. The fans have seen enough. Even the Benchwarmer has seen enough—it has been a record month since I last watched the Leafs sputter on the ice and melt into a pitiful puddle of Zamboni fluid.

With the rant out of the way, it's time to get to the point of all this. Gone are Nonis and his predecessors' short-term solutions; bargaining on once-promising looking players to contracts beyond the likes of what they've earned (Clarkson, Franson, etc.)—Shanahan has gotten the boardroom's approval for an Edmonton-style, long-term overhaul. Only it had better go a lot better than it has in Edmonton for Shanahan to still be sitting in the corner office 3-4 years from now.

The first sign came when D Cody Franson and blue-collar utility forward Mike Santorelli were shipped to Nashville for a first-round pick in this year's draft, prospect Brendan Leipsic and trailblazer Olli Jokinen. Jokinen was then flipped to the St. Louis Blues on trade deadline day for a sixth-round draft pick this year and older forward Joakim Lindstrom (who is not expected to stay beyond the end of the year). Shortly before the deadline, Nonis pulled the unthinkable and managed to unload the dangerously overpaid designated-penalty moron David Clarkson by shipping him to budget-squeezed Columbus in exchange for former Bruins scary-good forward Nathan Horton. On the off chance that Horton ever does recover from his likely-permanent back injury, the Leafs could have a legitimate forward on their hands. If not, at least he doesn't count against the salary cap—after all, it's not like MLSE can't afford to pay for someone not to play.

So… trading for picks, freeing up cap space… it all points in one direction: The Leafs are in full-blown re-building mode. But why not try to move Kessel or Phaneuf then? If this was a real urgent tear-down, why not try to work something? Nonis and Co. are wise. Unloading 2015 unrestricted free agents in exchange for rentals is a good idea. Their salaries will not count towards the cap in the future, and that means more money to spend when the young core is nearly ready. It will be easier to manufacture a good deal with one or both of Kessel and Phaneuf in the summer time, when borderline teams have a better idea of the pieces they need. Either of those players should reel in a decent prospect or two, or several first and second round picks in the 2016 draft.

Another one I would try to trade: Nazem Kadri. He has had a promising season, and they could get something decent for him. His attitude here has been sub-optimal, and it is not good to have a negative influence on what could be the next hockey superstars if Leafs scouts can get their act together.

The next generation of Leafs starts with D-men Morgan Rielly and Jake Gardiner, as well as netminder Jonathan Bernier. The rest of the core should be built out from there. Drafting high-scoring skill players is absolutely paramount. 2013 first-rounder Frédérik Gauthier is not what they should have in mind here—there's a good reason he saw limited ice time at the World Juniors this year. They need to find those like Jordan Eberle and John Tavares, coachable players with character, discipline, hockey IQ and most importantly, a ton of skill.

It's no small task. And Toronto is not a patient hockey market. But in the unlikely even they do succeed (if the Raptors haven't taken over yet)… the madness and glory of "Leafs Nation" will be back with a storm.

ESSCO Hockey Tournament

TORI ROY
3B CHEMICAL

Waterloo competed in an inter-university ESSCO (Engineering Student Society Council Ontario) hockey tournament during the weekend of March 6-8. After some motivational speeches from Coach Graeme McMath about trust, fundamentals, assists, and passion, the boys played a solid weekend of hockey. They beat Western C (2-1) and Windsor B (3-2). Unfortunately they lost to McMaster B (4-2) and Western B (7-3). Eventually they placed 4th in their pool but were unable to advance to the semi-finals. It was a weekend filled with good hockey and good times. Good work boys!

Back Row: Connor Irvine, Caleb Barber, Mike Magliocchi, Alex Maggs, Derek Chow, Mackenzie Huber, Mark Pahulje, Brandon Tieche, Zach Huber, Coach Graeme McMath
Front Row: Adam Seeto, Donald Ngai, Nik Knezic, Dane Moynihan, Connor Dobson, Matt Van Heukelom

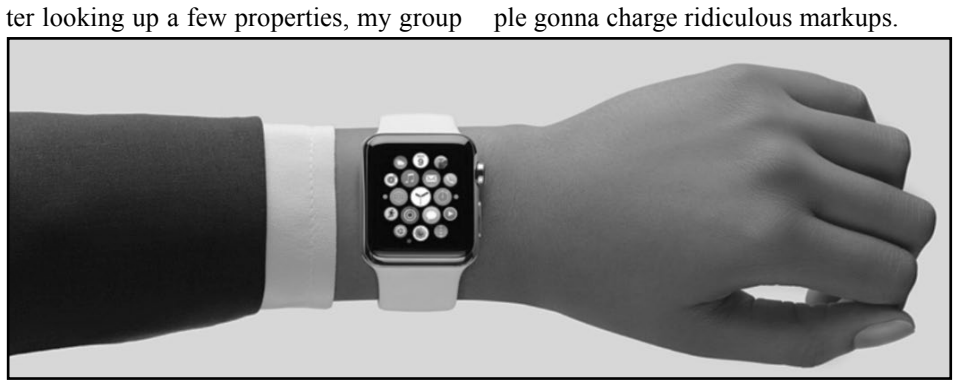
Apple Goes for Gold

Continued from APPLE on page 6

has accurate dimensions. Finally, the case is polished before being assembled to a watch.

In my second year, my class had an assignment where we had to pick a material for a foot bridge across a creek. One of the questions asked us to disregard cost. After looking up a few properties, my group duly recommended that the little bridge be made from Kevlar. Cost: $100,000. What Apple has done with their gold watch sounds a lot like a real-life version of that. They made it, because they could.

Even given the cost of the material and its manufacturing process, $10,000 sounds rather high. But that's how they roll. Fakers gonna fake, haters gonna hate, and Apple gonna charge ridiculous markups.



Apple

It's not called the iWatch.

Album of the Week

Sufjan Stevens: *Carrie & Lowell*

ALEX TOTH
4B CHEMICAL

ALBUM OF THE WEEK

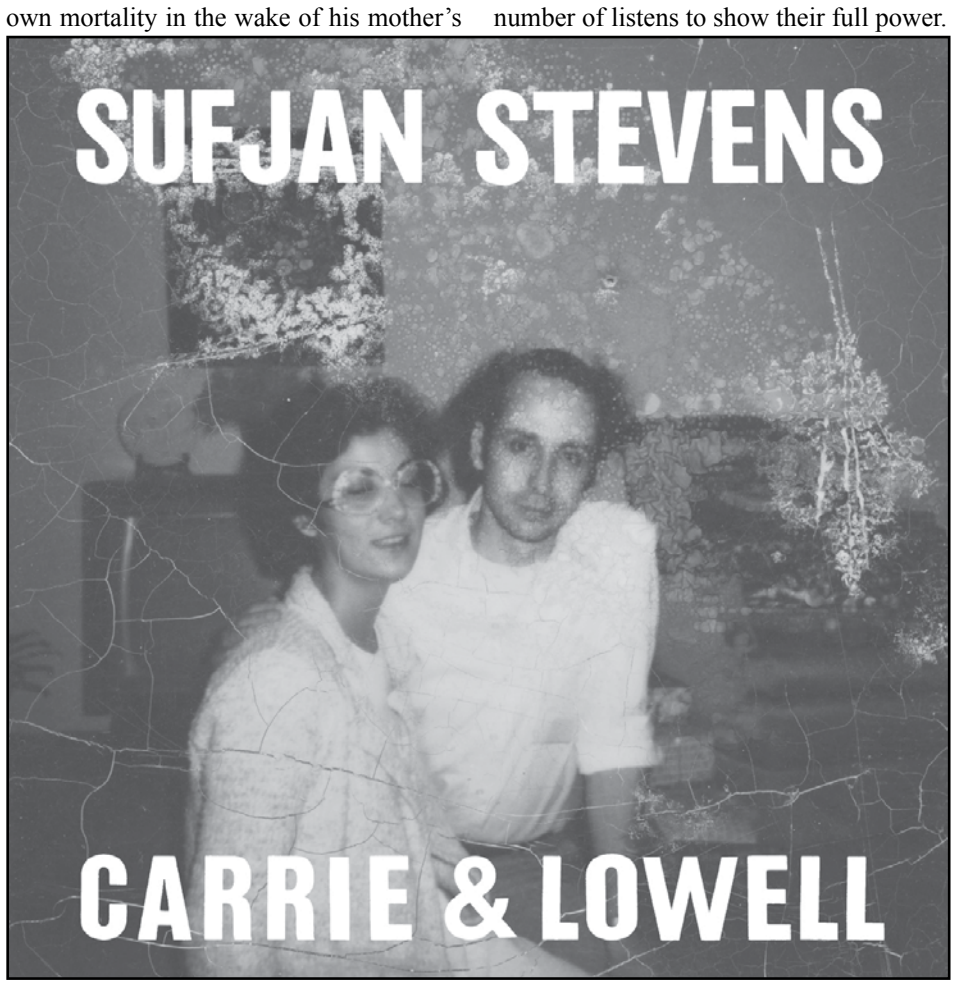
These last couple of weeks were strange ones for indie music releases. No big names have actually released anything in this time, but a number of album release campaigns were shifting into high gear (Sufjan Stevens, Modest Mouse, Death Cab for Cutie, maybe Kendrick Lamar). And then all of a sudden a couple of days ago, two albums spontaneously leaked, as albums nowadays are wont to do. Modest Mouse's *Strangers to Ourselves* and Sufjan Stevens' *Carrie & Lowell* are both big releases from big artists that have both been operating for quite a long time now. And, at least in the opinion of someone who hasn't spent enough time with either, they're both very very good. I've decided on Sufjan over Modest Mouse mostly because I feel that I have put enough time in listening to *Strangers to Ourselves* to give an honest opinion.

Sufjan Stevens is normally lumped into the acoustic singer-songwriter genre, mostly because of the intimate detail in his lyrics and delicate arrangement of his songs. However, his previous albums range from standard "guy-with-guitar" (*Seven Swans*), to refined orchestral pop (*Michigan and Illinois*), to wobbly electro (*Age of Adz*, his latest LP). Here on *Carrie & Lowell*, the sonics are similar to what Sufjan was doing on *Seven Swans*, with lightly plucked guitar and hushed vocals. The themes, however, are more *Age of Adz*, finding Sufjan interspersing concrete details throughout the broad wash of allusions and abstractions. As for the concrete details part: *Carrie & Lowell* are Sufjan's mother and step-father, with whom he had a tumultuous relationship during the early years of his life. And although never explicitly stated, the album centres on the death of his mother and Sufjan trying to navigate the emotions that arise when someone who was alternately so close and so distant suddenly leaves you.

The album's opener, "Death with Dignity," sets the stage nicely for the rest of the album. It juxtaposes heavy imagery of wide open landscapes with nimble singing and gently plucked guitar, creating a shimmering, gossamer whole. But undercutting the gentleness of the song are Sufjan's constant musings on death and the afterlife: "What is that song you sing for the dead?" Although Sufjan is a devout Christian and there is a plethora of Biblical imagery in his music, *Carrie & Lowell* is full of what I see as agnostic musings: creeping doubt that maybe there isn't anything better than what we have right now.

On the next song too (early single "Should Have Known Better"), lyrics speak of "bridge[s] to nowhere" and Sufjan's "black shroud." Here, though, he mixes his sparse acoustic guitar with melodic electronics which softly transform the song and pull it closer to being an electro-pop ballad. His penchant for painfully earnest and intimate lyrics is showcased here, as he recounts a lingering detail of time spent with his mother: "When I was three / three maybe four / she left us at that video store." It's a single line, easily lost amongst all the others in the song, and yet it is able to convey all of the confusion Sufjan is experiencing.

Elsewhere on the album, animal imagery is used heavily for a number of reasons. On "Fourth of July" Sufjan confronts his own mortality in the wake of his mother's death while using bird metaphors as terms of endearment from mother to son: "my little hawk," "my little dove." Below the gentle singing, a low piano throb anchors the melancholy in Sufjan's singing. It's one of a number of tenderly understated ballads on *Carrie & Lowell*, many of which take a number of listens to show their full power.

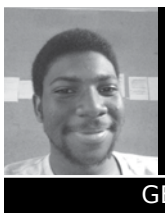


Sufjan Stevens

Carrie & Lowell

Geek Culture

New Thor



EMMANUEL UTUAMA
2A ELECTRICAL

GEEK CULTURE

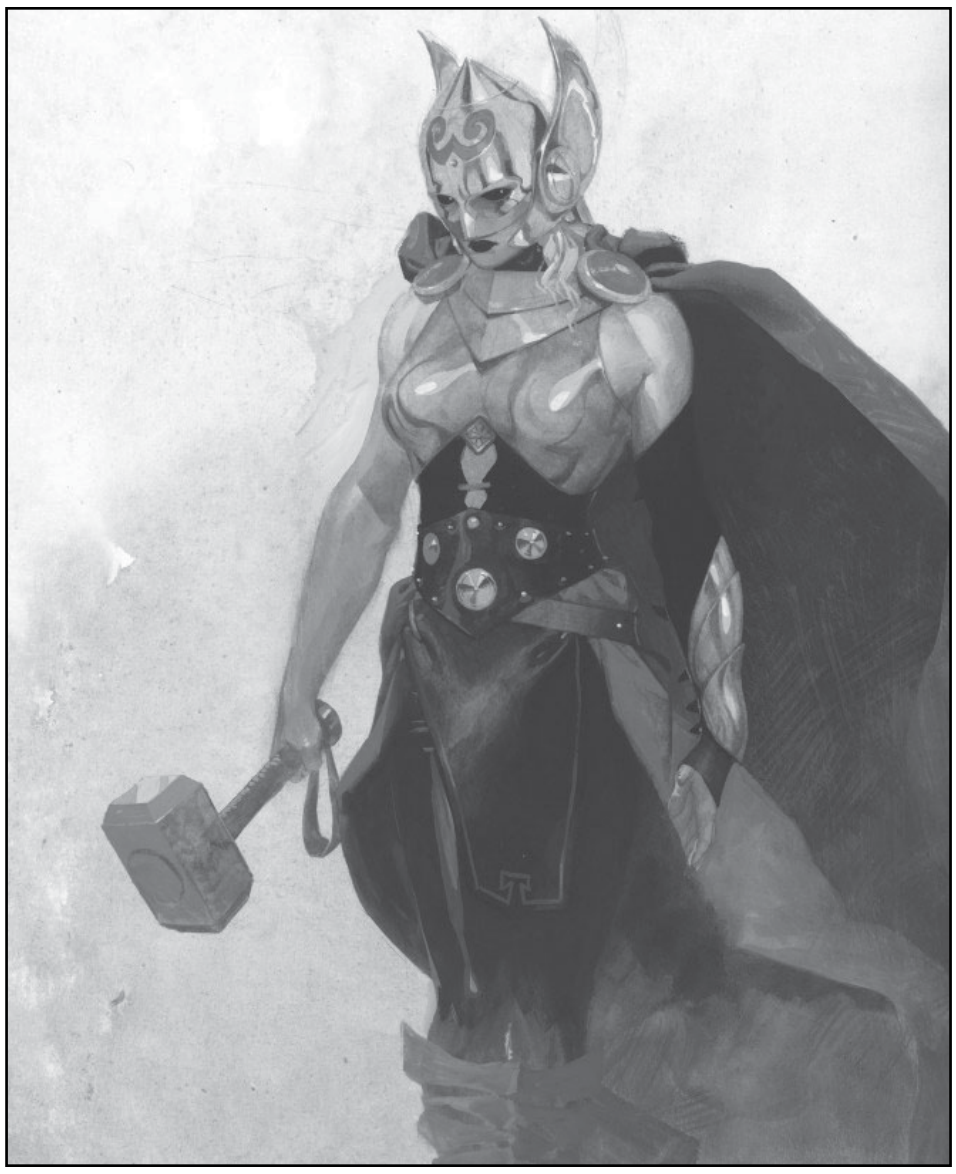
Hey Warriors, this edition of Geek Culture will take a look at the all-new female-centric Thor comic written by Jason Aaron, and illustrated by Russel Dauterman and Mathew Wilson. The new female Thor was announced by Marvel on July 15, 2014 along with Sam Wilson (Falcon) as the new Captain America, and made her first comic appearance in *Thor #1* in October 2014. Thor is the latest addition in a long list of female-centric titles that continue to invite new readers into the Marvel Universe. *Elektra*, Captain Marvel, X-Men and Ms. Marvel are a few comics Marvel has with female lead characters.

In order to avoid any confusion in referring to Thor Odinson (as played by Chris Hemsworth in the film franchise) and the new female Thor (Thor), I will take a lead from the comic itself and call old Thor "Odinson," and new Female Thor simply "Thor."

Now, lets get to the Thor's story. This new storyline picks up from the end of Marvel's 2014 comic book event *Original Sin* where the Uatu (the Watcher) is killed and the secrets he kept about each Marvel hero is revealed to them. In the aftermath of the Original Sin storyline, Odinson (the original Thor) becomes unworthy to lift Mjölnir – his mystical hammer. Several Asgardians, including the All Father Odin cannot lift the hammer. It appears that no one is worthy of Mjölnir, except for a mysterious woman. With the Earth in danger, and a now vulnerable Odinson unable to protect Midgard, the new Thor decides to take up the mantle as the protector of the nine realms with her new-found power. As you can imagine, the new Thor with a mysterious background throws a Mjölnir in the works as both Asgardians and villains alike wonder if she is truly worth of the title Thor. But regardless of what the other characters feel about this new Thor, she is quickly proving she has the mettle to stop or win the hearts of whoever stands in her way. So far, she has won the respect of Odinson, Freyja (All-Mother of Asgardia), and even Melakith.

Apart from Thor's quest to protect the nine realms and Odinson's journey to prove his worthiness to lift Mjölnir and uncover the identity of Mjölnir's new wielder, there is also an equally parallel power struggle between Freyja, the All-Mother/Ruler of Asgardia and Odin, the All-Father. Odin has returned to rule the Asgardians but this does not sit well with Freyja. As tension builds between these power couples, a titanic clash will soon happen to decide who is worthy to rule. With the return of Odin, Cul Bolson (Serpent, the God of Fear) has made a return to the Thor comic universe to serve as the minister of justice in Odin's court. Cul Bolson is Odin's brother and is famously known as the main baddie in the 2011 *Fear Itself* storyline as he amassed an army of mystical hammer holders to challenge Odin as the ruler of all nine realms. It is very interesting to see what mischief Cul has in store.

Jason Aaron has written a great story with the new Female Thor by balancing the recurring themes of gender equality and worthiness into an action packed comic. Overall, the new Thor comic seems to be going in the right direction with a refreshing new female lead and the mystery surrounding the identity of the lady with the thunder holding readers on edge. If you're looking for more female-centric comics, *Elektra* by William Blackman and *Low* by Rick Remender and Greg Tocchini are a good start. Thank you, and catch you soon.



Marvel

Thor.

Take Five

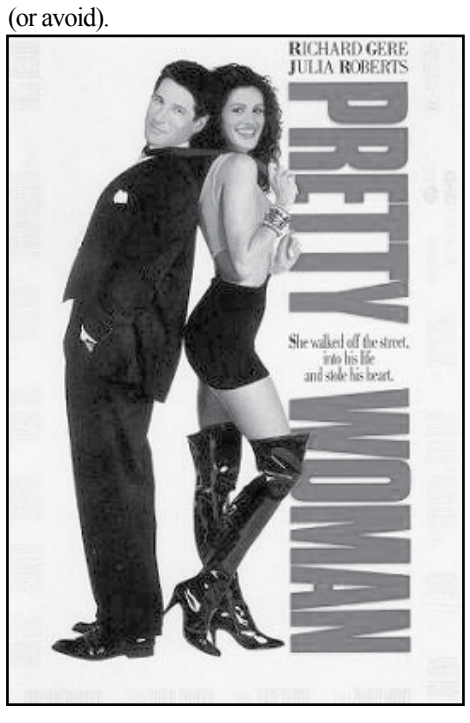
Everything is going to be all right.

NANCY HUI
4B CIVIL

TAKE FIVE

As a child, I enjoyed fairy tales where the prince always hooked up with the princess at the end of the story, and everyone got a happy ending. Romantic comedies are much like fairy tales - one expects the hero and the heroine to get together. They are predictable, and exactly what one needs to maintain the illusion that everything is going to be okay when swamped with projects.

So here are five romantic comedies to watch (or avoid).



Pretty Woman (1990)

Edward Lewis (Richard Gere) is a business man who hires a hooker (Julia Roberts) to accompany him at social functions, while he woos an aging shipbuilder into selling his company.

It's a Cinderella story, repackaged with thigh-high boots and a massive credit card chip on Prince Charming's shoulder, because Los Angeles is a cold and unforgiving land. Richard Gere was born to wear a suit and act like a dick (eat your heart out, Christian Gray!), but Julia Roberts is absolutely luminescent as the world-weary streetwalker.

The Best Exotic Marigold Hotel (2012)

A gaggle of British retirees (Judi Dench, Maggie Smith, Bill Nighy, Penelope Wilton, Tom Wilkinson, Celie Imrie, and Ronald Pickup) embark on a trip to India to stretch their retirement pound further. But despite the proprietor's (Dev Patel) efforts, the "Best Exotic Marigold Hotel" is nothing like it looks on the brochure.

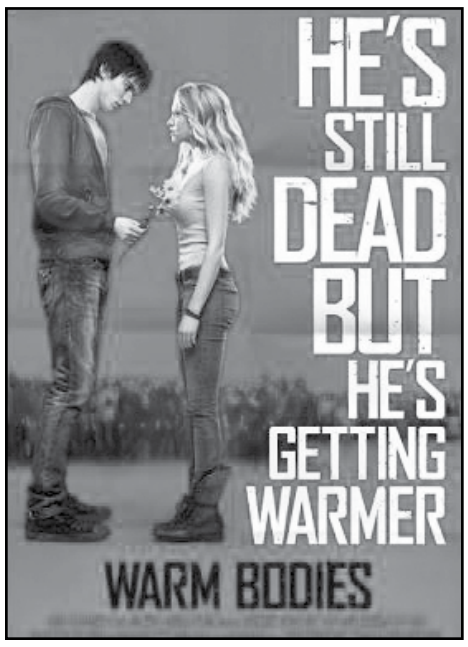
How could one go wrong with this septet of actors? The story is a light-hearted journey of personal discovery and character building and finding love in unexpected times. There are opportunities for all the actors to flex their well-honed dramatic chops, whether hobnobbing with street vendors, playing cricket on the street, or simply moaning about the local food.

Warm Bodies (2013)

"R" (Nicholas Hoult) is a zombie who lacks a pulse, craves the taste of brains, and communicates through grunts. Despite these obstacles he falls in love with the human Julie (Teresa Palmer) - but only after eating her boyfriend.

The solution to the zombie plague is totally predictable. Doesn't really matter, though. It's unbelievably cute to see how a zombified pretty-boy hipster residing inside a deserted airport spends his days, and woos women by playing LPs in the body of a crashed airplane.

If you're not yet bored of the zombie trend, you should watch *Warm Bodies*. And if you are all zombied-out, watch it anyways, because since "R" only communicates in shrugs and groans, you hardly ever have to sit through silly declarations of romance.



My Sassy Girl (2001)

Korean. Gyeon Woo (Cha Tae-Hyun) is a college student who falls in love with a sassy girl (Jun Ji-Hyun) on a train. She has some issues.

So this is the second-highest grossing Korean movie of all time. Maybe it is as good as its box office receipts make it out to be. But I couldn't look past the titular Sassy Girl's irrational bouts of violence. She punches Gyeon Woo hard enough to bloody his nose, and regularly threatens him with death ("Wanna die?") but the audience is supposed to laugh at this! If Richard Gere punched Julia Roberts in the face in Pretty Woman that just would not fly. I don't care that Sassy Girl has a dark and tragic history and that the movie has some mystic themes about love, time travel, and destiny! Gyeon Woo only puts up with this because it's his first relationship and he has no idea what a healthy one is supposed to look like, and because he's a bit of a foreveralone subject by parental pressure to get hitched and produce babies. Ugh. All in all, a travesty.

My Best Friend's Wedding (1997)

Julianne Potter (Julia Roberts) is in love with her best friend, Michael (Dermot Mulroney), so she tries to sabotage his wedding.

For every happy couple, there's usually somebody who didn't get what they want. One rather empathizes with Julianne and cheers on her attempts to sabotage that slattern, Kimmy, (Cameron Diaz) her best friend's about to marry. But, oh, it's not that simple. Julianne is not the hero. Kimmy is not a scarlet woman. Perhaps Michael and Kimmy were meant for each other. Or perhaps not?

The cleverness of *My Best Friend's Wedding* is that it's all fun and hijinks until you realize that, no, it's not. Not everybody gets a happy ending, but one has to be OK with it somehow. This is a brave movie, and I don't enjoy watching it, but I love it all the same.

The Netflix Connection

The Defenders

DONOVAN MAUDSLEY
2A MECHANICAL

Marvel Entertainment has been swinging for the fences over the last few years on the big screen, pumping out at least a movie a year on average since 2008, but their first forays into the world of the small screen have been less successful. Marvel's *Agents of S.H.I.E.L.D.* lost viewership over its first season in 2013, but received mostly positive reviews, with *Agent Carter* following a similar trend in 2015. Broadcast television is not what it used to be, however, which is why Marvel has recently turned to the entertainment industry's young gun, Netflix, for its next venture, *The Defenders*. Similarly to how Marvel built *The Avengers* up over time and introduced the members individually at first, each of the Defenders will appear on their own 13-episode series before finally being brought together for an eight-episode team up series. I personally like this approach as it will allow the audience to really know the characters by the time that they are brought together. As of now, *Daredevil* is set to premiere in April, *A.K.A. Jessica Jones* in the fall, *Luke Cage* in early 2016, *Iron Fist* in late 2016 and *The Defenders* six months later. Who are these "heroes" you ask?

Daredevil is a dark and brutal vigilante, a blind acrobatic martial arts master whose lack of sight is compensated through incredible other senses. By day he is Matt Murdock, attorney at law, but by night, he is the self proclaimed protector of Hell's Kitchen, a neighbourhood on the West side of Manhattan. He is portrayed by Charlie Cox (*Stardust*).

Jessica Jones is an ex-superhero, whose career as a hero was tragically cut short. In an attempt to re-build her life she establishes a private detective service in Manhattan, dealing mostly with cases of people with amazing abilities. Krysten Ritter (*Breaking Bad*) has been cast in her role.

Details on the latter two shows are few and far between. Luke Cage was sent to prison for a crime that he did not commit, and by the time he got out he had gained amazing powers. Unbreakable skin and super strength turned Cage into a tank of a hero who rarely backs down from anything. After leaving prison he worked as a hero for hire, serving the highest bidder before choosing to help those who really need him. Mike Colter (*Million Dollar Baby*) is set to play him.

The last Defender, Iron Fist, will likely be played by an unknown. He is a martial arts master named Daniel Rand born in New York City, who has learned the ability to master and control his chi, typically transforming it into an "Iron Fist", hence his name.

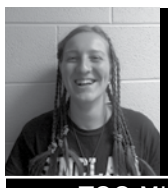
Don't worry though; it's not likely that after *Daredevil* we won't see Matt Murdock until *The Defenders*. These four characters are so intertwined that crossovers are inevitable. In fact Luke Cage is set to make his on screen debut in *A.K.A. Jessica Jones*. Luke Cage and Iron Fist are also pretty good friends, teaming up periodically since their inception. Another hero who might get fleshed out a bit through these series before his big screen headlining role is Spiderman. Peter Parker is a person living in New York with amazing abilities. Sounds like a pretty typical case for Jessica Jones to me. Just something to think about.

Marvel

The Defenders: From left to right, Iron Fist, Jessica Jones, Daredevil, and Luke Cage.

5 Things You Really Didn't Want To Know

How to raise your kids the old-fashioned way



CAITLIN MCLAREN
3A CHEMICAL

TOO MUCH INFORMATION

You have finally met the person of your dreams, and you want to start a family! As a first-time parent, you are anxious to get everything right. How do you know what to do? It's easy! People have been raising children for all of history, and with a little study you can find out exactly what you need.

Childbirth: Ant's egg powder, and a butter bath

To give your child the best start in life, when you are pregnant, you should take good care of yourself and your baby. Avoid eating meat, because it will make your child a hunchback. If you feel nauseous, try eating rocks from a bird's stomach. Don't look at dogs, because if they jump it will cause the child to be deformed. Also, don't look at hares, or they'll have a split lip. Definitely don't look at the moon, because that causes insanity. I am not sure what you are allowed to look at.

Of course, you want your child to be healthy from the moment of birth. How can you take care of a newborn? First of all, as your due date approaches, you should follow the advice of Tudor midwives, and rub your belly with powdered ant's eggs. Acceptable alternatives are powdered eel liver and virgin's hair. You should also avoid looking at the sun (it will damage your eyes) and avoid looking at violent pictures (it will make your child cowardly). When the baby is born, the worst thing that can happen is air entering the pores of their skin. To avoid this, the baby should be immediately washed in wine, and then smeared with butter. After that, you should wrap them tightly in wrappings. How often should you change them? Not often.

Then, change the shape of the baby's head

Of course, you want everybody to respect your offspring when they are grown up. The best time to start is now!

Who could ever respect a person without a long, thin head? While the head is still soft, tie it up tightly with cloth and straps to make it grow outwards toward the back. That way, you can show everyone how high-class you are. The ancient Peruvians did it so well that they could get heads that looked like this!

Of course, that isn't your only option for head shape. You can also go for forehead flattening, like the Maya. If the flatness seems boring, then you can imitate some of the Salish peoples from North America, who would modify their heads to look rounder. Although it seems that there aren't that many things rounder than a head.

If that's a bit drastic for you, why not file the kid's teeth to sharp points? Not only is this historic, but some Indonesian tribes do this today. You must admit, it looks badass.

Periods are sinful, and hell is a pool of blood

When your daughter reaches puberty, you will have to inform her that she is condemned after her death to wading in a pool of blood, which she will have to drink or else be beaten with iron rods. The medieval Chinese/Japanese work Ketsubon Kyo, or the "Menstruation Sutra," teaches that periods are deeply sinful, because they pollute the earth. The main problem is that the blood enters the water cycle, and eventually will end up in tea that is served to holy men. As a result, women are condemned to the Bloodpool Hell as described above. Reports of a Cootie Hell are still unsubstantiated.

There does seem to be a slight flaw in the logic presented, as everybody poops and pees, and that is generally considered to be more gross than blood. I can only assume that medieval holy men liked to drink poop tea.

You should force-feed your daughter her own vomit

In Mauritania, there exists the relatively unusual belief that obesity is a sign of attractiveness. Of course, people being what they are, this gets extreme fast. While it is officially discouraged and is dying out, young girls still undergo the tradition of Leblouh. This is a sort of camp, where the girls are made to eat up to 16,000 calories of milk, grain, and butter. If they don't, they can be beaten or have their toes squeezed between sticks.

What if the kid isn't able to hold down all that food? Well, you can't let it go to waste! Make her drink the vomit. That will teach her not to do it again!

If the fatty food doesn't do the trick, you can always use hormones used for fattening animals. If the girl doesn't get fat, how will she ever find a husband?

Of course, it's not like the boys have it easy either…

Paralyze your son's arms with bullet ant venom

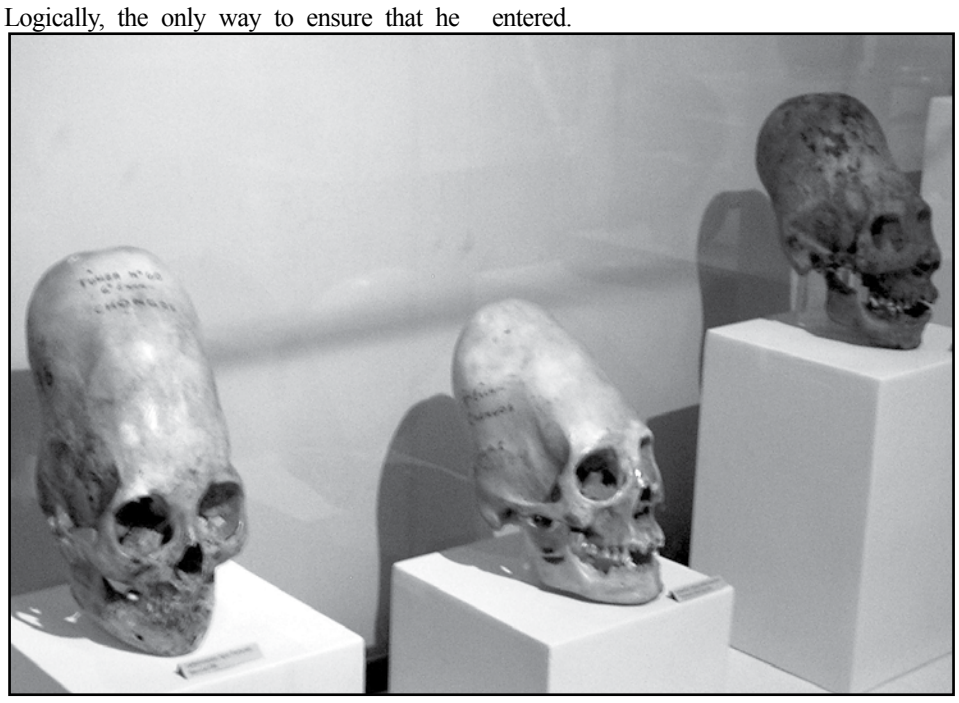
How do you know your boy has become a man? Obviously, it's when he doesn't cry. Logically, the only way to ensure that he won't cry is to paralyze his arms with hundreds of bullet ant stings. If that won't make him cry, then nothing will.

Bullet ants live in the Amazon rainforest, and their name comes from the saying that their sting hurts as much as a bullet. They are considered the most painful insects in the world, and are an inch long.

The Satere-Mawe people in Brazil use these in a boy's coming-of-age ceremonies. First, they drug the ants. Then they weave the ants into large gloves. After the drug wears off, the boys have to wear the gloves for ten full minutes. Not only is this painful, but his hands will be swollen and paralyzed for days from the venom.

Notice that I said "ceremonieS" earlier? Yup. Your kid should do this up to twenty times - until he can do it without crying. How else do you ensure that he will be manly enough?

Honestly, they're doing it wrong. If they turned the ants so the stingers faced outwards, your son would win every boxing match he entered.



Marcin Tlustochowicz

Beautiful Incan foreheads.

Perspectives

Continued from PERSPECTIVES on page 7

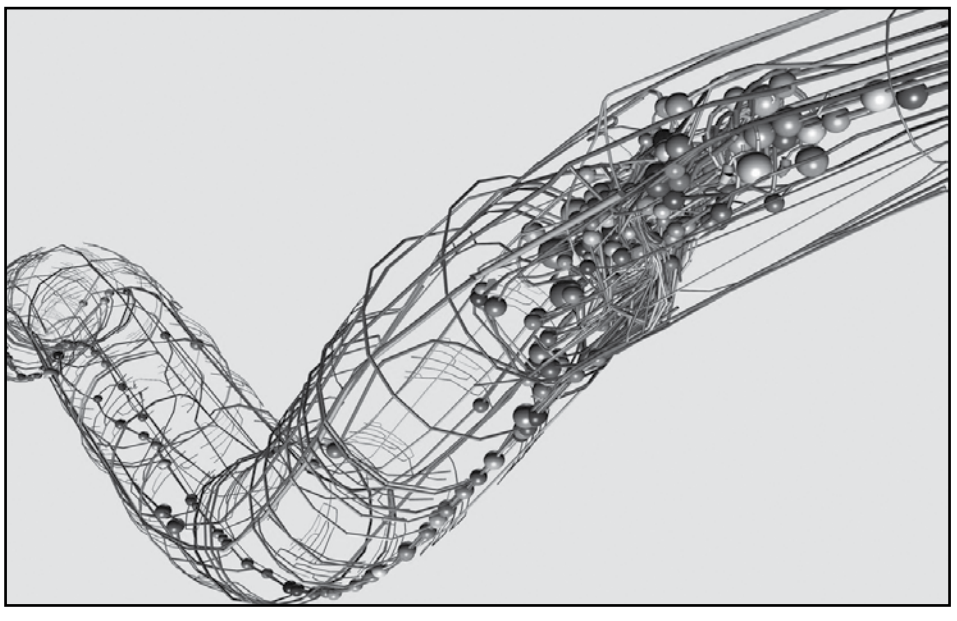
ing more than a mushy computer. You give it a stimulus and then it produces a logical output that can theoretically be predicted. The stimulus stimulates one neuron to fire an action potential to several synapses. Synapses are gaps between neurons. When the action potential, which is a small voltage difference between the outside and inside of the neuron caused by chemistry that I don't want to go into at the moment, reaches the end of the axon, it causes a release of a neurotransmitter, which is a chemical that travels along the gap to reach the start of the next neuron. At the dendrite (which is the start of the next neuron), the concentration (which depends on neuron weighting and other stuff) and the type of neurotransmitter causes it to send a certain potential to the center of the neuron. The potentials from all the synapses add up (or subtract) at the center of the neuron. If the voltage is above a certain threshold, it will fire an action potential to the next neurons and so forth. If you have all the information about these neurons, the connectome, and neuron weighting, you can model this using a real computer.

On the other hand, you could say that a human is like a computer program that is just super complicated. However, going down that train of thought has significant ramifications. Imagine we made a computer simulation of you. Now imagine we did some things on that simulation like kick you in the shin, make you write a test, or see how you'd react in a breakup (of course, doing this being able to replicate a real life environment is definitely not possible with today's computing power or any foreseeable computer), basically making an OpenWorm Project for humans. Theoretically, if we put you in the exact same environment and put you under the exact same stimulus, you should react in the exact same way. Now you could say "well if I knew that [x would be the outcome], I would choose not to react that way", however that would change the environment, stimulus, and connectome weighting. If we updated the program to the new conditions, it would still react the same way as you. It's hard to think that all your thoughts and decisions are made because that's the way your neurons are wired, but that's just kind of how it is.

Again, this thought experiment has even more serious ramifications: crime and punishment. Technically, even though this is a completely useless argument, you can't really blame somebody for their actions. It would be like being angry at a computer because your code doesn't work. People's brains are wired in a certain way based on their environment and learning and stimuli. However, it's useless to use this as an argument to get everyone out of jail, since you could also argue that it would be our responsibility to "fix" those connectomes by making them learn differently and therefore changing their neuron weighting so that they're brain/program would work to produce a more desirable output for a certain stimuli (such as not killing somebody over a parking space). So rehabilitation crime punishment still makes sense.

However, one could argue that this would mean that punishing criminals as revenge, such as long-term prison sentence and capital punishment, makes absolutely no sense in this context. If a computer program doesn't work, people *usually* don't try to destroy the computer (or lock it in a vault forever), since that would make no sense. You're losing your computer and the program still doesn't work. However on the other hand you can also argue that because we don't have the methods today to "fix" all programs that produce an undesirable output, especially since we haven't even been able to effectively treat many mental health disorders, throwing people in jail or killing them is our only option to keep other people safe and to deter other people from committing a similar crime.

At the end of the day science and engineering are meant to improve our understanding of our surroundings and ourselves in order to better our lives. Some may argue that science often takes a cold and rational approach to problems and because of that it can sometimes take away the human experience to life and be ethic-less and emotionless. However, sometimes, as demonstrated by the OpenWorm Project, it can be that very same approach that can also make us even more compassionate and understanding than emotion itself.



OpenWorm

The simulated roundworm.

CECS/CECA Loyalties Revealed

CHING O'MALLEY
[FORMER] ISIS
DOUBLE AGENT

Co-op students! What drew you to the co-op program? Was it the glossy brochures? The speakers at marketing events? Talking to current co-op students when you were just considering about coming to Waterloo? And they told you it was what they loved most? That can be attributed to the thorough brainwashing, through in-person and online resources, as well as a thorough presence in the social media.

Propaganda... brainwashing... evil idealism--these are the key elements of something far greater: terrorism. The reality is, CECS (pronounced C-ISIS), commonly known by their other less sinister-sounding acronym, CECA, is in fact a subset of a well-known, badly feared terrorist organization: ISIS.

It's no surprise the system is a scam then. According to the United Nations, there is in fact only one job for every hundred students enrolled in the CECS/C-ISIS/CECA program. Those judged unworthy are left hanging. And those that are worthy? Nine out of every ten find themselves in a job in frozen hell--they are worked half to death for slave's wages, or they are bored out of their minds.

Like ISIS, CECS/CECA, a.k.a. CECS/C-ISIS/CECA, claims that their deeds are for the greater good. They truly believe that their acts of terror are helping people. Those who chose not to follow? Failure, and in extreme cases, severe illness and/or death, are their fate. The CECS/C-ISIS/CECA rewards those who share the faith and spread the C-ISIS cr-ISIS. The rewards are even greater for those that eliminate or terminate non-followers.

Despite their extensive efforts, many can't get jobs through the CECS/C-ISIS/CECA. This leads to loss of touch with the faith. As a double agent and a non-follower, I believe the best course of action for us is to lie low.

(Pretend to) Worship the CECS/C-ISIS/CECA. CECS/C-ISIS/CECA is very powerful and they have very powerful friends. To cross them is unwise. It is pointless to resist C-ISIS. C-ISIS will find you. C-ISIS has you on Facebook. They Snapchat often. Twitter is their favourite. Watch out for @CECS/CECA with the following you-know-what's: #YourNextStep, #Believe, #CareerImpact #AdvanceYourCareer, etc.

C-ISIS knows where you live. They know where you work. They know who is faithful and who is not. They are always vigilant—hence the onslaught of threatening emails: "If you don't give your job a score of 10 out of 10 right now, we will ship you to Syria to fight for ISIS".

UW Mental Health Services estimates that the recent influx of extreme fear and anxiety is possibly related to CECS/C-ISIS/CECA processes (i.e. Jobmine)...

WAIT! WHAT IS HAPPENING! HELP ME! LEAVE ME ALONE!

Give us the laptop NOW! (Hands over laptop. Author is handed airline ticket to Syria).

Student: Your flight leaves in one hour. Armed personnel will escort you to your flight. You have the right to remain silent. Keep in mind that anything you say can and will be used against you. Anything against the faith will result in slow and painful termination. Nod to indicate your understanding.

Please do not believe anything that has been published here. It has not been approved by the C-ISIS propaganda minister and is therefore illegal. Freedom of Speech is not a fundamental principle of the CECS/C-ISIS/CECA. Each and every human being in the CECS/C-ISIS/CECA program is extremely fortunate and should thank the C-ISIS and ISIS each and every day for this opportunity in their lives.

And indeed, followers are most fortunate:

A recent survey indicates that those who "strongly agreed" with the statement: "C-ISIS is the Almighty Lord High Muckety-Muck Grand Poom-Bah King Kong God" lead happy and rewarding day-to-day lives. Visit the Holy Tatham Centre at least once a day to find peace with your inner self and become one with the faith. We are C-ISIS and we are here to help you find your place in this world.

Excellent Advice

How to Write a Cover Letter

PETER SANTOS
1B POTATO POTATO

EXCELLENT ADVICE

It's JobMine season, everyone, and if you're like me — abandoned by your long-term writing partner and "friend" for a "job" in "Toronto" — you still haven't had an interview. But don't worry! In this article, you'll find tips on how to write the right cover letter to land you that job.

Point A

Don't use your real name — use a classy pseudonym instead. This way, your potential employer won't even have to know about your criminal record. To come up with a good pseudonym, try combining the first name of your childhood idol and the last name of an old time rocker. For example, Sponge Jovi. See how easy it is?

Point 2

Don't ask for a job — ask for a promotion. Make your employer-to-be think you're an employee-to-are. The resulting confusion might just land you a job and a pay raise. Plus, when they find out you're not already on the company payroll, they'll probably congratulate you for having moxie and/or spunk.

Point C-3PO

Talk about your hobbies. Employers aren't just looking for a worker, they're looking for a friend. If it turns out Mr. Bossman enjoys writing Harry Potter fanfics as much as you, then you might find your time writing *Hairy Potter and the Prisoner of Ass-can-bang* wasn't such a waste after all.

Point 401(k)

Put everything together in an easy-to-read format. For fonts, I recommend either Comic Sans, Wingdings, or Helvetica.

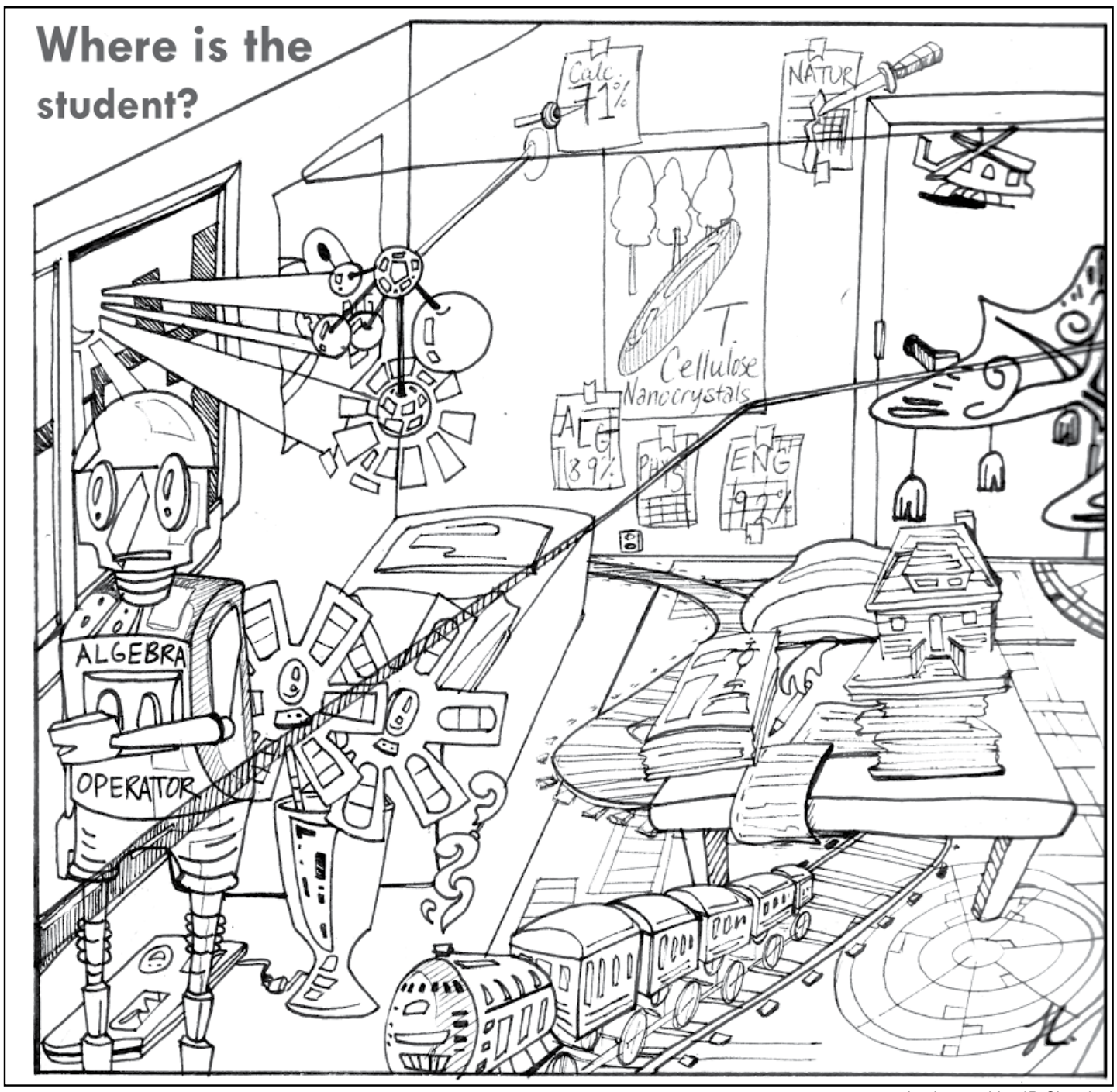
If you need to see an example of all these concepts in action, take a look at my cover letter to Tesla:

Dear Elon Musk,

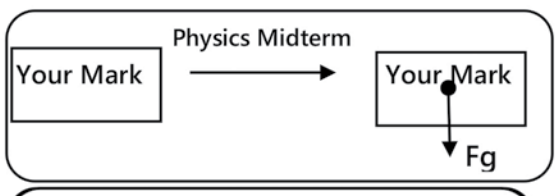
It was great talking to you at the electric-water cooler the other day. I just wanted to follow up on that conversation we had about giving me a raise, and to share with you a little bit about myself: I enjoy long walks on the beach and into the ocean, fine cheeses, and the gentle breeze of a warm summer's day. Among other qualifications, I am a licensed Pleasure Craft Operator — which sounds dirty, but isn't (unless you're into that sort of thing). During my first term at the University of Waterloo, I developed a resistance to sleep, invented a new kind of pizza, and learned how to take the bus alone, without my parents. If you hire promote me, I'll bring a positive attitude, a good work ethic, and some fine cheeses to the workplace.

Forever yours,
Barney Slash

And that's all there is to landing a job. Read next issue's paper for my column on how to catch a goose and skin it, too. Happy JobMining!



by Joanna Liu, 1B Chemical

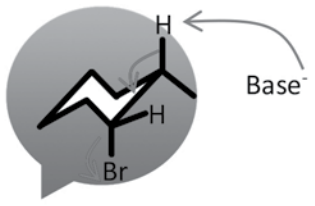


RANDOM THOUGHTS

"ALL YOU NEED IS ONE DUMB PERSON TO THROW A COIN IN A WELL. AND NOT EVEN A HUNDRED SMART PEOPLE WILL BE ABLE TO GET IT OUT"

Before Taking Organic Chem:

After Taking Organic Chem:



Why are all ghost and Bigfoot and other weird videos extremely blurry and grainy with very poor resolution? Don't the people hunting them ever stop and think "Hey, maybe if I actually want to prove to the world that I'm not crazy I should use an HD camera to film this and not a potato."

If you ask a child what they think "hard" math that they will learn in university is, they'll probably say doing stuff with really big numbers. Ironically, hard math is about the infinitely small ones. And letters. Yeah, it's all greek to me ;)

"COME ON GRADE 12 KID. JUST GO ASK THAT KID TO PROM! I MEAN IF YOU GET REJECTED LIKE 50 TIMES. IT'S JUST PRACTICE FOR CO-OP NEXT YEAR!! "

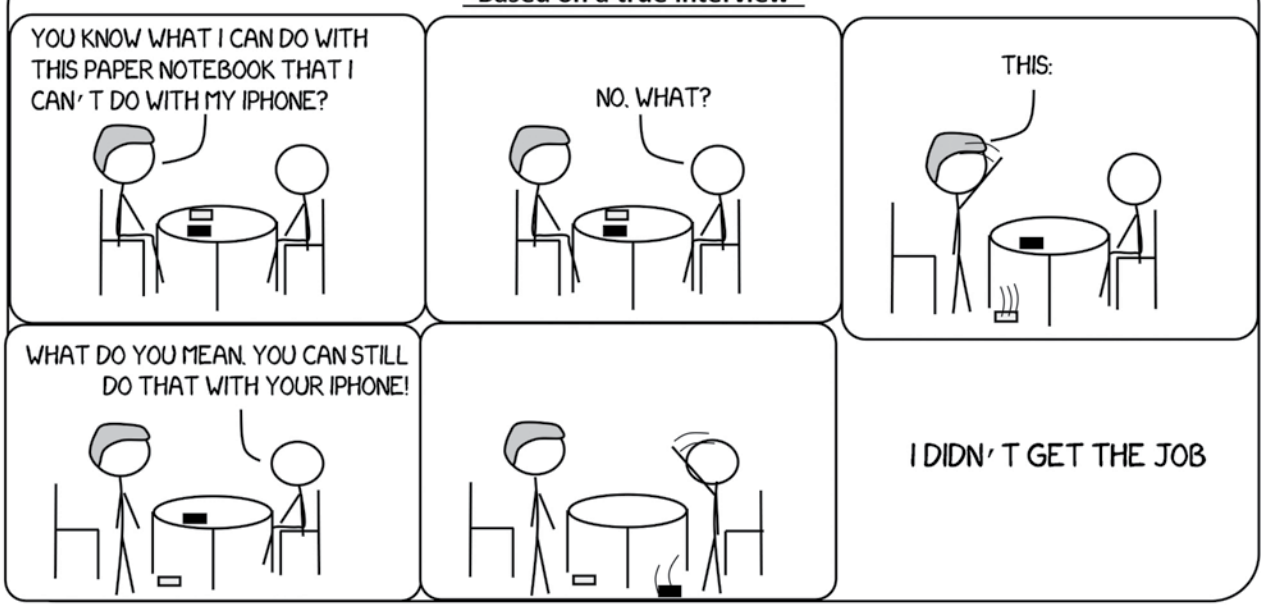
The reason engineering students stress eat is because when you look at the engineering stress equation

$$\sigma = \frac{P}{A_0},$$

it becomes evident that larger engineering students experience less stress due to their larger surface area.

That moment where you're not sure what the upper years are chanting because we've only learned the censored O-week versions of the cult...I mean Engineering...chants.

Based on a true interview



Mark You Want → $\sqrt{-Mark\ You\ Want}$
Calc Midterm

Calculus for Engineers: Midterm

1. *Insert Gigantic Complicated Formula*

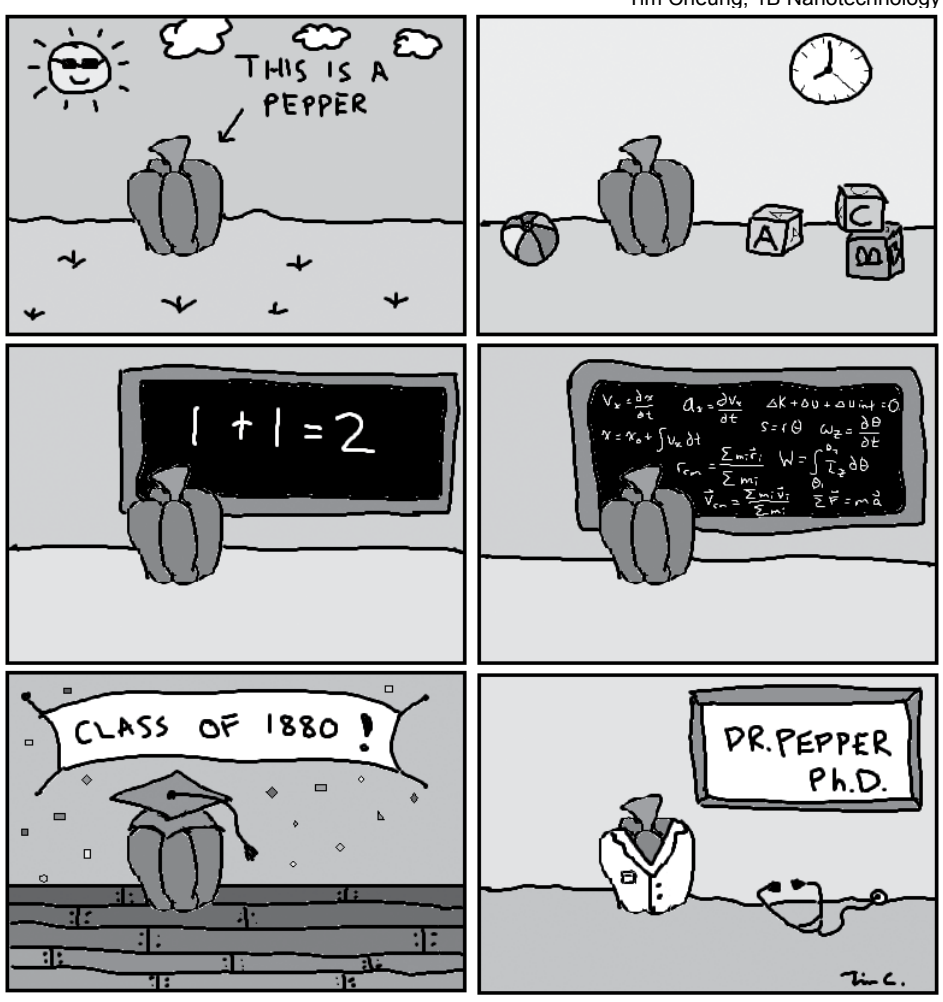
   It took Newton and Leibniz 20 years to come up with this super complicated equation that is now fundamental to modern multivariable differential Calculus, Quantum ElectroDynamics, and String Theory.

   You have 2 hours ☺

David Rousso, 1B Nanotechnology

A Spicy Life

Tim Cheung, 1B Nanotechnology



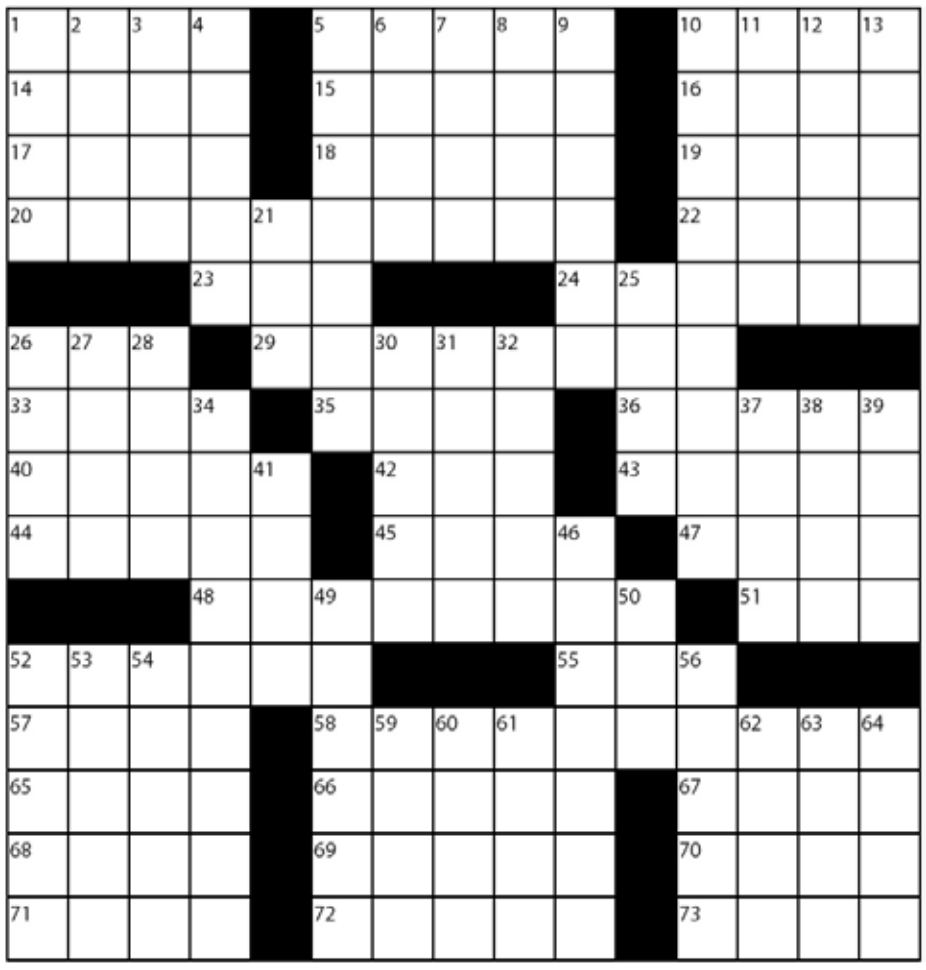
Dimitri Torterat

Everything is going to be all right.

The Iron Crossword

Alike in Dignity

NANCY HUI
4B CIVIL



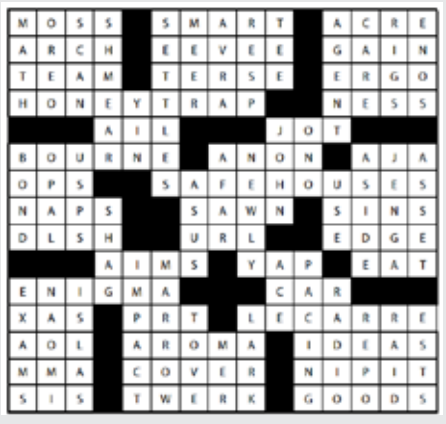
ACROSS

1. N'____
5. Exotic lily
10. Barge
14. Famous shipbuilder
15. Soothing plants
16. Whip
17. Ethereal emanation
18. Boast
19. 1978 dance classic
20. The brave
22. My favourite shade of greenish-blue
23. Conger
24. On land
26. Tyrion Lannister, I guess.
29. 1048576 bytes
33. Tasty beverage
35. Surfer's address
36. Analog delete
40. Son of Sarah
42. 1000G
43. Like an ECE kid before the exam?
44. Volley
45. 2/2
47. Require
48. Raises surface design
51. Mole
52. Parks & Rec town
55. Vienna country (abbv.)
57. Qatar, Indonesia, etc.
58. The loyal
65. Koboi
66. Ostentatious display of success
67. ON A BOAT
68. Magma, once it's out of the crust
69. M/M fic
70. Arthur the aardvark's surname
71. Killed
72. Worn out
73. Makes a mistake

DOWN

1. Catch
2. Definitely not mine
3. Not a single
4. Raise blisters
5. Objected pettily
6. Moore or Turing
7. 2010 Rihanna album
8. Former talk show host
9. Off the straight-and-narrow
10. The ingenious
11. A celluloid glimpse
12. Academy Award
13. Right or sperm
21. Comme la mer (abbv.)
25. Pot-au-feu
26. Wading bird
27. A small plateau
28. The ring of a bell
30. Creole variant of 25-down
31. Hasta la vista
32. Whips with accessories?
34. The brilliant
37. God of war
38. Drip slowly through wall
39. Turbulence
41. Beckoning word
46. Hale
49. Request
50. Litigate
52. Backyard features
53. Flabberghast
54. Use a loom
56. Heir's backup
59. West coast college (abbv.)
60. The way that Ikea furniture is packed
61. Like Usain Bolt
62. Mouser?
63. Terror
64. Trends

Last Issue's Crossword Solution



Sudoku

#2015-04

NINA FENG
3B ENVIRONMENTAL

First Year Exams

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

O.W.L.s

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

N.E.W.T.s

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

Issue 5 Deadline:
Friday, March 27 at 6:00 p.m.
Send your submissions to:
iwarrior@uwaterloo.ca

THE IRON INQUISITION
Bryan Mailloux, 1B Mechatronics

"What would you have wanted to call the E7 study space?"

"Let's call it 'Can we keep it this time?' "
Hannah Gautreau, 3A Mgmt

"#hallofpoorlifechoices"
That Loud Guy, Deceptitrons

"Revenge of the Nerds"
Uncle Bhalla, Deceptitrons

"MEH* - My Engineering Home"
Jenny Dong, Deceptitrons
*(more like My Engineering Hell)

"#swagville"
Melissa Ferguson, 3B Mech

"Fed Hall"
Nader Sleiman, 4B CIVE