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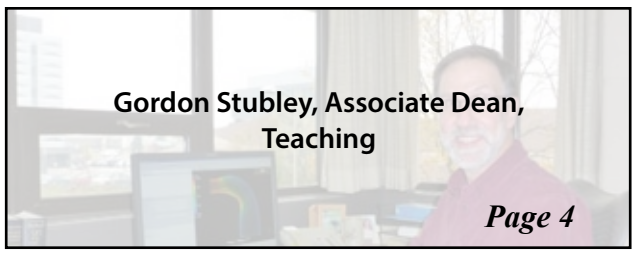
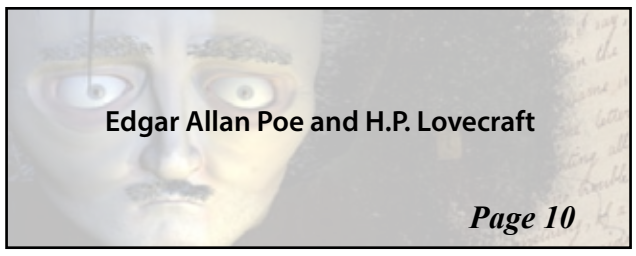
THE IRON WARRIOR

THE NEWSPAPER OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

VOLUME 33 ISSUE 13 | WEDNESDAY, OCTOBER 31, 2012





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Waterloo Hosts Third Nano Ontario Conference in QNC

JACOB TERRY
2T NANOTECHNOLOGY

Waterloo welcomed industry professionals, academics, and students working in the field of nanotechnology to the campus on October 11th and 12th, to network and present on their recent research and projects. Being chosen as the host for this year's conference was convenient, considering the recent opening of Waterloo's Quantum-Nano Centre, which served as the event's venue.

Among the headlining keynote speakers at the event was Waterloo professor Linda Nazar, who presented on the challenges of lithium battery research, and Toronto professor Ted Sargent, who founded InVisage, a fabless semiconductor company which works on creating effective image sensors. In between the keynotes were fifteen minute presentations from researchers across Ontario who were selected for oral presentations. Recognizable from Waterloo were professors Juewen Liu and Kyle Daun, who presented on DNA-functionalized gold nanoparticles, and sizing of metallic nanoparticles respectively, and recent grad student Ryan Denomme, who presented on his master's research which let him to found his company, Nicoya Lifesciences, earlier this year. Between the keynotes and smaller oral presentations, attendees were able to listen to summaries of research from multiple areas of the nanotechnology industry, and ask questions about the methods used and results found by the presenters.

To ensure others got a chance to present their research, the main hall and classrooms held over 100 posters from post-doctoral, PhD, graduate, and undergraduate students exhibiting either research in progress or completed research. Attendees were able to nominate up to three posters for a final award, based on which ones they thought were the most interesting or had the best visual presentation. The top prize went to a Waterloo graduate student in Mechanical Engineering, Tim Sipkens, whose work with professors Kyle Daun and Mikko Karttunen on nanoparticle sizing captured the most interest among attendees through a very eye-catching and informative poster.

To answer questions from attendees later during the day were four members of the nanotechnology industry. They provided insight into how researchers can move into the industrial field, which is a common question among those in the field of nanotechnology, as they try to figure out how their research can be commercialized in a nascent field. Savvas Chamberlain, a former professor at Waterloo who has founded his own business, noted that "[the Waterloo Institute of Nanotechnology] is providing a lot of opportunities for graduate students which is focusing on originality, [that] will lead to a lot of innovations with some of them being commercialized, and it will benefit not only the inventor, but society as well." His sentiments on original ideas making it to the market were echoed by other members of the panel. However MaRS Innovation Commercialization Manager Fazila Seker made sure to comment that "not every good invention is a good product," noting that often ideas that are researched are not very marketable, but may prove useful in other ideas that can be sold.


Alain Francq

Dr. Arthur Carty addresses the audience during the NanoOntario Conference held at the QNC

To round out the event, there were tours of the Quantum-Nano Centre and networking mixers to allow people to meet with others in the industry or academics. As an undergraduate sharing a poster, it was interesting to see what big researchers are working on, meet people in the nanotechnology field, and of course, seeing the home of the nanotechnology program. Next year's event location is yet to be determined, but it should prove to be just as informative and eye-opening as this year's event.

South Campus Makeover Underway

ALISON LEE
3B NANOTECHNOLOGY

During the 2010-2011 school year, the UW School of Planning launched the "i3 Challenge: Innovate, Integrate, Imagine". It was a student competition to revamp the South Campus entrance. The winning team included two civil engineering students from the 2013 class: Amer Abu-Khajil and Jacqueline Doucet. About a year later, we are seeing the results of their design showing up- and it's looking good!

The winning team, called INOVE, included classmates Jacqueline and Amer, and two Planning students that Amer knew through residence donning. After a few chats, the team clicked and they got down to work. Their vision evolved throughout the competition stages and they worked through many great ideas including bike lanes and scrambled crossings, constantly seeking the best possible design to meet the set criteria. The proposal they had to prepare was quite detailed in the final stage. It had to include a budget, 3D images, a function diagram, explanations, a timeline, and more.

To support the i3 Challenge, the university allocated money to run the competition and $100,000 to implement the winning design. Once the winning design was chosen, competition founder Dr. Jeff Casello, a joint professor from Planning and the Civil/Environmental departments, and a professional team took over to get it going. The students were consulted to make sure their original design was respected as they tweaked it and worked out every detail. Originally, the project was supposed to be completely ready before classes this fall, but, like most projects, it was subject to delays. Two months later, the project's components have been installed without a hitch, which is not a bad timeline in the construction world.


Amer Abu Khajil

This photo showcases the implementable project in the current setting.

Amer Abu Khajil

The first idea submission representing the long term vision for the space

The two main design components, which can now be seen at the South Campus entrance, are a sleek black "Waterloo" sign and square arches. The arches were to contain quotes and milestones relating to the university, but time constraints caused that element to be deferred to the future. The block letter sign is meant to stand out from the road and the sidewalk to clearly label the campus. Another aspect of the design was a concrete walkway that was scrapped due to maintenance and budget concerns.

Full details of their proposal are available online at innovate.uwaterloo.ca.

There will still be a few tweaks to the landscaping in the area, but most of the project is now done. The team hopes that in the future, efforts will be made to get those quotes onto the arches and to install more seating in the area, perhaps around the block sign.

Although the INOVE members may not go into professional planning or transporation engineering after this, the experience working with diverse teams of professionals on a real-life project will certainly help them in any engineering career they pursue after graduating. Their design shows great pride in Waterloo, but the university has also shown great pride in its students by facilitating the i3 Challenge. Now, you will be reminded of that every time you walk through the transformed South Campus gateway.

Letter From the Editor

Counting Flocks of Flying Sheep

FARZI YUSUFALI
3B NANOTECHNOLOGY

Hello again! I welcome you back to the light after spending the last week (or more) with your head stuck in the books, much in the same way an ostrich sticks his head in the ground. I'm looking forward to seeing your sans-fatigué(e) faces on Monday morning as I assume that you spent most of your weekend sleeping.

Unlike all of you, I spent the majority of my weekend putting this majestic paper together for all of you to peruse through (or complete the crossword) thereby forsaking the sleep that I desperately needed. If you think I am complaining, don't get me wrong; I signed up for this gig fully knowing what I was getting myself into, thereby understanding that I would need to lose the necessary amount of shut-eye to keep this publication going. For the most part, that has been the state of affairs as far as my lifestyle is concerned; take on some project, lose some much needed shut-eye, and finish the project.

I'm going to regret this later but, sometimes, I wish I was a vampire from Twilight (*cringe*) just so I don't have to be reliant on the kind of R&R that consumes a third of the average lifetime (if you get eight hours on average, everyday). However, as an engineer, I'm sure you're used to getting only four or five hours of sleep a night in order to get things done.

While you may grumble and groan about the lack of sleep you get because of your choice to become a Waterloo Engineering student (which you are now regretting after midterms), I lament my lack of sleep due to something else. As it's customary to share a story in all my editorials, here's the installment for this issue: Since the age of eight, I've suffered from some form of insomnia that is still a part of my life today; the end; I know, it's more of a statement than a story but bear with me. After taking some time to ask experts and peers about their respective sleep cycles, I found that I happen to have a very irregular sleep cycle compared to the average human being.

The average human sleep cycle consists of two stages: non-REM and REM sleep. The majority of your sleep cycle is spent in the former stage of which it consists of three sub-stages. The first is your transition to sleep which lasts about five to ten minutes. This sub-stage is characterized by your eyes moving slowly under your eyelid and slowed muscle activity. If you've ever felt your eyes drooping during an exceedingly boring class (or professor), you'll find that the symptoms mentioned previously are true to the point that you can't hold your own head up and that you're easily awakened (hence the exceedingly funny head-bobbing action). The next stage consists of period of light sleep that can last from ten minutes to half an hour in length. Body movement usually stops, your heart rate slows down and your body temperature usually decreases. The feeling of falling or spinning on your bed when you're just about to go under is a really good way to characterize this stage of sleep. The final stage in non-REM sleep is, arguably, the most important – deep sleep. This sleep is characterized by the slow brain wave activity and blood flow away from the brain thus restoring physical health to the rest of the body.

On the other hand, for cognitive function, REM sleep is essential and is most popularly known as the cycle in which your eyes move very quickly (hence the name, rapid eye movement, to denote this stage). You also have an elevated heart rate and blood pressure whereas you arms and legs are in a paralyzed state. More importantly, REM sleep is known for dreaming as well as memory retention and learning. For instance, your brain often consolidates the information you've acquired during the day and commits them to long-term memory in this stage.

On average, an entire cycle starting from the non-REM cycle to the REM cycle lasts an hour and a half. In accordance to most studies, most people should aim to have eight to nine hours of sleep a night.

However, given the circumstances, we can only dream (see what I did there?) to have that kind of time to spend it sleeping. In my case, that's even more elusive given the "condition" I currently suffer from. In my case, besides my inability to actually fall asleep, my sleep cycle does not follow the conventional one just stated. For instance, I'm a very light sleeper hence the lack of non-REM sleep I get on a daily basis. For however much non-REM sleep I do get, after visiting a sleep clinic, it was found that my brain wave activity was unusually high even in deep sleep. In addition, while most people can't remember most of their dreams, I have the ability to dream for extended periods of time and can remember at least two of the dreams I've had the night before. Finally, it was found that I can't follow through with more than four cycles of sleep before waking up.

Over time, I've come up with a couple of tricks to assist the perpetually sleep-deprived (being me) that is very applicable to the average droopy-eyed engineer. For one, if you are in sleep debt, don't pay it all off on a bed-ridden weekend. It's much better to pay it off over long periods of time by adding an hour or two to your scheduled sleepy fun-time. If have found yourself not getting more than seven hours of sleep, plan to sleep for a time period that is a multiple of 1.5 hours. This ensures that you wake up when you're at the end of a cycle and are at your most awake state; getting an extra half an hour or hour of sleep does not help you in the slightest and would leave you just as groggy as you were with less sleep. If you're really sleepy and you really need that power nap, don't sleep for more than an hour otherwise, that extra sleep time will ultimately screw up your sleep cycle even more. If you're anything like me where you can't get sleep for more than six hours a night, I recommend you keep a log of the times you sleep best and try to schedule one or two (if you can) naps that have a strict 1.5 hour interval. Contrary to popular belief, you don't actually need eight consecutive hours to constitute a "good night's sleep." With that said, if sleep is a real issue for you, I would suggest that keeping a log like I mentioned and sticking to a strict routine for napping, you can still wake up refreshed even if you get less than six hours of sleep.

In addition to scheduling, it is important to find the environmental conditions that provide you the best sleep you can possibly get. For me, I found that a set ritual before bed inadvertently signaled my body to start shutting down. For instance, having a light snack (usually chocolate milk or nuts), taking a shower, and reading a book in bed, in that order, usually puts me to sleep within twenty minutes of starting to read. If I were to check my emails in between this routine or did that instead of reading, I found that I'd be awake for at least an hour and half after I'm under the covers. Also, conditions like complete silence and darkness and a certain room temperature make a huge difference to the quality of sleep I get. For anyone requiring tips on getting enough sleep, regardless whether you are up because of an assignment or not, feel free to talk to me about the methods I've used to improve the quality of sleep I get.

As a special note, I highly recommend that you adhere to a strict sleeping schedule during exams especially because this is the time when the average sleeping cycle of an engineering student is heavily skewed. This could be detrimental to exam writing because your brain tends to rest in the state you were in come time to write your exam. Therefore, if you have an exam at 9AM, then you'll find that your performance will suffer because your brain is operating in "sleep" mode if you were sleeping at that time prior to exam day.

Before I go, I should note that I have been doing a terrible job of keeping up with my sleep schedule and have written this entire editorial in a sleep deprived state; you should probably take everything I say with a grain of salt. With that I'm signing off and I wish you a relaxing and sleep-filled week!

Issue #4 Deadline: Friday, October 26 at 6:00pm for publication on Wednesday, November 9, 2012
Send your submissions to iwarrior@uwaterloo.ca
Fall 2012 Publication Schedule: November 14, November 28

THE IRON WARRIOR

The Newspaper of the University of Waterloo Engineering Society

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

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

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

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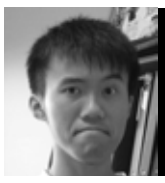
Scientists Guilty for Manslaughter Over Earthquake



BRIAN SO
1A NANOTECHNOLOGY

On Monday, October 22nd, the Italian court found six scientists and a government official guilty of manslaughter. This was no ordinary charge, as it came as a result of the men incorrectly forecasting the earthquake that struck the city of L'Aquila several years beforehand (on April 6th, 2009). The earthquake had a magnitude of 6.3, killed over 300 people and injured more than 1500 others.

The court accused six scientists from the National Institute of Geophysics and Volcanology and a member of the Civil Protection Agency of giving inexact and contradictory information regarding the possibility of a major earthquake. A month before the earthquake, a meeting by the Great Risks commission was held regarding the small and frequent tremors that were frequenting the area. The prosecutors focused on a memo that resulted from this meeting, in which experts concluded that the chance of a major earthquake was "improbable" although adding the possibility of one should not be "excluded". The citizens had also voiced their concerns over the small tremors that happened before the magnitude 6.3 earthquake, and are very angry at the fact that officials have not seriously considered their concerns and worries. The residents that were victimized by the earthquake were given a reward anywhere between 40,000 – 450,000 euros ($52,000 and $580,000 CDN). In Italy, convictions are not definitive until an appeals trial is held, where a defending body may request a change in a formal decision which in this case would be a six year jail-term for the seven men.

In response to this decision by the court in L'Aquila, the chief executive of the American Association for the Advancement of Science (AAAS) wrote a letter to the Italian president Giorgio Napolitano in 2010, a year after the incident, complaining that the charges lain against the sixscientists and a government official were "naïve and unfair". Two scientists, Luciano Maiani (head of the National Commission for the Prediction and Prevention of Major Risks) and Mauro Dolce (director of the office that monitors volcano and earthquake threats) have resigned from their positions in order to protest the ruling made by the court. Dolce will be given another post according to a statement released by the agency. In addition, the Italian geophysics institute expressed "regret and concern" about the verdict saying that the decision "threatens to undermine one of the cornerstones of scientific research: that of freedom of investigation, of open and transparent discussion and sharing of results". Certainly, there are many who oppose the decision made by the court.

Those who oppose the ruling by the court argue that the issue is that of a failure of communications and not calculations. Domenico Giardini who held Boschi's position for several months last year said that the trial was about "the number of weak points in the communication train." Boschi is one of the seven defendants and is the former president of the National Instutute of Geophysics and Volcanology. After the verdict, Boschi said that "I am dejected, desperate. I thought I would have been acquitted. I still don't understand what I was convicted of.". Ironically, it is feared that such convictions will harm the future of geological research in Italy, exactly the kind of science that will prevent future deaths from a similar cause from re occurring. According to David Spiegelhalter, a professor specializing in the public understanding of risk at Cambridge University in Britain, such a ruling may well change the way that experts voice their opinion to the public.

Movember Begins

ANDREW MCMAHON
2B ENVIRONMENTAL

Well gentleman, it's that time of year again, tomorrow will be the last time you shave your upper lip for the entire month of November.

The Movember movement began in 2004 in Melbourne, Australia with 30 men growing a moustache for 30 days in order to raise awareness for prostate cancer and depression in men. Since 2004 the Movember campaign has raised $CAD 301 million from 1.9 million "mo bros" and "mo sistas." Last year alone, 850,000 people worldwide participated in the campaign making it the organization's most successful year raising $CAD 125.7 million for prostate cancer awareness.

So how can you become part of the movement? Just check out the Movember website and set up your "mo space." Your "mo space" allows you to post updates and photos documenting your progress, view your rank nationally or within your team, and mention any motivations you have for supporting the cause. Some motivations from the organization include: one in seven men will be diagnosed with prostate cancer in their lifetime, and the average life expectancy of a man is four to five years less than that of a woman. Once you've registered all that's left to do is grow, groom, and show off your moustache.

The Movember site mentions a few guidelines to moustache growth:

1) Once registered at *movember.com* each "mo bro" must begin the 1st of November with a clean shaven face.

2) For the entire month of November each "mo bro" must grow and groom a moustache.

3) There is no joining of the moustache to sideburns. (That's considered a beard.)

4) There is to be no joining of the handlebars to chin. (That's considered a goatee.)

5) Each "mo bro" must conduct himself like a true country gentleman.

There are more ways to style one's moustache than the ones many of us think; styles include: natural, horseshoe, handlebar, imperial, Mexican, Fu-manchu, pencil, toothbrush, chevron, and Dali to name a few. I feel it necessary to point out that no one said having a moustache (or an attempt at one) for a whole month would be easy; you will be tested by the urge to look professional for an interview, a disapproving girlfriend, a formal event, and many other obstacles along the way. The mark of a true gentleman is to get over these obstacles with confidence and composure; take the opportunity to spread awareness for the most common cancer affecting men, and show off our moustache.

To all of the female supporters out there who can't grow a moustache of their own, Movember still values your support and coins you "mo sistas." As a "mo sista" you are invited to create a profile, make donations to your "mo bros" and join in the spread of men's health awareness.

The movement has grown steadily since the beginning and there are now formal campaigns in Australia, New Zealand, the United States, Canada, the UK, South Africa, Ireland, and seven countries from the EU. A number of partnerships have sprung up with Movember including one with TOMS who make limited edition shoes with a moustache logo for those participating.

Movember provides funds to Prostate Cancer Canada, and the Canadian Male Health Network, as well as to prostate cancer awareness & education, and a global action plan.

Men don't always have the best attitudes towards their health, but Movember aims to change this by raising awareness through this 30-day campaign. Great steps have been made but there is always room for improvement. Let's all embrace the Movember slogan and change the face of men's health.

Change in Misogyny

ALISON LEE
3B NANOTECHNOLOGY

Australian Prime Minister Julia Gillard made waves on the internet on October 9th when she lambasted the opposition leader for sexism in a 15-minute address to the House of Commons. It's gotten lots of people talking about modern-day gender issues and what really defines "misogynistic behavior". Her speech has even led to an updated definition of "misogyny" in the Australian Macquarie Dictionary, not to mention a flurry of tweets, likes, and news comments.

To set the stage, Australian Speaker of the House Peter Slipper had been charged with harassment by a gay, former employee. After text message evidence had been released where Slipper used offensive slang involving female genitalia, opposition leader Tony Abbott pushed forward a motion to out Slipper from Parliament for the sexist comments. Gillard then rose to defend Slipper, claiming that if Slipper were to lose his job for sexist behavior, then surely Abbott should resign as well. She listed countless examples of misogynistic conduct she experienced from Abbott and quoted his blatantly sexist views on women in power.

Her point was that he should not use sexism as a means to get Slipper fired when he himself doesn't know the meaning of the word. The motion to fire Slipper was narrowly defeated, but voluntarily retired due to the circumstances. Anything to do with Slipper's offensive comments has been grossly overshadowed by Gillard's impassioned defense of women's rights in Australia. With well over two million Youtube views, her comments are flying around the word and her popularity in the polls is rising – including among men. The speech contains many personal accusations and is worth a watch (or two). Gillard opens with "If he wants to know what misogyny looks like in modern Australia, he doesn't need a motion in the House of Commons, he needs a mirror." She touches on Abbott's personal friendship with Slipper, Abbott's beliefs that women are naturally less capable of making decisions, and Abbott posing by "Ditch the Witch" posters aimed at Gillard.

Yes, it's clear to see why people are hailing her for standing up for women's rights and calling out Abbott on his double standard. What the critics are saying is that Gillard misused the word "misogyny" and in doing so called Abbott a woman-hater. In response to this, Australia's leading dictionary updated its definition of the word from "pathological hatred against women" to also "entrenched prejudice against women". They justified this because in common use, people use "misogyny" as a stronger synonym of "sexism", which already has a more broad definition. Is this a blatant political move by the dictionary that misuses its intended purpose? That is also what the critics are saying.

Aside from semantics, it is clear what Gillard meant in her address to the House; she "will always be offended by sexism" no matter what form it takes, and that Abbott's criticism of Slipper was a double standard. The worldwide circulation of her speech and the general outcry of support shows that she is not the only woman out there offended by prejudice against women. It can be blatant or subtle, but it all adds up and it's nice to see someone call it like it is. Keeping quiet doesn't reverse stereotypes and discrimination, as Julia Gillard is proving. While Abbott accuses her party of not having enough child-raising experience the very next week, Gillard insists that she sticks by every word of her speech. Unless he apologizes and changes his behavior, it's probably safe to say that Abbott will have a hard time recovering from this one.

What it Means to be the Associate Dean, Teaching:

Your Views on Engineering Education

PROF. GORDON D. STUBLEY
ASSOCIATE DEAN, TEACHING

What it Means for Students

Support for innovative teaching approaches will be increased.

Engineering students know that memorization is not enough; in your career, you'll need to be able to apply critical thinking skills, make informed decisions, and implement effective solutions. The same is true for engineering education; memorization may help you get through a few test questions, but application is where deeper learning happens. We want to ensure that students are provided with meaningful learning opportunities that allow deep engagement with the curriculum, and that means providing innovative approaches to teaching and learning. In connection with uWaterloo's Centre for Teaching Excellence, we intend to promote, encourage and support faculty members with innovative teaching ideas.

Course evaluation data will play a more central role in faculty decision making.

Thanks to the hard work and support of EngSoc execs and directors, Waterloo Engineering has been surveying students for over forty years. Evaluation scores and student comments are provided directly to the evaluated faculty member, their department chair, and the dean. The results are reviewed to identify any trends that might warrant special consideration, such as a course and/or professor ranking either very high or very low. The data gathered from this process also informs decisions about tenure and promotion of faculty members. But we want to do more with this data. Beginning this term, the Associate Dean, Teaching will be reviewing the course evaluation process and looking more closely at the data it yields.

Teaching Assistants will have more support to develop better teaching skills.

With regard to teaching assistantships, we want to provide TAs with enhanced opportunity to develop their teaching skills. The training program for teaching assistants will be reviewed and rejuvenated to help support more meaningful teaching and learning experiences. This effort benefits both the grad students holding teaching assistantships and the undergrad students being taught by them.

Faculty Members will have more support to develop better teaching skills.

To better support the development of teaching excellence, we're building a team of faculty members dedicated to supporting teaching and learning. These faculty leaders have been selected to serve as mentors to those teaching in their departments. They participate in working group sessions focusing on key teaching development areas, such as how to assess the teaching skills of new faculty members and how to apply course evaluation results to support teaching development. These mentors will be ambassadors of teaching excellence, available in each department to support faculty, instructors, and teaching assistants.

There will be improved mechanisms for recognition of teaching excellence.

Excellent teaching can occur in the lecture hall, lab, or other teaching and learning settings, but no matter where they teach, excellent teachers deserve recognition. There are a number of awards programs in place to recognize and reward teaching excellence. Anyone encountering excellent teaching is encouraged to consider nominating the teacher for an award; a list of engineering teaching awards can be found in the Teaching area of the Faculty of Engineering website. Based on student feedback (such as through comments on course evaluations), we will work to identify faculty members, instructors and teaching assistants who exhibit teaching excellence, and support their nomination for an applicable teaching award.

Prof. Gordon Stubley

In order to improve the teaching and learning experience, we will continue to rely on the help and input of our students. The easiest way for you to add your voice is to complete the end-of-course evaluations administered in class by student representatives during the week of November 12 to 16. Students are also encouraged to consider participating in the administration of course evaluations by serving as an EngSoc Course Critiques Director; contact your VP Education for more information.

Contact:
engineering.teaching@uwaterloo.ca

Teaching Focus Timeline:

May 1, 2006

Gordon Stubley appointed inaugural Teaching Chair for Mechanical Engineering to provide teaching leadership in ME.

June 30, 2011

Task Force on Innovative Teaching Practices to Promote Deep Learning at the University of Waterloo, with Professor Stubley as a member, releases final report calling for efforts geared toward the improvement in the depth, effectiveness, and efficiency of student learning.

February 8, 2012

Dean of Engineering, Adel Sedra, announces the creation of a new position, Associate Dean, Teaching, and the appointment of Gordon Stubley for the initial three-year term starting May 1, 2012.

March, 2012

Engineering faculty appointment letters include teaching development condition requiring new faculty members to actively participate in teaching development activities.

May, 2012

Vision 2015 released including goals specific to teaching, including the development of a community of faculty members focused on teaching and learning, and the enhancement of Waterloo Engineering's support for teaching.

Diversifying Entrepreneurship on Campus

VELOCITY
UNIVERSITY OF WATERLOO

Have you ever wished that you had more electives? Do you have a hunger for knowledge or would you like to add another component to your already high quality education?

If you're nodding your head yes, you should take a look at the VeloCity Campus program. This program is experiential learning; it gives students an extra layer of insight on top of their university education. University of Waterloo students have been coming out to workshops every Wednesday in J.R. Coutts Engineering Lecture Hall (RCH) to expand their business knowledge. We've had workshops focused on Business Model Generation, Basic Finances, Design Thinking, Technology, and Marketing and Customer Relations. Every week, we're joined by about twenty students from all UW faculties who are interested in learning more about starting a company.

There are no prerequisites for these workshops and they're open to all students. If you have an idea for a company, that's great - if you don't, that's fine too. The goal of the VeloCity Campus workshops are to teach you as much as possible now so that when you start your own business or start to work with a business, you'll be prepped with a great deal of knowledge. Lots of students are loving the idea of this experiential learning program and they're quickly picking up on the value this program can add. We're seeing students from all faculties come to our workshops every Wednesday, which creates a great opportunity for cross-faculty collaboration.

The speakers at these workshops are approachable and relatable as well. Most of our them are Waterloo locals or University of Waterloo alumni who know what it's like to go to school and want to do something more. We've had Jesse Wilson, an engineer at Square and University of Waterloo alumnus, speak to students about technology, Mike Kirkup, a University of Waterloo Computer Science alumnus talk about creating a business model, and Kim Ho, an University of Waterloo Architecture graduate, talk to the students about Design Thinking. The workshops are a great opportunity for you to meet industry experts as well as network with other students who also want a taste of entrepreneurship.

Jesse Wilson, University of Waterloo alumnus and engineer at Square, spearheaded our Technology Talk. As an expert in his field and former Google employee, Jesse was able to get down to the details of the latest technologies being used to develop Android apps. We're bringing you expert speakers who know about crucially important business topics. Best of all, the workshops aren't like standard classroom lectures. The topics are varied, the speakers are exciting, and there's always free pizza.

Our next VeloCity Campus workshop is the only one on a Monday: October 29th in RCH 306 at 7:00PM. We'll be covering User Experience with UX expert and UW alum, Scott McManus. In this session, you'll discover why thinking about the user is essential when you're designing a product or platform. If you're interested in learning a little bit more about starting your own business, sign up here, *http://velocitycampusux.eventbrite.com/*.

VeloCity Campus is free and requires no commitment from you. You get to pick and choose which workshops you want to attend. If you like a workshop, you're welcome to try another one. And every Wednesday night you can expect some free pizza and some expert startup advice in RCH.

Midterms: Not the End of the World

LEAH KRISTUFEK
2A CHEMICAL

Midterm season is finally coming to an end. Stressful last minute studying has ended and, now there's more time for important activities such as sleeping. Unfortunately, it also means that midterms are being returned to us and, for many of us, they are not the results we were hoping for. Before we talk about the grades themselves, it is worth mentioning that engineering is just as much about dedication as it is about our intelligence. To get in to most Waterloo Engineering programs, you require an average at minimum in the low 80's. With that said, between high school and university, averages usually drop around 10-20%. There are many contributing factors; it is a huge transition from high school. For one, you might be living away from home for the first time with hundreds of people your own age and, maybe, you even have to cook for yourself. Professors are often difficult to understand and there are assignments, tutorial quizzes, labs and, of course, lectures – it's a huge time commitment. Doing well in engineering is about surviving the quick pace and heavy time requirements while still managing to sleep and eat properly.

By now, grades from the first years 'Hell week' (which happened two weeks ago) have probably been given out. Keep in mind that you and your classmates have all come from very different educational backgrounds thereby making your knowledge bases different when you first begin university Some people took AP (Advanced Placement) or IB (International Baccalaureate) courses in high school so first year courses are mostly review for them; other students come from areas where certain topics aren't taught. For instance, linear algebra is completely new for someone who has gone to high school in BC. For most students who have passed through first year, the physics midterm, more often than not, is the big kick in the pants that reminds you that this isn't high school anymore. In my year, the professors took two questions out of the total in calculating the grades and the average for the physics midterm was still only somewhere in the mid-forty percentile. If you struggled, you are not alone and, also, this doesn't mean you are going to fail. Compare your grades with the class average - remember half the grades are below that number! If you study hard and attend extra help sessions, you will be okay. Concentrate on the things you don't know and work on them until you know them.

Depending on your midterm grades, you might get an offer to take a reduced course load. This option allows you to drop two courses which you would then take in a later term along with a course on study skills and time management. You would then join the 1B class in the year after you. To pass the term, in either reduced or full course load, requires that you get a 60% average with two or less failed courses. If your average is less than 60% or you have more than two failed courses, you fail the term and are required to repeat. When repeating, you're required to achieve a 60% average with no courses below 50% to proceed to the next term. Though this may seem like a fabulous idea right, now there are some definite pros and cons. Consider that in your 1B term, you will probably have one more course than in 1A so the time management skills you learn with five courses (or six) will be critical for the next term. However, if you are struggling with other factors like difficulty with the language, the reduced course load option will give you the chance to spend time focusing on improving that skill (I know math sometimes seems like a whole other language, but this is more relevant to international students). I was offered to take reduced course load in 1A; choosing not to was the scariest decision of my life but I was successful in passing on to 1B. What I suggest you do is take a look at the factors which caused you to get the grades you got. Did you choke in the exam? Did you study as much as you could have? Did you get enough sleep? 1A midterms is a new experience for most of us and like most new experiences, it is only a very rough approximation of future performance, there is some tweaking required.

What to do now? Work, lots of work. If you find that you are struggling get help, no one expects you to do this on your own. Take advantage of the WEEF TA help sessions or tutoring in residence to understand material. Also, ask your classmates or professors whenever you have questions and visit your profs during their office hours; they are all there to help you and they have blocked out that time to answer student questions. Professors don't enjoy seeing their students struggling and will do their best if you reach out for help (there may possibly be some inter-prof rivalry going on here!). You can also ask your classmates. If a class really isn't making sense and you want a fresh perspective, try visiting other classes during lectures on the same subject you are struggling in. And finally, stay healthy, eat properly, sleep for eight hours a night as often as possible and get regular exercise. Trust me, everything becomes 10 times harder when you are sleep deprived.

Good Luck!

pixabay.com

Painting the Walls Red in Zambia

ZAC YOUNG
2012 JUNIOR FELLOW

ZAC IN ZAMBIA

My name is Zac, and I am one of the 2012 Junior Fellows from the University of Waterloo Engineers Without Borders Chapter. For the next few months I will be working in an organization called Kulamela, who facilitate growth of innovation and entrepreneurship through education, in Lusaka, Zambia. Below are my most recent thoughts and observations from my life overseas. To read my blogs, visit zacinzambia.wordpress.com.

Less violent than the title implies, but no less medieval in the conquest, advertising in Zambia is a war of bold coloured branding. A brand is such a critical component of any company's success and it is certain that they must be tailored to their audience. Zambia is particularly visual and verbal in their daily culture; vernacular languages were not written, which may be a big factor in this behaviour. And so, companies have spared no space in your vision to paint their colours.

Mwansa's Grocery painted the vibrant, energetic Airtel red. David's Convenience is a second sun in its MTN yellow. Nkana Take Away is a lush, joyful Zamtel green. Banda Hardware is a strong Boom Detergent Paste grey with their colourful logo shouting in contrast. The nearby Zoona post has the radioactive green glow.

The main belligerents in this ocular battleground are the Big Three in the mobile business – Airtel, MTN and Zamtel. Each one fights for the ever growing and vital market of mobile phones and mobile Internet. In a country with minimal landline infrastructure, controlling the airwaves is the road to profit.

I haven't any idea who fired the first shots, or rather, pulled out the paint roller first, but not a shop in the whole of Zambia should ever worry about a faded exterior. Companies paint every square centimeter of the building their brand colours, interspersing their logo were possible. In return, the shopkeeper gets an attractive façade with their business name in neat letters above the door. It makes for an intense battle of hues, sometimes nearly comical with a little MTN shop wedged between two giant walls of Airtel red.

But the effect is undisputable; the brands' competition in paint is but an extension of the fierce competition they wage in costs, bonuses, and customer motivation. To not paint your colours would be a quick corporate suicide.

Airtel has taken an approach of empowerment and motivation. "Be awesome. Be Zambitious" hails the positive energy in Zambia. "Welcome to Africa's No. 1 Country" an enormous overpass banner reads. Be the best you can be. Be an Airtel customer. Why not associate your brand with success and the pride of a nation? MTN takes the sports approach. Their brand is synonymous with football here. The coach of the National team, Herve Renard, graces nearly every ad. Be a supporter of your national team. Be an MTN customer. Zamtel isn't quite as bold as the other two, opting for a more neutral, customer enjoyment image and just simply advertising their offerings.

The advertisement of the year goes to Trade Kings who promote their Boom Detergent Paste in one of the cleverest ads I have seen here in Zambia. Bringing in Herve Renard again, the coach of the Chipolopolo, they play off of his "lucky white shirt" that he wore en route to Zambia's Africa Cup of Nations title. Here is the ad:

Whoever thought of that deserves a medal. A quiet mixing of sports fandom and the most prevalent cleaning product in the land; a winning combination. Well done Trade Kings, well done.

In all of this, it is a neat realization that such obvious things like advertising can be tailored to the verbal, visual and linguistic communication within a specific culture. Drawing a line from there, it is an important note that efforts in development must also be tailored to the people. Where a great report might serve as a strong statement for a cause back home, here, there may be more value in a good presentation or example that stakeholders can be exposed to. Speaking the local language in more ways than the dialect can never be understated.

What are some examples of advertisement or any other person-to-person transaction at home that you can attribute to our culture? Have you ever noticed changes in these factors when travelling to a new place (even just south to the USA)? Let me know!

Zac Young

The major mobile carriers in Zambia. I have no intent to advertisse, but full intent to oversaturate your vision.

Conrad Mbewe

Look at that clean glow!

CAN YOU READ THIS?

How far would you go for education?

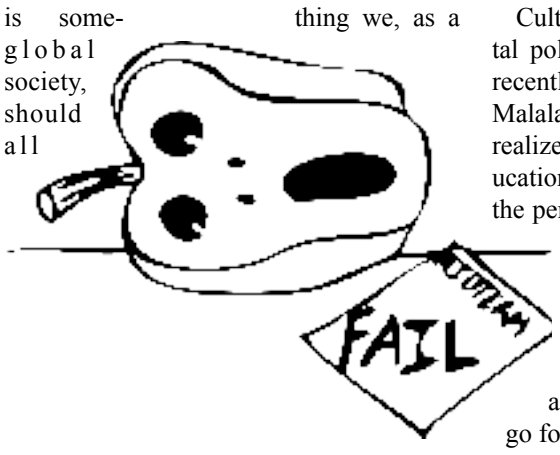
THADSHA CHANDRAKUMARAN & AMBIKA OPAL
EWB RESEARCH TEAM

On October 9th, two Taliban marksmen boarded a bus in the Swat district, Pakistan, and shot 14 year old Malala Yousafzai in the head. According to the Taliban, she was "guilty of obscenity" for standing up for the education of women. After the shooting, Yousafzai was flown to a hospital in England and an MRI scan revealed that although the bullet entered her skull, it did not damage vital parts of her brain. Since then, she has been responding well to treatment.

Yousafzai, who has been an activist since she was 11 years old, ran a blog for BBC Urdu describing the challenges she faced while trying to get an education. In a series of interviews gathered by Rohit Gandhi, she acknowledges that she was risking her life to speak out against the Taliban and refuses to step down. She sheds light onto the hardships she and other girls went through to go to school, including disguising themselves in house-dresses, and hiding their books in their shawls. Her goal is to study law, become a politician, and change Pakistan's policies as well as resolve the political issues between India and Pakistan. Her tribute to equal education is admirable and is something we, as a global society, should all respect and strive for.

Education is recognized by the Universal Declaration of Human Rights as one of the primary, fundamental human rights. While this is a nice sentiment, the truth is that children in many countries do not have access to the education they deserve. Pakistan is a country with one of the worst accessibilities to basic education, but also has a further problem in that education between the sexes is not equal. This is due to a multitude of reasons, the first being the Pakistani government. There is a severe lack of access to free and mandatory education in Pakistan, which is reflected on the poor literacy rates of children in Pakistan (72% for males, 49% for females). If the government adhered to the international commitments to which they had already agreed, such as the World Declaration on Education for All (2000) and the Dakar Framework for Action, education for children in Pakistan would be significantly improved. The primary reason for gender inequality in education is due to cultural restrictions on females. Most girls are required to stay within the house, or if permitted to leave, must go with a male member of the family. Although these rules are intended for the protection of girls, they severely hinder their ability to access education.

Cultural restrictions and governmental policies towards education have been recently improving, but not fast enough. Malala Yousafzai is one of the few who realized the many problems related to educational equality in her country and had the personal strength and determination to make a change for the better. You, if you are reading this, are one of the very few, extraordinarily lucky students who have access to both equal and quality education. So, ask yourself this: how far would you go for education?



ENGINEERING SOCIETY 'A'

ELECTION

FALL 2012

Vice President, Education Candidate

Joshua Kalpin

2A Software Engineering

Greetings fellow engineers. My name is Joshua Kalpin and I am running to be your next Engineering Society Vice President Education.

I feel that my background and experience make me the ideal candidate for this position. Firstly, I have served as my class' EngSoc representative since 1A. I have attended meetings and am well-versed in the procedures of the society. Secondly, I have assisted many people in switching programs and have become knowledgeable in course offerings, and the enrolment and transfer procedures for the engineering faculty. Finally, I'm in a unique situation being a Software Engineer. Being in two faculties allows me to view how things are done with a different perspective and lets me apply that to make our academic experience better.

As the current President-elect said, "The most important thing the Engineering Society does is advocate for you, the students." I firmly believe in this message, but also that there are many things that I can do to promote this idea. The VP Education should be the society member that helps you do what you want to do in university. Whether that is directing students to the right faculty member or advocating on our behalf to make our academic and co-op lives easier; I believe it is all equally important. Thus, my goal, among other things, is to improve two main areas of our education at Waterloo.

First, I want make it easier for us to find and choose our co-op jobs. Currently, many programs have limited choice or have trouble securing jobs on JobMine. I think this is something that the society can improve by leveraging our community outreach programs. I want to reach out to employers who haven't been involved in the Waterloo co-op process, sponsor student teams or even small firms that may not typically hire co-ops and convince them to hire Waterloo engineers.

Second, I want to make it easier for us to choose the electives that we want to take. A constant problem throughout engineering is that most of our courses are mandatory and our elective choices are restricted. This makes choices difficult, and each choice becomes that much more impactful. Specifically, a student should never feel like they wasted a credit taking a course that they thought was one thing but was actually something different. Furthermore, there should be information on when all technical electives are offered, when they are scheduled and who to contact for more information on the course.

To achieve this, I want to push the faculty and departments for the adoption of an easy to find location for all information regarding technical electives. Moreover, I will push for the formation of information sessions for all programs, so all of us have the knowledge that we need to choose our electives wisely.

If you want to find more information on my platform, background and experience please visit my Facebook page, *facebook.com/Josh4VPEd.* And remember, if you want someone to make an impact on the society, vote for me as your VP Education!

Drew Dutton

2A Civil Engineering

Hello voters! My name is Drew Alexander Dutton, and I am running for the position of Vice-President Education for your Engineering Society. From its birth, the University of Waterloo has built its reputation by redefining the educational experience. True to its history, there are a number of changes on the horizon that will redefine engineering at the University of Waterloo. As VP Education, I will be your voice to the Faculty authorities responsible for the proposed innovations. It is my goal to assist in developing new programs to maintain Waterloo Engineering's status as educational innovators, while preserving the core traits that separate us from all others.

Recently, the concept of the 8-month coop term has seen reality with the Nanotechnology and Chemical Engineering Programs. Many Departments are planning to move towards a system that will integrate 8-month coop terms into their streaming. This provides a valuable opportunity for students to take on more significant roles while on coop. As VP Education, I intend to work constructively with the Faculty to develop the 8-month coop term, while preserving the class cohort system so that students may continue to forge strong study groups and class pride.

Another system that has recently been introduced is the Reduced Course Load program. This is an option where 1A students who are struggling can complete the term with less than a full term of courses. While falling back a year, it maintains a clean academic record and has generally seen great success. The Faculty hopes to develop a similar program available to all academic years of study. In particular, this would benefit engineering students involved in Varsity Athletics, or those launching entrepreneurial endeavors. This will without a doubt create an environment where Waterloo Engineers can flourish in multiple facets and reinforce the notion of Waterloo as a leader in innovation. I want to work with Faculty to make this idea a reality, while maintaining the image of the competent, hard-working Waterloo Engineers that we are.

In support of the recent changes to the Engineering Society's Constitution and By-Laws, I want to work with the Executive Team to reconstruct the Policy Manual into a functioning document. My objective is to develop a clear and concise document that will govern how the everyday EngSoc -provided events and services are carried out.

As VP Education, I will listen to your thoughts and concerns. I want to make your voice heard with the University Administration. I have a personable and constructive way of interacting with others, and as such, I will be a valuable resource in liaising between Faculty and students to reach a middle ground on issues in order to please everyone.

Thank you for taking the time to make yourself an informed voter. Remember, Drew Alexander Dutton for VP Education.

Because DAD knows best.

Make Your Voice Heard!

VOTE!

From October 6-10th, and again
from November 3-6th, cast your vote
online for the EngSoc Elections.

VOTE!

Watch your inbox for an e-mail with a link to your personal voting page!

ENGINEERING SOCIETY 'A'

ELECTION

FALL 2012

Greetings from your friendly CRO!

ELIZABETH FORAN
CHIEF RETURNING OFFICER

Hey there Engineers! My name is Elizabeth Foran, and I am the Engineering Society A Chief Returning Officer, or CRO. What that means is that I am the one who is responsible for running the elections to find the next EngSoc Executive Team. Each team represents the society for two on-stream terms, as well as the subsequent off-stream terms as Off-Stream Executive Members.

The election process has been broken down into two separate elections for this term. The Presidential Election has closed with David Birnbaum as our incoming President and the Executive Election began of October 11th. The Executive Election will determine who will fill the positions of Vice-President Education, Vice-President External, Vice-President Finance, Vice-President Internal/Operations, and WEEF Director for the next term.

Each of the elections begins with a week-long nomination period, allowing potential candidates to get the support of their peers before becoming a potential executive member of the Society. This is followed by a five-day campaigning period during which the candidates are able to make posters, buttons, and anything else (approved) to promote themselves and make it known they are running and hoping for your votes. The day after campaigning closes, the polls open, and the fates of the candidates rest in your (the voter's) hands. Polls are open for four to five days, over a weekend and through the start of the week.

This leads to the ever popular question, 'Who do I vote for?' Honestly, it's your vote, it's your choice; do whatever you'd like with that vote. Although, I suggest learning what you can about the candidates and picking the candidate that shares your ideals and vision for the Society. You want someone who is dependable, dedicated, and who will come through for the Society. You want a leader, a team player, a careful thinker, and a good listener; someone who will bring the best of everything to the Society. If you can't find all that in the candidates, find someone who comes close and who will make the Engineering Society the kind of society you want to be a part of.

Now for the question of 'How do I vote?' The election deciding the Executive positions for the Engineering Society will happen from November 3rd to November 6th: you should check your Waterloo email account for a personalized link to the Online Voting System. Click the link, read the platforms prepared, pick who you'd like to be a part of the next exec, submit it, and POOF! You just voted in the EngSoc Elections! The results will be revealed at the EngSoc Taleng.

I'd like to congratulate the new President of the Society and wish him the best of luck to him with his future goals. Also, I'd like to wish all the candidates running the best of luck and hope you all work to the best of your ability when representing the Engineering Society.

Vice President, External Candidates

Leila Meema-Coleman

2A Mechanical Engineering

Good morning Waterloo Engineering!

My name is Leila Meema-Coleman and I am running to be the VP External of the Engineering Society. The role of the VP EX in the Society is to represent and be the voice of Waterloo Engineering to external professional organizations, other universities, and in the community. They help run the charity and outreach initiatives and are responsible for working with the commissioner to run the Waterloo Engineering Competition. I believe that my experience and passion for this position will allow me to accomplish all these responsibilities as well as my own goals and ideas.

I have a great deal of experience that would make be qualified to be the next VP External, as I am currently an executive on the Engineering Student Societies' Council of Ontario as the VP Communications. Through this position I represent over 24 000 students from different schools across Ontario to various professional bodies. The VP External sits on the ESSCO council so I am already aware of the responsibilities and my role in representing Waterloo. I am also the EngSoc Communications Commissioner. This position has allowed me to gain experience in advertising and promoting the society. This is important for VP External to try and keep everyone informed of what's going on outside of Waterloo. With this position, I also had the chance to work closely with the executive over the summer and this fall so I am aware how much work they put into the Society and what it takes to be a good executive member.

If I were elected to be your next VP External, I would represent Waterloo in a professional and informed manner and continue to grow the initiatives that have been started in the past few years. One of the new ideas that I want to bring to the Society is to create student involvement in the Grand-River Professional Engineers Ontario chapter. Professional development and networking opportunities are very important for students and I believe that we can make better use of the PEO chapter. Another goal that I hope to accomplish during my term is to increase the number of inter-school events and initiatives. I have already begun to do this by working this term to expand the Rube Goldberg machine to include the first year mechanical classes but I would like to see provincial wide initiatives like Movember and NEM become larger events at Waterloo.

If you want to read about some of my other ideas and qualifications you can read my full platform and profile at bit.ly/leilaforvpex. As VP External, I would continue to work hard to improve the Society and make it a service that students appreciate and see as beneficial. I want to thank you for taking the time to read through this article and I hope to have your support once the poles open. If you have any questions please email me at *lmeemacoleman@gmail.com* and I will be happy to answer them.

Matt Mitchell

2B Mechatronics Engineering

Hello, my name is Matt Mitchell.

I'm a 2B Mechatronics Engineering student, and I am running for the position of VP External of the Engineering Society. What I believe is the most important role of your VP Ex is outreach and charities activities. As your VP External, there are a few tasks I would like to accomplish:

- Expand charity events to be more enjoyable for all students
- Improve the public opinion of Waterloo Engineering students by publicizing our outreach and charity efforts
- Better utilize connections with industry and Professional Engineers Ontario to create networking and career opportunities
- Establish a faculty co-curricular program to recognize extracurricular volunteer work on student teams, charity events, etc.
- Provide resources to encourage student innovation such as PEO/Industry mentor workshops & development of a knowledge library

Not everyone is passionate about outreach, but there are events and services we can run or offer that help the community and YOU! The new Engineering a Difference program is an excellent example of this, offering side projects to improve the community and build your technical skills and resume. Better publicizing of these and other charity efforts will help improve our reputation significantly within the community and make Waterloo Engineering students stand out as the best in Canada. Other events such as technical workshops with PEO or industry mentors will also build your skills and potentially create job connections.

In the past, I have been both the EngSoc and Frosh Week Charities Director where I organized several successful charity events. I was also the Shadow Day Director when we reformed the program to the new structure and began the initial phases of the Engineering Ambassador Program with the Outreach Commissioner. I also have several terms experience working in the EngSoc office and have held many other directorships including PETS Manager and Genius Bowl this term. As far as the very basic duty of attending conferences, I have attended PEO-SC 2011, CFES Congress 2012, and ESSCO AGM 2012, so I'm quite familiar with those procedures.

Many students spend their valuable hours outside of class working hard on a student team or volunteering on campus. A co-curricular program recognized by the faculty will be a way to reward students for their extra dedication and to stand out among career candidates. It's one thing to get passing grades, but to spend 20 hours a week on a student team and get the same marks is an accomplishment that deserves recognition.

If you have any questions about my experience or platform, stop me in the halls or email me at *mrmitche@uwaterloo.ca*.

Improve your student life with outreach that makes a difference to the community and YOU! Vote Matt Mitchell for EngSoc VP External between November 3rd and 6th.

ENGINEERING SOCIETY 'A'

ELECTION

FALL 2012

Vice President, Internal Candidates

Jillian Adams

2A Mechanical Engineering

Hello A-Soc!

My name is Jillian Adams and I am running to be your new VP Internal of the Engineering Society. As VP Internal, I would be representing you, the undergraduate engineering population, in matters relating to internal affairs. I would be working with directors and commissioners to provide you the services you need, and awesome social events. I believe through my involvement in EngSoc, previous experience in leadership positions and representing others, and my dedication to always do my best makes me an ideal candidate for this position.

In terms of experience, I have leadership roles in a variety of situations. I currently have two directorships and I am a class rep for both EngSoc and academics. Through these positions, I have learnt how to work effectively on a team, voice the concerns of others and turn ideas into realities.

As VP Internal, I would work towards developing a stronger relationship with other faculties, through collaborating with the other societies, to help run and promote more inter-faculty events. In addition, I would want to work on creating a branding policy to ensure that all engineering students gained a better understanding of what the Engineering Society is providing for you in terms of services, workshops and events. The Society is here to work for you and provide all engineering students with the tools you need to succeed.

Some other goals I would want to accomplish is to revamp the Frosh mentoring position and to work towards making it a point of contact for first year students, ensuring that they are introduced to not only the Engineering Society, but also all the great things this university and town have to offer them. I would also like to provide students with workshops such as converting resumes to HTML and interview skills.

In addition to these new ideas, I would ensure that the initiatives which started over the past terms continue to grow and develop into an integral part of the society. If you have any questions, please do not hesitate to ask me at *jm3adams@uwaterloo.ca* and for more information visit *bit.ly/JillforVPI*.

Annamaria Reda & Brendan O'Hanlon

2B Chemical & 2A Nanotechnology Engineering

Hey there! We're Annamaria Reda and Brendan O'Hanlon, and we're running together for VP Internal for the Engineering Society A. I (Brendan) am in 2A Nano, and run with a partner because of the Nano 8-month co-op. I (Annamaria) am in 2B Chem. We're excited to run together because we have the same focus and goals for the society. Between us, we've held a number of directorships, including TalEng, Scavenger Hunt and EngPlay. This first-hand experience will help us govern our decisions as your VP Internal.

One of our objectives, if elected, is to promote EngSoc events and services to a wider audience of students. We aim to do this by focusing on new advertising methods, and improving existing ones. Examples include creating video ads for the new screens going into engineering buildings, and promoting the mailing list and the EngSoc Facebook group to students. We also aim to diversify the spectrum of events the Engineering Society offers. Social events are great, but we want to focus on enhancing events and services with an academic focus. We propose sessions such as "How to get a job outside of Jobmine" and "How to get involved and maintain your average" to benefit a greater range of students. One of our other goals would include working with the directors to revamp some of the older or smaller events to rekindle their spark.

We'd like to hear your input and ideas pertaining to events and services hosted by EngSoc, because, if elected, we're working for you. We promise to give 100% (each) while serving as your VP Internal.

Vice President, Finance Candidate

Kevin McNamara

2A Civil Engineering

Hello everyone, my name is Kevin McNamara and I am running to be the next VP Finance of your Engineering Society! I am very interested in ensuring that your money is effectively and justly allocated, so that the Engineering Society funds work for everyone. My involvement within the society as a class representative and director has allowed me to learn a lot about how the finances are allocated. I believe that this, together with my approachable personality and commitment to hard work, accuracy and accountability would allow me to succeed in this position.

As VP Finance, I will strive to ensure that you get the most out of your Engineering Society fee. I plan to encourage budget awareness within the society, so that everyone, not just class reps, are informed on how their money has been allocated. I want all students to be able to voice any comments or concerns they may have prior to passing the budget. I also plan to encourage directors to create budgets that are well thought out, and will work with them to find ways that events and services can be run more efficiently, while still upholding the high standard of everything the Engineering Society does.

I intend to better promote the Engineering Capital Improvements Fund, and encourage more proposals for funding. This would allow EngSoc to spend more money on purchases that will benefit not only the current student population, but also future undergrads.

I wish to continue to pump up novelties and coveralls to boost engineering pride through swag. One thing I hope to do is work with the novelties director to hold a number of design competitions that would help revamp current products, as well as create new ones. Additionally, I plan to create a novelties feedback system where everyone is able to submit design ideas continuously throughout the term, comment on store hours and availability of products, and just submit general feedback regarding the store. I also hope to continue to update the novelties online store, so that it is accurate and easily accessible.

If you have any questions about my platform or why I am running to be your next VP Finance, please feel free to approach me in the hallways and ask! Don't forget to vote McNamara for your Money!

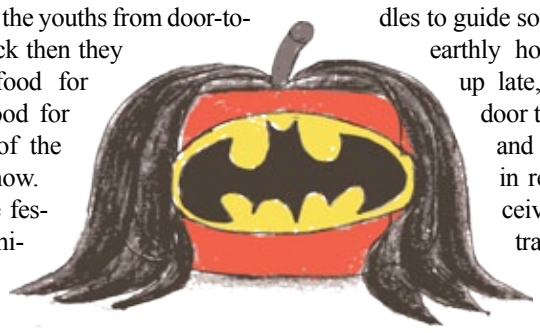
Halloween: Origins around the World!

ZACHARY GINGRAS
1A NANOTECHNOLOGY

I'm sure you're all familiar with the modern day celebration of Halloween: Dress up in costumes to get free candy, perhaps carve a jack-o-lantern or two, or just throw a massive costume party with all your friends. But have you ever wondered how this holiday came about? Here at the *Iron Warrior*, we're going to take you around the world and across time to tell you all about the origins of this wonderful holiday!

This holiday takes its roots from the Celtic festival of Samhain, so it is here that we shall start. This is a harvest festival to celebrate the end of summer, being quite popular all across Ireland for many centuries. It marks the end of the harvest and the beginning of winter. During this time, the door to "the Otherworld" was opened wide enough for souls of the dead to emerge. This also allowed other creatures such as fairies back into the world. These souls and fairies were beckoned to attend the feats, with a place set for them. However, not all fairies were good. Sometimes there were harmful spirits, which were able to come back to this world. People took steps to ward off these spirits. Now-a-days children simply dress up as creatures from the Otherworld, ghosts, ghouls, zombies, and enjoy the bonfires.

The tradition of collecting candy may have also come about from this festival. In the 19th century, it was custom for a man dressed as a white mare to lead the youths from door-to-door; however back then they were collecting food for the feasts and wood for the fires instead of the candy we collect now.



In Scotland, the festival was very similar to Ireland's because of the shared cultural heritage, however with a few differences. To scare away the faeries and evil spirits, children used to carry candle-lit lanterns carved with devilish faces to attempt to frighten away the spirits. These lanterns used to be made from turnips; in modern times pumpkins are used because of their relative ease of carving. The Scottish festival also includes a game called apple "dooking", or more commonly known, bobbing for apples.

In England, Halloween has an entirely different meaning and celebration. Here it is more commonly spelled Hallowe'en, an abbreviation of Hallow and Eve, because this festival was celebrated as the day before All Hallows Day. All Hallows Day was also known as All Saints Day or All Souls Day. On the evening before, it was custom that families would stay up late and light candles to guide souls back to visit their earthly homes. While staying up late, children would go door to door singing songs and prayers for the dead; in return they would receive little soul cakes, a traditional food of the holiday. This is another possible origin for modern trick-or-treating.

While Halloween didn't originate in North America, it has had an interesting history here within its few centuries. Arriving in North America due to Scottish and Irish immigration, the festival took after the traditional pagan one in the late 1800's. While all the traditional customs were still honoured they took a newer spin. The children going around in disguise reciting rhymes transformed into the customary "Trick or Treat", in costumes we know today. However, such a saying was soon taken too literal.

At the turn of the 19th century, Halloween had digressed into a night of vandalism, destruction, and cruelty. Instead of going from door to door receiving treats, people would go around spreading mischief and playing pranks on them. This got so out of hand, that there was a movement for a "Sane Halloween", something that would prevent the mischief and chaos the night brought. The term "Beggers Night" came about, bringing the traditions back onto the track of begging for candy instead of destroying property.

In many places around the world, especially around Asia, Halloween is still a relatively new tradition, having only arrived within the past 50 years or so and in the form of American pop culture. Because of that, it is very similar to the commercialized holiday we all know and love today.

And that, my friends, is how Halloween came about, and how all the modern day traditions developed differently around the world, most commonly coming from the Celtic festival of Samhain. So whether you're collecting candy, partying hard, or both, keep in mind the original roots of this celebration; both a harvest festival, and a festival of the dead.

Poe and Lovecraft - Gorgeously Ghastly

MEAGAN CARDNO
1A NANOTECHNOLOGY

So midterms are finally done (even if the word still leaves a foul taste in your mouth) and Halloween is finally upon us, so undoubtedly you're going to be just dying to get back to reading some books! Of course, nothing is more satisfying this time of year than cuddling up in your sweater with a good story… but not any story will do. No, 'tis the season to be spooky! And so I have for you today two of the greatest maestros of mayhem and orchestrators of all things chilling: Edgar Allen Poe and H.P. Lovecraft.

Now in the progression of horror, Poe was before Lovecraft's time, and so thus many people will play the same old cards: the wisdom of Poe being a pioneer in the genre, versus Lovecraft having dedicated his entire writing career to it. Each person might find themselves more taken with one author versus the other, but taking the time to appreciate either (or each!) of them is rewarding in the most gruesome sense of the word.

To start with Poe, I'm sure most of you have read (forcibly or not) at least one or two of his short stories or poems in your lifetime. One of the ways Poe differs from Lovecraft is the fact that he was as much an author of poetry as he was prose. Two of his most famous works are poems: the mournful lament for Annabelle Lee, and the ever-quoted poem of death and descent into madness, The Raven. Both of these alone are such gorgeous pieces of poetry, if not unfortunately over-dissected due to schools' love of symbolism.

Both of these fall into Poe's worst (perhaps best?) cliché, the loss of a man's beautiful love, but this cliché is so ageless that even these two apparently similar tales have different spins on them. In The Raven, the narrator seems to be conflicted about his sorrow on the loss of his Lenore, and ponders aloud to the raven as if he should simply forget the loss and move on with his life, or keep the memories of the girl and bask forever in the sorrow of loss. Now that's quite the happy choice to make, right? It doesn't help when the raven just answers everything you say with the over-dramatic "nevermore" — either nevermore to be happy, or nevermore to think of his memories of Lenore. Have fun with that, buddy.

Annabelle Lee might have just as depressing a topic, but it is far less depressing with the way in which the widower tries to look at the death of his love. It reflects (somberly, mind you) on their lifetime together, and many a reflection on how much he loved her. However, his frustration and unwillingness to let go is far more resolved than the previous guy -- he claims that angels must have been jealous of their love, and thus stole her away from him, which is far more romantic and somewhat comforting of a way to look at the loss of a loved one. He makes a promise that nothing in hell or heaven could ever separate their souls, which is a pretty clear statement of how much he cared for her. Aside from the slightly odd last image of him lying down by her corpse in her tomb by the sea in the last stanza, it seems like a far softer and comforting way to look at the death of a loved one, and focuses far more on the relationship and love rather than the loss itself.

poestories.com

Edgar Allan Poe, arguably one of the greatest horror

Now that I've spoiled those two for you, I'm going to be nice and recommend a third thing for you to go check out-- no, not The Tell-Tale Heart, although it is quite the fun little tale of insanity. This is the, somewhat parallel, Cask of Amontillado. While The Tell-Tale Heart deals with an almost purely psychotic man, this short gem has a far cooler, more composed demeanor that I far prefer to read. But the two narrators do share murderous tendencies… and a love of shoving people in places they shouldn't be. The Pit and the Pendulum is a classic in its own right as well.

Opposed to Poe's preference of putting the horrors of humanity on display, Lovecraft is far more concerned with things that exist beyond our petty realm and — more importantly — the humans who are stupid enough to go around poking at them. The fun thing about the Lovecraftian world is that many of his short stories have subtle hints at other short stories — the Cthulhu (kuh-thooloo), his personal half octopus, half dragon creation (with some human sprinkled in there somewhere) and probably his golden-boy in terms of fame, can be seen referenced to in numerous of his stories with subtle references. Also, his fictional book, The Necronomicon, is brought into the stories (or at least mentioned) as often as possible.

Lovecraft's love of the supernatural makes his stories very description-oriented, and are often told directly. Perhaps Lovecraft's worst cliché is his love for people to write their horrifying tales in journals, to be later read by other unsuspecting people, as the likelihood of the protagonist surviving is only moderate. This also lends a certain predictability for the stories — you know Mr. Man is going to die, so that is not going to be a surprise. But fortunately, this almost adds to the suspense of the story, as anticipating the guy's untimely demise is almost worse than the act itself.

One of the best traits of Lovecraft's stories is the diversity of scenarios he explores. Although there are some common traits — things not of this earth, disturbing unnatural forces, natives familiar with the strange things, people going insane because of what they have seen — there is almost every base covered in terms of what you find terrifying. From killer insects in The Winged Death, to things that wait to strike whenever you sit exposed and unprepared in the darkness in The Lurking Fear, there is almost certainly at least one story in his collection that will make your skin crawl.

There are some interesting spins on his stories too, though. The Outsider, a very brief tale, describes a man's tragic fate as he describes his lonely life of solitude, never having remembered contact with people but as a far-off memory, almost from another life. One day, when he climbs his dark castle tower to find sunlight in his endless forested world, he finds himself reaching the "real world" only to discover that he is actually a ghoul-like being.

Another personal favourite is From Beyond, a tale of the narrator's eccentric physicist friend who created a device intended to allow humans to perceive that which our senses are too dull to recognize, and in the process revealing a supernatural environment that exists separate and parallel to our own. However, this also works in reverse, and as the humans are allowed to see the strange beings, they too become aware of our existence, and seem none too fond of the humans (when are they ever?).

The choice of Lovecraftian stories is nearly limitless, but some personal recommendations would be The Shunned House, The Dreams in the Witch-House and, of course, the ever-popular Call of the Cthulhu.

So whatever personal cup of chilling tea is your favourite, do be sure to check out these authors this Halloween season. Both authors, from an age a-gone, can lend something a little different to your celebrations this year. They both have such eloquently written works, that it can make those normally dissatisfied with horror fall in love with the genre, and those who deem old writers "boring" enthralled by the language. So wait until 1:00 AM, turn off the lights, and get sucked into a macabre world — I'm sure you are just imagining that brushing feeling on your back…

How to Survive a Zombie Apocalypse

MEAGAN CARDNO
1A NANOTECHNOLOGY

So just how prepared are you for a spontaneous zombie apocalypse? Don't be caught unprepared-- you never know which day will be the day that your friends and neighbours get a taste for… well, you! While some things may come naturally to you, some advice from an old expert can only help. But as our expert is on a temporary leave of absence, you'll have to settle for me.

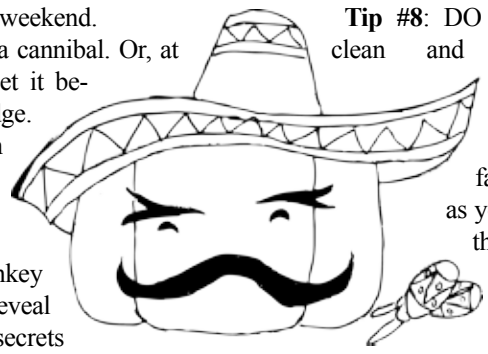
Tip #1: DON'T have a bunch of internal struggles within your group. Look, I don't care if this guy slept with your girlfriend, or accidentally got her killed. Fighting with your fellow humans is a guaranteed way to ruin your zombie hunting season, and maybe just get you killed yourself. Punch him in the face, if it makes you feel better, but let your grudges go and, for Pete's sake, don't punish them by leaving them back at camp alone or locked up somewhere. More than likely you are going to forget what it was you fought about in a week after you amputate one of your partially infected limbs.

Tip #2: DO use hand tools. Not only are these effective for their intended purpose (and who knows if you'll need to chop down a tree or engage in a samurai battle) but they serve as an awesome tool against your zombie foes. They never run out of ammunition, are less noisy than mechanized weapons, and make for some good messy fun.

Tip #3: DON'T use shotguns. A lot of you will be tempted to immediately go for the heavy firepower and give those undead buggers a good surprise, but really think twice before you do this. A lot of the time, shotguns provide only short term gain, long term loss as the loud sound will attract attention, and are characteristically dreadfully tedious to reload. Also, if this is your first infestation, you'll not want to overestimate your capabilities with firearms. The last thing you'll want during a good old minor apocalypse is a dislocated shoulder or fractured clavicle.

Tip #4: DO build tree forts. Studies have show varying climbing skills for zombies, but nearly every study has shown that they very rarely think to look up when searching for a nice meal. Camping on the ground is just asking for trouble-- take the time to build a small community in your local forest if you ever have a free weekend.

Tip #5: DON'T be a cannibal. Or, at the very least, don't let it become public knowledge. You're going to be in for a rough time, as prejudices might run high. This is not the time to get the monkey off your back, or reveal any other deep dark secrets that might make the rest of your group of survivors angry at you. You might have to cut cold turkey for a while, but trust me, you'll have your mind on other things. Safety tip: NEVER eat tainted meat.



Tip #6: DO call your family. It's easy to forget about your old man when zombies are knocking at your door (quite literally) but do remember to give him and your mom and whatever relatives you have left a call. They're probably worried about you, and it's good to let them know what you are doing and how life is. Even if you aren't much for small talk, you can always bring up your zombie hunting as a subject to ensure a good conversation.

Tip #7: DON'T pretend to be a zombie. While this may seem like a brilliant or even amusing idea at first, do try and think reasonably. This is a risky process, as it relies heavily on how good of an actor you are. Don't take your 90 in drama class as an indication for your acting abilities-- your Jim Carrey impression is actually quite terrible. Just because your audience lacks brain activity does not mean they are easily impressed. Also, don't think that we can't smell the body spray on you from here. This directly leads to the next point:

Tip #8: DO wash well. Staying clean and healthy should always be a priority. Try and take a shower whenever the facilities are available, as you never know when the running water is going to stop. The number one way to prevent the spread of infection is to wash your hands before and after melee battles, and eating or wiping your face, and touching other people. Think about where your hands have been, and what juices they've touched -- like when you decapitated that one zombie that kind of looked like your old calculus professor. Yuck!

Following these tips, as well as learning some of your own, will make your first -- and hopefully not your last! -- zombie apocalypse a simpler and more enjoyable experience. Above all else remember to stay calm, have fun, and with a little luck you might just survive, and keep your spouse and kids! Well maybe. Don't get your hopes too high.

Recycled Costumes

CHRISTY ROUAULT
2B GEOLOGICAL

Every Halloween, garbage piles up: candy wrappers, decorations, and of course, costumes. You only ever want to wear that awesome Harry Potter or Big Bird costume once, so that costume just ends up in your closet and eventually in the garbage. For a change, this year, put your green thinking cap on! Scavenge through your recycling bin to create a quick, yet memorable, costume. Here are some ideas to help you dumpster dive for your costume tonight!

Paper Bag Princess: A classic that looks like you put a lot of effort into, even if you didn't. Wrap yourself in brown paper (often in the recycling near the Orifice), make some brown paper straps, and fashion yourself a new crown. For your crown, cut simple designs on a piece of paper and tape it together, similar to how you did back in kindergarten.

Robot: We've all seen this one before, but it never fails. Put boxes together to make your own creative robot. For example: paint hearts on your robot for a twist and be a "love machine".

Victoria's Secret: Possibly the wittiest of this list and meant to be a male costume, although easily alterable. Cut holes for your legs in the bottom of a Victoria's Secret shopping bag and step inside. Stuff pink tissue paper in the bag. You are now a lingerie model's scandalous secret.

Kissing booth: Again, this is a classic, and you've probably seen it before, but this all in one costume/pick-up line wins over any woman. Make a cardboard stand out of cardboard, hang it on your neck and paint "kissing booth" on the top.

"Cereal" killer: Simple and witty; attach your old cereal boxes together to make a giant cereal box you can wear. Carry a sword (easily made with some cardboard) and paint some blood on yourself.

Tall boy: All you need is tape and some beer cans. Collect your tall boys and tape them to yourself. This is an instant transformation into a tall boy. Add cans as you finish them throughout the night to be a taller boy.

Tim Horton's Cup: Although this is a time consuming attire, it's a good one to execute the most Canadian Halloween possible. Collect as many Tim Horton's cups as you can; the recycling bin in SCH is a good place to start. Wash these cups out, cut them down one side, and cut the bottom out. Staple them together to make a cup dress. Put a brown hat on and ta-da! You are an iconic Canadian symbol.

Entering the Twilight Zone

A Look at a Timeless Series of Ghost Stories

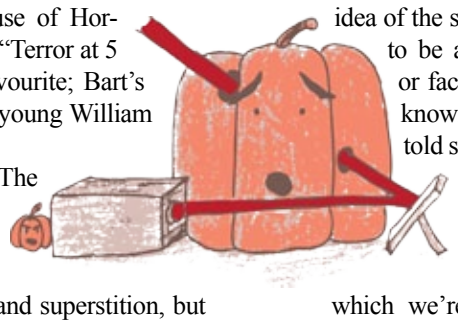
KEVIN JOSEPH
3B NANOTECHNOLOGY

"There is a fifth dimension, beyond that which is known to man. It is a dimension as vast as space and as timeless as infinity. It is the middle ground between light and shadow, between science and superstition, and it lies between the pit of man's fears and the summit of imagination. It is an area which we call The Twilight Zone".

Enter Rod Serling: a man who has by all means been a defining force in the genres of science-fiction and the supernatural. In its six years on the air, the original Twilight Zone was a powerful force and unlike anything that had ever been done before it. Serling is a born story-teller and his skill is evident through his expert narration on the show. If you think you've never seen The Twilight Zone you're probably wrong. It has been an endless source of inspiration for science-fiction for decades, notably for featuring young future Star Trekkers William Shatner, Leonard Nimoy and George Takei, and being featured on The Simpson's, whose writers have payed homage to the series countless times in their annual Treehouse of Horror Halloween specials ("Terror at 5 feet" is my personal favourite; Bart's acting far surpasses the young William Shatner's).

Watching it today, The Twilight Zone has not only been a middle ground between light and shadow or science and superstition, but also between brilliance and ridiculousness. There are episodes which really explore the horrors of isolation or take on the social problems of racism like "Where is Everybody" and "The Encounter", but then there are also absurd plot lines like aliens giving a man superpowers in "Mr. Dingle the Strong" or a man's love for his mother turning him into a little boy in "Young Man's Fancy". The plots are ambitious: the themes grandiose and writing liberal with monologues. Rod Serling is right when he describes the shows as television plays: the show often feels like a filmed stage-production. I think that what prevents The Twilight Zone from just being cheesy is the fact that the show feels so earnest. The carefully cued music, the use of light and shadow in filming and the quality of writing surmounts to storytelling at its best.

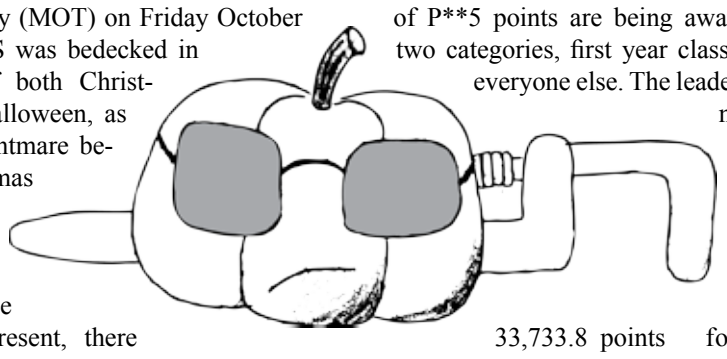
I believe that all great episodes of The Twilight Zone are about what it means to be human. They address the ideas of powerlust, corruption, fear, the soul, and death. In my opinion the best episodes of The Twilight Zone center on the ideas of being trapped, alone, or abandoned: what it means to be human independent of society. This has been done many times in many different ways. Sometimes the central character is all by themselves, sometimes with neighbours; people may find themselves no longer like those around them or having literally no one around them. On Halloween people take the idea of the spooky and the haunted to be about donning a mask or facing a great foreign unknown. The Twilight Zone told such effective ghost stories because they took off masks and demonstrated how little we know about that with which we're allegedly most intimate. So it is my sincere recommendation to give the series a chance and see for yourself what it is that lies in the twilight zone.



MOT: The Nightmare Following Midterms

LEAH KRISTUFEK
2A CHEMICAL

Despite the rain outside, some mighty finely-attired people attended the middle-of-term party (MOT) on Friday October 26th. POETS was bedecked in the best of both Christmas and Halloween, as per the Nightmare before Christmas theme. Among the many awesome costumes present, there were a few that really went above and beyond; one was a Watcard, the Incredibles (with the exception of Jack Jack - babies must sleep after all), Steve from Blues Clues, Batman costumes, and a carbon nano tube. As per usual, the Tool made an appearance, and the tool bearers honoured the theme with half of them wearing white scream masks and the other half wearing Christmas hats. Later, a video customary of all 'OTs was shown depicting the engineering events and activities since BOT. P**5 points were announced, with the 3B Nanos leading the way. This year winners of P**5 points are being awarded in two categories, first year classes, and everyone else. The leaders right now stand at 3B Nanos with 33,733.8 points followed by 2A Mech with 25,860. 1A Chem Eng is leading the first year classes with 14,805 points. The first place winners for P**5 were awarded 1000 extra points as "half-way bonus."All in all, it was a fun event, despite the weather outside.



FEDs Building and More Voting Things

LEAH ALLEN
PRESIDENT

Hey Everyone,

I hope midterms went well for everyone. Can you believe we only have 1 month of school left? Yeah, me neither. Things on the EngSoc front have been quite late due to midterms and all, but I still have a couple of updates for you.

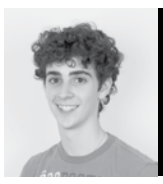
FedS is still moving forward with the new student building which is going to be located around the Grad House green area. The layout of the building is still in the preliminary phases, but what is being talked about right now is having university services on the underground level of the building. The upper floors would contain student study space in the form of open tables and bookable rooms. The same space can also be a converted into event space. Once everything is finalized, FedS will have a student referendum where you can vote on whether or not you want to support constructing a new student building. The timeline for this referendum is currently February 2013. Even though most of you will be on a co-op term, you should still receive an email to vote. I am still looking into some details of the student building, such as what types of university services will be in the building and the potential fee students will need to pay. If you have any questions about this, please feel free to contact me.

The next Engineering Society meeting will be held on Wednesday, October 31st in CPH 3607 at 5:30 PM. Some business on the agenda includes the final reading and voting on the new Society Constitution and Bylaws. As well, the Engineering Society sponsorship allocations will be presented, and Council will vote to ratify these allocations. Please feel free to come out and see what is going on with the Society, meet some new faces, and get free food!

Lastly, I would just like to congratulate David Birnbaum on his successful presidential campaign. David and I will be working together over the next month to get everything transitioned properly and make the change as seamless as possible. On another note, the campaigning period has begun for the Vice President positions of the Society. Please take some time to get informed about the candidates and be sure to vote from the 3rd to the 6th of November (you should receive an email to your uwaterloo account).

That's all I have for you right now! As always, feel free to contact me at *president.a@engsoc.uwaterloo.ca* if you have any questions.

Sponsorship, Patches and MORE! (like documents)



DAVID BIRNBAUM
VP FINANCE

Let me start by saying that I hope all of your midterms went well, and my condolences to each mark you lost.

First is sponsorship. The Sponsorship Allocation Committee met on October 20th where we listened to all of the presentations and created our sponsorship breakdown. We had over $8000 to allocate this term, and the proposed breakdown, which you can find on the EngSoc website, is up for ratification at Council Meeting 4 (TONIGHT! [if you're reading this on Wednesday]) If it is ratified, it will be published in the next Iron Warrior.

For all of you that ordered coveralls on coverall day, they should be in next week! You will all be getting an email with when and where they can be picked up. Everyone should be covering up and coming to TalEng on November 8th, because coveralls and talent are both super awesome.

The directorship patches have been ordered, and they are going to be awesome. Also keep an eye out for a new patch making its way into Novelties soon.

MOVEMBER! It is upon us. Head over to Novelties or the EngSoc office and purchase an awesome Movember patch. 100% of the proceeds go to support the Movember cause!

The ECIF Committee will be meeting soon, and needs to make its presentation at Council Meeting 6. If you have any ideas about how you can improve the Engineering Society, or any other space on campus, just send me an email with your idea and I will bring it forward!

Also at Council Meeting 4, we are voting (did vote) on the final revision of the new Constitution and Bylaws for the Engineering Society. I am in full support of the current documents and really look forward to our Society moving forward once these are passed.

Last but not least, I will be starting to transition your next VPF in the coming weeks, and I am super excited for that.

Thanks for reading, and as always, if you have any questions just email me at *vpfinance.a@engsoc.uwaterloo.ca*

David

Happy End of Midterm Week Everyone!

MICHAEL SELISKE
LISA BELBECK
VPS EXTERNAL

Firstly, I would like to say thank you to everyone that applied to NCWIE and PEOSC! There were a lot of awesome applications, and I am very excited to see what the delegates bring back from both conferences! Next conference is First Year Integration Conference (FYIC) this conference is run by ESSCO and is for first year students. At this conference delegates will get to meet first year engineering students from across Ontario, to talk about their experiences, and how as first year students they can help improve student life (especially with the engineering society). It will be held in Lakehead, January 18-20th. First years who want to improve their leadership skills and become the future leaders of Waterloo Engineering PLEASE APPLY! Applications can be found at *www.engsoc.uwaterloo.ca/FYIC2013*, I will be spamming all of you soon, and at the next meeting! Applications are due in a week! So APPLY!

Next is the Waterloo Engineering Competition. This is an awesome competition where you get to compete against Waterloo Engineering's brightest students for a chance to attend the Ontario Engineering Competition, and the Canadian engineering competition. Something really cool, starting this year, is the International Engineering competition, which is being run by CFES. To attend the international engineering competition, you must place at the Canadian Engineering competition in the events of Senior Design, Junior Design and Consulting! I encourage you all to find a team! WE ARE IN NEED OF SENIOR TEAMS! For more information visit *www.wec.uwaterloo.ca/*.

Lastly, the same thing I have been telling you about since the first week of classes: MOVEMBER! Movember will be starting THIS Thursday! There is a launch party in POETS from 7-10PM! To sign up with the engineering society team go to *http://ca.movember.com/* and look for ENGSOC2012 team! Angela and I will be sitting out in the foyer this week looking for people to join our team and to pump up Movember! I have teamed up with all faculties on campus to make sure that Waterloo can have a chance of winning the "Big Stache on Campus" award this year! Engineering is hoping to raise at least $5000 this year for Movember! I promise you, I will be rocking the stache each and every day of Movember!

Taleng and workshops and Semi-Formal, oh my!

ANGELA STEWART
VP OPERATIONS

Midterms are done – time to let some fun back in your life! Check out these upcoming events presented by your awesome EngSoc directors and commissioners!

Taleng: Thursday, November 8th, 8PM-Bombshelter Pub (SLC)

Come out to the termly Engineering Talent Show – Taleng! Show off your musical, comedic, and dramatic gifts and enjoy performances by fellow students. This entertaining all ages event will be hosted in the Bombshelter Pub in the middle of the Student Life Centre, so bring your residence floormates! Prepare to welcome your new EngSoc Executive team, as the results of the EngSoc Elections will be announced. Sign up an act on the door of the EngSoc Office (CPH 1327).

Music for Happy Brains: Friday, November 9th 2-4PM, POETS

Midterm season throw you off your beat? Feeling out of tune? Join us for the next event in the series of Wellness Workshops. EngSoc has partnered with UW's Therapeutic Recreation program to develop a fun, relaxing workshop. Learn about the science behind music therapy, music's effect on the brain, and mess around with some improv techniques. Zero music experience is necessary, and feel free to drop in for 10 minutes during your class break to play around.

Semi-formal: Saturday, November 10th, 9PM-1AM, South Campus Hall

Break out of your engineering fashion-funk and get fancy! Get decked out, bring your friends, and don't forget your dancing shoes for the Masquerade Semi-Formal. Let loose with Engineering and AHS students, have your picture taken with the Tool, and get down. Get your tickets in the Orifice while they last!

Story-time Courtesy of Yours Truly

DEREK THOMPSON
VP EDUCATION

Hello students. Today I will be telling you the story about Joey-Joe-Bob. Joey-Joe-Bob was an engineering student at the University of Waterloo. He, like many other students, had to write stressful exams that required a severe amount of preparation and studying. First, JJB would start studying early. Starting the day or two before the test simply would not do. JJB found that cramming only lead to grief and suffering in the long run. He would start his studies by putting together a short set of "study notes," a digested version of the course content. These study notes would then serve as a sort of guide – when the required information for a course is condensed in this manner, the most important topics will often become apparent. JJB would then be able to focus his attentions on these vital topics, and the "big picture" concepts. These study notes can then be saved, and act as a "refresher" course for the final exam. JJB used these notes often, as he would know exactly what he knew, and would not study the material he already understood.

JJB studies a little bit every night – even if it's just spending 10 minutes, per class, reviewing what was covered that day. JJB really found this to be a boon when converting new concepts to long term memory. JJB also was sure to take some time to enjoy himself. All work and no play makes Joey-Joe-Bob a very sad student.

In JJB's spare time, he would play sports, video games, watch a movie with friends, or one of many other different activities that you might like yourself. He knew that a burn out due to school was a very real possibility in Engineering. He also knew that if he really needed to talk to someone, be it about study skills, personal issues, or even career planning, Engineering counselors could be booked for an appointment at (519)888-4761. Someone would always be there for Joey-Joe-Bob, just as someone is always there for you.

Signing off, VP Ed.

T Cubed: The Tiles and Desktops of Windows 8

JACOB TERRY
2B NANOTECHNOLOGY

T CUBED

This look at Windows 8 was based on the Release to Manufacturing, which is a version virtually identical to the final one in which manufacturers can use in order to have the final version on their computers once it is released. While some minor changes may be made in the final version, released October 26, the general feel and operation of the operating system will likely be the same.

Those of us who have an interest in technology are often a fickle and critical bunch. One day, we heap praise on a gadget. The next day, it's garbage. We want things to change, but have a bizarre attachment to what is established already. In a way, you could say other people are like that too, but many of us have often intense feelings or opinions about electronic devices that arguably are fueled by our passion for all things silicon.

It's no surprise then that Windows 8 is receiving mixed feelings from longtime fans of its predecessors. Leading up to the release of Windows 8, there has been much opposing discussion regarding changes made, which until recently has been our only way of getting an idea of how good or bad they are, unless you have access to the previews. After using the release version for almost a month now, found free on Waterloo's MSDN website, it's a little easier to see which things are in the final versions that bothered people in the preview, and note that there are some clear benefits and drawbacks to moving from Windows 7 or earlier to Windows 8.

The most obvious difference, as I have discussed in previous columns, is the Start screen, which replaces the Start Menu but also acts as a sort of application launcher. The concept is novel in the sense that ideally, most people are looking to launch an application once they start up their computer. This follows a similar model to your mobile devices, which often present similar screens on launch. Live tiles are the key feature here, giving you constant updates about what's going on in all your applications. The staple example of how this helps is in the social applications. For example, Mail shows you one big square or rectangle with the count on your inbox, while People will alert you to new notifications on Facebook, Twitter or any other networks you have added. Combine these with all the other applications which support live tiles, and this quickly replaces the ritual mail-Facebook-news-weather check that people like me are guilty of doing nearly every time we sit down at our computer.

Applications that populate the Start screen are downloaded from the Windows Store, and are appropriately titled Windows Store apps. Once you start downloading more of these, they can become rather unwieldy to manage, but grouping them is simple and cleans up the screen very well. They have a very similar look and feel, following minimalist layouts with giant images where needed, bold typography and simple interfaces. This works and looks great for most of the things you want to use, but the biggest obstacle is often usefulness. It could be just me, but I often found in all the minimalism, that usability took a hit as it became harder for me to figure out how I was supposed to do something. Internet Explorer is perhaps the best example. Most of the time, it appears to be fullscreen, and it's not immediately obvious that you have to right-click to make the toolbar appear.

In fact, right-clicking is one of Windows 8's greatest secrets. Historically, it's assumed with a contextual menu that drops down from where you clicked, but in Windows Store apps and the Start screen, it pops up this little toolbar on the bottom with a series of commands to follow. This is one of the hardest parts to relearn, after having expected a specific behaviour from right-clicking in Windows, OS X or Linux until now. Other things that used to be fairly obvious to find have also moved around. One of my friends working on Windows 8 for work struggled for the longest time trying to find how to see all the apps installed on their computer from the Start screen, but all that was needed was a right-click, then selecting All Apps (or, apparently, Ctrl-Tab). While it sounds like this is the same as right-clicking before, but in a different location, the options that come up are a lot more central to the basic functionality of the app, making right-clicking more required than it has been in the past.

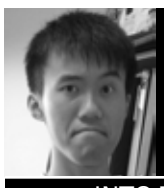
This odd right-clicking behaviour could, however, be because it's a remapping of a swipe-up gesture from the bottom of the screen. The Charms bar, which contains most of the important settings and functions you're usually looking for, is only active by hovering near the corners on the right side of the screen, which seems to be a compensation for how a tablet would swipe left from the right of the screen. These gestures and many more make you think of how much easier they would be on a tablet, and why there's not a more intuitive method on mouse-and-keyboard systems. Windows 8 can't be totally tailored for tablets though, partly because the Desktop isn't very finger-friendly.

The Desktop is where Windows 8's identity crisis comes into the forefront. The File Explorer windows, for example, are a bizarre hybrid demon-child of the traditional windowed interface, with some Office-styled ribbons and the new design language thrown in. It's both a sign that Microsoft is looking forward, yet also doesn't know how to apply their own design language to their Desktop. Uncentered headers, strange colour schemes, old garish icons, and more make it seem like Microsoft may not be totally done making Windows 8 yet. Office 2013, while a much earlier preview, is the same deal. Menus are now capitalized, and that's pretty much the extent of their attempt to modernize the Office interface. While Office certainly is a greater challenge to try to cut down, it certainly would have sold people on the Start screen if Microsoft managed to have a fully functional Office 2013 Windows Store app, complete with their newer design, ready for Windows 8's launch.

This confusion over what Windows should be and what it should become is ultimately what makes Windows 8 seem so half-baked. Granted, some things won't be entirely ready until the official launch, but so many things seem unfinished. The Desktop isn't the hub of your computer anymore, now it's both a centre for traditional apps and just an app on your Start screen. Yet, the Control Panel in the Start screen is an embarrassingly small selection of the one included in the Desktop. The need to switch back and forth is the most jarring part of the experience, constantly jumping between a traditional Windows 7 setting and a newer Windows Phone setting. The feeling that a tablet would work better in some spots, and a mouse would work better in others, is a little perplexing.

Don't get me wrong though, Windows 8 isn't bad. I would argue it may be better than Windows 7 if you took an average of my opinions of all the features, especially with respect to the design and little features that make what you're looking for easier to find, but there are some spots where Windows 7 excels, such as consistency and clarity. The biggest thing it needs is a more coherent identity and more appropriate controls for the device you're using. The effort on Microsoft's part to make "no compromises" is evident, but unfortunately it falls short of that goal.

On the Verge of Stem Cell Therapy for Multiple Sclerosis and Myelin Disorders



BRIAN SO
1A NANOTECHNOLOGY

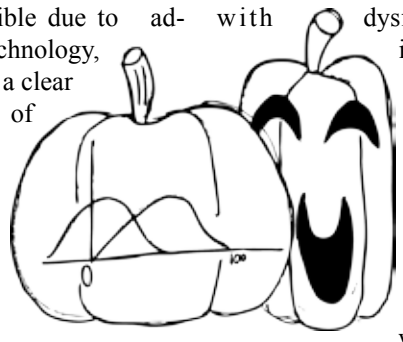
INTO THE NEW WORLD

Years ago, scientists realized the potential for stem cells to be used to regenerate entire populations of damaged and dead cells afflicted with disease, an inevitable revolution in medical science. Stem cells, however, have been proven to be much more complex than originally thought. It has been a long journey for scientists all around the globe through collaboration and a lot of lab work, in order to master the complexity of the workings of stem cells. The next step would prove to be just as challenging, if not more so - that is, to apply the knowledge of the capabilities of these cells for use in medicine.

University of Rochester Medical Center scientists Steve Goldman, M.D., Ph.D., Maiken Nedergaard, Ph.D., and Martha Windrem, Ph.D., conclude that researchers are on the threshold of human application of stem cell therapy to myelin disorders, a class of neurological diseases. Examples of such diseases would be multiple sclerosis, white matter stroke, cerebral palsy, dementia, and pediatric leukodystrophies (a fatal childhood condition). There are many potential opportunities for clinical applications of stem cell research in areas such as central nervous systems (CNS) diseases, originating in the brain. These diseases are difficult to treat due to the complexity of the human brain, but it is postulated that the best outcome may come from the simplest cell types.

Oligodendrocytes are a common factor in myelin disorders. These cells come from alial progenitor cells, and the family has a "relative" which comes from the same cell, the astrocytes. These two cells are critical to the working functions of the CNS. They look to maintain neurons, and more specifically the axons as well. Oligodendrocytes help to build the fatty sheath (known as the myelin sheath) responsible for improving the efficiency in conductivity of signals between neurons, and astrocytes work hand in hand with these cells.

Cells such as the glial progenitor cells are the main target for stem cell therapies as they may be more readily manipulated and are easy to transport into the animal/human. It is shown that once injected into the animal, Oligodendrocytes work to "remyelinate" damaged neurons. Dysfunctional glial cells lead to a broad spectrum of diseases and negative side effects, such as the degeneration of white matter due to age. Glial progenitor cells are easy to manipulate for use because one does not need to worry about targeting every single point-to-point connection between the neurons – the injected cells essentially direct themselves to these points. We can take advantage of this fact and introduce competent glial cells to the patient through direct transplantation in order to treat disease. This is all possible due to advanced MRI scanning technology, which provides scientists a clear image as to the results of their work.



Major advancements have been made, and large obstacles overcome in scientists' abilities to control and manipulate such cells. Goldmans' lab have been making pioneering efforts to pinpoint the chemical signals required to recreate glial progenitor cells from stem cells, then consequently instructing those cells to make either astrocytes or oligodendrocytes. Controversially, stem cells have traditionally come from embryos, but the stem cells used to recreate the progenitor cells in the lab have come from skin cells instead. Advancement in integration into neuronal networks has also been made, such as in Nedergaard's lab. In his lab, Nedergaard and his team were able to integrate such cells into adult nervous systems, and were able to image the results afterwards.

These labs have furthered the possibility of using such therapies - glial progenitor cell transplants - on humans with dysfunctional glial processes instead of just animals. The labs have also provided sufficient models for such an advancement through advanced imaging technology. An example of a human disease that such a technique may help cure would be multiple sclerosis. The damaged fatty insulating sheaths of the nerve cells tend not to grow back once disintegrated. However, with the introduction of glial progenitor cells, the previously permanently damaged fatty sheathes will be able to be regenerated.

Constructing a Black-Hole Laser

NACHIKET SHERLEKAR
2A NANOTECHNOLOGY

So you're reading the title and saying, "Wait, what? A black-hole laser? Doesn't a black-hole suck in all the light around it?" Well, according to a theory proposed by Stephen Hawking in 1974, not only do black-holes suck in light, they also emit a faint radiation, now termed as 'Hawking radiation'. Hawking predicted the existence of this radiation based on certain quantum effects that occur near the 'event horizon', a theoretical boundary in space-time that defines the extent of influence of a gravitational field (in this case a black-hole). Within the boundaries specified by this event horizon, all matter and radiation is under the influence of the black-hole's gravitational pull and cannot escape. Now, due to quantum vacuum fluctuations in the black-hole, a temporary change in the amount of energy at a point close to the event horizon takes place, causing the formation of a particle-antiparticle pair. One element in this pair is sucked back into the black hole, while the other escapes. When the particles under consideration are photons, it appears that a photon is spontaneously released from the black-hole – this should show up as the mysterious Hawking radiation, if observed in practice.

Recently, researchers from Heriot-Watt University in Edinburgh, UK came up with a method to test this theory in the laboratory. An artificial event horizon (representing a black-hole) was created using high-intensity pulses of infrared laser light focused on a piece of glass. The large intensity of these pulses caused a temporary boost of the refractive index of the glass medium; this boost was large enough to cause the light travelling through it to slow down. Since the light was in the form of a pulse, this resulted in a point of high refractive index that moved with the light pulse, which acted as the horizon. Any photons that entered the glass behind this high intensity light pulse were unable to cross the point of high refractive index; relative to the pulse, these photons were stationary. Using this as a model for a black-hole, the Scottish researchers were able to detect mysterious 'extra' photons that seem to have come from nowhere: the elusive Hawking radiation.

Having tested Hawking's hypothesis and receiving positive results, the team at Heriot-Watt University has decided to go a step further and design a 'black-hole laser'. A conventional laser works by bouncing monochromatic light back and forth between two mirrors and passing it through a gain medium in the process, stimulating its atoms to release photons of the same frequency to contribute to the beam. A black-hole laser works using a similar principle. Instead of using two mirrors, a black-hole and a white-hole are used. A white-hole is the 'reverse' of a black-hole; it allows radiation to come close but does not allow it in.

A black-hole and white-hole are artificially simulated using a diamond. Two light pulses are sent through the diamond in quick succession. This is equivalent to having a black-hole with a white-hole inside it. Light trying to enter the white-hole is already within the black-hole. By the definition of these structures, the light can neither enter the white-hole nor escape the black-hole, causing it to bounce back and forth between the respective horizons. If Hawking radiation does indeed exist, this light would get amplified by said radiation, forming a laser that would be hopefully easily detectable.

This discovery could result in future applications such as low-energy terahertz scanners. While these phenomena being explored in the lab are exciting in themselves, they probably do not come too close to modeling black-hole behavior. Hawking radiation remains a mystery – for now.

Physicists Peek at Schrödinger's Cat

RYAN ORR
2A COMPUTER

Physicists at the University of California, Berkeley, have managed to peek inside the box housing Schrödinger's Cat. By gently probing a qubit created via a small superconducting circuit, they were able to gain information about the qubit's state without forcing a collapse from its superposition. This would allow for better exploitation of quantum mechanic's bizarre superposition principle, where a quantum particle exists in multiple states simultaneously.

Superposition is best described by Erwin Schrödinger's infamous Schrödinger's Cat thought experiment, where a cat is placed in a box with a vial of poison controlled by the random decay of an atom; if the atom decays, the poison is released, killing the cat. Any measurement of the system will affect the decay of the atom, since the atom's decay will only take a definite value upon measurement, so an outside observer cannot determine if the cat is still living. As a result, the observer must consider the cat to be in a superposition of both dead and alive.

This property of quantum particles existing in a superposition of multiple states is utilized by modern applications of quantum mechanics, such as quantum computing. Unlike classical computing, in which a bit has a discrete value of 0 or 1, a qubit assumes a superposition of 0 and 1; only upon a final measurement does the qubit collapse to a specific value. This aspect of qubits has been a roadblock for researchers, as qubits need to hold the superposition long enough to perform quantum algorithms and calculations.

By making gentle, indirect measurements and introducing feedback to counter any shift from superposition, the team at UC Berkeley was able to prevent the qubit's collapse. The team, led by Dr. R. Vijay, used a small superconducting circuit as a qubit, and created a superposition by oscillating its state between values of 0 and 1. By measuring the frequency of the oscillations, and not the direct value of the qubit, the physicists were able to gain information about the system, while keeping the qubit in superposition for the duration of the experiment.

This small peek at the quantum system is akin to putting on blurry glasses and taking a quick look inside the box containing Schrödinger's cat. While the observer may not be able to tell if the cat is alive or dead, they may be able to obtain some information about the system, without having an adverse effect on the superposition of the decaying atom.

While the measurement was not strong enough to force a full collapse from superposition, there was a random change in the oscillation rate. However, by taking a quick measurement and inducing feedback to return the oscillations to the original value, the team prevented the qubit from settling into any definite state.

The team is not the first to attempt stabilizing the qubit through induced feedback, but a new kind of amplifier produces a signal small enough to prevent noise and contamination being introduced to the system, while producing a signal large enough to detect and correct. By using such amplifiers, researchers are coming closer to implementing quantum error controls, which could be used to extend superposition of a qubit in quantum computing.

Performance Enhancement: Don't Be A Dope

MICHAEL YANG
1A GEOLOGICAL

Amidst the news of Lance Armstrong's doping scandal and allegations of his use of performance-enhancing substances, and the publication of the World Anti-Doping Association's (WADA) 2013 Prohibited List which is to be effective January 1st 2013, comes the need to relook into doping, what out there counts as such, and what methods and substances are being used by athletes. The new list contains twelve prohibited/banned substances and methods ranging from the familiar anabolic agents, such as anabolic androgenic steroids (AAS), to ones that seem to belong in science fiction movies, like gene doping. Many of the items on the list are not new and their effects are well known.

What is trending in media right now is the use of Erythropoiesis-Stimulating Agents (EPO), blood doping to enhance oxygen transfer, and physical and chemical manipulation, such as the use of saline injected intravenously. Erythropoiesis refers to the production of red blood cells by the bone marrow due to a lack in oxygen detected by the kidneys. The kidneys then release erythropoietin to signal an increase in production of red blood cells and this hormone is endogenous or capable of being produced by the body naturally, while exogenous (not produced by the body naturally) EPO can be injected to increase an athlete's endurance. The idea of this is to increase the efficiency of the oxygen delivery system by boosting blood oxygen levels, heart stroke volume, and enhancing the function of the lungs. The use of EPO is different from the traditional performance-enhancing drugs, as it does not have the dramatic effect on the body produced by anabolic steroids, which mimic the effect of testosterone to promote anabolism (protein synthesis and building cell tissue) and limit catabolism or muscle breakdown caused by cortisol. EPO focuses on increasing endurance and the benefits only show themselves in long, grueling events, such as long distance swimming, marathons, and cycling.

To think that the increase of something as arbitrary as the red blood cell count would raise performance enough that one athlete may outclass another seems silly at first. But through the course of many miles, someone who was "not previously known for his climbing, Armstrong was dominant in winning the stage to Sestriéres where he gained significant time on his rivals. Going into the final climb, Armstrong was behind several contenders but on the ascent soon caught and quickly passed them with seeming ease, rapidly leaving his competitors far behind" (Reasoned Decision, USADA). Blood doping, such as the withdrawal of blood, and later transfusion, aims to do the same as EPO, but both methods have their drawbacks. EPO and blood doping greatly increase an athlete's hematocrit levels (volume percentage of red blood cells in blood), while blood doping has a further drawback as it decreases the amount of reticulocytes (immature red blood cells). This became the reason for injecting saline solutions and the implementation of hypoxic chambers to decrease hematocrit levels and increase natural EPO, respectively. During the 1990s, use of EPO ran high, as testing methods were almost non-existent, due to a lack of technology. Even today, testing for recombinant EPO using urine remains ineffective as the amount of endogenous EPO within urine is very low.

The World Anti-Doping Agency's development using isoelectric focusing (distinguishing molecules from their isoelectric point, or point where a molecule carries no net electrical charge) to detect EPO usage proved to be effective initially, as it forced many abusers to change to micro-doses in order to cut down the time window for detection to 12-18 hours after injection. This, however, changed the ability for WADA to properly detect EPO, as WADA performed "EPO tests on more than 2,600 samples, only nine of them were found to be positive . The low numbers of athletes caught by the test are somewhat contradictory to the overall increase of mean hematocrit values since recombinant EPO became available." By combining urine and blood analysis for the presence of EPO and high hematocrit levels, the accuracy of tests become higher, yet it remains an area for improvement for the future testing and the identification of substance abusers in sport.

Free To Play the Way to Go

JON MARTIN
OBI JON1138

FUTURE OF GAMING

I hope everyone's midterms went well, and that you are well on your way to recovering from Hell week (if your program has Hell Week of course). What better way to wind off some steam than to play some video games? This issue I'll be talking about the Freemium model for video game releases and its misuse in a recent game and Microsoft's new Glass system.

First of all, I'm sure many people have played a Free-To-Play game, especially since *Team Fortress 2* (*TF2*) joined their ranks. Most of these games are supported by the purchase of in-game items through 'micro-transactions' rather than an upfront price tag. In many cases this is a great way for a company to make money, and for gamers to play a great game. *TF2*, for example, is a great game even without any extras, so the gamers who don't want to shell out any extra money can play the whole game and never pay a dime. But players who want to dress up their character or get special items can go to town, customizing the different classes. In the same way that mobile gaming has become so popular, I think micro transactions owe a large part of the business to the human mentality. This meaning that spending $1 each for an item is better than spending $20 for a group of them, even if you end up buying 30 individual items. Despite this potential trap of spending a lot more than you really intended, I personally think that the video game industry needs to realize that people are sick of paying $60 for a game and never seeing any advancement or watching other players dwindle online. Releasing a game for a reduced cost (or even as a free to play format), then supporting it through its lifetime with new modes, missions, storylines, weapons/tools, and any other extras they can think of would allow for more people to join the game in the first place. Thus, this makes it worthwhile for new players to join partway through and help retain a larger portion of the gamers as there is always something new to play.

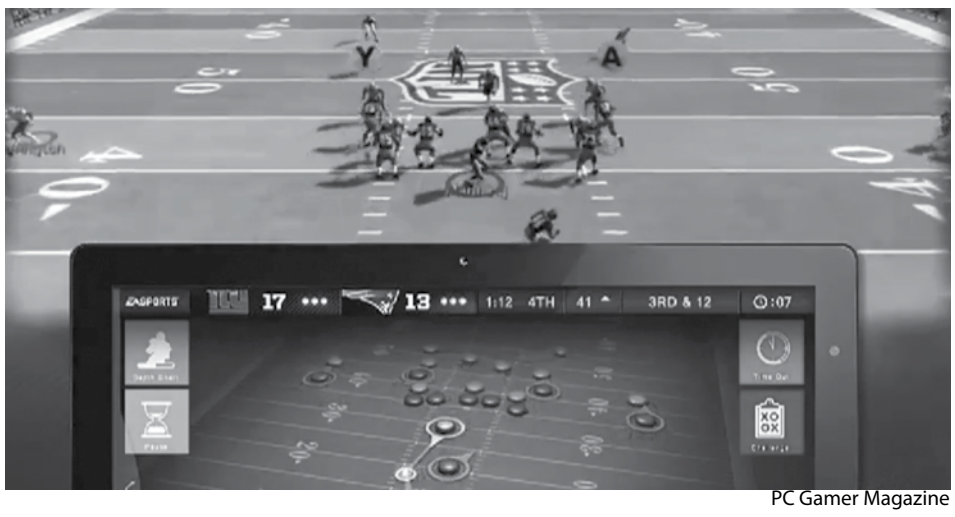
Then again, there are the companies that miss the point entirely and doom their games from the beginning. For example, *Forza Horizon* is a new racing game that was just recently released, featuring amazing locales and shifting day-night lighting. Cars within the game can be purchased using car tokens with real world value, approximately $1 each. So the best cars cost the most, but then shouldn't the game cost less? Nope, the game is still a full $60. There's no point annoying the gamers with reminders in-game that they can easily buy that faster car for just a few dollars more when they already paid for the game. While gamers have gotten used to additional DLC giving new vehicles or maps, it's different when the game starts asking for more money. What would happen if the game was released as a free-to-play model instead? Most likely, a much larger user base would develop both for racing and for the great vehicle custom paint portion of *Forza*, and the real die-hard players would shell out the cash for the best cars. Implementing a rank system would help ensure that similarly skilled gamers were matched for races instead of having a free player racing someone with the best car in the game.

Hopefully, big game companies will catch on to the realization that supporting a game through micro-transactions is a viable market strategy, and perhaps a smarter way to go in the current economy. How many times have two or more games come out in the same month and you suddenly find yourself shelling out over $120 for the new games? What if the game costs $20 for the basic version, in which you could upgrade your weapons in-game as you wanted? Game companies could release a season pass deal for DLC and weapons – by paying the extra $40 you are guaranteed to get all the extras as they are released, with no need for further micro transactions if you prefer. The possibilities are endless - let's just hope the big game companies don't ignore the business models of mobile games and suffer in the future.

On to Microsoft Smartglass, which is available now as part of the company's Windows 8 release. Now, I'm not really sure what I think of Windows 8 as it seems too much like a dumbed down mobile browser than a PC operating system. I don't think I'll be switching from Windows 7 any time soon. The program I am interested in is Microsoft Smartglass, which currently works on Windows 8, Android, and iOS devices. The program enables a tablet or phone to interact with an Xbox 360 and use the attached monitor/television as a secondary screen for games and apps like movies and Internet Explorer. I'm really interested to see how companies implement this new technology and how it will affect the future growth of the Xbox brand. Imagine having your entire screen clear when playing an adventure type game and having an interactive version of the game map and complete info on your inventory on your tablet. Or maybe, offer play selection for the next NFL during multiplayer, no more watching your opponent to make sure they aren't sneaking a look at your next rushing play.

I think the real benefit of Glass is that it doesn't require any new hardware as it uses the hardware you already have. The first response to the NFL example I gave would probably be that passing a tablet back and forth would be too annoying, or would prevent someone from changing plays at the last minute. But who says you have to use a tablet, if you both have smartphones? This means that each person can use their own device, a device that they are already familiar with. Of course, I think Glass is going to be commonly compared to the new tablet controller for the Wii U, just like Kinect and Sony Move were compared so much (remember Move? Nope, neither does anyone else). I think it should be a concern to Nintendo that Microsoft is releasing a product very similar to theirs – for free. Microsoft has the benefit of launching the program on a console with a very large install base and fine tuning its performance over the remainder of the Xbox 360's lifetime. Then when they finally announce that the next Xbox Glass can be built right into its operating system, with no need to change anything, allowing users to upgrade their phone or tablet whenever they want, to keep up with increasing technology. How long will it be before tablets will be usable to play a video game running off the console the same way the Wii U controller is able to? I don't think it will take that long - there goes Nintendo's entire claim to fame in the 'Next Generation' console war! I can't wait to install Glass on my phone and tablet and see what new features are available completely free, and see what the rest of this gaming generation has to show.

That's it for this article, be sure to check out Xbox Smartglass for Android and iOS (you could try it on a Windows device – but who buys Windows phones/tablets?), and some of the great free-to-play games available - Keep on Gaming.



PC Gamer Magazine

Microsoft's Xbox Smartglass app allows developers to implement new types of gameplay through smartphone technology

Playground Games

A beautiful game that misses the Free-To-Play opportunities

Point Vs. Counterpoint

Online Learning Should Replace Conventional In-Class Techniques

POINT

KRISHNA IYER
3B NANOTECHNOLOGY

With the evolution and proliferation of the ubiquitous computer, there has been an increasing incorporation of the use of computer-based teaching methodologies, including web-based teaching. The use of computers in the education system was proposed in the early 1960s by Patrick Suppes and Richard C. Atkinson in the psychology department of Stanford University. Since then, the use of computers has really proliferated due to the ease with which information can be transmitted between computers. With the advent of the internet, this possibility further propagated across the world and in the early '90s, the first online course management tool was set up.

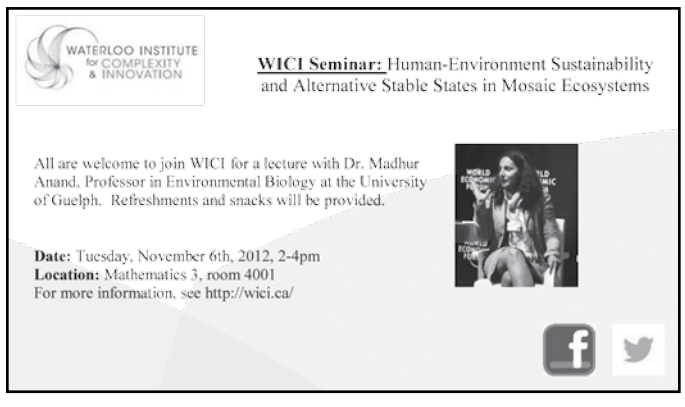
Online education plays an important role in distance education. Distance education expands the access to high quality educational resources while simultaneously alleviating capacity concerns and promoting equal opportunity education irrespective of socioeconomic status. The University of Waterloo presently offers 281 online courses. These courses allow one to satisfy their course requirements (especially for complementary studies electives) whenever they please and wherever they please. This has been a huge boon for students on co-op who would like to take interesting courses that are only offered seasonally. It thus allows a huge degree of flexibility as far as sequencing the order of courses required in order to satisfy all the requirements. For example, if I want to take a course on "biophysics" because I am interested in the topic, I can take online courses during the co-op term to satisfy the academic requirements for a CSE while simultaneously freeing an empty slot for when I get back to campus (thus allowing me take other courses that interest me).

In regions of the world where education is normally a privilege enjoyed by a few, online education allows for a larger audience to develop their skills in a successful and effective manner. This is evident by the fact that the biggest university in the world with 3.5 million students, is the "Indira Gandhi National Open University" in India. This University graduated 135000 people in the year of 2010. Evident from here, online learning is an effective (some would argue that it is the only) way to manage such massive volumes of students. The effective dissemination of educational information via electronic methods also means that a larger portion of the population have access to educational services for improvement of national human resources. Evident from recent trends, there is vast amount of knowledge required for the success of an individual in today's job market and online learning serves as a viable resource for the furthering of education well past the constructs of normal lecturing and assists the holistic development of an individual.

Online education is also a mighty convenient way to learn. Different individuals enjoy different methods of learning. The fact that online education often allows the individual to take lessons whenever in the day they please, this allows for the individual to take lessons at their own pace and at their own choosing. This allows for one to be engaged in learning whenever they please while still managing other activities, such as a job. This idea of asynchronous learning allows for a student to complete their work in a low-stress environment. An often criticized aspect of asynchronous learning is the fact that the student cannot engage with the instructor in a manner similar to traditional learning. A person cannot raise his hand to ask a question in the middle of the lecture and two-way interaction is limited. However, in my opinion, this helps the student improve his research skills to find the answers to his questions. With the advent of the internet and the abundance of information resources, effectively finding what you are looking for is a skill that is essential in today's competitive work environment. People have had an increasing access to resources unlike ever before and extracting the useful information for heaps of only slightly relevant data is an essential skill.

Recently, there have been huge leaps and bounds of evolution in the online learning over the past few years. With the advent of broadband internet, video learning has enabled synchronous education over the internet via video sharing. An example of this that I have seen personally is the service offered with the B.C. provincial government for the tutoring of high school children. Furthermore, there has been an increase in what some people call "open learning". Various NGOs have effectively used the internet for the development of education. Examples like Khan Academy, MIT OpenCourseWare, Udemy etc. are a prime example of what is possible through effective online education. Despite these resources being not for credit, they have definitely helped in the effective understanding of concepts complementary to what is taught in class. These websites have helped me understand several fundamental concepts better than any friend's explanation. Access to these resources has really promoted the acceleration of learning for children who are otherwise bored by the regular constructs of schooling. Online resources such as Code Academy has enabled eight year olds to develop apps, websites and other such projects.

In conclusion, I think online education is an important tool for the furtherment of human resources in society. Online education has enabled things that would otherwise be deemed impossible. Although there are a lot of avenues for improvement of technology, it has had a massive impact, despite being only two decades old. I envision a bright future for online education and hope that the improvements continue the way they have thus far.



COUNTERPOINT

KYLA RODGERS
1A CIVIL

When it comes to learning options, it's not just university students that have come to increasingly rely upon technology for research, computations, and access to digital course resources to augment their learning within the conventional classroom. Students also have the option to take entire courses online through a specific website for their school, or a network of schools. While some students prefer taking courses using the materials provided online for their course, others simply can't learn as well online as they can in a classroom.

A variety of assessment models have been developed over the years to describe how students and people in general learn new material presented to them, and the approaches they may take to further understand what they have been taught. A student's learning style is directly related to their preferences in how they receive information, how they process and begin to understand it, and what practices and exercises they use to retain the information.

A student learns and understands material best in ways unique to them, and what may be a great resource or tool for one student may thoroughly handicap another's ability to learn. For example, most of you reading this have come across students that often ask multiple questions of the professor during a lecture. That student may learn best by taking in the information and processing it during class, immediately seeking help when a new concept just doesn't compute.

Such an inquisitive student may find Interactive learning through discussion and explanation is their preferred way of learning, but is that learning style transferrable to the setting of an online course where lectures may consist of lecture notes, a recording, or both? Imagine sitting next to someone in the library, when suddenly they throw their hand up in the air as though to ask a question, but there's obviously no one around to answer. Soon enough they're waving their arms around like a maniac trying to land a plane (and maybe land a hit on you by accident), and as you pack up to move to a less eventful section of the library, you see headphones in their ears and that they're on a website for online learning. A professor on a recording can't answer their live questions!

So, for some online courses, discussion and questions are facilitated online through message boards and e-mails between students and professors. While this is a way to ask questions and keep track of answers, not everyone answers e-mails or questions online as reliably and quickly as they do when the person asking the question is right in front of them.

A common complaint from students, especially first year students, is the pace of a course. It's easy to say a course is moving too quickly or is going at a snail's pace. A benefit of online courses that is often highlighted by those running them is that students can learn at their own pace. While this may be true, there are still assignments, quizzes, and projects with specific due dates assigned to them, implying that a certain portion of the course's material must be understood within a certain time period, much like the equivalent course taken on-campus.

Course projects can be an unavoidable occurrence for students, along with working and collaborating with others taking the same course. Even when classmates see each other in class, it can be hard to organize and share the work load of a project, let alone finding time to work on it together as needed. Tools such as Google docs allow students to edit the same document online simultaneously, but there is still the issue as to whether online group work methods are as efficient as getting together as a group and being able to communicate directly without having to text, e-mail, or message every new realization or solution.

Online courses are often used as an alternative to on-campus courses by students who encounter schedule conflicts when enrolling in classes each term. Others make use of online courses for convenience, to catch up or move ahead of a class, or perhaps while away from Waterloo on a co-op term. The main word used above was an alternative. While online courses are a viable and justified decision for a lot of students, relying upon them excessively may not be the wisest choice.

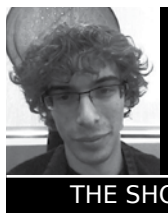
On-campus lectures, tutorials, and labs allow students to further develop note-taking skills, along with work and study habits specific to being around others in an environment that is often far from quiet. Another key skill that is produced from being around others throughout the day is the ability to communicate properly according to the environment students find themselves in. If you're hanging out with your friends, you'll talk as you usually do – using any vocabulary or attitude you desire. When it comes to interacting with professionals such as professors, advisors, and faculty members, a student should learn how to communicate appropriately.

Verbal communication skills are key in any face-to-face interview or in many co-op placements, yet there are many students who may carry their lives out through their computer by use of e-mail, online messaging programs, and social networking sites such as Facebook or Twitter. Learning how to talk to someone in a professional and courteous manner can be learned outside of the classroom as well, but why ignore an opportunity that you're paying tuition for anyway?

For those students who don't have distance or other personal reasons factoring into their decision to take an online course, they should carefully consider and research whether it is the right education option for them. The decision can be based around, but not limited to factors such as any convenience it may create, educational experience gained or lost by learning online, and whether their individual learning preferences and habits would transfer well to an online based education community.

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

Henry Wadsworth Longfellow's Haunted Houses



JOSHUA KALPIN
2A SOFTWARE

THE SHORT SHORT REVIEW

Hello readers, and welcome back to yet another issue of the Short Short review. Just as a reminder, in this column I attempt to review a short film, story or poem (wow change!) in a really short number of words. This week I'll be reviewing Henry Wadsworth Longfellow's (BEST NAME EVER) "Haunted Houses" in well, a short amount of words because I'm too lazy to set a limit this time and because it is Halloween-ish.

To start, I want to give a bit of background on the author. Henry Wadsworth Longfellow is a famous American poet born in 1807. He is known for writing lyric poetry and is apparently quite famous. Well enough about him. POETRY TIME!

The poem is well, not exactly accessible. I have come to discern that the title of the poem is derived from the first stanza "All houses wherein men have lived and died/Are haunted houses. Through the open doors/The harmless phantoms on their errands glide,/With feet that make no sound upon the floors." However, I've come to the conclusion that the poem is trying to tell the reader that every house has phantoms of those that lived in it before, and one should not forget about them.

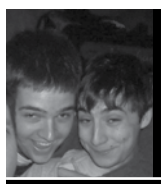
So a little about the form of the poem, as I pretty much summarized the meaning of it. The poem is made up of four-line ABAB stanzas, where the first line rhymes with the third and the second rhymes with the fourth. This makes the poem have a haunting tone when read, which suits the topic quite well.

Overall, I'm going to give this poem 2.5 pumpkins out of 5. It could be that I don't really understand it or I'm still grumpy from midterms and my brain isn't working. I promise next week we'll have a fantastically new and shiny review!

pixabay.com

I'd imagine the haunted house in the poem would look like this.

Darker Beers for Dark Days



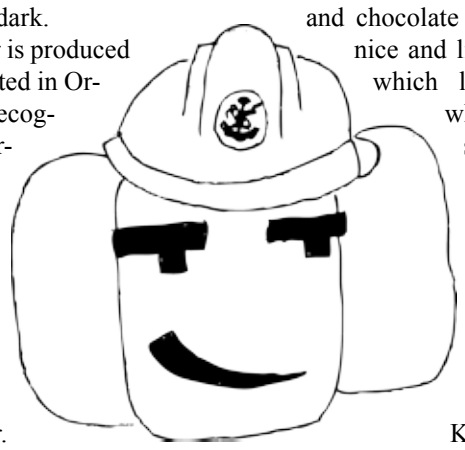
GRAEME SCOTT
3N CHEMICAL
ERIC EVENCHICK
3N ELECTRICAL

GETTING GOOD HEAD

Well hello again friends. It's that time of year again...Halloween. Unfortunately our last article was already Halloween themed (Nightmare on Mill St.), so the theme of this article will be somewhat of a stretch.

Eric isn't here, so I'll be writing this week's article with Colin Macpherson, DJ Flynn Lives, and Megan Pollock, who once again isn't drinking the same beer as us, but is allowed to stay for some reason.

As you may have noticed, the days are getting shorter. They start dark and get dark early, and with Daylight Savings coming up they'll be getting even darker and earlier. As such, we will be using the theme of Darkness for this weeks column. This means that we will be drinking a rather dark lager called Rogue Chatoe Dirtoir. As Colin points out, they likely named the beer by trying to find a classier name for dirt, which is kind of the same colour as the beer, which is very dark.



Rogue Chatoe Dirtoir is produced by Rogue Brewery located in Oregon, a state you may recognize from the game Oregon Trail (and as far as I know, that is the only interesting thing about Oregon). The beer is a Black Lager, which is rather deceptive seeing as it looks and smells very much like a coffee porter. Black lagers have the rich chocolatey taste of porters, are generally lighter, but still quite rich.

The beer itself comes with a nice foamy, light brown head with a very strong and inviting coffee smell like a warm log cabin on a cold winter's eve. The beer is has a very, very dark brown colour to it with a light brown layer of residual foam on top. The beer is very rich, with strong coffee and chocolate flavours. There is a nice and light hoppy aftertaste which lingers for a short while. The beer is very smooth considering how dark it is, going down very easily.

Much like last week, we will once again give the floor to those who assisted in drinking this lovely brew.

Kent says: "Very rich but not overly so. *Hair flip*. Full bodied and very flavourful. Slightly bitter and hoppy aftertaste. Not as heavy as it looks. *Hair Flip*."

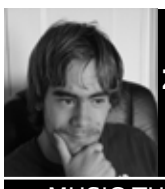
Colin says: "The beer is rich, dark and chocolatey, like coffee." He also had a lot more to say, but I also didn't write it down because Colin talks a lot.

Megan says: "I like it. (Even though she isn't drinking it). Smells like coffee on crack (which probably isn't valid). After a few glasses even Graeme looks good. I play instruments." Megan isn't allowed in our articles anymore. Megan is also drinking Nightmare on Mill St now, which she didn't drink last time. And she likes it. Moral of the story, our recommendations are very good.

On the whole, I would give this beer 4.5/5 Surly Bartenders. It is very, very tasty, and is definitely one of the best dark beers I've drank. It is very smooth, but also very flavourful with an enjoyable after taste. The picture on my glass is also of a pirate, which is fun.

Next week we will discuss the best beer to drink during the upcoming NHL season (hint: the strength of the beer is related to whether or not the season stays locked out - hinthint: it probably will).

Rockin' and Rollin' Along the Music Scene



ZACHARY GINGRAS
1A NANOTECHNOLGOY

MUSIC THROUGH THE (P)AGES

Hello fine folks, and welcome to another edition of Music Through the (p) Ages. This week I'm going to focus on the unforgettable, and still growing, world of Rock and Roll. Rock music has a very distinct sound because it has a very distinct instrumental arrangement. All rock music is based upon the guitar and drum kit with a bass guitar and vocals being a common feature. However, even with this restricted instrumentation rock is still a large genre, having developed greatly over the years.

Rock and Roll

Originating from the blues style of jazz music, there was still a distinct residual bluesy feel to the first rock songs; however, the new instrumentation breathed new life into the music. Keeping an upbeat swing, rock music busted onto the scene in the '60s. Stars like Elvis Presley helped rock come into the spotlight with songs such as *Blue Suede Shoes*. From this came many talented musicians, who focused on creating more involving guitar and vocal parts.

It was near the end of the '60s that the electric guitar came into the spotlight and with it, a brand new sound for rock music. Now, what article about rock music would be complete without a mention to the guitar god himself, Jimmy Hendrix? Go listen to *Voodoo Child*. Now. Do it. You have not heard someone play guitar until you have heard Hendrix.

The Golden Age

It was at the beginning of the '70s when the electric guitar became more mainstream and Rock developed a distinctive sound of its own. A more prominent bass line and heavier drum track also helped to create the flavor that we know and love as rock. It was through this that my personal favourite band of all time, the Beatles, came into the spotlight. I can't do decency to them with just one song, because they performed so many great songs, bringing new sounds of rock forward. Listen to *Hey Jude*, *Blackbird*, and *I Saw Her Standing There*.

It was around this time that another musician came into the spotlight who changed rock forever. David Bowie. He dared to go where no musician had gone before and brought an entirely new idea to music (well, to rock music at least). He made his music tell a story. Nowadays, that seems so common but that's only because of how successful such a style became. This opened the doors for rock opera's and many new bands to come along, one of the most famous being Queen, and its *Bohemian Rhapsody*. It will say what I don't have the word count to describe.

And now we progress slightly closer to modern day rock with the development of heavy rock, and with a transition, rock music started to become more performance oriented. I'm sure most people know the face of Kiss more than their music. This is what started off music as also being about how it's presented. With the emergence of heavy rock, bands like Led Zeppelin came into the spotlight with songs like *Black Dog*.

And that brings us to the present. The rock of today is more blended with pop music, creating new pop rock and hip-hop rock styles that are as ever changing as modern music. But regardless of what age of rock the music comes from, it will stay as an eternal part of our musical history, distinct with both its sound and style.

Next issue, we move onto country music, and the unending creativity of some country musicians. Until then, keep your passion alive!

A Not-That-Variable Pumpkin Bread Recipe

CAITLIN MCLAREN
1A CHEMICAL

A HIGHLY VARIABLE X RECIPE

Halloween is here! You may or may not be wearing a costume right now, but everybody loves candy on Halloween. Of course, Variable Recipes has a seasonable recipe at all times.

No, of course it isn't a candy recipe. Who makes candy? You buy candy, silly. It's like, $0.99. What else is Halloween about?

Pumpkins, that's what!

Here is a pumpkin bread recipe. It is not as variable as most variable recipes, and that is because it is baked goods. If you mess around with baked goods too much, they will be completely ruined. So, this week only, do as I say! If you are very good, you may get a few variables at the end. (Didn't you have enough of them during midterms?)

Here are the things you need:

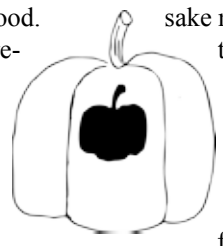
- 1 (15 ounce) can pumpkin puree
- 4 eggs
- 1 cup vegetable oil
- 2/3 cup water
- 3 cups white sugar
- 3 1/2 cups all-purpose flour
- 2 teaspoons baking soda
- 1 1/2 teaspoons salt

Yes, a list. Get over it.

Here are the things you want:

Ground (cinnamon + cloves + nutmeg + ginger). Don't add more than half a spoonful of cloves.

Mix together the pumpkin puree, eggs, oil, water, and sugar. Mix them good.



Now, mix the rest of the ingredients in a different bowl. When you have two mixtures, mix the mixtures together. Don't stir violently - just fold them in together gently (No, I don't know why it's so convoluted. Just do as I say! If you don't, your bread will be as hard as a rock).

Now comes the fun part! If you have anything you want to add in to your bread, now is the time. You can put in the good old staples (chocolate chips, nuts, and raisins), or you can do something very scary indeed. Put in gummy worms or ladies' fingers (the cookies, you freak). Fold these extra ingredients in very gently, and for heaven's sake make sure that the mass of the batter is greater than the mass of the solutes (the added goodies).

Midterms have had a detrimental effect on Iron Warrior staff –Ed..

Put the batter in greased and floured loaf pans. (That means you sprinkle flour on the pans after you grease them, you ninny.) Bake them at 350 degrees for about 50 minutes, or until a skewer poked in the top comes out clean.

Let cool and enjoy!

Caution! This One May Make You Erase Your Head

ELIZABETH SALSBERG
1A NANOTECHNOLOGY

SCI-FI MOVIE REVIEW

Happy Halloween, dear Readers! The month of spooks and horrors has arrived, and with it comes a new (old?) genre of utterly disturbing terror. For this issue, I have been assigned to review the 1970s horror/drama Eraserhead, directed by David Lynch. While horror has never been one of my specialties, I am determined to give you a fairly good idea of what exactly this retro movie is about.

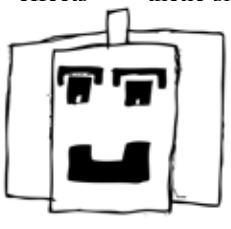
The movie starts off with a somewhat deformed, skeleton-like man sitting in a planet, controlling several levers. He launches a creepy sperm-like mutant into a pool of water. This sets the stage for the rest of the movie, defining the psychological plight of our hero, Henry. *Read on if you dare*

We are then introduced to Henry and the devastated, industrial landscape in which he lives. Shot in black and white, this movie appears to be set in post apocalyptic times. The cinematography gives the viewer a creepy sense of fear and loneliness. Every camera shot is well planned out, focusing more on the setting than the actual characters. The empty landscape mirrors the psychological state of the characters and their dreary, existentialist lives. The background music also adds to this air of utter desolation. The sound is often so quiet that it seems to just tickle the ears, engulfing the listener in the creepy, unknown and empty universe in which Henry resides.

Soon we find out that Henry is now a father. Unfortunately, this is no typical baby. Once again, we have an astronomical feat of special effects rarely found in '70s films: This baby is more repulsive and disgusting-looking than words could possibly describe. It is in fact a technological device—certainly not your twenty-first century CGI!

Later in the film, we are transported to the inside of Henry's radiator (yes, he spends an infinite amount of time looking at it and no it's not very interesting) where a strange puffy-cheeked lady is dancing and singing 'Everything is fine in Heaven'. This lady actually lives in the radiator but don't be disappointed if you don't find her in yours. She reappears multiple times throughout the film. The sets of these particular scenes in the film resemble a small, empty theatre showing a bad play. The black and white print and the music again add to this effect.

By this point, poor Henry probably thinks he's lost his mind. It certainly looks as though he's lost a lot of these past couple of minutes- or would that be days? Lynch does not explain much, as the viewer is meant to make his or her own interpretations. This movie explores the effects of fear on the human mind. It thoroughly describes (perhaps in somewhat overly troubling detail) Henry's fear of marriage and fatherhood, and is likely intended to reflect these fears in the people of today's society. Of course, the storyline is completely fictional, but the imagery and sound effects speak to our subconscious in a way that most movies simply do not.



If you are one of the select few that is comfortable with gruesome body horror and has a very open mind, then definitely give this one a try. Eraserhead, however, did become a pivotal piece in the horror genre, particularly considering when it was made. Lynch chose to shoot in black and white when he could have shot in colour. He also chose to limit the amount of dialogue, leaving the viewer to 'fill in the blanks' and have their own experience. It also laid the foundation for later popular horror flicks and was chosen for preservation in National Film Registry by the US Congress, likely for its cultural and aesthetic significance.

The bottom line is: unless you are a truly dedicated horror junkie, this one is probably a thumbs-down. The cinematography and soundtrack are original and well executed, but in the end these elements are simply not enough to make Eraserhead enjoyable for everyone. This concludes this week's review. Have a spook-tastic Halloween! Just don't spend it staring at your radiator…

Topz (With a Z): Top Christmas Gifts

WADE WILSON & EDWARD BLAKE
3Z HANDSOMENESS
TOPZ (WITH A Z)

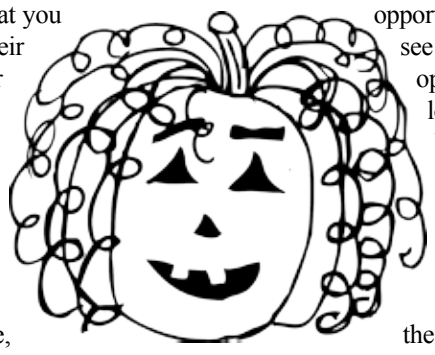
Tis the season to be jolly! Fa-la-la-la-la la-la-la-la. Topz is here to curb your folly! Fa-la-la-la-la la-la-la-la. Don we now our gay apparel, Fa-la-la fa-la-la la-la-la. Dictating themes is Farzi's peril. Fa-la-la-la-la la-la-la-la. With Christmas just around the river bend, you must be wondering, "what ever will I get the various people in my life to compensate for a year of lazy friendship?" The answer, of course, is the gift of love. And how do we show our love? By spending money: after all the richer you are, the more love you have to give.

Money: A present is a way to show a person how much you know about them: but in doing so you rob them of their mystique. People want to be seen as mysterious and in buying them the perfect present you make them feel more transparent than your grandmother's negligée. That's why we recommend salvaging their grace by giving them literally the best gift of all: money. With money they can get whatever they want! This set even encompasses those fucking awesome granddad's clothes from the thrift shop. Of course, if you really insist of forgoing cash, like an aunt or uncle afraid of your nephew or niece buying drugs, you can always make them feel translucent with a gift-card.

Coal: What if your beloved friends don't deserve a gift? What if you are dissatisfied in their performance over the past year? Well, you certainly can't mollycoddle them with undue presents. Being the good person you are, you want to help them be a better person, so help them realize what a disappointment they are in your eyes with a lump of black coal. This is especially effective with young children who would believe that Santa Claus doesn't love them anymore, thus validating your own faltering fondness for the unlikeable child. If you want to be a little less harsh, you can always get them an iPad mini, to show that you care but just not to a full-sized degree.

Food and Water: Food and water is probably the best thing which any human being can receive. If the recipient should scoff at your offering you can point out their petty and bourgeoisie first world problems. Oh boo-hoo Honey Boo-boo: you have too much food and water. This is a bullet-proof argument as anyone struggling with a problem beyond the basest of Maslow's hierarchy is nothing more than an asshole. Yes this Christmas remind your friends and family that anyone having trouble in school, or with sleeping, or are upset about missing an important event, that their problems are invalidated by people living in impoverished countries. KONY 2012: we'll find a cure.

Silicon implants: With age, you begin to notice your friends' and partners' parts are faltering, making them no longer fun to play with. They're lagging quests are starting to make you bored with them and you're beginning to notice that you never really liked their personality, just their flashy equipment. Fear not, however, for there is a solution: this Christmas give the gift of an upgrade with silicon implants. Yes, with a little expenditure, you'll be able to give them a good RAM module, upgrade that tight slot to be compatible with your Blu-ray, and a flash that will guarantee improved peaks. With all these upgrades they'll be getting headshots faster than ever.



Drugs, sex and alcohol: Does this point really need to be expanded upon? It's easy and always well-received.

Gym Membership: What better way to tell the people that you love that their fat is getting in the way of said love than by giving them the gift of a gym membership? It really is the best time of year to do this as a rejection of this present will only be an admission of their disgusting sloth and ironically-named love-handles. In the case of a loved one who is already hitting the gym but it's all bulk and no cut: give them a chocolate bar (chubbies love those). However, the caveat is that it's laced with a tiny symbiotic tapeworm: the worm gets a new home and your friend gets a dietary aid. It's like the gift a personal trainer that is always with them. But what if the one you adore is a butterface? In this situation, we recommend getting them a lot of make-up. If you give it to them in a brown paper bag, it works double as providing a back-up solution to their terribly inconsiderate ugliness. You do it because you care … about how you look in public with them.

As an engineer it's your job to optimize every process and get the most out of every opportunity. The naïve might see Christmas as just an opportunity to show your love for those around you, but you engineers can understand the need to also give to yourselves. For those of you who don't celebrate Christmas, eight lesser versions of these presents work just as well for Hanukah and we don't really understand how Kwanzaa works but it seems pretty cool.

Too Geeky for Humour

By Kyla Rodgers
1A Civil

Sinking Cardboard Ships Ahoy!

DUSHANTH SEEVARATNAM
3B NANOTECHNOLOGY

On November 12th, engineering students from a variety of different departments came together for one of the most breath taking, adrenaline rushing, high speed Enginuity events ever: the third ever Cardboard Boat Race! However, this time it was not just a mere race; it was a full out DEMOLITION DERBY!

This term, teams of two were allowed to make their own boats before the date of the competition; however, this was not mandatory. Each team was still provided with building time and materials before competitors began dueling out on the PAC pool. Many different styles of boats were created, ranging from the simple thick base and thin wall to a set of boxes taped together. The TOOL even made an appearance to initiate the building session.

The demolition derby rules were fairly straight forward. The eight teams competing were split into two heats, each consisting of four teams. The objective of the competition was to collect as many floating bobs as possible, which were constantly being thrown into the pool by sideline attendees. This gave teams two possible methods for winning a round. One: collect more bobs than any other team; or two: be the last team standing in the pool. The winners from each round then competed in a head to head round where the winner took all and was crowned the champion.

Both rounds consisted of fierce competitions with some teams even struggling to make it out of the starting gate. Round 1 started the competition off in a spectacular fashion. Two out of the four teams were demolished very quickly, sparking an intense head to head battle. The two teams managed to survive the entire round by collecting all the floating bobs in the pool, with one team managing to collect just 3 more than the other. However, in a surprising turn of events, the winning team could not qualify for the next round because their boat was too badly damaged to move on. This bumped the second place team to the champions round. The second round was not as long. It was more destruction-focused than anything else with 1 team left standing very quickly.

Surprisingly, both of the two qualifying teams were from the Nano 2014 class. One team posing as QNC researchers, while the other posing as Troy and Abed. Unfortunately for team Troy and Abed, their morning show boat collapsed in on itself very quickly in the champions round, meaning that the winners of the third Cardboard Boat Racing competition were the QNC researchers!

Look out for the next Cardboard Boat Racing competition in a PAC near you.

Dushanth Seevaratnam

The Heisenbarges and Ridgid Pirates duke it out for the ultimate prize

The Iron Calcudoku

The Iron Warrior Is Adding to Horror of Midterms

JACOB TERRY
2T NANOTECHNOLOGY

1 -		108 *		20 +		3 -	7 -	
8			4 -		4		2 -	1 -
22 +	1	8		0 -				
		16 +		8 /		504 *		17 +
	6 *		5		72 *			
20 +	5	2 -		14 +		192 *		
		1680 *			6 *		4 -	
				9		1		22 +
1 -			3 +		1 -			

Rules

1. Like a Sudoku, each row and column has the numbers 1 to 9 only once.
2. In each cage, the numbers should follow the arithmetic operation at the top left corner of the cage, and should give you the number at the top (e.g. for 15 +, the numbers in the cage should add up to 15).
3. A number can be repeated in a cage as long as it is not in the same row or column.
4. Cages with only one number should be filled in with that number.

Sudoku

#2012-12

JACOB TERRY
2T NANOTECHNOLOGY

Easy

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

Medium

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

Hard

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

Ultimate Iron Warrior Pumpkin Search

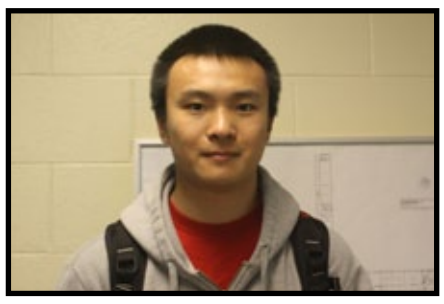
Find all the pumpkins distributed throughout the paper and match them to the descriptions below. There are no prizes doing this; this is just to encite laughter.

1. ***Franken-Tool Pumpkin***
2. ***Farzle Pumpkin***
3. ***QQ Pumpkin***
4. ***Belcurve Pumpkin***
5. ***Evil Nano Pew-Pew Pumpkin***
6. ***Crusading Pumpkin***
7. ***Jelly-of-Majestic-Moustache Pumpkin***
8. ***Inception Pumpkin***
9. ***Genetically-Engineered Pumpkin***
10. ***Tortuga Pumpkin***
11. ***C3P0 Pumpkin***

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

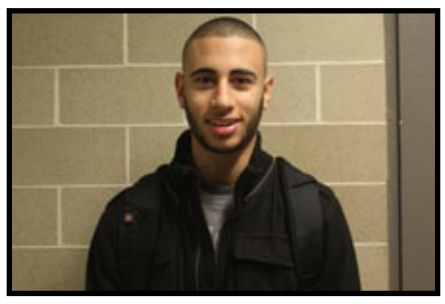
THE IRON INQUISITION
Brian So, 1A Nanotechnology

"What is the most ridiculous Halloween costume you've worn or seen?"



"A periodic table!"
Zeddy He, 3B Electrical

"My friend went as a kissing booth one year!"
Patrick Chan, 1A Chemical



"Mr. T with a gold chain."
Youssef Ibrahim, 1A Electrical

"My bro dressed up as a computer with an egg carton keyboard!""
Justin McGirr, 2A Software

"A giant glass of Arizona."
Shadmaan Mahfuz, 1A Electrical

"I went as a 'touch lamp' that turned on when you touched me...inappropriately!"
Alroy Almeida, 4A Mechatronics