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THE IRON WARRIOR

THE NEWSPAPER OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

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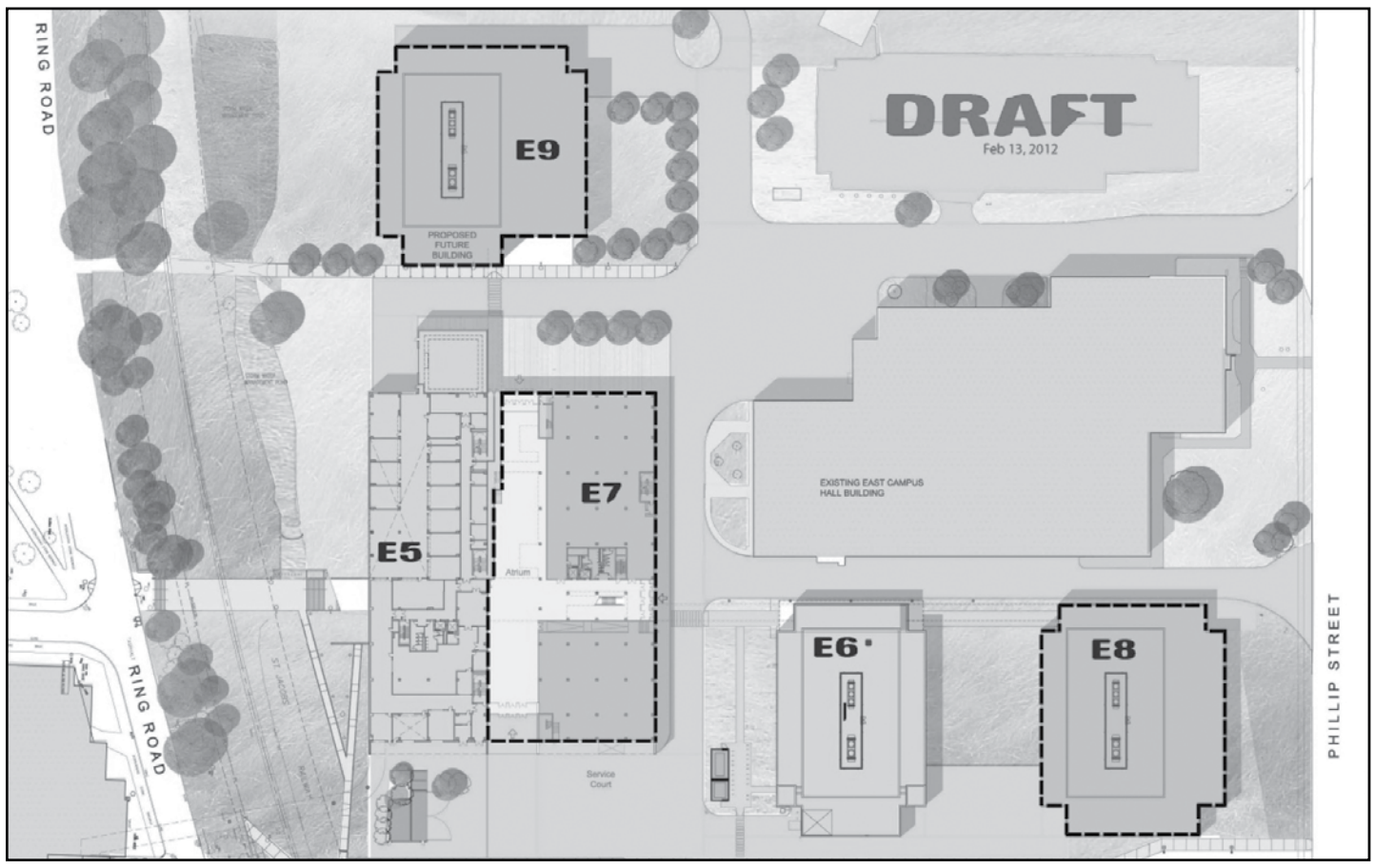
Vision 2015: Why You'll Never Want to Leave

AMMAR MASUD & BRENT MCCLEAVE
3A NANOTECHNOLOGY &
2B NANOTECHNOLOGY



Faculty of Engineering

The current draft of the Engineering East Campus Site Plan.

With the success of Vision 2010, the Waterloo Engineering faculty has raised its expectations for Vision 2015: Building on Excellence. The ambitious new plan aims to maintain "our trajectory of excellence and finding ways to constantly innovate and improve". The plan outline covers faculty, staff, undergraduate studies, graduate studies, research and more. We will discuss several points, but for an appreciation of the entire Vision 2015 plan we suggest taking a look at it on the university website.

Possibly the most significant change of Vision 2015 for undergraduate students will be associated with the development and implementation of a new engineering undergraduate program. The department of Systems Design engineering plans to create a Biomedical Engineering program by 2014. The aim of program is to graduate students with skills related to the design and application of biomedical systems to solve health-related engineering problems. The specifics of what will be included in this new program have not been detailed.

Another clear change to undergraduate studies will be the revamping of our co-op system. Currently most programs include six four-month co-op terms, while nanotechnology engineering has two eight-month work terms. There are plans to make one eight-month work term available in each of the undergraduate programs, since employers would prefer to have senior students become more involved in their projects. Whether these eight month terms will be optional or mandatory has not been specified. In addition, a plan to introduce two-term jobs for junior students is being considered for implementation. Many employers have indicated that it would be preferential to hire the same student for both their first and second work terms, since this would eliminate the time and resources required for training a second student.

In order to ensure that students are given access to more contemporary and innovative tools, the university is investing $8.5M to the Vision 2015 Undergraduate Laboratory Enhancement Initiative. These funds, spread over five years, will be used to upgrade teaching equipment and laboratories in first-year labs, as well as to improve on the experimental curricula already in place. In addition to revamping current labs, new labs will be placed in two new engineering buildings: Engineering 7 and Engineering 8. These two buildings, in addition to a draft of Engineering 9 only seen in an illustration, have been planned for construction east and north of E5. In addition to these new buildings, the renovation of the DWE C-Wing will provide even more lab space. The combined $120M of the projects will be financed by the university and faculty, government sources and private funding.

In the past several years, the size of the Faculty of Engineering has increased drastically with the introduction of Mechatronics, Management and Nanotechnology engineering programs. Vision 2015 calls for stabilization of the student body size, citing a potential increase in undergraduate student intake of approximately 3.5%. In addition to changing student body size, the university aims to increase faculty members who are licensed professional engineers for ongoing accreditation. This is a continuation of Vision 2010, by promoting faculty to register when they become eligible. The expected growth is from the current 78% registered to 86% by 2015.

The infamous stereotype of gender ratios in engineering has also been accounted for in Vision 2015. The university plans to tackle the issue with ongoing outreach

Continued on BIOMEDICAL on Page 3

Bike Share Coming to Waterloo?

Non-profit looks to bring BIXI-style system to Region

THE IRON WARRIOR
NEWS BUREAU

Montreal started it. Toronto did it bigger. Now it looks like Waterloo Region may be the next major Canadian city to get a bike share system similar to BIXI or B-Cycle, both bike share providers that have bikes carpeting cities around the world, including Montreal's and Toronto's downtown cores.

Grand River Public Bike Share (GRPBS), the local-NGO leading the initiative, held an Open House event in the SLC on Wednesday, May 23 to present their vision, answer questions, and ultimately build support for the project. The event saw a steady flow of students, staff and faculty coming through and learning more about the project.

A bike share system consists of a number of automated stations located at major commercial and community attractions. Individuals with membership can pick-up a bike, ride it to their destination, and drop if off at another nearby system. These systems are meant to provide a convenient, sustainable and healthy form of transportation for trips ranging from 1 to 8km, which are distances easily traversed by bike.

GRPBS is working towards making such a system a reality in Waterloo. They currently envision a system of approximately 10 stations spread around the community, in areas frequented both by student populations and local residents, such as UW and Uptown. What makes bike share systems so attractive is the ease with which the system can be expanded as demand in new areas grows.

Some may question the benefit of such a system in the Waterloo area. The obvious benefits include reduced air emissions, cutting down on traffic congestion, alleviating parking shortages, and helping to fight obesity. All of these are issues, especially on the uWaterloo campus.

More importantly however, they offer a low-cost solution for "the last mile" of public transit trips. Suddenly, getting off the iXpress on a Sunday and having to head to Amos and Erb doesn't have to involve waiting 60 minutes for the next bus, or a long walk. With students now living further and further from campus, and often away from major frequent transit routes, bike shares offer a realistic solution to ensuring mobility.

Throughout the rest of the summer, more information sessions and events are planned, to help build support and get feedback. Be sure to fill out the following survey to give your input and feedback into the project: http://bit.ly/bikesharesurvey.

The bike share initiative originally started as part of the Active Community Transportation (ACT) working group of the uWaterloo Sustainability Project (UWSP), a FedS student service dedicated to supporting sustainability initiatives on-campus. Following maturity, the project was taken over by the current community group in order to ensure long-term continuity and support, and to expand community involvement. UWSP and ACT continue to support the project.

To stay up-to-date on the initiative, "Like" the Facebook 'Grand River Public Bike Share (GRPBS)' or follow them on Twitter at @GRPBS.

Letter From the Editor

Vision 2015 and Other Ramblings of a Tired Nano

JACOB TERRY
EDITOR-IN-CHIEF

Welcome back, enthusiastic reader. Thanks for opening another issue of *The Iron Warrior* and reading our carefully written articles. You'll be pleased to know that I remembered to include all of Stuart's clues this time, so you should have a much easier time solving the crossword.

The Faculty of Engineering has released their Vision 2015 plan to the masses, so be sure to read the link as mentioned in our front page article. You can shift your eyes a little to the right for a second to finish Brent and Ammar's synopsis. I would like to quickly thank the two of them for going through over a hundred pages of charts and graphs to summarize the Vision 2015 plan for the engineering student body.

The two big parts I took out of the Vision 2015 plan were the East Campus Plan and the biomedical engineering program. Perhaps it's my bias of learning about buildings, but I've fonnd the news about the east campus most interesting. The C&D in the Engineering 7 Atrium would give our faculty a second discounted food service, which I'm certain the Systems Design, Chemical, ECE, Mechanical and Mechatronics members will strongly appreciate. I'm not entirely sure what Engineering 9 will be used for, but it's nice that the faculty will give us a little tease with respect to the new buildings future students will be seeing.

The biomedical engineering program will bump up our offered undergraduate degrees to fourteen. This program will fill a verbal void missing in our admissions brochures that more medically-inclined prospective students are looking for. At the rate the engineering buildings go up, I'm sure Engineering 14 will have a hospital with the biomedical undergrads attending lectures on the first floor.

Our Point vs. Counterpoint this issue takes an explorative look at the Men's Centre controversy at Simon Fraser University, and I would highly recommend reading what Kevin and Farzi have argued on page 5. This topic was the source of much discussion in the office over the past week and we found it worth reflecting on, at the very least.

The summer Engineers Without Borders Junior Fellow, Jimmy Ehrman, has arrived in Ghana and has been putting out stories like crazy. Take a look at the entry we've posted on page 10 to read about his initial adventures and thoughts. Unfortunately, due to some complex challenges with the number of articles we had versus the number of pages we printed, the picture I had of him with his Ghanaian friends was reduced to a business-card size, which doesn't do the picture justice. I would recommend checking the blog link at the end to read more and see the pictures he's put up in their full resolution.

I had the pleasure of talking to Peter Roe, Director of Engineering Exchange Programs, during You@Waterloo Day this past weekend, who wrote an article about new exchange information which you can read on page 7. Between our chat, his article and discussing exchanges with one of my fellow friends and classmates who has similar thoughts about doing a school term abroad, I have put a little more consideration into this great program. Everyone I've heard from who has participated has exclaimed their experience was valuable and exciting, and I think that the program is something that we don't hear about much during school terms yet should take advantage of if we can. At the least, read what Peter has written and see if there's a program that fits what you'd like to do.

As mentioned previously, the way the articles fit together this issue meant I had to push my T Cubed column under my editorial, so read on about what I had to say concerning the Facebook IPO. As always, email iwarrior@engmail.uwaterloo.ca if you have any comments or questions!

Facebook and Other Worthless Giants

JACOB TERRY
2B NANOTECHNOLOGY

T CUBED

After months upon months of planning, Facebook put out its initial public offering (IPO) on the NASDAQ stock exchange. Everyone expected Facebook to be "the next Google", among other epithets. The offering effectively floundered, and lawsuits and Wall Street arguments followed. While it initially appears that investors did not recognize the value of the next biggest technology company, further thought would suggest that Facebook might not actually be worth $104 billion, the value at which they claimed they were worth. Facebook's IPO was the largest of any tech company before, with Google's initial valuation coming only to $23 billion when it went on the stock market in 2004.

As Facebook filed for its IPO, many statistics and company operations were released to the public, which showed some revealing information about Facebook's financial situation. Before its offering, it had $6.6 billion in total assets and $1.4 billion in liabilities. The company's revenue is $3.7 billion, with $1 billion of that in direct earnings. After Facebook's underwriter Morgan Stanley kept the stock value artificially at $38 per share, their stock plummeted on the following Monday, with the stock currently sitting at $31.91 per share at the time of this writing. This brought the value of the company down from $104 billion to $68.23 billion.

While large tech companies are often valued higher than the value of their assets, the tech giants are typically at much more equitable ratios. Without going too much into stock terminology (of which I have an admittedly amateur grasp), the price-to-earnings ratio of Apple, the largest and most profitable company in the world, is around 16:1. This effectively means that there is $16 of Apple stock for every $1 of Apple's earnings. Google, a more software and advertising based company with a business strategy closer to Facebook's, has a price-to-earnings ratio of around 20:1. Facebook's $104 billion estimated value, combined with its $1 billion in earnings, would have put it at a price-to-earnings ratio over 100:1.

A shockingly large part of their business relies on Zynga, another tech company that had an IPO recently that didn't boom as much as expected. 12% of Facebook's $3.7 billion in revenue comes directly from Zynga under their deal to exclusively use Facebook Credits, among other transactions between the companies. Facebook's reliance on one social gaming company puts it in a more vulnerable position than its competitors Google or Microsoft, both of whom have diversified their sources of income.

On May 23rd, Forbes reported that all of Zynga's top Facebook games have been losing users rapidly, with most losing one to five million active users in the two weeks previous. While they aren't the only ones losing users, it poses the possibility that Zynga could be less profitable in the future, which in turn would have negative effects on Facebook. Facebook's other primary source of revenue, desktop advertising, is arguably more stable for the near term future. However, they have noted that they make no money off people who use phones or tablets, which is an issue for their long term success as less people use traditional desktop operating systems.

Without a tangible, stable form of revenue, many investors likely look to avoid a second dot-com bubble as these companies that have little in terms of revenue receive valuations well into the tens to hundreds of billions. With the kind of earnings Facebook has, the $68 billion Facebook is currently worth is more fitting than the $104 billion it had expected. The other companies being brought down with it also may be realizing how much they're truly worth.

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.

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Biomedical Engineering to Arrive in 2014

Continued from VISION on Page 1

programs such as Guide Badge Day to allow girl guides to acquire the GoEngGirl badge. The university intends to raise the confirmation rate of female offers into Waterloo Engineering from where it currently sits at 11% below that of male offers. The university has also initiated CATALYST, a program meant to expose the engineering profession and university student life to female grade 11 students. The undergraduate student engagement survey analysis will approach statistical data by gender to better understand the experience of women in engineering at Waterloo. The new female dean of engineering will likely be a great support to the initiative.

This is just a summary of several key points from the Vision 2015 Waterloo engineering faculty plan. For a detailed understanding of some points mentioned or into other portions of the plan we suggest reading the document at http://uwaterloo.ca/engineering/about/strategic-planning/vision-2015. Vision 2015 also includes details in statistics and planned changes regarding specific departments in the engineering faculty. It seems the only negative aspect of Vision 2015 is the fact that many of us will not be around to enjoy and appreciate the change. It makes you almost want to get a second degree in biomedical engineering after finishing your initial engineering degree!

SNOLAB Holds Grand Opening For Expansion

KEVIN LIANG
3A CHEMICAL

Underneath Lively, Ontario lies the world's deepest underground clean laboratory. SNOLAB, located two km under the Earth's surface, held its official grand opening on May 17th. This facility aims to explain mysteries in the field of astroparticle physics with a focus in dark matter and neutrinos. It is an expansion of the old Sudbury Neutrino Observatory (SNO) experiment that, in 2002, solved the solar neutrino problem. Its findings provided strong evidence for neutrino flavour oscillations.

Now, 10 years later, the laboratory has been expanded to allow for more experiments. Most notably is the construction of SNO+. This experiment utilizes the same support structure and acrylic vessel as the SNO experiment. By replacing the Cherenkov heavy water with scintillating linear alkylbenzene, SNO+ will have a much higher sensitivity to low energy neutrinos propagating from the Sun.

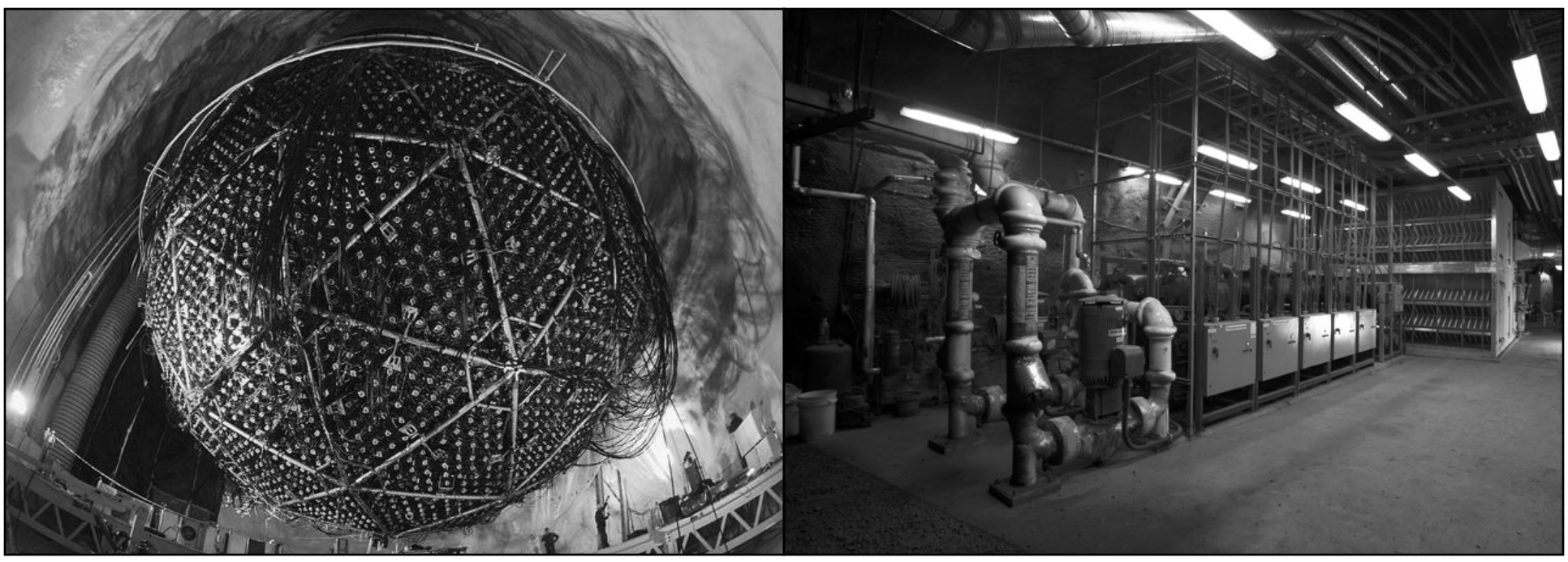
Neutrinos are near massless particles that interact only by the weak nuclear force. Since neutrinos do not interact electromagnetically, they are unaffected by the ionic plasma atmosphere of stellar objects. Most other particles, including photons, are trapped within this field. This makes neutrinos the only viable candidate for probing the interior of stellar objects.

In addition, neutrino detection also offers advanced detection of supernovae. An enormous amount of visible light is produced during the collapse of a massive star; often, this is observable with amateur telescopes. Despite this only about 1% of the energy released during a supernova is in the form of photons and the kinetic energy of the expanding remnants. The remaining energy is in the form of neutrinos. Furthermore, neutrinos will propagate faster than light because of its non-electromagnetic interactions. The Helium And Lead Observatory (HALO) experiment at SNOLAB is a newly operational supernovae detector, which is a part of the SuperNova Early Warning System (SNEWS). SNEWS is an international network of neutrino detectors providing astronomers early warning of supernovae event.

The other focus of SNOLAB deals with the detection of dark matter. From astronomical observations there is very strong evidence for the existence of dark matter. By observing the orbital velocities of local galaxies, it was found that the orbits were much too fast from the gravitational forces of the visible cluster. Gravitational lensing observations of galactic clusters confirm the same hypothesis; there is not enough visible matter. It is theorized that only about 4% of the Universe is composed of atoms. The remaining is in dark matter (24%) and dark energy (72%).

There are currently two dark matter detectors collecting data at SNOLAB and two additional large scale dark matter detectors under construction. As our solar system orbits with the Milky Way, it will pass through clusters of dark matter. Since dark matter interacts very weakly with regular matter it is very difficult to detect. The DEAP-1 and COUPP dark matter detectors use very different methodologies to detect dark matter. DEAP-1 uses liquid argon as a scintillator, which emits UV light during an interaction. The UV light can be detected with photomultiplier tubes (PMTs). COUPP is a bubble chamber which uses super heated liquid as its detection medium. When a dark matter particle strikes the nucleus of an atom in the liquid, a bubble of vapour will form. The sound that this bubble makes can be picked up with piezoelectric transducers.

SNOLAB is at the forefront of astroparticle physics research. Studying neutrinos and dark matter will allow us a greater understanding of the Universe. It is hard for us to see the practical benefits of these experiments, but who know? Sooner or later practical applications will emerge, like it did for the nucleus.



SNOLAB SNOLAB

SNOLAB's Neutron Detector (left) and Utility Area (right).

Student Teams Present at Open House

NOUHA JAVED
2B CIVIL

The Student Team Open House was held on Wednesday the 14th, and gave the teams a chance to show off their hard work and attract a few new team members. The event was held in the E5 Student Design Center, which allowed visitors to take a look at the area where the teams actually built their designs. Here are a few of the student teams on display, in no particular order.

Concrete Toboggan Team: The team builds a concrete toboggan each year to compete in the 4-day Great Northern Concrete Toboggan Race. They not only design the toboggan to be fast and brake quickly, but also have the ability to maneuver easily and weigh less than 300 pounds.

Aquaponics Team: This student design team, part of the UW Sustainable Food Production, aims to build and run a fully functional aquaponics system. The basic principle involves connecting a fish tank to vegetation growth bed, and using the fish to fertilize the plants. In addition, the plants are used to clean the water. The team is not just looking for people with technical skills, but anyone who is interested in sustainable food production.

UW Robotics: As the name suggests, the UW Robotics team is a collection of multi-disciplinary students expressing their love for robotics. They aren't restricted to just one project, but work on several throughout the year. UW Robotics also frequently enter competitions such as the Intelligent Ground Vehicle Competition and the University Mars Rover Challenge.

Formula Motorsports: The Formula Motorsports team has one goal when designing their car; to be fast. They've succeded in building a world-class race car, and enter it into Formula SAE and other Formula competitions. Recently they participated in events in Michigan and Barrie.

Baja SAE: Every year the team designs, builds and tests an off-road vehicle to enter into the Baja SAE competitions. During these races, teams compete in events testing their speed, acceleration, manoeuvrability and endurance. They've been racing for the last couple of decades, and have just returned from a competition in Oregon.

Formula Hybrid: The objective of this team is to build a formula hybrid car that is environmentally sustainable and highly efficient. Founded in April of 2011, the team recently entered the Formula Hybrid competition in New Hampshire. The competition builds on the above mentioned Formula SAE.

UW Clean Snowmobile Team: The Clean Snowmobile Team strives to build a snowmobile that is environmentally friendly while still maintaining efficiency. They recently participated in the 2012 SAE Clean Snowmobile Challenge, and came first in acceleration, and won numerous other awards. Congratulations! They are also planning to participate in the Toronto Snowmobile Show in October.

Midnight Sun Solar Team: One of the more eye catching student team creations is the Midnight Sun X solar-powered car. It took 200+ students three years to build the car, which can go up to 90km/hr. They participate in various solar competitions, including the Veolia World Solar Challenge, where they competed against teams from countries like Japan, Turkey and the Netherlands.

They are plenty of other student teams that I didn't have the finger endurance to mention, teams like the UW Micro Aerial Vehicle Team, UW Alternative Fuels Team, and the university branch of the Institute of Electrical and Electronics Engineers (IEEE). They are constantly looking for new recruits, regardless of technical skill level or faculty.

Pakistani Government Bans Twitter

FILZAH NASIR
1B ENVIRONMENTAL

On May 20th, the Pakistani government banned public access to Twitter for eight hours. The official statement by the government claimed the reason for the ban was due to content on Twitter that was offensive to Islam. If this story sounds familiar, it's because the Pakistani government banned Facebook for similar reasons in 2010.

Religion is one of the most commonly used excuses behind censorship. Remember the Catholic Church's public denouncement of *The Da Vinci Code*? Or the fatwa issued on Salman Rushdie? Those are only two examples of when a religious majority did not agree with an author's work and tried prevent it from influencing the general populace.

When religion is the reason behind censorship, it becomes almost impossible for people to voice their discontent without offending the religious group involved. If a book or movie contains content that is offensive to one's religion or content that portrays said religion in a negative light, how can one support public consumption of this material?

However, the Pakistani Twitter ban is interesting because resulted in a public outcry uniting much of the nation. Many of the country's Twitter users accessed Twitter via a proxy server and used it to express their discontent with the Twitter ban.

This reaction is especially interesting considering that 97% of the Pakistani population is Muslim. Why would this Muslim majority not support a ban that blocks content offensive to Islam? *(Note: the controversial material included tweets urging people to draw the likeness of Prophet Mohammed, an act which is considered offensive by most Muslims)*. These bans have proven to work in the past. Pakistan's Facebook ban ended after 2 weeks when Facebook removed the offensive material. So why the public outcry against the Twitter ban?

Consider two important facts. First, although the offensive content was considered blasphemous to Islam, Pakistan was the only country to ban the website. For example, why did Saudi Arabia and Iran, both Muslim theocracies continue to allow their citizens access to the site, yet Pakistan, a republic, felt the need to ban the website? Secondly, less than 2% of the Pakistani population uses Twitter, which means less than 2% of the population would have had access to the offensive content. In fact, by banning the website and thereby giving it media attention the Pakistani government exponentially increased the chances of the general population even learning of the existence of such content.

It's safe to say that banning a website to protect the religious sensibilities of 2% of the population does not make much sense. It is far more likely in fact, that the ban was an attempt by the government to control a forum of communication where users are free to express their views, and often their discontent, regarding the government. Most of Pakistan's Twitter users represent a liberal mindset and a vast majority oppose the current government as well as the military.

As it became clear from the Arab Spring as well as the London Riots last year social media can play an important role in a revolution. The ability to communicate easily with a massive group of people has made it easier for people to stay updated, organize protests as well as to spread awareness.

Governments, whether democratically elected or not, appear to have come to the conclusion that it would be in their best interest to control these forms of communication. Pakistan's ban of Twitter represents a growing trend, not just in developing nations, but in countries the world over to control and limit access to the internet.

With the introduction of the SOPA/PIPA bills in the U.S, Canada's Bill C-30 and ACTA, the multinational trade agreement that ostensibly protects intellectual property rights, it is becoming increasingly clear that internet freedom will soon be a thing of the past.

Yet, these bills merely graze the surface of violating internet freedoms. Our right to privacy and our freedom of expression are both at risk. How far will we let it go before we say enough? At what point will the public take notice and speak up?

And the bigger question: Is it already too late?

SpaceX Launches First Private Spacecraft to Dock at ISS

HANNAH HIGGINS
1T NANOTECHNOLOGY

Last Friday, history was made when Dragon, a commercial spacecraft launched by the American company Space Exploration Technologies Corporation (SpaceX) became the first privately owned and cargo-bearing vehicle to successfully dock at the International Space Station (ISS). Previously, this feat has only been accomplished by government space agencies, and even then, only by a select four. These agencies include the National Aeronautics and Space Administration (NASA), the Russian Federal Space Agency (RKA), the European Space Agency (ESA), and the Japan Aerospace Exploration Agency (JAXA).

The initiation of Dragon's mission came in 2005, when NASA launched the Commercial Orbital Transportation Services development program (COTS), seeking a replacement for its own Space Shuttle, now retired. SpaceX made their original mission proposal in March 2006, with NASA confirming their selection that August. Alongside SpaceX, another company, Kistler Aerospace, was also chosen, though their contract has since been terminated and reawarded to Orbital Sciences. Since then, SpaceX has worked toward the development, production, and finally the flight of Dragon and the ship that it launched from, Falcon 9.

The final mission commenced on Tuesday (May 22) when Dragon was launched into orbit from the Cape Canaveral Air Force Station. On Wednesday, the spacecraft travelled toward the ISS while continuing in orbit. Dragon's sensors and flight systems underwent intensive scrutiny on Thursday through a series of tests which brought the spacecraft within 1.5 miles of the ISS. And at 9:56 a.m. E.D.T. Dragon was caught by the station's robotic arm, successfully attaching to the ISS at 12:02 p.m. on Friday.

Flight engineer Donald Pettit operated the arm for the capture of Dragon, which was ultimately accomplished approximately two hours after the projected time. The delay was caused by a series of relatively minor adjustments required at the last minute. This postponement left Pettit with a choice; he could attempt the capture in darkness or await a subsequent daylight pass. The successful capture of a confident Pettit was met with applause amongst the flight controllers back at NASA's mission control.

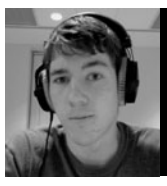
NASA

SpaceX's Dragon launching from the Kennedy Space Center.

Following the capture of Dragon, astronauts onboard the ISS have opened its hatch and unloaded the supplies, while refilling Dragon with return cargo. Dragon is currently scheduled to detach from the ISS and return to Earth tomorrow, with a planned landing destination of the Pacific Ocean.

The launch of Dragon may only be the beginning in terms of privately funded space exploration, especially given the success of the mission so far. With several many enterprises currently planning commercial space ventures, private funding may provide the support necessary for the next great advancements in space research and technology. Privately funded space missions will reduce the budget strain faced by government agencies, and may ultimately lead the world into the next age of space exploration.

The Rebirth of Co-op



NOAH MACCALLUM
2B NANOTECHNOLOGY

First day of work, it's 7:30 in the morning. Motivated by the excitement of a new co-op job, you easily rise and emerge into your strange kitchen. Your glass of water is slightly saltier than normal; the calcified showerhead produces a weak spray in all directions. This is a time of absolute potential. Your new life is about to spring from the seed of these humble beginnings.

I am writing here to advocate moving to somewhere unknown for your next co-op job. Ideally, go alone to somewhere completely unknown. It is a chance to build an entirely new life from the ground up, to meet people you never would have otherwise met, and to take advantage of opportunities that would have been otherwise missed.

Of course, it is much easier to simply continue the life you have already made. The superposition of possible relationships in first year has mostly collapsed by now, and the low energy state now occupied by us all requires few introductions or explanations. But one must consider who we are now compared to who we were back then. University ripens the intellect and broadens the perspective. The quarterback of the high-school football team is humbled, and the student with a 99% average in high-school calculus is shown that he is a much smaller fish than he once thought. There is nothing wrong with having an ego as a teenager; in fact, it is an important aspect of our development. But we must recognize the subtle effects that this ignorance can have on our lives. If we were to repeat the Frosh Week experience now, who knows how different our friends today might be.

This is why moving to a new city is an amazing experience. There is potential to be anything you want, your clean slate can be filled as you wish. Descartes enunciated this line of thinking very eloquently: "we acquire the powers of critical thinking after we already have established a certain set of assumptions and methods of thought. Although we may think that we live by our philosophy, it is almost impossible to objectively analyze our whole method of thought". This is a topic for another day; I encourage you to read Cress's translation of Discourse on the Method and Meditations on First Philosophy.

Let us take this concept and apply it to the external aspects of our life. Let us be reborn, this time with our critical abilities fully intact. We can learn from our victories and mistakes from frosh week, and start a new life based on better principles. Perhaps you wish that your circle of friends included non-engineers. Maybe you want to try ballroom dancing, or learn the guitar. When in school we all sit inside an energy well; escape is only possible with an input of energy.

As we all know, there is a small tragedy at the end of each transitional term. You and your colleagues shed a tear upon realizing that you won't see each other for at least four months, and maybe forever. It takes energy to move, but you are going to be moving anyway. This is enough to make a new wavefunction - go collapse it, and all of your desires for the ideal life can be realized at once. Building a life from scratch is not an easy task, but you will find that your surroundings are a mirror that reflects truths about yourself that would never otherwise have been discovered. There is a niche available out there waiting for you to fill it, all you have to do is pack your bags and show up.

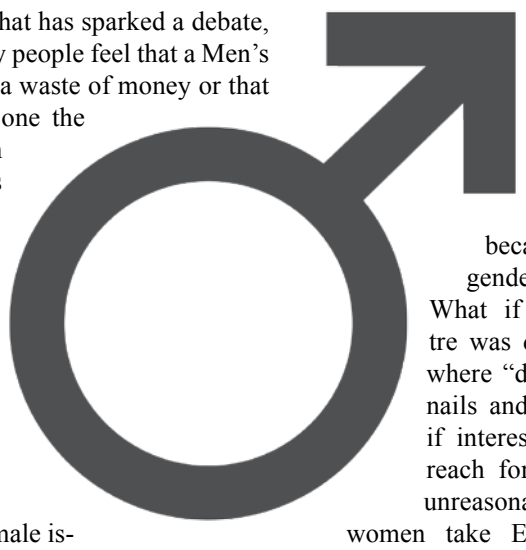
Point Vs. Counterpoint

Should Simon Fraser University Fund the Men's Centre?

POINT

KEVIN JOSEPH
3A NANOTECHNOLOGY

Gender discrimination is a serious issue. Feminism is an important social movement and the issues facing females of wage disparity, media objectification, of masculine hegemony, and many more are real, relevant and serious. It is not surprising there are many institutions, such as Simon Fraser University's Women's Centre which cater to these needs and provide women with a safe environment in which to discuss, seek help, and campaign. However, the feminist movement was founded on a call for gender equality and in modern society there are serious issues facing the male gender as well: false rape accusations, vilification as abusers, child-custody discrimination, and many social problems which affect men on average more than women. It seems to follow then that at an institution like Simon Fraser, which sees the need to provide women a safe-haven to discuss issues without fear, should also have a centre to cater to men. This is exactly what has sparked a debate, however, as many people feel that a Men's Centre would be a waste of money or that men don't need one the way that women do. This view is sexist in the purest form and one which is flagrant disregard of the principles upon which feminism was founded.



Many opponents argue that male issues are not relevant enough to warrant a $30 000 expenditure (the same that the Women's Centre gets). However, without detracting from the severity of women's issues, men's issues deserve respect and consideration. Men are roundly vilified in society as either malicious sex-crazed abusers or drunken idiot manchildren. Just flip on any popular sitcom and you'll either see bumbling patriarch trying to sneak beers and television past his cunning and intelligent wife, an anthropomorphic phallus, Tyler Perry presenting a six-packed Romeo who wants nothing more than to rub his girlfriend's feet, or a kind-hearted and intelligent thinker (an impotent weenie). Even during the commercial breaks, when you see a woman making a fool of the stupid, sex-crazed quintessential man wrapped around her finger, who's really being more objectified? Males who work with young children are constantly looked at with suspicion, as though a man who cares about children simply must be Humbert Humbert in disguise. Rape is seen as something which only men do to women, and a woman forcing herself upon a man is blockbuster comedy in Bridesmaids or Horrible Bosses. In fact, it was only in January 2012 that the FBI changed its definition of "rape" from "the carnal knowledge of a female, forcibly against her will" to acknowledge rape against men. False rape allegations have the potential to ruin a man's life and yet some claim that false rape allegers should not be penalized for fear of preventing real victims from coming forward; a 2005 study by the British Home Office reported as many as 8% of rape allegations against men are found to be false. Men are often seen as violent and irresponsible. Mothers routinely get child-custody over fathers, and yet 61% of child abuse is committed by biological mothers (25% by fathers). Furthermore 20% of non-custodial mothers pay child-support, and among this number 47% default on support, while 61% of non-custodial fathers pay support and only 27% default of support (despite the well-known image of the dead-beat dad). What if women had higher insurance premiums because they were seen as worse drivers? What if there were parking lots in which minorities were not allowed because they commit more violent crimes statistically and whites wanted to feel safe? These are the kinds of vilifications against men which are completely socially acceptable, and even ironically lauded for their "feminism". These are only a handful of the serious social issues facing men, and ones which are constantly swept under the rug or dismissed as problems which men are told to "man up" about.

There are also people who believe that while men's issues are relevant, men would not go to a Men's Centre to talk about serious problems. Critics at Simon Fraser actually said that the centre would be used for "douchebags to play PS3", and that it's unreasonable because "no men take gender studies courses". What if the Women's Centre was dismissed as a place where "ditzes" go to do their nails and talk about boys, or if interest in technology-outreach for women was called unreasonable because fewer women take Engineering courses?

While it is true that there definitely is a stigma against men talking about their feelings (and when they do the horrendous phrase "no homo" is often invoked), this invokes even greater reason for a centre to exist. What advocates of the centre at Simon Fraser are looking to do is break down the social conventions that say that men aren't allowed to show pain, that men aren't allowed to talk about their feelings and that men aren't allowed to feel vulnerable. The centre could be a safe environment in which men do not have to live up to society's unreasonable expectations of them, where they are allowed to feel and be honest, to be human. Alcoholism, drug abuse and suicide are all higher among men than women, and if men were encouraged to be open with and seek help for their problems, these might not be as big of issues. The centre would be a major step in changing attitudes, and making real social change.

The Men's Centre would not undermine the women's equality movement. In fact, it would further it tremendously. We live in a society where men are constantly told that emotional honesty is weakness, that they have to be hard and stoic and callous, or else they're mocked by their peers, the label of "gay" being pejoratively cast like vitriol. This is a wildly unhealthy atmosphere for men and women alike. Boys are taught to act in a manner that leads to many social problems facing women including sexual objectification and violence. Men's rights are women's rights and, in a union that should be appreciated, they are gender rights. In order to effectively tackle gender equality, it requires working on both sides of the equation, and a Men's Centre would be a strong step forward.

COUNTERPOINT

FARZI YUSUFALI
3A NANOTECHNOLOGY

Arguments have been made that gender equality should, in its most fundamental state, really be an equal treatment of people and situations across the sexes. Extending from that, in the same way that men progress or suffer, so should women in an identical fashion. In applying the statement to societal and governmental services, there arises a serious problem with this logic. While gender equality on every front is the elemental proposal for this opinion, one must acknowledge the reason for separating humanity into two categories and ascribing various roles and institutions to each.

Due to the recent backlash, from a select group of students, over the need for a Men's Centre to accompany the already-established Women's Centre at Simon Fraser University, the statement above comes to the forefront of this debate.

Before making such judgements over the inclusion of the SFU Men's Centre into the campus landscape, it is imperative that the appropriate research and gender-related considerations (in all of its facets) be made before allocating a significant sum of funding to such an endeavour. For instance, consider the reasons for why there needs to be a gender disparity among humanity in the first place; in other words, what does it mean to be a young woman in any day and age? With that question comes a topic-wide diversity of answers ranging from literal physiology of a woman to the confusion of societal roles in a world where women walk in stride with men in any field.

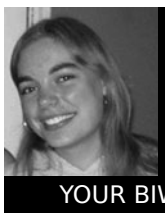
Undoubtedly, with women's health comes the issue of the vast difference between the male and female anatomy; it is fact that the woman's, for lack of better term, "internal plumbing" is high maintenance compared to the male counterpart. This is especially true when physiological issues concerning women are more prominent in their early twenties; contraception, unplanned pregnancies, STDs, abortions, and abnormalities of any kind concerning sexual health are questions that materialize regularly for females aged 18 to 25. On top of that, regular check-ups are required at least once a year for women over the age of 18 whether you have any issues to speak of or not. If anything does arise for the woman in question, the procedure for tackling or treating this problem is lengthy and requires the attention of several medical professionals at any given time. For example, STD detection is rare in affected women as they rarely show symptoms that alert them to any danger to their health hence the requirement for women over the age of 18 to have annual check-ups of this nature. Conversely, with men's health, any concerns prominent for the age group mentioned (as prostate exams don't usually start happening at this age) is not only easy to detect but easy to treat as well (come on, most STD detection for men starts with a sense of pain associated voiding their bladders!).

Looking at the social scene and the overall difference in demeanour between the genders, it's a widely-known truth that women, on average, tend to talk a lot more than men (whether they admit to it or not is another story); the requirement of a "Girls' Night" every month or so can attest to this debatable statement (considering how much trouble I could find myself in with my "sisters from other misters" by posing such an idea without evidence). Assuming that the just said declaration is accurate, the use of the Women's Centre would be automatically justified funding-wise because women are more likely to utilize the service due to this vocalization tendency particularly when discussing and seeking assistance for any irking distress. Men, on the other hand, are not prone to talk about such personal problems due to the stigma associated with being able to talk openly especially when "feelings" are involved. For one, the common notion of an emotionally-accessible man is that this person is weak, is "gay" (in a derogatory vernacular), or, in the very least, "less of a man"; the humiliation that would follow such an open declaration would be enough of a deterrent to any male student who wishes to utilize the services offered by the Men's Centre. To push this point over the edge, forget about asking for help over personal problems; let's address the rare occurrence of men actually "seeking assistance" when unsure of where they're going … I think I've made my case.

Let's assume now that all of the issues discussed above when denying the need for the Men's Centre have been nullified irrevocably in terms of the differences between men and women; what about the proposed uses of a Men's Centre? For one, Simon Fraser University boasts a 65:35 female to male ratio of undergraduate students currently in attendance. Like any community in any Canadian metropolis, the services available to an area would cater to the main demographic within that 20 kilometre radius; why should this university suffer backlash for doing the same? Yes, a sizable chunk of the student population is of the male persuasion; does that mean that they require a specialized service, like the Men's Centre, to be considered a part of the community? If that is true, then every social, racial, or interest group should have its own specialized centre to cater to its needs. Mind you, there are a couple of "centres" that do cater to specific groups within the SFU student body (including the Native Centre as a meeting place for indigenous people); the difference between these examples of society groups and the Men's Centre is the use of these resources. There is no clear mandate as to the services that the Men's Centre would provide that wouldn't be available elsewhere; in other words, a specialized just-for-men area would not be required for university men who suffer from alcoholism (which also impacts women) whereas a specialized clinic/centre would be needed to aid a women going through an unplanned pregnancy. While there are issues that plague male university students, there aren't enough gender-specific instances that would warrant a "safe space" for men to congregate devoid of a woman's presence.

While the Men's Centre speaks to equality in theory, the reality of this endeavour is that men will not utilize the resources in the manner that women do with their respective centre. Where the question of funding a large project, like the Men's Centre, is concerned, one has to not only think about the ethical issues associated but also the fact that money is going to spent in places where the resulting services would not be utilized. In the case of the Women's Centre (or any other specialized centre for that matter), one could extend the argument such that these resources should be eradicated if they are not being used extensively. Before jumping to gender equality to debate on this issue, the question that needs to be addressed is whether this topic is really a sex-based issue of biased opportunity or the expenditure of SFU's capital for a resource that may not be used to its full capacity; as such, the answer to not funding the Men's Centre would stem from the latter of the two reasons presented.

Investing the Monies (Part 3)



KATE HEYMANS
3A CHEMICAL

YOUR BIWEEKLY CHALLENGE

Alright, so hopefully you read the last money column and now you know what kind of accounts are available and the benefits that are offered from those accounts. Let's talk about saving/investing techniques. At this point we've probably all heard about that one guy that made millions from investing in Apple before the boom of the iPod, or the guy that invested in Google when its stock price was less than a hundred dollars a share. You also probably heard about everyone who lost a significant amount of money when the markets crashed in 2008. Now stocks may not be the best option for you, but hopefully by the end of this article you'll know what your options are.

Stocks: A stock means you officially own a chunk (usually an infinitely small one) of a company. This basically entitles you to a proportion of the corporation's assets as well as their earnings. These are also known as "shares" or "equity" and are bought and sold on the market. The value of the stock varies day-to-day depending on whether people are interested in buying shares or selling them. There are two ways of making money from stocks: firstly you can just benefit from the dividends (money paid to you on a regular basis from the profits of the company) or secondly, you can earn money from buying stocks at low prices and selling them for higher ones. The second is more difficult because you have to be able to predict which stocks will become more valuable over time and you also have to realise that your stock could lose value at any time. If you want to be super risky, look up stock options.

Pros:

- If you do this well, investing directly into stocks can result in high returns.

Cons:

- It's been proven over and over again that shares are highly volatile and the markets seem to burst every couple of years. Your odds are better than winning at the lottery but you could still easily lose every penny.
- There are brokerage fees which you have to pay to your bank each time you decide to buy or sell a stock.

GICS: In terms of security there's probably nothing better than Guaranteed Investment Certificates. To buy these you have to invest your money for a fixed period of time (a "term" can be anywhere from 1 to 10 years) and at the end of that period of time you're guaranteed to get your money back and the interest you were promised. Cashable GICs also exist where you can redeem your money anytime but the return rates on these usually aren't as good. (To be frank: they suck.)

Pros:

- Security: At the end of the term, you're sure of getting the money you were promised.
- You can invest from as little as $500 (invest more and you usually get higher return rates)

Cons:

- You're basically locking up your money for a fixed period of time and if you try to get it back earlier, you have to pay a penalty. Don't invest money in a GIC if you think you might need it before the end of the term.
- The return rates for GICs usually are not very high.

Bonds: You lend money to organization (government or other) and they promise to give you back your money and a fixed interest rate. There's usually a fixed period of time involved and like GICs you have to pay a penalty if you remove the money early.

Pros:

- Usually these are very safe especially if you're buying government bonds; however, with recent events in Greece one has to wonder.

Cons:

- Usually don't have very high return rates.

Mutual Funds: These are a set of stocks held and professionally managed by people who (in theory) know what they're doing. These people take the money of everyone who invests in their fund, pool it all together and then invest it in stocks, bonds, etc. The gains (or losses) are then redistributed across the investors. Some of these focus on more specialised areas whereas others invest all across the market. Some mutual funds will give you dividends, depending on who they invest in.

Pros:

- No matter how little money you invest, it's immediately diversified across a myriad of investments which means that, hopefully, they won't all crash at once and leave you penniless.
- The people who manage these funds know what they're doing. It's their job to look at the market and analyse it, that saves you the trouble of having to do it yourself.
- Some funds will guarantee a certain return on your investment if you invest enough and for a long enough period of time.

Cons:

- You sometimes have to pay fees called Management Expense Ratio (MERS), or an equivalent charge with a different name. Someone else is doing the work of choosing where to invest your money because you're basically paying them to do so and they are constantly buying and selling. Less return on your investment.
- If you're a control freak, this might not be the best option since you won't be the one calling the shots on where your money goes. This might be a pro if you're the type to panic each time the markets flop though.
- You might still lose all your monies. No gain guaranteed either.

Side Note: Some banks have GIC mutual funds. These are GICs which invest in mutual funds. It's kind of the best and the worst of both, guaranteed fixed revenue (even if the mutual fund does better or worse) however you still have to invest your money for a fixed period of time.

Exchange Traded Funds: These are just a fixed group of stocks which are traded as a group. They are mostly like mutual funds except they're traded on the market AND they come without the hefty fees. They're kind of a mix of ordinary stocks and mutual funds.

Pros:

- Diversification; like mutual funds you're not just buying a single stock.
- These are traded on the market, so you buy them and sell them as you like.
- No expensive fees to pay to the people who manage these because no one manages them!

Cons:

- You still have to pay high trading commissions all those other wonderful fees each time you buy.
- You usually want to invest a greater amount of money (think $10k-ish)

Interest Accounts: This is basically the interest you get from your savings account. If you want to be lazy these are usually almost as good as GICs. If you get nothing else from this article GO CHECK YOUR INTEREST RATES on whatever your current savings account is. If it's less than 1%, go shop around for a savings account which will give you better interest. There's entire websites dedicated to comparing interest rates and fees for savings accounts so you really have no excuse. You might actually be losing value in your current savings account if your interest rate is lower than inflation.

There you have it folks, these are most of your investment options. Before you jump the gun and start investing, remember to do your research! This is only an introduction and you want to make sure you know about all the sneaky little fees, the expected returns and the security of everything you decide to invest in. Higher returns usually involve higher risks so make sure you know what you're getting yourself into. Keeping a balance in your portfolio (all the things you invest in) is usually the best way to maintain a steady growth while not risking all of your money.

Caution: The Consequences of Sweetening Up

ANJIDA SRIPONGWORAKUL
1B MANAGEMENT

Stop. Put down your Coke. Take another look at the soft drink. I know, I know. You have probably read articles concerning the harmful effects of sugar on your body. This study, conducted by UCLA's Fernando Gomez-Pinilla, professor of neurosurgery at the David Geffen School of Medicine and of integrative biology and physiology in the UCLA College of Letters and Science, and his co-author, Rahul Agrawal, a visiting post-doctoral fellow from India, was the first to investigate sugar's effects on the brain.

Two groups of rats were fed standard rat chow and trained in a maze twice daily for five days before starting the experiment. Both groups then consumed high-fructose corn syrup, a solution six times sweeter than sugar, as drinking water for six weeks. The second group was also supplied with additional omega-3 fatty acids, a form of flaxseed oil and docosahexaenoic acid (DHA), which prevents damages to the synapses—the connections between brain cells that enable memory and learning. At the end of six weeks, the rats were tested on their ability to recall routes and escape the maze.

Unsurprisingly, the second group turned out to be much faster in escaping the maze. The DHA-deprived brains of the rats in the first group showed a decline in synaptic activity. The synapses had trouble signaling each other, hence disrupting the rats' ability to think clearly. The rats had also developed resistance to insulin, the hormone controlling blood sugar levels and regulating the brain's synaptic functions. Examining the rats' brain tissue, the scientists discovered that insulin, having lost its power to influence brain cells, is able to penetrate the blood-brain barrier and to signal neurons to trigger reactions that disrupt learning and cause memory loss.

"What you eat affects how you think," concluded Gomez-Pinilla. High sugar intake alters your brain's ability to learn and remember information. Based on information from the Canadian Sugar Institute's 2011 study, the estimated consumption of added sugars (as opposed to natural sugars) in Canada is approximately 51-53 grams per day, an equivalent of 12.5 teaspoons and 10-13% of total energy intake.

Too much sugar is harmful, but that doesn't mean you can't order that chocolate sundae. Go ahead, indulge your sweet tooth. Just be sure to enrich your diet with other nutrients, especially DHA and omega-3 fatty acids in salmon, walnuts, flaxseeds, and DHA capsules. Your body produces an insufficient amount of DHA, so the rest must be supplied through your diet. Remember, think twice about sweetening up, and balance in your diet is the key!

Exchange! World-Wide Engineering Education

PETER H. ROE
DIRECTOR OF EXCHANGE PROGRAMS

Exchange from Waterloo is truly worldwide. In 2011 we added seven new destinations, the largest single-year increase since the program began 32 years ago, and now have a total of 72 academic institution partners on five continents (see chart below). Most of our new programs in 2011 were added because the President of the University, Feridun Hamdullahpur, who obtained his advanced degrees in Turkey, went there and signed agreements with some of that country's major institutions. Turkey is an amazing country, straddling Europe and Asia; if you go there on exchange, you'll be taught in English.

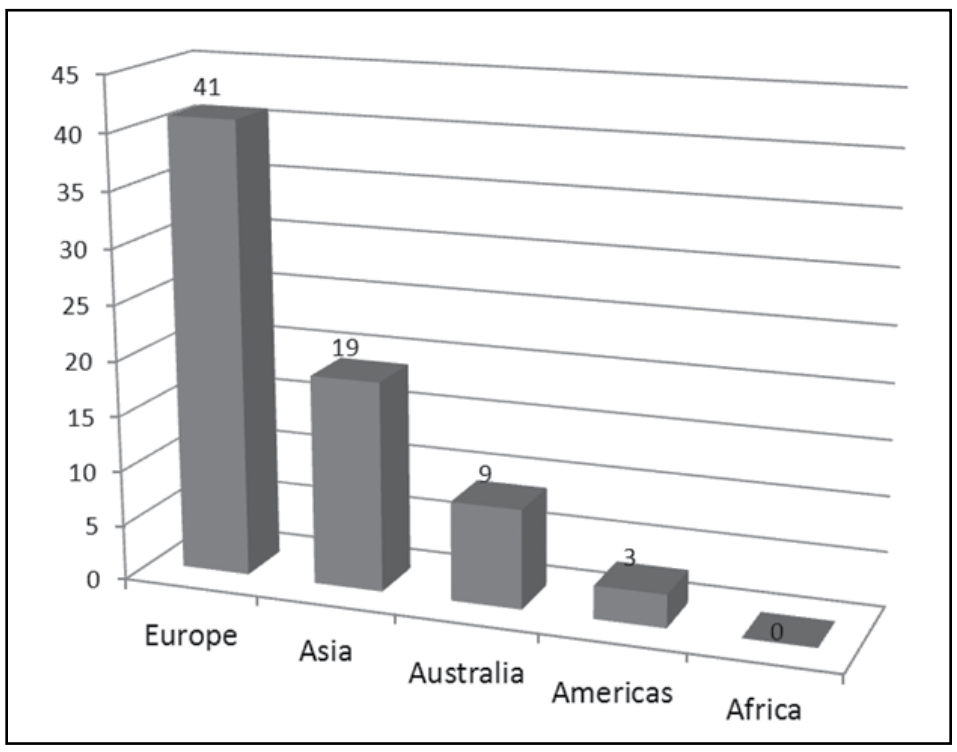
Another of our recent additions to the range of exchange partners is the Danish Technological University (DTU), located in the suburbs of Copenhagen. I had the opportunity to visit DTU earlier this spring. It is frequently ranked number one in Scandinavia (though our partners in Lund, Sweden, and Trondheim, Norway, might dispute this), and offers a wide range of programs. One of its specializations is wind turbine design; most wind-power installations use the results of DTU research. You will find teaching in English in all our Scandinavian exchange partners.

You can see in the chart that most of our exchange partners are in Europe. We have 10 exchange programs in France and 7 in Germany. The majority of courses in these countries are taught in French and German, respectively, but you can find quite a range at the 3B and 4A levels in English. Nonetheless you need to learn the language. But think of this: A quarter of all Canadians speak French first – why not learn the language and promote better understanding among our fellow citizens? As for Germany, the German technical universities where we exchange were the cradles of modern engineering and science education. It's worthwhile to understand their language and educational systems; moreover, the fee arrangement we have made for study in most German technical universities results in amazing savings for people who go on exchange there.

If you are in 1B or 2A, the time to start organizing your exchange adventure is now. Depending on your program, you will be eligible to go in 3A, 3B and/or 4A. There are plenty of openings available, and there is time to learn languages. Get in touch with Cindy Howe in the Engineering Undergraduate Office (CPH 1320, cindy@uwaterloo.ca) to get yourself "on the list".

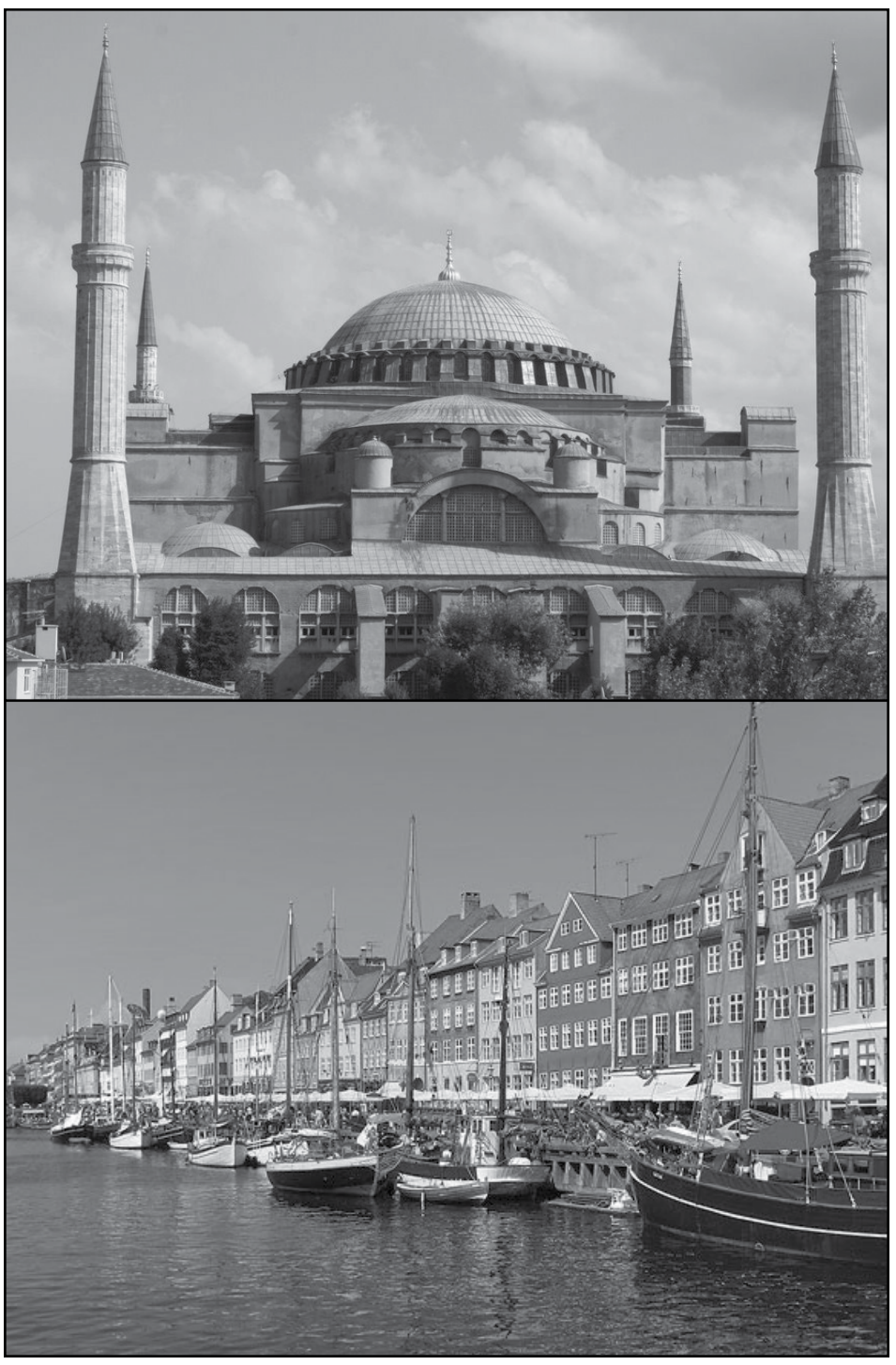
If you are in 3A now, your main opportunity for exchange remaining is 3B Winter 2013, (or, perhaps 4A Fall 2013). But most of our programs are full, and the deadline for applications is May 31. However, Exchange to France and Germany is not yet fully subscribed for Winter 2013, and we can stretch the deadline a little for places there.

Exchange is an opportunity that nobody should miss. It is a great, fun, life-changing way to broaden and deepen your education!



Peter H. Roe

Geographic Distribution of Exchange Partners (2011)



annoyzview.wordpress.com (far above), cntraveller.com (above)

Istanbul, Turkey (far above) and Copenhagen, Denmark (above).

New VP Finance Services

ALEXANDRA COLLINS
VP FINANCE

Since the addition of the commissioner position last fall, the VP Finance role now includes more than budgets and writing or signing cheques. A key part of my portfolio this term is the services offered by the Engineering Society. I would like to highlight some of the services and upcoming events that you might be interested in this term.

Mental Health Awareness – 4 out of 5 Engsoc Executives believe that puppies will help you score better on your exams this summer. That is why, just before exams, we will be hosting an event with puppies! (Stay tuned for more information).

On the topic of Mental Health Awareness, remember that there are counselors available at Counseling Services in Needles Hall and in the Engineering First Year Office if you ever need someone to talk to.

Resume Critiques – So far we have hosted two successful resume critique afternoons in POETS. There will be one more opportunity to have your resume critiqued before the start of second round on Jobmine. Good luck Jobmining everyone!

Workshops: Sushi – Stay tuned for information about a workshop taking place later in the term where you will get to learn how to make sushi. Say goodbye to stir fry, chili, and KD, you will soon be making sushi for dinner!

Lastly, congratulations to Peter Robertson who will be your new VP Finance starting at the end of this term.

Upcoming External Events

YASSER AL-KHDER
VP EXTERNAL

Hi Everyone.

Here are a couple of external events happening soon. Please note that the events are for self-development and are not paid for by the Engineering Society.

The **Leadership Summer School** is a one-week high quality training event organized as a joint event between the Canadian Federation of Engineering Students CFES and a hosting university. The program gathers about 25 motivated students and young professionals from different universities and non-governmental organizations all over the world in the hopes of cultivating leadership skills from these promising individuals. One of the objectives of the training week is to exchange knowledge and share best practices between participants and the organizations involved. Furthermore, after completing the Leadership Summer School, participants will attain and become familiar with various leadership skills, and be able to return back home and apply what they have learned.

When: 2nd half of August
Where: Toronto
Cost: $150 - 200
Application: bit.ly/KHQM1w
Deadline: June 30th

The Canadian Federation of Engineering Students and Université Laval are offering a **Lean 6 Sigma Green Belt certification course** this summer for engineering students. The training will be given by professionals from Canada Post Corporation in English and in French. Registrations will include accommodations and food in the beautiful Quebec City for the duration of the training!

When: August 20th – 31st
Where: Quebec City
Cost: $600
Application and more info: cfes.ca/2012/05/lean6sigma2012/
Deadline: June 1st

For more info, email me at vpexternal.b@engsoc.uwaterloo.ca

Send in your Resumes!

OWEN COUTTS
VP EDUCATION

JobMine is working hard to improve itself. Since the Waterloo Works project was abandoned, CECA (the co-op people) and IST (the tech people behind Quest, JobMine and other systems) have been working together to improve JobMine. The fruits of their labour have started to pay off. Many performance gains have been realized. This term, the application deadline didn't have to be extended due to high traffic. Employers have seen improvements on their end as well.

These days JobMine is working on supporting resumes that are a PDF format. This will allow students to upload PDF documents instead of HTML. As various teams are working on this, they are looking for various potential resumes as test cases. You can help this process by taking your resume and converting it to a PDF (You can do this in Word or whatever program you used to author your PDF). Send the PDF file to coop.testpdf@uwaterloo.ca indicating your student ID number, the process you used to create the document and the operating system you are on (Windows/Mac/Linux). Taking these steps will help make PDF resumes work consistently when the feature is rolled out.

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Leave Your Mark: POETS Door Design Contest

Have you ever wanted to know that when you left uWaterloo, people would remember you for something? Maybe have your name on a plaque somewhere, or in an awards case, or...on the signature of the design for the doors to POETS?

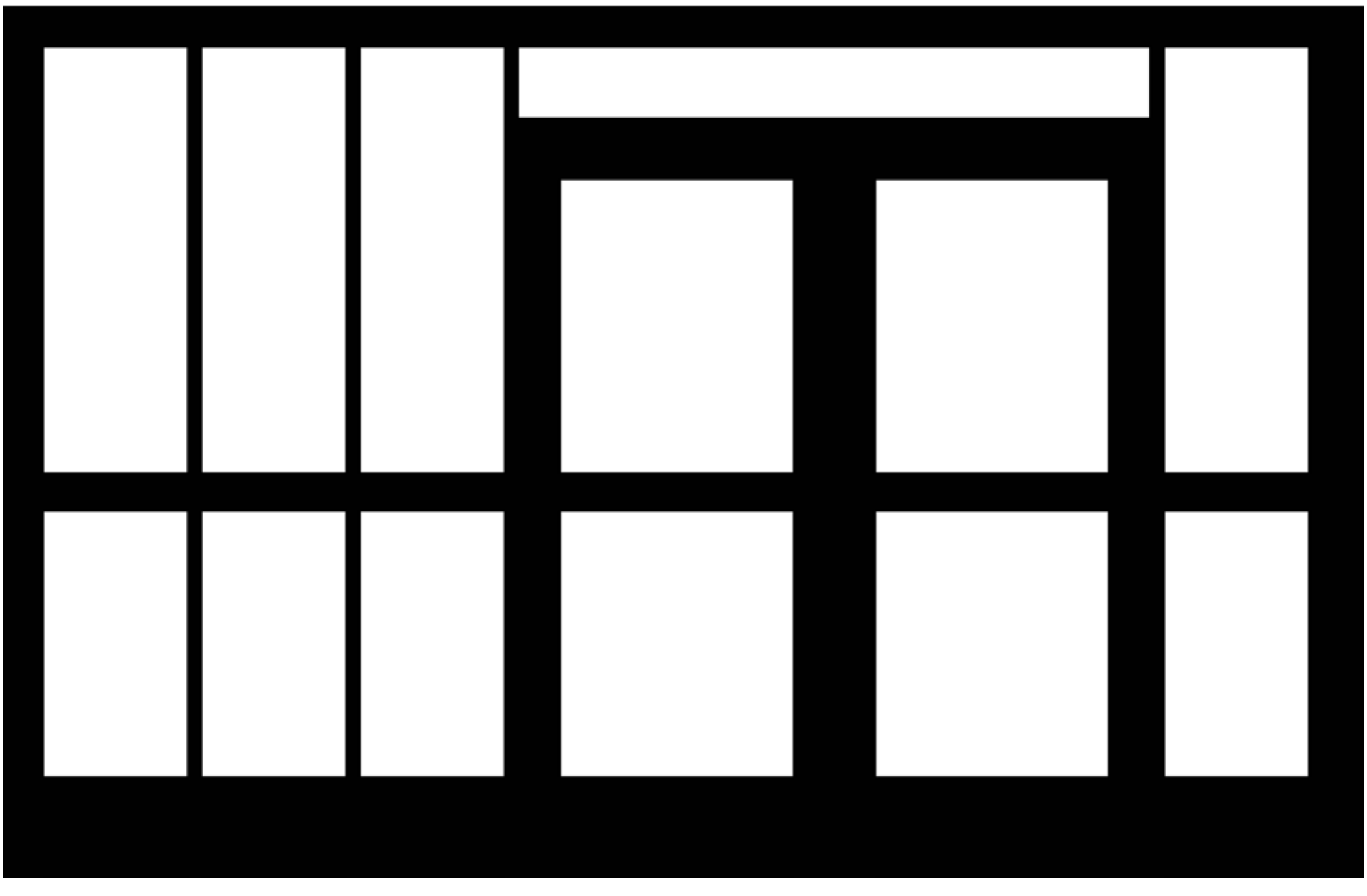
EngSoc is hosting a contest for students to design a graphic to go on the POETS doors. The design can be hand drawn or created using CAD software, according to the rules listed below. In fact, go ahead and draw your design on the schematic below and just submit it! What do you have to lose? If your design is picked by the panel, it will be printed onto the glass for everyone to see! Rules and guidelines are below, so give it a shot and show bus what you've got!

- If you wish to make your design using computer graphics, you may download a digital copy of the door layout from bit.ly/POETSDoorContest. The file is available in the following formats: .jpg, .eps, .indd
- Digital submissions should be emailed to president.b@engsoc.uwaterloo.ca in .jpg, .eps or .indd format
- Top submissions will be selected by a panel and brought to the Engineering Society Council for approval
- The winner(s) will be contacted via email. Should a hand drawn submission win, it will be converted to digital format on behalf of the designer
- Remember that the doors are open throughout the day and your design should cater to this function
- All submissions must be received in hard copy or via email by June 4, 2012
- Any questions regarding the contest should be sent to president.b@engsoc.uwaterloo.ca

POETS Door Design Contest

Name: _____ **Term:** _____ **Program:** _____

Email: _____



EngSoc Events Banned for Being Too Much Fun

ANDREW FISHER
VP INTERNAL

What do we do? … ALL THE THINGS! These past few weeks the Engineering Society has had great success with the Exchange Potluck, 2014 Year Spirit Party, TF2 and Diablo LAN Parties, Coffee House, Skydiving, Alumni Golf Tournament and TalEng, the engineering talent show! A big shout-out goes to our wonderful directors who organize these events! Be sure to keep an eye out for the events being run these next few weeks on the events calendar below. There is definitely something for everyone!

So some of you may be wondering, "Why haven't I heard about any of these events? I would have loved to participate in them if I knew they were happening!" Well there are multitudes of ways to find out what is happening in the Engineering Society!

1. EngSoc Facebook Page: All events the Engineering Society runs will have an associated Facebook event page. Just search "UW Engineering Society" and take a look through our events and join the ones you are interested in! There is no commitment other than a single click! Our Facebook page is also a great resource for those last minute reminders, or general updates as to what the Society is up to.

2. EngSoc Mailing List: If you want to get more detailed updates about the events we run, or various opportunities such as employer network sessions, guest speakers, or scholarships, then join the Engineering Society B mailing list! All emails are in newsletter format for easy and quick reading and with our new system, you can subscribe to only the email categories you are interested in! Just follow this link to register: bit.ly/JooYif.

3. EngSoc Google Calendar: The Engineering Society maintains an up-to-date event Google Calendar which can be synced with your personal calendar! The calendar can be found on the Engineering Society website: engsoc.uwaterloo.ca/events

4. EngSoc General Meetings: The Engineering Society hosts bi-weekly meetings on Wednesdays at 5:30pm in CPH 3607. Drop by and find out what your executive have been up to, but also give input on things such as our general budget, donations, committees, and policies. There is always free food at the end for those who are present!

5. EngSoc Poster Boards: There are 30+ poster boards spread through the engineering buildings which the Engineering Society takes full advantage of to advertise events. Be sure to stop for a quick look! Don't like paper? Well LCD advertising is on its way, so be sure to keep a look out for these being installed in the near future!

6. EngSoc Office: Drop by the Engineering Society Office (CPH 1327) and speak with an executive or the front desk staff to find out more ways to get involved with the Engineering Society. Event sign-ups can always be found here too!

Attending any EngSoc run event will also earn your class P**5 points! P**5 stands for Paul and Paula Plummer Participation Points and is pronounced "P to the 5." P**5 is a term-long competition between all on-stream classes with the purpose of encouraging friendly class competition, promoting EngSoc event participation and rewarding spirited and involved classes. Cash prizes are awarded to the top three classes! Submissions can be emailed to ptothefive@engsoc.uwaterloo.ca. A full list of points is available on the EngSoc website.

Advocacy Committee Looking for YOUR Input

ALESSIA DANELON
PRESIDENT

At the end of the Winter 2012 term, the CIS (Council Internal Structure) committee was put together by the Engineering Society Council who were tasked with assessing the current way EngSoc council represents students and provide recommended changes to policies and structure if deficiencies were identified.

The committee has been meeting this term and began their mandate by analysing the current structure of EngSoc Council. Currently, each cohort (class) has two class reps who have a vote on council, as well as a vote per executive and a vote for the off-stream society. The council currently acts as the final body for all decision making; however, EngSoc does not have a Board of Directors that goes on to approve any motions passed by CIS. The committee discussed the positive and negative repercussions of including a Board of Directors. Pros to creating a BoD included a final sounding board for all decision making, more focused discussions because of the small group size, and having the benefit of a secondary body to approve all decisions. On the other hand, having this secondary body would mean that all changes would go through a more involved process which essentially means an added level of bureaucracy. The committee ultimately decided that, given the type of decisions that EngSoc makes and the fact that all joint decisions need to be passed by two councils already (A-Soc and B-Soc), the benefits of implementing a Board of Directors did not outweigh the negatives and so the committee left this topic to proceed on to analyzing the structure of EngSoc Council.

Council currently consists of 30-40 votes depending on the term and the number of classes on stream. The structure has existed in this way (with one vote per class and multiple reps responsible for each vote) for many years and, most notably, before there were 13 disciplines of Engineering at the University of Waterloo. Though this system ensures each cohort is represented, it also removed some sense of responsibility for those in multiple-streamed programs (why would I vote when the other class will?). The other point that the committee brought up with that is that the current arrangement of council is not likely scalable given the anticipated growth of Waterloo Engineering and the potential addition of new programs as mentioned in Vision 2015. However, the committee also recognized that certain groups should and must be represented on the EngSoc council; these groups included: each department, each graduating class, executives, and off stream classes. Given these identified groups, a proposal was put forward to have a council consisting of one vote per department and year (eg/ MME 2016, ECE 2013, Civ/Enviro/Geo 2014 would each be a vote) and the executives would share a vote between themselves.

This is where we need your help. The committee is looking for interested students to provide their insight and perspective on this proposed structure, and their opinions on how the EngSoc council could be bettered. The next meeting of the committee will be an open one in order to solicit student feedback, and will take place on June 5, 2012. To get the details of the meeting and add yourself to the attendance, please email president.b@engsoc.uwaterloo.ca .

Upcoming Events Calendar

Wednesday May 30 Board Games 5:00 PM CPH 1337 Running Club 7:00 PM POETS Patio	**Thursday May 31** Tetris Tournament	**Friday June 1** GradComm Pubcrawl Running Club 8:30 AM POETS Patio Dodgeball 5:00 PM CIF Gyms	**Saturday June 2** **Zombie Hunt (ZUNT)** **5:00 POETS/Engineering**	**Sunday June 3** Zombie Hunt (ZUNT) Rock Climbing	**Monday June 4** Sushi Workshop 11:30 AM POETS Running Club 7:00 PM POETS Patio	**Tuesday June 5** Iron Warrior Meeting 6:00 PM E2 2349A
Wednesday June 6 EngSoc Meeting 5:30 PM CPH 3607 Running Club 7:00 PM POETS Patio	**Thursday June 7** Charity BBQ	**Friday June 8** Running Club 8:30 AM POETS Patio	**Saturday June 9**	**Sunday June 10**	**Monday June 11** Ball Hockey 5:30 PM CIF Gym 3 Running Club 7:00 PM POETS Patio	**Tuesday June 12** **Pancake Breakfast** 8:30 AM CPH Foyer **Iron Warrior Meeting** **6:00 PM E2 2349A**
Wednesday June 13 Running Club 7:00 PM POETS Patio	**Thursday June 14**	**Friday June 15** GradComm Pubcrawl Running Club 8:30 AM POETS Patio	**Saturday June 16** Convocation Beach Day	**Sunday June 17**	**Monday June 18** Resume Critique 5:30 POETS Running Club 7:00 PM POETS Patio	**Tuesday May 19** 2015 Spirit Party Iron Warrior Meeting 6:00 PM E2 2349A

Check out up-to-the-day event postings on the EngSoc website at engsoc.uwaterloo.ca

The Gospel of Disengagement

ROB REID
RESEARCH TEAM LEAD

In his "European dis-Union: lessons of the Soviet collapse" article available on OpenDemocracy.net, Ivan Krastev likens the current state of the European Union to the Soviet Union on the eve of its collapse. He speculates upon the possibility of another wave of wide adjustments to society, government, and economy on the scale of the Soviet Collapse, whose effects are still felt today, thirty years later. Although in Canada we feel much more secure in our political stability (unless we live in Montreal, perhaps), such framing of geopolitics calls into discussion the roles of governing bodies in shaping the social conditions that affect the billions living on this earth.

Interventionism and regulation has many supporters and opposers and many difficult debates. In Canada, we have seen postwar practices of more socialist policies focused on nation-building and social programming (accompanied with massive public spending and debt) shift to a selling-off of public holdings and deregulation. This deregulation continues with the Conservative majority government, who last week passed legislation lowering the minimum wage for migrant workers (against which there was a demonstration in front of Peter Braid's office uptown last Thursday), and earlier began a weakening of the federal environmental assessment process, to name a few.

This attitude of economic liberalism has been the dominant trend in political circles for the past few decades. International financial bodies such as the World Bank and IMF, who provide loans to countries to further develop or recover from economic hardships, often stipulate such policies to the countries they lend to. There is a dominant ideology that government spending on social programs is a nice-to-have and not a need-to-have; that an economy is always weakened by forcing money through inefficient government agencies and that nation-building policies do not translate to economic benefits. In the 80s and 90s, there was an outcry in the international development world over such policies forcing governments to sell off national assets and globalize markets. A memorable culmination occurred in the Cochabamba Water Wars event of 2000, where violent protests erupted after a plan for radically privatizing water was proposed. Today, echoes are visible in anti-austerity demonstrations across Europe and, at home, with the Quebec students' protest.

In Canada, we are still grappling with reconciling the question of how much state engagement is required to make a country equitable and sustainable, made interesting with a democratic socialist party as Official Opposition for the first time. The Ontario government is struggling with implementing their own "austerity" measures as recommended by the Drummond Report. One can hope that civil society and decision makers can take some lessons from the Soviet Union collapse, the failings of neoliberal globalization in the developing world, and the mounting discontent across collapsing economies in the EU and worldwide to find a balance in how much the state should and can control and improve global society for all its people.

First Steps Into Ghana

JIMMY EHRMAN
2012 JUNIOR FELLOW

THE LONGER TRAIL

My name is Jimmy 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 on a project called Sustainable Land and Water Management under the Agricultural Extensions team in Northern Ghana. Below are recent thoughts and observations from my life overseas.

We touched down in Accra some four days ago on a relatively cool evening. Even so we were all sweating by the time we left the airport to get taxis. Robin Stratas, Don D'Souza, and Siera Vercillo-three members of EWB team Ghana-helped us arrange and bargain for the ride to our overnight guesthouse.

My first few minutes in Ghana were hot, loud and confusing. The taxi yard was a chaotic tangle of rickety old cars and shouting cabbies. There was a very heavy smell of vegetation, a mix of pollen, wet palm, and fire. The ride to the guesthouse was alarming, reminiscent of taxis in Greece or Poland. Driving in the city is a symphony of near misses with goats, bikes, and people thrown in as punctuation. We arrived at the guesthouse fairly late at night. Immediately surrounding us were a few larger cement buildings and some cement houses. There was a little wind and everyone began to sweat immediately. Our rooms were luxurious by Ghanaian standards, they even have TV. The night was short and breathlessly hot; we got less than four hours of sleep before rising to travel to the bus station. Our first meal in Ghana was crackers and Milo from a small vendor at the bus station. Accra by day is the same chaotic mix of traffic, yet with the sun there is much more to see. The burning smell we found last night turns out to be garbage. All I can say about the first few hours of the trip is that they were very real, that is to say, shocking. Scenes from the slums of Accra and the small roadside villages along the way to Tamale brought poverty into focus, and contrasted heavily with sleek government and industry skyscrapers.

The next twelve hours of travel were surreal. I struggled to take pictures, as it felt somehow indecent to photograph these scenes. The road to Tamale was at times smooth blacktop, at others little more than a washed-out red-dirt trail. The road was supposedly funded by Chinese money. However the long term volunteers had said that there had been little noticeable improvements over the years. Every three hours the bus would stop in a fairly large town or city for food and bathrooms. Kumasi was the first major stop. The city seemed more hopeful than Accra. There were no slums on the route we took through the city, and some well-established businesses could be seen. Kintampo was the next big stop, where we got off at the Kintampo market. It was like falling into a whole new world. All the smells are new, the sounds, the language, the sights, all totally foreign. Yet you connect with the people there somehow whether through a smile, or a quick wave. The market was totally ramshackle, with booths built from decades old plywood and corrugated metal. Everything is warped from the rains, and the ground is pounded flat from a constant stream of buses and travelers.

We arrived in Tamale late, around 9 pm, and took a cab to our guesthouse on the edge of town. The power was out, so we had a quick meal and got to bed. Our in-country training sessions, and team-specific sessions filled the following days. The best part of this time was a glorified "To-Do" list. The list had us go into Tamale market in pairs searching for various helpful logistical items, and some fun things as well. The highlight from my time there was a great conversation with a Rasta on the roof of a bar. He had a lot to say about Canada, and spoke excellent English.

Right now the first people to take-off to their placements are packing up and leaving. It's intense to think we are all about to be thrown even further into Ghana, basically on our own. Any sort of acclimatization we have come to in the past five days is going to seem trivial as we lose our last few Western comforts. It's exciting for sure, I'm looking forward to seeing everyone again in 5 weeks for mid-placement, and especially to see how everyone has adjusted.

Peace, love and happy trails!

Want to read more? Check out my blog for many more thoughts and updates at:
thelongertrail.wordpress.com
More information on the Junior Fellowship program and Engineers Without Borders can be found at:
www.ewb.ca

Jimmy Ehrman
Jimmy washing clothes with local children.

Honda's Uni-Cub Offers Bizarre Form of Transport

NANCY HUI
2B CIVIL

Honda recently unveiled the Uni-Cub, a personal mobility device along the lines of the Segway. It can be steered hands-free by tilting one's weight or via a smartphone app. The Uni-Cub is the first device to make use of the Honda Uni Drive System, which allows the Uni-Cub to turn in all directions (forwards, sideways, and backwards) on its two wheels with ease. Balance is maintained using technology first developed with the Honda ASIMO family of robots. It has a top speed of 6km/h, and a maximum distance of 6km on a single charge. Honda says it's designed for "barrier-free indoor environments".

Let's cut to the chase. It looks ridiculous, or, in the words of a friend, a "mobile toilet."

Now that we've gotten that out of the way…

Ergonomically, it appears that the person is perched on the edge of a bar stool. There is no armrest, no backrest, and the little foot rests seem insufficient at keeping the person anchored to their seat. On the other hand, the people in the videos seem perfectly comfortable operating their Uni-Cubs. I'll withhold judgment for now.

The operation of the Uni-Cub could be problematic. One steers it by shifting body weight forwards and sideways. In layman's terms, you steer it with your butt. Alternately you could steer it with your smartphone. However, Ontario's laws currently prohibit driving and gadgeting, so this poses a few problems. If a Uni-Cub rider hits a small child at 6km/h while gadgeting, could they defend themselves by claiming that they were only gadgeting to steer the Uni-Cub?

The market potential for these devices is questionable. The Segway, godfather of the personal mobility device for able-bodied people, can go up to 20km/h and travel 60km on a single charge, while its standing rider position makes it suitable for mall cops and other security organizations. The Uni-Cub, on the other hand, puts one in a lower, more vulnerable sitting position and has far less mobility and distance capacity than the Segway. Having the Uni-Cub rider at eye level with a pedestrian is a nifty idea but is a feature unsuitable for mall cops and their ilk. Both vehicles have difficulty going up and down curbs and stairs.

The Uni-Cub is also obviously unsuitable for widespread use by disabled people, because it requires a set of working posterior and back muscles.

If this is intended to be an office or shopping product, then I worry about the health problems this would aggravate if the Uni-Cub ever came into wide use. We are a sedentary society. Sitting everyone down on a fleet of Uni-Cubs isn't going to tone any leg muscles at all. Furthermore, the range of the Uni-Cub is, again, problematic, and too short to justify the use of a Uni-Cub to save your poor, aching leg muscles. Walking 6km is peanuts, and if you need to get there in more than an hour, there are alternate sources of transportation that don't involve squatting for dear life on a slower version of a Segway.

Perhaps I'm being too harsh for a product that hasn't even been released. Honda will demonstrate the Uni-Cub at Japan's National Museum of Engineering in June. I'll gladly reconsider my initial reservations against the Uni-Cub, provided that Honda sends me a complimentary device for review.

The Laughing Squid

The Honda Uni-Cub

Planetary Resources Aims to Mine All the Asteroids

NINA FENG
1B ENVIRONMENTAL

A few years earlier, when one thought of a near-Earth asteroid (NEA), one thought of the threat of impact. An apocalypse. Earth's destruction. With movies like Armageddon exploring such ideas and about 152 potentially hazardous asteroids (PHAs) hurtling around, such thoughts were quite common, and still are.

Recently though, a lot of people are thinking about asteroids and seeing green. And by green we mean the monies. This is largely due to the fact that space mining, or more specifically asteroid mining, seems to be almost within our reach. Within a decade, it is supposed. With the creation of the company Planetary Resources Inc., backed by the likes of director James Cameron (of Titanic and Avatar) and two Google execs, obtaining extra-terrestrial resources might well be in the future of humanity. Founder Peter Diamandis is already the CEO of X Prize, which played a role in starting the space tourism industry. He claims that he has always held the dream to be a space miner, and now he's attempting to bring it to reality. The venture has been likened to Columbus discovering America, or the Europeans trading with East Asia.

The company plans on first deploying orbital telescopes to gather more knowledge about nearby asteroids to help in prioritizing the asteroids to be mined. The first phase could begin in less than two years, with satellites costing a few million dollars each. Teams of scientists and experts are attempting to come up with mining methods. Many of the near-Earth asteroids are even more accessible to us than the moon, due to their periodic proximity to the Earth. Among these are the PHAs, which already travel relatively near to Earth's orbit for at least a part of their orbit around the Sun. These are the most promising for mine exploration. Scientists speculate the orbits of some of these asteroids may be slowed as they come near the Earth, an idea which has yet to be developed. Other asteroids travel in such a way that they may be mined for some years before being abandoned as they head into deep space. Terrestrial drilling technologies will be adapted to fit the conditions of space, and orbital fuel-supplies will need to be created to facilitate the machinery.

A number of different, beneficial resources may be accessed and brought back from asteroids, in hopes of improving the quality of human life on Earth. For example, it is a hope of many that they find water-rich asteroids, which will help in solving the water shortage problem on Earth. Precious metals such as gold and platinum are expected to be found, which would garner huge profits due to their relative rarity and value. Rare earth metals, which are rapidly depleting as they are crucial in modern electronics, can also be found in abundance on certain asteroids. In this way, the success of the venture would affect the economy significantly, potentially adding trillions of dollars to the global GDP. With access to the enormous amount of space wealth, Planetary Resources could easily become the world's richest company. Even the smallest of asteroids could fetch more than $ 100 million in profit.

For now, it seems like the human race is well on its way towards the futuristic age that is depicted in science fiction everywhere.

DIY Gaming

JON MARTIN
OBI JON1138

THE FUTURE OF GAMING

Hey fellow gamers, have you ever played a game and really hated a specific thing about it? Maybe you've thought to yourself , "Hey Me, we could have done a much better job at this than these trained developers with experience, training, and resources at their disposal, and we could have made it better without all of that. Just give us a hammer and some tablets and we'll write out the code right now". Now you have to tell yourself to shut up and realize that you probably are going to have to work on that plan of action a bit more if this is actually going to happen. Also, just as a side note, you should probably stop talking yourself like that, or see a shrink, you're kind of weird.

So anyways, back to the topic at hand, which I haven't introduced, but you have probably deduced after loudly consulting with yourself. I'm going to be talking about indie game development and the amazing upsurge we have seen in the world of gaming in the last few years, both in terms of full games and the world of mods.

So let's start with a little background. Indie gaming generally refers to games that are created by independent developers (see, that's where the 'Indie" part comes from, I bet yourself told you that) that don't have the kind of commercial and development backup that the big name companies do. A lot of times this has limited the sales and reach of these often amazing games; the developers just don't have the money to distribute a game to the masses. This is a huge loss because some amazing games have come from indie developers, who often bring the craziest out-of-the-box ideas to the gaming world. Rather than being stuck in the regular corporate environment, where it seems bold now that games are too often labelled as risky and shelved, indie developers are driven by what kinds of games they want to see and play – and that is where creativity comes from.

Some of these challenges have been relieved for Indie developers with the introduction of digital distribution systems like Xbox Live Arcade and Steam. These digital stores allow great indie games to be seen, bought, and played by millions of people. If a game is selling for $5 on a digital system then the developer can make that a viable business, rather than sinking money into physical manufacturing and advertising on a product that may or may not make back the investment. Great games like Braid were launched this way, and blew people away with the story and gameplay.

Of course there is also the continually evolving, sometimes free-to-play model of indie development, where one of the best examples is probably Minecraft. This game was originally released in a free Alpha version (it is still technically in Beta phase right now despite being a huge commercial success) after a week of development before its release on May 17, 2009. Since then the game has seen continuous patches and commercial versions for PC (November 2011), Android (October 2011), iOS (November 2011), and Xbox 360 (May 2012).

The other big realm of indie development that I want to talk about is modding, which I talked about last issue a bit. Continuing to play Skyrim, I have come to really appreciate the mods that people have created, and the basic to drastic changes they can have.

Many mods are very simple in operation as they simply alter existing parameters within the game world, like damage ratings, weights of items, and the appearance or actions of game components. Damage rating changes are sometimes viewed as a form of cheating by some gamers, but as Skyrim is single player and you never have to worry about someone cheating in a multiplayer match, it really doesn't matter. These kinds of mods normally are in reaction to things in the game that a person doesn't like, for instance, destruction spells like fire never really increasing in power, only costing less to cast. This is something I agree with whole-heartedly; when my hero is at level 20, 30, 40 and so on, I want the fire spell to be more powerful than it was at level 1.

Another mod I appreciate is one that changes the weight of in-game items to zero or some other low number. When your hero can only carry 300 or so pounds of items and armour takes up 150 that doesn't leave much room to carry potions, weapons, maybe pick up that troll skull or the giant fat you found. I have no idea what giant fat is used for at this point, but I've killed two of them so far.

Graphics mods are another great kind of mod. If you have a powerful enough computer you can replace the regular in-game textures with high definition ones, add post-processing for increased shading and lighting effects, implement more realistic weather effects, among other things to make the game more visually immersive.

Then there are the stupid fun mods that do absolutely nothing for the game but are fun anyway. Currently all of the rivers in my game world are now populated with classy crabs instead of the boring normal crustaceans; every one of them is now sporting a top hat and monocle. Why, you might ask? Because.

Finally, there are the total world changing mods that change the entire experience of a part of the game, or the entire thing. Take the ability to craft lightsabers as standard weapons, add entirely new races, or completely duplicate the races and many of the locations in The Lord of the Rings, these are amazing mods that have taken people a lot of time to create. That is the greatest advantage of mods: they allow people with creative ideas, but lacking technical skills or the financial backing, to create an entire game. Mods allow indie developers, or potential indie developers to build on an existing framework and show what they are capable of without having to start from scratch.

So the next time you are browsing for a new game to pick up and play check out the indie games, there may be a hidden gem waiting to be discovered and launch an amazing new talent into the spotlight. Amazing creativity is often found outside of the standard gaming IPs we see year after year, so pick up something new, and Keep on Gaming.

Planet Minecraft

Mario and Luigi in Minecraft.

Cyclen: A Solution to Carbon Capture and Storage

NINA FENG
1B ENVIRONMENTAL

LEAFY THOUGHTS

Stop. Put down your Coke. Take another look at the soft drink. I know, I know. You have probably read articles concerning the harmful effects of sugar on your body. This study, conducted by UCLA's Fernando Gomez-Pinilla, professor of neurosurgery at the David Geffen School of Medicine and of integrative biology and physiology in the UCLA College of Letters and Science, and his co-author, Rahul Agrawal, a visiting post-doctoral fellow from India, was the first to investigate sugar's effects on the brain.

Two groups of rats were fed standard rat chow and trained in a maze twice daily for five days before starting the experiment. Both groups then consumed high-fructose corn syrup, a solution six times sweeter than sugar, as drinking water for six weeks. The second group was also supplied with additional omega-3 fatty acids, a form of flaxseed oil and docosahexaenoic acid (DHA), which prevents damages to the synapses—the connections between brain cells that enable memory and learning. At the end of six weeks, the rats were tested on their ability to recall routes and escape the maze.

Unsurprisingly, the second group turned out to be much faster in escaping the maze. The DHA-deprived brains of the rats in the first group showed a decline in synaptic activity. The synapses had trouble signaling each other, hence disrupting the rats' ability to think clearly. The rats had also developed resistance to insulin, the hormone controlling blood sugar levels and regulating the brain's synaptic functions. Examining the rats' brain tissue, the scientists discovered that insulin, having lost its power to influence brain cells, is able to penetrate the blood-brain barrier and to signal neurons to trigger reactions that disrupt learning and cause memory loss.

"What you eat affects how you think," concluded Gomez-Pinilla. High sugar intake alters your brain's ability to learn and remember information. Based on information from the Canadian Sugar Institute's 2011 study, the estimated consumption of added sugars (as opposed to natural sugars) in Canada is approximately 51-53 grams per day, an equivalent of 12.5 teaspoons and 10-13% of total energy intake.

Too much sugar is harmful, but that doesn't mean you can't order that chocolate sundae. Go ahead, indulge your sweet tooth. Just be sure to enrich your diet with other nutrients, especially DHA and omega-3 fatty acids in salmon, walnuts, flaxseeds, and DHA capsules. Your body produces an insufficient amount of DHA, so the rest must be supplied through your diet. Remember, think twice about sweetening up, and balance in your diet is the key!

Northstar, The First Gay Superhero

DANIEL OSORIO
2B NANOTECHNOLOGY

UNSUNG HEROES

Usually my columns are about heroes that are under-appreciated or made fun of because of their powers or status. They are usually great heroes in the world of comic books, but there are heroes that are powerful enough to change the world of the reader. One particular hero changed not only the world of comics forever, but has been a beacon of hope in the media. This week's article focuses on the awesomeness that is Jean-Paul Beaubier, a.k.a. Northstar, the first gay superhero.

Northstar was originally an Olympic skier for Canada when one day he found out he was actually a mutant with the ability to fly at the speed of light and enhanced strength and senses. Upon discovery of this power he found the sport of skiing too boring and decided to fight crime and eventually joined the first Canadian superhero team Alpha Flight. Becoming one of the teams most famous characters, and the most powerful, Northstar truly made his mark in the Marvel universe. After constant battle with villains, Northstar eventually saw that he had no real fear except of himself. He saw that if he were to be a true hero he could no longer hide from his true emotions, and he wanted to the world to know what he was and he would no longer be ashamed. He was the first hero in comic book history to finally say the words "I am gay".

The outing of Northstar started a movement. Many heroes started to admit that they were gay, and that Northstar was their inspiration. Even in DC comics, gay heroes started to pop up and proudly announce they were gay. However comics took a turn for the worse. Writers started to portray gay heroes and villains in a horrific light. They were portrayed in gruesome deaths, brutal beatings, and portrayed their sexual orientation as a negative light. Some of these heroes include Ice, Wing, and Bloke. Truly not what the creation of Northstar was meant to intend, but as time went on the world of superheroes finally became more accepting.

New age writers saw the error in the ways of their predecessors and decided to create new heroes that would not be some snuff gimmick for hate mongers to enjoy. Finally, the true message of Northstar would be portrayed through a new age of heroes. Heroes like Bunker, founding member of the new Teen Titans and a refreshingly light hearted and always optimistic member with powers that rival the Green Lantern. Heroes like Batwoman, one of the most badass members of the Bat family with enough gadgets to rival Batman himself, not to mention the most famous lesbian in current comics. Perhaps the most notable heroes are Wiccan and Hulking of the Young Avengers, two teenaged heroes that said their courage to openly come out as gay heroes was because of Northstar.

Presently in the comics Northstar is still not only a badass but is still changing the comic book universe forever. Currently being one of the mentors of the Jean Grey Institute for Higher Learning, he trains Alpha Squadron, where one of his students, Anole, looks up to Northstar as a role model and the bravest man he ever knew. Northstar is also an active spokesman who spreads awareness of the deadly AIDS virus to educate the world. He made this his mission after he found a helpless baby girl in an alley that was diagnosed with the terminal illness. But perhaps his most ground breaking move yet was when on May 23, 2012 Northstar proposed to his boyfriend Kyle, the first same-sex marriage in comic book history. The wedding is to occur in the next issue of the Astonishing X-men.

So let's take a recap on the man we have now come to know. Canadian hero and icon in the Olympic Games, founding member of the first Canadian Superhero team Alpha Flight, not only can move at the freaking speed of the Flash and fly, but he also changed comics forever. How many heroes can really say that? Northstar has done so much for comics and the world; he changed a form of entertainment forever, and allowed a door to be open for many gay heroes to come. Some comic book readers have claimed that having Northstar as a role model helped them come to terms with being gay themselves. Northstar is a true hero and has saved real people, no matter how badass I say Aquaman, Robin, or even Ant-Man is, no one can compare to light given off by Jean-Paul Beaubier.

Marvel Comics

Northstar on the cover of Astonishing X-Men.

Remixed!

NOUHA JAVED
2B CIVIL

MUSICAL MUSINGS

Falling in love with a song is a fantastic feeling. But finding out that someone, who shares your love of that song, has interpreted it in a completely different way is an even better one. That's where remixes come in. A remix turns a chill tune by a singer-songwriter into something that makes you want to turn the bass up, or be part of a spontaneous hoe down. Some speed up the song for maximum impact, while others slow it down to unimaginable speeds. The six remixes below are great example of seeing things from a different point of view, and paying homage to the original.

Original: 'Set Fire to the Rain' – Adele
Remixed by Tiësto/Thomas Gold

What makes 'Set Fire to the Rain' the perfect power ballad to belt out in the shower (or is that just me?) is its intensity. The dramatic arrangement of the song matches the strength of Adele's vocals perfectly, and adds melodrama where needed. A touch of electronica amplifies the intensity tenfold, while transforming the song into a dance anthem. The remix also speeds up the ballad, and cuts all the softer parts away. The changes lead to a great makeover, but unfortunately make it impossible to sing while shampooing. Just as a note; I was unable to get verification from another source that the remix is by Tiësto and/or Thomas Gold. Still a great remix though.

Original: 'Coming Down' – The Weeknd
Remixed by Slim K

The remix is tricky to talk about since, unlike the other cases in where songs have been transformed, Slim K's rendition has been described as taking something already 'drugged-out and syrupy' and just making it even more so. I've mentioned it, though, because of the amazing job done. Taking something slow and making it even slower, without making people fall asleep, takes talent and a very large amount of patience. 'Coming Down' is the ideal song to do this to, as it takes one solitary moment in time and extends it out to infinity. It also has a great, steady, thumping beat to it, which Slim K stretches like silly putty.

Original: 'Mushaboom' – Feist
Remixed by k-os

Feist's original is an extremely happy song; so blatantly cheerful that it makes you want frolic in a field of white daises. It has a great bouncy feel to it, and some pretty irresistible finger snapping. Fortunately, k-os doesn't take away any of the bounce, but instead adds a great bass line. Most importantly though, the finger snapping remains intact.

Original: 'Reunion' – Stars
Remixed by Jason Collett

If you squint while listening to the original 'Reunion', you'll not only reduce the amount of light going into your eye, but might hear a bit of country twang. What you'll definitely hear though, is Torquil Campbell's ever present smoothness, and the band's catchy lyrics. Anyone familiar with Jason Collett knows that the same qualities fit him perfectly too. Collett takes those lyrics, and that bit of background twang, to make a foot stomping pick-up truck kinda tune. Interestingly, the two versions sound like they're being sung by two different male stereotypes; Campbell the sensitive hipster, and Collett the romantic cowboy.

Original: 'The Dwarf and the Horse' – Sleep Party People
Remixed by Trentemøller

The original version of 'The Dwarf and the Horse' is the most subtly creepy thing I have ever heard; like someone simultaneously played the soundtrack for a horror movie over one about a fairy-tale. The soft, gentle parts are played with extreme delicacy, making everything else seem harsh in comparison. The vocals float above all, in the most dismembered haunting way possible. And if the original is beautiful and ghostly, then Trentemøller's version brings it to life. Delicacy is replaced by punchy, vibrant notes, and the vocals blend in with the music. It's the kind of remix that the more you listen to it, the more you realise that's it's a completely different song.

Electro-maniacs.net

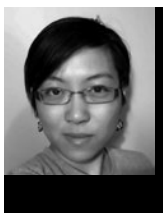
DatPiff

Amazon

Boomkat

CMJ

Tonight, We Dine in Hell



NANCY HUI
2B CIVIL

TAKE FIVE

There are many types of Hell – Hell as the realm of the dead, hell on earth, and the traditional fire-and-brimstone Hell. Perhaps your personal hell is being trapped in a windowless lecture room, mere metres from fresh air and grass. Or do you prefer your fiery realms of torment to be virtual, slaughtering laughably weak mobs of hell-spawn?

Just as there are many levels of hell, there are as many heroes willing to descend into their depths and vanquish the final enemy, or to drive the demons back to the depths from whence they came.

So, I present to you five movies about Hell and the heroes who fight them.

Constantine (2005)

Keanu Reeves plays John Constantine, a chain-smoking demon hunter in Los Angeles with terminal lung cancer. To compensate for a suicide attempt as a youth, his days are spent exorcising demons back to hell. He is consulted by a detective investigating the death of her twin sister, and the two are led into a search for a powerful artifact that would bring about hell on Earth.

Well. You'd think that sad Keanu is oddly suited to play the sad Constantine, since both of them appear terminally depressed and world-weary, but he doesn't quite pull off the noir attitude required for this movie. However, he compensates for this with an impressively overpowered shotgun that doesn't look the least bit out of place among legions of the writhing damned, exploding swimming pools, and burning angels. This is a movie that wants you to take it seriously, and if you're in a sufficiently mystical or indulgent frame of mind, you will.

Hercules (1997)

Baby Hercules, son of Zeus, god of thunder, is accidentally sent to Earth and raised as a mortal after a botched murder attempt. A childless couple adopts him but the chubby, preternaturally strong godling grows into a tall, preternaturally strong chap whose continual accidents cause his peers to shun him as a barbarian. Encouraged by his adoptive parents, Hercules goes forth to find out what it means to be a hero. But Hades, god of the dead, is bent on finishing the murder job he started decades ago.

True to Disney tradition, this is the heartwarming "follow your heart" Aesop that you'd expect. True to Ancient Greek tradition, there is a Greek chorus narrating and commenting on the events that ensue in gospel verse. I have always wanted a small glee club following me around and making me sound awesome. And true to Hollywood tradition, Hercules gleefully tramples all over Ancient Greek culture and gods in the name of entertainment. For example, in original myth, Hercules was Zeus's disgraced bastard child, rather than an adored infant stolen from his cradle. But I'm totally fine with the artistic liberties they take, because those include Meg, the sassy and glorious damsel-not-in-distress, Hades, who has fabulous flaming blue hair, and Phil, the disillusioned hero-trainer with goat hooves. I remain impressed at how Hercules' fundamentally heroic inclinations are retained at the end of the movie in the presence of such cynical and charismatic supporting characters.

Pirates of the Caribbean: At World's End (2007)

And now, for a change of scenery. As suggested by Tia Dalma, witch doctor, the crew of The Black Pearl descend into Davy Jones' Locker, a hell of endless white beaches without a drop of rum in sight, to retrieve Captain Jack Sparrow. Meanwhile, the combined forces of Lord Beckett and Davy Jones draw ever closer to ending piracy once and for all.

Well, that plot summary made no sense and neither did the movie when I first saw it. Alas, At World's End is the least coherent film in the whole trilogy, due to the necessity of tying up all the loose plot threads that Dead Man's Chest haphazardly introduced, and as such, doesn't leave a lot of time for the liveliness that infused Curse of the Black Pearl. But by the time the film rolls to the inevitable final showdown between Beckett and the pirates, it comes close to recapturing the spirit of the original. I also like the finality with which it closes the trilogy, putting me in the minority when I say that it is my favourite PotC film.

P.S. Will and Elizabeth's wedding in the midst of battle is also my favourite wedding scene of all time.

Hellboy (2004)

A demon, prophesied to lead the armies of hell into the ending of the world, is adopted by an army scientist and ekes out a living killing other demons. Hellboy is content to spend his spare time in the company of cats until a Russian wizard with an apocalyptic bent, Rasputin is resurrected, which forces him to face his destiny as the destroyer of worlds.

Hellboy, played by Ron Perlman, is one of the best casting choices on this side of comic book adaptations, and rocks the red skin and the tail as well as he munches a cigar and snarls one-liners at hell hounds. Guillermo del Toro provides lush backdrops that are both creepy and captivatingly beautiful, before they are defiled with the slime of exploding demons caught at the business end of Hellboy's massive revolver. Delicious.

Van Helsing (2004)

Van Helsing, monster hunter extraordinaire, is called upon to deal with a spot of trouble in Transylvania. He soon becomes embroiled in an ages-old prophecy concerning Dracula. Together with Anna Valerius, vampire hunter, and Carl, the comic relief monk, they search for a way to put the King of Vampires and his brides to rest before it's too late.

It's pretty cheesy, but in a good, slick, CGI'd kind of way. This quality is best exemplified in Dracula's extraordinarily hammy presentation – "I…am hollow, and I will live… FOREVER!" Furthermore, putting Hugh Jackman in an action movie immediately elevates it to a new level of awesome, especially if he's swishing about in a fedora and long coat with a crossbow aimed at your forehead. It's a pity, the way his pants stay on when he's ripping his shirt and chest skin off during a werewolf transformation.

Love the Book? Watch the Movie!

JON MARTIN
4A CIVIL

With the wild success of franchises like *Harry Potter*, *The Lord of the Rings*, and *The Hunger Games* it is obvious that Hollywood is cashing in on ready-made stories with an amazing fan base. But this kind of success doesn't necessarily lead to a good movie, especially if the producers decide to get creative and 'make the story their own' or just let the movie 'inspire' them. People have probably heard me complain about horrible adaptations before, so this time I'm going for the exact opposite: movies that are better than the original book for one reason or another.

The first series is not really a series, but more of a collection, as they are all written by the exact same author; Michael Crichton. Crichton is probably best known for writing *Jurassic Park* and *The Lost World*, but he wrote around twenty books before his death in 2008, with fourteen of them made into movies. Crichton wrote *Rising Sun* (starring Sean Connery and Wesley Snipes), *Disclosure* (starring Michael Douglas and Demi Moore), *Sphere* (staring Dustin Hoffman, Sharon Stone, and Samuel L. Jackson), *The 13th Warrior* (starring Antonio Banderas), *Timeline* (starring Gerard Butler and David Thewlis), among others.

Obviously Michael Crichton's stories could never have made great movies if they weren't great themselves, but I find the movies to be better. In most of his books Crichton is long winded and spews a lot of techno-babble, his books can have lots of subtle meaning and developed plot lines. This kind of thing can work in movies but you need to have the running time to invest in it, and you need captivating characters to keep the audience's attention – Crichton sometimes lacks that. The movies are a great summary of the story- you have all the necessary technology to make the sci-fi work without the lengthy explanation (like the time travel in *Timeline*) and sometimes multiple characters are combined into a single person or two character's personalities and storylines are completely swapped to make for a better story.

Take Jurassic Park, for example. In the book John Hammond is kind of the villain, he never learns from his mistakes and dies at the end. In the movie he is played by Richard Attenborough, and the character is changed to a loving grandfather who realizes his mistakes and destroys his own park before going into a philanthropic mode for the second movie. In Timeline the time machine in the book is capable of travelling to any time and place, while holding a single person and having to be summoned to their location. The movie instead uses a single large machine that was designed to revolutionize the shipping business as a kind of teleporter, but is instead locked into a specific time and place (Castlegard, France, in the Hundred Year's War). When anybody wants to return they activate a marker that triggers the machine to pull them back. The story functions more smoothly, with a simpler design and explanation for the machine that does not detract from the main storyline.

So let's get away from Michael Crichton and look at some classics novels that have all received the Hollywood treatment over the years. *The Three Musketeers* is a great story by Alexander Dumas, but when I finally read it I was totally blown away by the fact that the story was very different than the movie I had grown up watching. Since I was five, my favourite movie adaptation (there have been over 20 of them) has been the 1993 Disney version starring Chris O'Donnell, Charlie Sheen, Kiefer Sutherland, Oliver Platt, and Tim Curry. It is a simpler, almost slapstick story in many places, but it is a great swashbuckling adventure. Oh, and on a side note, there are actually a few books in the D'Artagnan Romances; *The Three Musketeers* (1844), *Twenty Years After* (1845), and *The Vicomte de Bragalonne* (1847), the last of which is published in three volumes in most English editions as *The Vicomte de Bragelonne*, *Louise de la Valliere*, and *The Man in the Iron Mask*.

Another great Alexander Dumas story is *The Count of Monte Cristo* (released in serialized form in 1845-1846), and there are a ton of movie adaptations of this story too. One of my favourites is the 2002 version starring Richard Harris (Dumbledore in the first two Harry Potter movies), James Caviezel and Guy Pearce. This version takes a lot of liberties with the story, completely cutting out entire storylines and characters, and also completely changing the ending (it is a much more Hollywood ending than the original suicide and murder filled one). The changes result in a more action oriented story, as the original featured extensive planning for revenge rather than the revenge itself.

So there are a couple of examples of great movie adaptations that don't necessarily have to follow the story, but of course there are probably die-hard fans of Crichton's work that probably hated the movies for cutting so much out – but that is the nature of fandom. I will never stop complaining about my own most hated movie adaptations, but I have to acknowledge that there are some great ones out there that might possibly have improved on the original. So check them out and read the original story as well, seeing another person's interpretation of a beloved classic is a great look into art and the human mind.

Top Ways to Win Friends

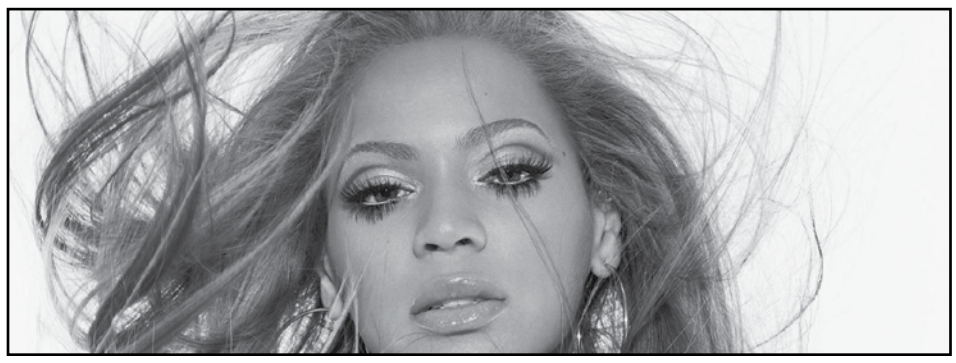
WADE WILSON &
EDWARD BLAKE
3Z HANDSOMENESS
TOPZ (WITH A Z)

In 1936, Dale Carnegie published his mega-bestseller "How to Win Friends and Influence People". Since then, countless numbers of people have turned to Carnegie for help in improving their social skills and personal lives. However, being from the ancient time of 1936, that Carnegie melonhead only published his findings in books. And books are for nerds. Luckily for you, we dweebed it up this week and have brought back pearls of wisdom on how you, too, can transmogrify from a disgusting human caterpie to a beautiful social butterfree. Harden, you metapods, you; it's time to evolve.

Cast the Net: First thing's first: you have to meet people. But where the heck are they? This week, we tried going on safari to find homo sapiens (no hetero). We heard that all the hunks and ladies hang out at the clubs, so we checked out Beta and Rev Sunday morning, but it seems as though they're no longer the cool spot to be. We tried to start our own club but then Ammar couldn't eat bacon and it isn't the same with just tomato and lettuce. We had once heard that having fun isn't hard when you have library card, so we went to our local library to find some friends. The place was full of nerds! We found a section of actually useful books (with pictures in them) and our research came up with a pretty interesting factoid: everybody poops! So, we did the only rational thing and went to bathroom (where everybody is pooping!) and wrote our names, phone numbers and available times to have glorious fun!

Take a Genuine Interest in People and Talk About Those Interests: Carnegie understands that people love themselves, and the best way to get them to like you is for you to like them! Problem is, they aren't your friend yet and so how are you supposed to know their interests? It's a classic Catch-22: if you want to know their interests, you have to be their friend, but to be their friend you have to be discharged from the air force for insanity and the only way to prove you're insane is to fly in the war! Solution: do your research using our S.T.A.L.K. method: Stalk Them All Like Kangammaroo. Then, the next time you see them you can show your genuine interest by talking about their recent trip to Cabo, or their sister's recent abortion.

Smile and Listen Intently: According to Dale Carnegie, a smile says, "I like you. You make me happy. I am glad to see you." But this tidbit of truth has been known for a long time from Louis Armstrong to Ammar to Massari featuring Loon. Furthermore, Carnegie preaches that people love to talk about themselves, and that one should indulge this to win their favour, even when they ask you about yourself. Therefore, in order to win over your new friend be sure to smile very intently and remain silent, never breaking eye contact, eagerly waiting for them to speak. And remember, do not stop



thebeyonceknowles.com
You actin' kinda shady, ain't callin' me baby

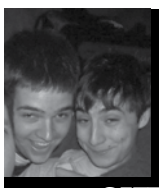
smiling; don't be glum, Jeff Goldblum! Yes, your pearly white teeth and comforting silence will be the perfect response to every conversation from "My dog's birthday is this weekend" to "My father just died" to "Who are you? Please leave me alone."

Say their Name: Say their name, when no one is around you, say to them you love them, and their awesome name. Carnegie describes a person's name as "to them the sweetest and most important sound in any language", even sweeter than candy! Work their name into every sentence and polysyllabic word you can think of: "that shirt looks Terry-fic!", "This coffee is too high of a temp-Ammar-ature", or "I'm sorry your daughter has be kid-Jacob-napped". Don't stop there: whenever you pass them in the hallways whisper their name into their ear, carve it into your wrist, emblazon it on your shirt. Pretty soon you'll have a new best friend with whom to have sleepovers and pillow-fights.

Make them Feel Important: Carnegie points out that people love to feel important, and who is a person to a mob? What's a mob to Ammar? What's Ammar to a king? What's a king to god? What's a god to non-believer? Yes, make them feel as self-important as an atheist on reddit making fun of his grandma's latest status update! Worship the ground on which your soon-to-be friend walks. Offer sacrificial animals (if you kill their dog, this works double as grievance over which you can bond), kiss their hand, and cook them meals. And remember, do not skimp on these lavish approbations. For example, whip a feast hearty enough to octupley satisfy his hunger; fill eight yo.

Follow these tips and in no time you'll go from being a nerd at the library to being a real hunk with lots of cool friends and a neat hairdo and no mean bullies making fun of you for having an accident in class when you fell asleep last Tuesday during NE344. Green sweaters are nice except when it's too warm out because then it's too hot to wear a sweater out, ya goof!

Sierra Nevada Pale Ale and Shocktop



GRAEME SCOTT
3N CHEMICAL
ERIC EVENCHICK
3N ELECTRICAL
GETTING GOOD HEAD

Eric: I'm now in the States, so I'm drinking American beer for the next few months. This poses an interesting problem in unit conversion. Why? America used to use Alcohol By Weight (ABW) to list alcohol content, and Canada uses Alcohol By Volume (ABV). Since alcohol is less dense than water (specific gravity of 0.79336 to be exact), the ABW value will be less than the ABV value for equal amounts of alcohol. This means that American beer appears to be weaker on the label, since the percentage of alcohol is less. This leads to the myth that 'American beer is weaker than Canadian beer.'

But that doesn't really matter anymore, because most American beers are listed in alcohol by volume. Bud Light tastes like piss not because it has less alcohol, but because it really is piss.

Now that we all learned something, lets get on to the drinking part. I spent the last week in Hollywood at a competition, and that means lots of time in hotels, and that means some Bran Van 3000 Drinking in LA. Those of you who didn't get the Bran Van 3000 reference are probably too young to drink. That's a good thing, because The Iron Warrior does not encourage underage drinking. Go pick up Big Shiny Tunes 2 and you'll understand what I'm talking about.

So I have two American beers that I'd like to tell you about. The first one is Sierra Nevada Pale Ale. This American Pale Ale is a little hoppy, but not too bitter. It's quite drinkable, but also very tasty. In other words, I like this beer a lot, and it gets a high rating. 4.5 Surly Bartenders!

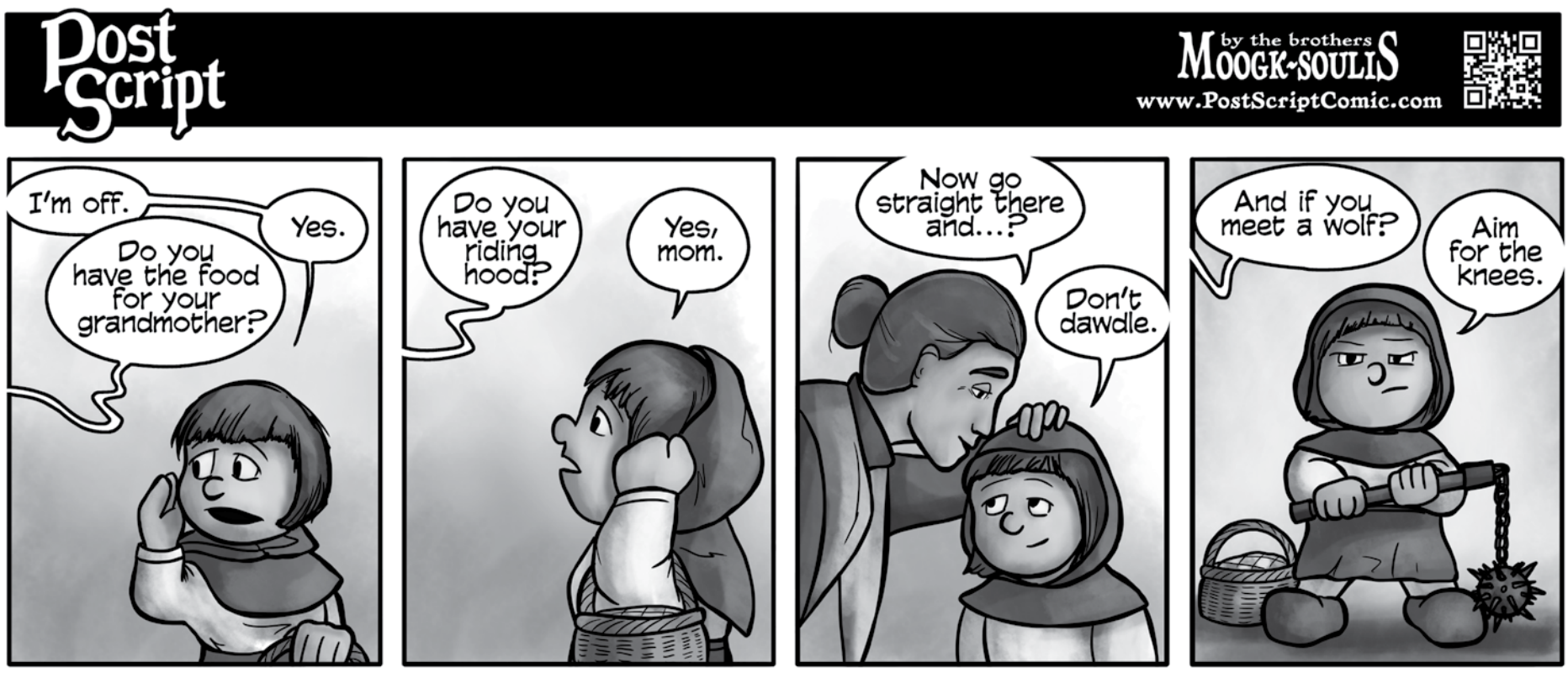
Now for a sad story. This story starts with me buying a beer called Shocktop. It claimed to be a Belgian White beer. I then got it back to my hotel room, opened it, poured a glass, took a sip from said glass, and realized that it wasn't very good. Actually, it was pretty awful. It was weak and didn't taste much like a white beer at all.

Now, I had bought a large bottle of this beer, and since I couldn't not drink it (it's beer after all), I drank it. Then I read the label. This 'Belgian White' was brewed by Anheuser-Busch. You know, the people that brew other fantastic beers including Budweiser and Busch. Since sarcasm doesn't come out well in paper form, let me point out that the last sentence was sarcastic.

So since it's neither Belgian nor White nor tasty, avoid Shocktop. I think it's not available in Canada, so you shouldn't have to worry about accidentally buying it like I did. This disappointment of a beverage gets our lowest rating yet, 0.5 Surly Bartenders. I've decided that 0 Surly Bartenders is reserved for a beer which I refuse to finish.

Next week, we study other fascinating unit conversion anomalies.

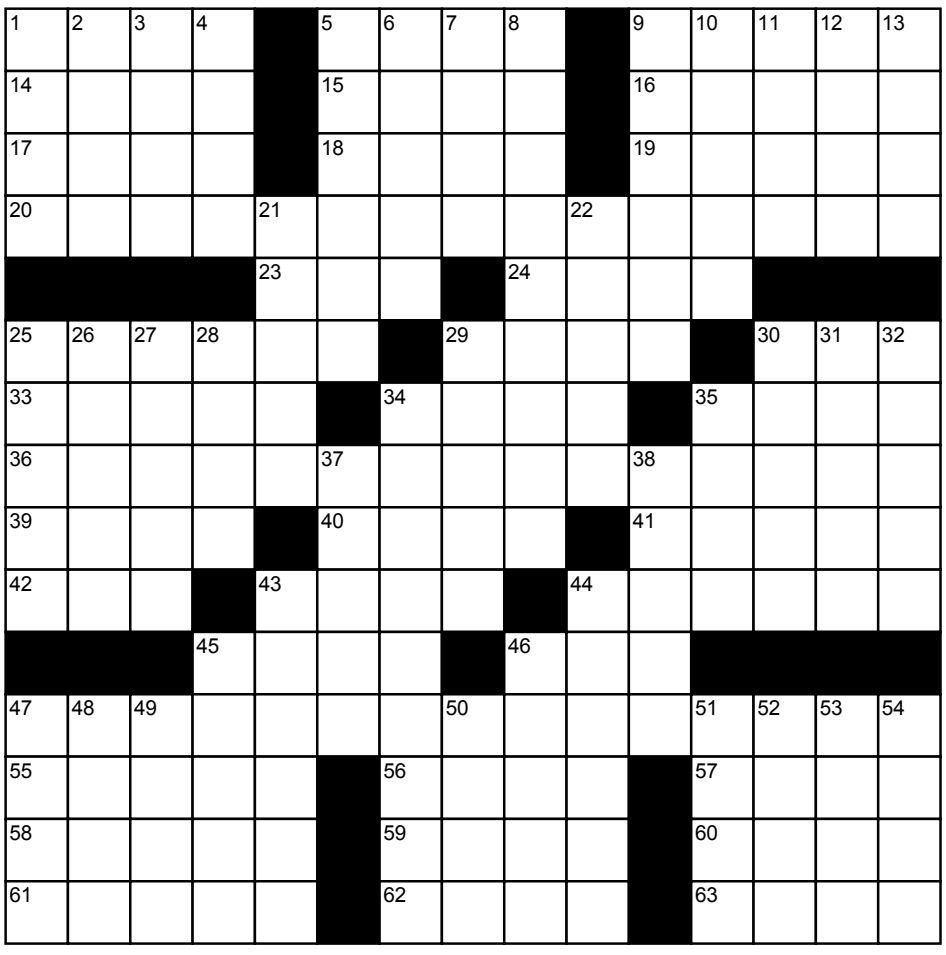
Cheers,
Eric and Graeme



The Iron Crossword

Chill Out

STUART LINLEY
3A NANOTECHNOLOGY



ACROSS

1 Sugar, perhaps
5 Hook feature
9 Embarass
14 Like some exams
15 Small pouch
16 "... ____ _ damn!"
17 Sometimes, it's more
18 >50%
19 Computer for singer of 'Someone Like You'?
20 Chill out
23 Markers (often)
24 Greek 'h's
25 Senior nurse
29 God of war
30 Have a bout
33 Intestine segment
34 Sign
35 Aria utterer
36 Chill out
39 Forsee
40 Slash
41 Bald or fish go-with
42 Aye
43 High protein bean
44 It can be tense or tensile
45 File (down)
46 Roadside aid
47 Chill out
55 Greek market
56 Femur/tibia link
57 Lima country
58 Like some calendars
59 Paradise
60 Persia, now
61 Volcano stuff
62 He won't try, only does
63 The 5-0

DOWN

1 Dash
2 Site
3 Catch some rays
4 Ultimatum ender
5 Lament
6 Molecular constituents
7 Prank
8 Dark chocolate dessert, perhaps?
9 Hindu or Bhuddist scriptures
10 Patiently awaits
11 Chevy model
12 Identity
13 Baked or past go-with
21 Leaf breathers
22 "_ ____ to..." (one's inclination)
25 Young girl, perhaps
26 Hatter guest
27 Drink pack
28 Red stone
29 Appliance company
30 Lowest ship compartment
31 Ellipses
32 Bottoms of graphs, often
34 "Sure thing"
35 Letter opener
37 Thug
38 Renovate, as a highway
43 North Africa feature
44 Previous Belgian airline
45 Scat
46 Dogma
47 Still
48 Water, Sp.
49 BBQ aide, when pluralized
50 Retract
51 Some poems
52 Space go-with
53 Bind
54 Atilla buddies

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

Sudoku

#2012-07

JACOB TERRY
2B NANOTECHNOLOGY

Easy

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

Medium

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

Hard

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

Issue #3 Deadline:
Friday, June 15 at 6:00 PM
Send your submissions to:
iwarrior@engmail.uwaterloo.ca

THE IRON INQUISITION
Emily Gruber, 2B Nanotechnology
Nan Huang, 2B Nanotechnology

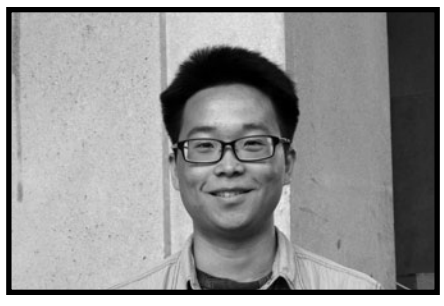
"What did you do over the long weekend?"

"Went home to Kingsville!"
Dave Bickford, Masters ECE

"Me and my friends went Uptown."
Pawan Bhadla, 3A Computer

"Went home to London, swimming and to see the Avengers/"
Michael Weingert, 3A Mechatronics

"Drank beer and watched the game." (Champions League Final)
The Boys, 2B Civil



"Not much, seriously. I was kind of sick."
Tommy Choy, 3B Chemical

"I knit sweaters!"
Hobyung Lee, 4A Management