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# THE IRON WARRIOR

THE NEWSPAPER OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

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Should Quebec Students Protest?

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## Student Design Symposium Exhibits Personal Projects

**CODY SHAW**  
1B ELECTRICAL

Friday May 11th was the University of Waterloo Student Design Symposium, which showcased personal projects from our bright and promising first, second and third year engineering students. All of these projects were worked on in the student's free time to feed their curiosity.

Each project had demonstrated a novel idea that would pique the interest of nearly anyone walking by, such as a demonstration of a form of Chess AI, and a new spin

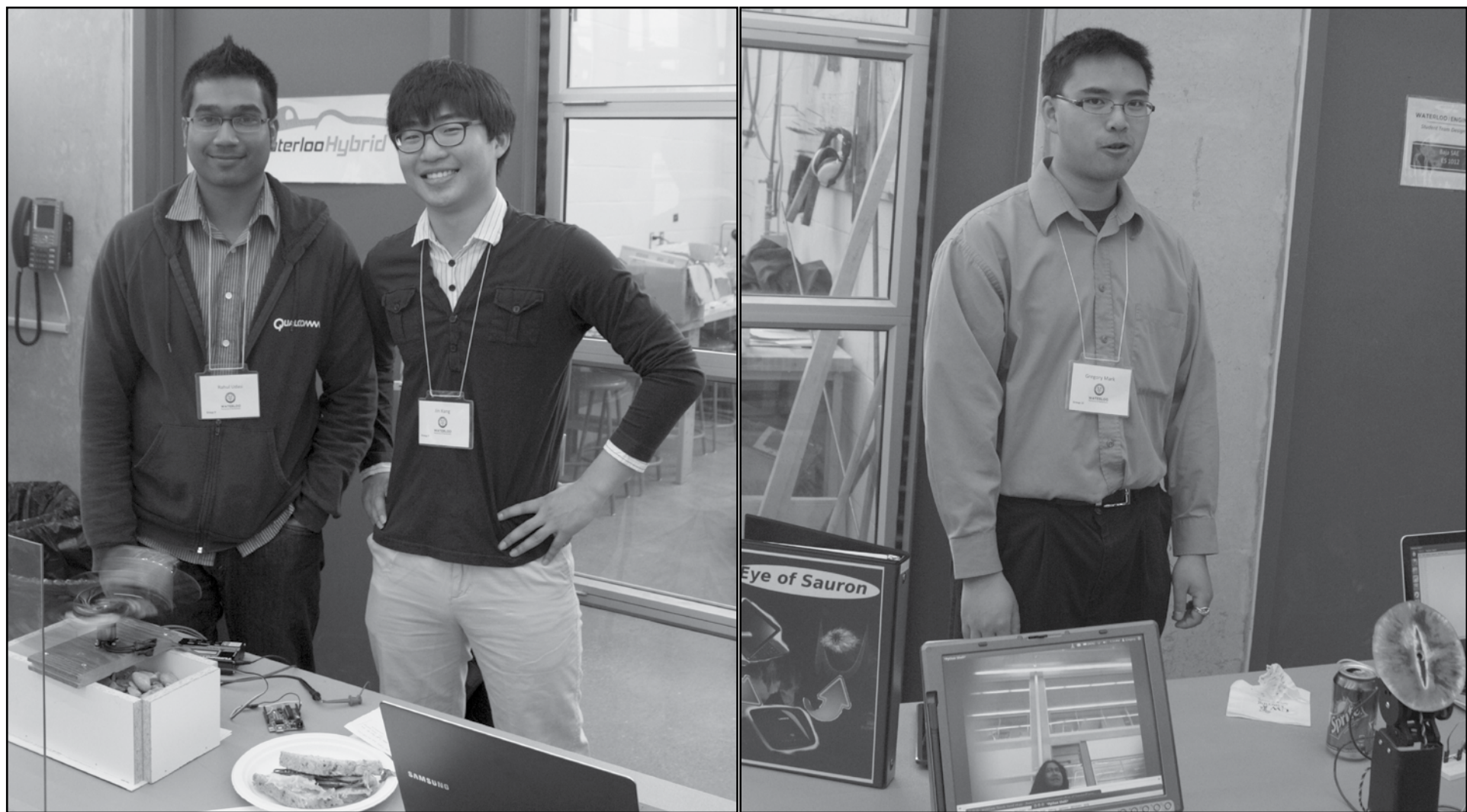
on Conway's Game of Life which added a fun and intriguing multiplayer aspect to the simulator. There were a few projects for the audiophiles as well: a Cmoyp-based headphone amplifier, and a very vintage tube-based audio amplifier. Speaking of vintage, there was also a project that utilized steampunk-esque Nixie Tubes as a retro 1960's numeric display. Another display project took the idea of multiplexing a row of LED's that are rotated around a motor to create flashy mechanical signage.

One of the more software based projects tackled the issue of syncing web tabs over

multiple computers in real time, instead of sharing URLs. The web add-on, cleverly titled "CrO4" (Chromate, as in a friend for your Chrome browser.. Haha!) allows the user to seamlessly share their tabs between browsers on separate computers in real time. An example of its functionality goes as such: say you are browsing your favourite news aggregate that starts with an R and rhymes with Reddit, and you click on a bunch of links. You then walk to class, and pull out your laptop (which is not the computer you were on before) to continue your internet surfing before a

lecture begins. Usually you would have to sift through all of the links again, as you would not know which you have already read (via the telltale purpling of the link). With CrO4, the Javascript update on all of your browser tabs between computers are updated in real time, therefore all of your purples will still be purple! Happy news-site readers everywhere!

This symposium truly shows Waterloo Engineering's great group of innovative and novel thinkers, and I hope the trend is continued so that we can see more of what our fellow classmates can do!



Rahul Udasi, Jin Kang and Gregory Mark show off their projects in Engineering 5 last Friday.

Cody Shaw

## New Chairs Appointed in Engineering Departments

**ALISON LEE**  
3A NANOTECHNOLOGY

Last term, Pearl Sullivan's appointment as the incoming Dean of Engineering was the big news. While that generated a lot of publicity, there have also been other important changes in UW Engineering administration that you may have missed while you were away on co-op. Here is a run-down of all of the new faces we will welcome (or have already) into big leadership roles this term.

Almost brand-new to Waterloo, Chris Backhouse has started his job as the Director of Nanotechnology Engineering this term. He is replacing Mario Ioannidis, who held the position since the program's inception seven years ago. Dr.

Backhouse is a professor from the Electrical and Computer Engineering (ECE) department whose background is in physics and electrical engineering, particularly radio astronomy research. His current research involves miniaturization and quantum devices, which makes him a great fit for the nanotechnology program. He has been on the job since the beginning of the Spring 2012 term and his major work in the future includes transferring a large part of the Nanotechnology Engineering program's resources to the new Quantum Nano Centre (QNC) near the SLC. This includes new labs, clean rooms, offices, classrooms, and more. The QNC is scheduled to open in early September, where we hope to see Dr. Backhouse cutting the ribbon (fi-

nally)!

This past year, Eric Croiset was appointed as the Chair of Chemical Engineering. Dr. Croiset specializes in statistical analysis, polymer reactions, and pulp and paper engineering. He is a long-time Waterloo resident, having completed his undergraduate, master's, and PhD at this university. More recently, Niel Thompson has been reappointed as the Chair of Civil and Environmental Engineering (CEE), but has started a year-long sabbatical this term. During his absence, Don Burn will be the acting chair. Dr. Burn is a CEE professor whose research specializes in water systems and flood and drought analysis.

Another temporary change has been the appointment of Fathy Ismail as the Inter-

im Chair of Mechanical and Mechatronics Engineering (MME). Dr. Ismail is a mechanical engineering professor with research in machining techniques and modal analysis. He will hold the position until December 2012 while a permanent Chair is chosen. Of course, we must remember that the outgoing head of MME was Pearl Sullivan, who resigned this past January to prepare for her installment as the new Dean. She previously held the position of MME Chair for eight years. Her position as Dean of Engineering officially begins July 1, 2012 after the current dean, Adel Sedra, steps down.

All of these changes have been thoroughly considered by our engineering staff and let's wish them all success in their new positions!

# Letter From the Editor

## Path to Editor and Spring Musings



**JACOB TERRY**  
EDITOR-IN-CHIEF

Hello out there, dear reader. I'd like to begin by thanking you for reading the paper and not just doing the back page puzzles. A lot of work goes into the articles you see in the paper and it's encouraging to know that someone is reading the content we work to publish. However, Stuart's preparation of the crossword on the back page each term is greatly appreciated, as I'm sure I wouldn't have the patience to find words that come together in such flawless execution.

I'd also like to thank you for reading a spring issue of the Iron Warrior. While there are almost as many engineers in the spring term as there are in the winter term, the campus feels much smaller in spring with all the people outside of co-op not around to wander the halls with the rest of us.

I'll quickly introduce myself before rambling on like an old man about how I got to where I am. I'm a nanotechnology engineering student, on track to graduate in 2015, from the somewhat small city of Barrie, Ontario. I have a great affinity for technology and video games, with *The Legend of Zelda* arguably acting as one of my favourite series of all time. I used to have a strong reputation for being a heavy Nestea drinker, after I won it for free for a year and drank it after almost every meal since it cost less than water. To say this contributed to gaining my obligatory fifteen pounds at the start of my university career would not be an unfair statement.

My path to this position begins in grade 11 of high school, which is earlier than most people probably begin working towards running a university publication. My friend decided to start running a school paper, since he had wanted to apply to Harvard and, I suspect, needed something cool to put on his application to get them to consider him. I agreed to help found it and by the end of the term I was helping him with production and layout (the more technical aspects) of the newly founded *Invader Updater*.

The name was picked by a school-wide survey in the foyer, and I despised it for the first month before it grew on me. I set up a website and forum; the latter I shut down later that year while the former got hacked at some point. Google now flags it as a phishing site, so I suppose I can strike "make a sketchy website" off my bucket list, but if you're interested in looking at it and are confident in your computer's immune system, you can check out what I made back then at [iu.innisdale.ca](http://iu.innisdale.ca).

I tagged along as the tech guru for the club until grade 12, where I suggested becoming the Editor-in-Chief after people disliked how my friend ran the club, and I

figured I was ready enough to operate it if need be. My friend had a really bizarre reaction, so I relented, but stayed on as the Managing Editor where I ran meetings, printed the paper and did all the layout, as well as harassed people for articles.

When I came to Waterloo, I attempted joining the paper but would always miss the meeting times, and it took until the second half of 1A before I finally got myself on the meeting list and to the meetings. At my first meeting, Roy assigned me with a deadly Point Counterpoint about Bruce Power, which you can go back and read in our archives (November 3, 2010; or issue 3 of fall 2010). It was quite a challenge writing a thousand words against shipping nuclear waste across the Great Lakes, and on either Friday evening or Saturday morning, Roy called me to ask me to rewrite large portions of my article after the topic was slightly altered. Needless to say, I imagine many other first time writers were not foolish enough to accept such a complex article for their debut.

In 1B, I got much more involved and began coming to Production Weekends. They were incredibly fun and gave a unique outlook on how the newspaper is produced. It was around then that I asked how people become an editor, since I'd been interested in doing it again after enjoying it so much in high school. It was then that I learned a valuable *Iron Warrior* lesson; those who become editors are usually those who show interest or demonstrate responsibility and dedication. I was distinctly told that by asking how to become an editor, I was likely to become an editor. In 2A, I returned to help Jon in his term and finally got going on a column. Jon indicated around the beginning of the term that I was on track to run it next, and now I'm the one who must bring in new people, make sure people have a positive impression of their experience here and want to do more for *The Iron Warrior*.

As a result of how the terms work out, I now get to run the spring series of issues, which brings many interesting challenges that will at the forefront of my thoughts for the remainder of my term and possibly past that. This is the first term without the five past editors who graduated in 2012, who held a strong sense of judgement and fundamental understanding of *The Iron Warrior* as a publication that I hope to have developed enough in myself to run the paper effectively this term. I thankfully have a few editors left who I can rely on to provide me clear judgement and instruction, and an Advisory Board who has thus far proved helpful in directing my ethical compass of what is right to publish.

Writer retention and recruitment, I would assume, have always been one of the main worries of any who held my position in the past. One of my primary mandates this term is developing the next

generation of *Iron Warrior* editors and writers who can lead the paper boldly and efficiently.

Part of the challenge of building a strong editorial base is the bizarre cross-stream switch (or bisectuality, as my counterpart Apple Jacks and good friend Anderson Cooper discussed with co-writer in the fall 2011 Tin Soldier) of nanotechnology students, who have built much of the editorial base since Roy's term in fall 2010. This switching begins after the 2B term, when we go on eight-month co-ops, so I will be partaking in this scheduling as well after my term ends. While it's great for finding jobs, it throws a wrench in much of the planning of the newspaper when your massive editor base is no longer on-stream.

Solving this problem requires more cross-stream collaboration, which is a problem in any club. There are people who are willing to write while they're on co-op, as I did last term, which makes it easier to keep things consistent across issues. Having editors in their position for one term makes it harder to keep things consistent over time, as each editor brings their own ideas to the table and has their own ways of wanting to run the publication. The cross-stream culture and editorial board split further acts as a barrier to true cross-stream cohesiveness, and while I don't expect this will ever be solved outright, I'd hope that my work with Farzi on the Frosh Issue will act as a good way of combining our respective stream strengths.

A benefit, however, is that many of the writers from A-Soc have now switched over to my term, so rather selfishly I get to enjoy a much wider editorial base. My fellow 2015 nanos have also offered to help out, which has been greatly appreciated and has helped me run things a little more smoothly than I was expecting to this term. Often we receive criticism for stacking our staff with 2014 and 2015 nanos, but they are the ones that most often offer to help me out, and if you reading this are not a 2014 or 2015 nano, I'd eagerly suggest to you to come to the next meeting and offer your assistance to the paper. Not only would it be great to increase the diversity of the paper, but when none of the 2014 or 2015 nanos are around when the next B-Soc *Iron Warrior* issues will be released, you'll be one of the more prominent members of the paper and by starting now, will have more opportunity to learn as much as you can from people who have been here for some time.

Even if you opt not to join, I hope you enjoy reading this first issue. Note our election information in the insert on page 9, which lists profiles on all the candidates for the EngSoc executive this term. If you have any comments or questions about the paper, don't hesitate to email, and I will do my best to respond to you promptly.

THE IRON WARRIOR

The Newspaper of the University of Waterloo Engineering Society

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*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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# Douglas Wright Engineering C-Wing Under Renovation



**NOUHA JAVED**  
2B CIVIL

This spring, we not only have to avoid the multitude of goose poop, small furry animals and earthworms underfoot, but also the construction currently going on in DWE.

The renovations target the C-Wing of the building (the one closest to CPH) and have been ongoing since the fall term. The wing used to host Chemical engineering and is now being converted to undergraduate teaching and research labs

for the department of Civil and Environmental engineering. Walking past the site, the complete gutting of the old labs can be clearly seen, as well as the plate glass facing Ring Road. The removal of asbestos in the C-Wing is also ongoing.

Fortunately, accessibility to the buildings and area around the construction site has not been significantly restricted. The sidewalk bordering Ring Road, leading from SCH, has not been blocked off or littered with any debris. No entrances in the rest of DWE have been blocked either, including the one directly opposite CPH foyer. The floor on the entrance is not finished though, and is very uneven.

Any doors within DWE that are

blocked off are clearly marked, and have no debris around them. Surprisingly, there is little to no noise being heard from beyond the doors, giving the students in surrounding classrooms no chance to complain about distractions. The bridge to CPH from DWE is no longer accessible from the rest of the building, and can only be accessed via the entrance near CPH foyer, and the bridge over University Ave.

Despite the pristine condition of the site, though, accessibility to the engineering buildings via bike has become harder. The majority of bike racks available in that area are directly in front of the DWE C-Wing, and the construction

area. The racks have been moved closer together, causing some congestion. The bike repair station, previously blocked off, had recently been made accessible again. Construction had also blocked off the path from RCH to CPH, making bikers go through E2, or coming in from Ring Road. This path has been opened up again, but has a rough gravel surface.

Despite a few inconveniences, the construction at DWE has caused no real problems. A small fire broke out in early January, but there were no injuries and damage was minimal. Like most construction we experience in our daily lives, the work going on in DWE is a necessary evil.



Waterloo's oldest engineering building is undergoing major renovations in the C-Wing.

Jacob Terry

# Quantum Nano Centre To Open September 21



**EMILY GRUBER**  
2B NANOTECHNOLOGY

After over four years of construction, The Mike and Ophelia Lazaridis Quantum Nano-Centre (QNC) officially has a grand opening date. Scheduled for September 21, 2012, the grand opening will be 10:00 - 11:30 AM featuring guided tours.

In June 2008, at the ground-breaking of the QNC, we reported that the completion date had been steadily pushed back from 2009 to an estimate of "sometime in 2011". However, the 285 000 square foot, \$160 million building with a 17 000 square foot laboratory is finally ready to open its doors.

The design principles of the building

included meeting the highest scientific standard, encouraging interaction and collaboration between researchers and students, and serving as a magnet for top scientists to Waterloo. In addition, the honeycomb structure on the side of the building was inspired by the hexagonal carbon structure of graphene, a nanomaterial consisting of a single layer of carbon atoms.

Built on top of what was previously the Biology 2 green, funding for the building was provided by Ophelia and Mike Lazaridis (\$101 million), the Canada Foundation for Innovation and the Province of Ontario (\$17.9 million each), and multiple other sources. It will house the Waterloo Institute for Nanotechnology and the Institute for Quantum Computing. The building is even rumoured to have an entire floor devoted to space for undergraduate education.



The Quantum Nano Centre is nearing completion.

Jacob Terry

# While You Were Out



**HANNAH HIGGINS**  
1T NANOTECHNOLOGY

Hello B-Soc, and welcome back for Spring term! While you were away for co-op the A-Soc students were here in Waterloo, having fun while hitting the books.

Noticeably absent from the crew returning to campus this term is the class of 2012, now ringed and graduated with convocation occurring next month. Following the mayhem of IRS and the reception of their rings, fourth years wasted no opportunity to offer sage advice, touch the TOOL, or simply bang their rings on any loud(ish) surface presented to them.

Winter 2012 also marked the final term

of Dean Adel Sedra, now preparing to retire after a distinguished career. In January it was recommended that Dr. Pearl Sullivan succeed Dean Sedra, having been selected from a pool of prominent candidates after a six month application process. The appointment of Dr. Sullivan, our current chair of the Mechanical and Mechatronics Department, has since been finalized, making her the eighth dean of Waterloo Engineering and the first woman chosen for the post. Dr. Sullivan's five year term will commence on July 1, 2012.

Once again, Waterloo Engineering had a fantastic showing at the annual Ontario Engineering Competition (OEC). Teams from Waterloo won two overall events, Innovative Design and Junior Design, with three additional teams qualifying for

the Canadian Engineering Competition (CEC) in Vancouver, and two more teams earned third-place finishes. Team selection for next year's competition will begin with this summer's Waterloo Engineering Competition (WEC).

During National Engineering Month (or 'March') Waterloo students participated in the creation of a Rube Goldberg Machine. Engineering students from eleven schools across Ontario were challenged to light up the CN tower in purple by creatively linking their designs from all corners of the province. The event was organized by the Engineering Student Societies' Council of Ontario (ESSCO) and the Ontario Society of Professional Engineers (OSPE).

Also in March, Waterloo Engineering won a bid to run Project Magazine (Promag), a national publication aimed

at engineering students, and the official magazine of the Canadian Federation of Engineering Students (CFES). Waterloo will replace the University of Western Ontario in the task of constructing all aspects of the magazine's twice-annual publication, for two years.

Last term there were many additional events which allowed Waterloo students to join forces with other schools and discuss many challenges faced by engineering students and collaboratively generate solutions. Amongst these events was the annual CFES congress, held this year in Whitehorse, the First Year Integration Conference held at McMaster, and the Canadian University Software Engineering Conference held in Montreal.

So, welcome back B-Soc. Now it's your turn.

# Point Vs. Counterpoint

POINT

**FILZAH NASIR**  
1B ENVIRONMENTAL

Last week in the continuing saga that has become the Quebec student strike: Student leaders and the provincial government reached an agreement that was immediately rejected by a majority of students.

According to the terms of the agreement, tuition would still increase at the same rate but there would be an investigation in university spending to reduce ancillary fees. In essence, the agreement allowed the government to do as they pleased while placing the burden of trying to decrease fees on to the universities.

With the rejection of this agreement, Quebec's three-month long student strike has reached an impasse. The provincial government is neither backing down nor changing its position (as governments are wont to). The students are neither giving up nor losing interest (as students are wont to). And thus, a stalemate has been reached.

But stalemates provide a perfect opportunity to look back and re-examine a student movement that will undoubtedly go down in Canadian history. I have been following this strike closely since its inception and have watched it grow from a protest on tuition increases to a movement about so much more. No longer just a battle of students vs. tuition, it's become a clash of generations, economic classes and political ideologies. The movement now stands for students vs. governments, young vs. old, conservatives vs. liberals, capitalists vs. socialists, the 1% vs. the 99%.... need I go on?

But as I have followed the strike, I have found myself asking the same question too often. Why Quebec? Why are the students in Quebec protesting? I am far from the first person to ask this. After all, Quebec students pay the lowest tuition in the country. In fact, the average Quebec student pays \$2,519 a year for tuition. That's less than half what the average Canadian student pays at \$5,366. These numbers have been thrown around a lot over the past few months immediately followed by a rhetorical "so what do they have to complain about?" Indeed, what do Quebec students have to complain about? The question always goes unanswered.

Perhaps we are asking the wrong question. Maybe we need to stop wondering why Quebec students are protesting and start questioning why the rest of us aren't.

Why are students in Quebec so willing to speak up, when the rest of Canada isn't? Unlike Quebec, Ontario has the highest tuition rates in the country. So why aren't we complaining? Why are we complacently paying our tuition with no complaints? And it continues to rise. (In case any UW engineers missed it, spring term tuition was almost \$200 higher than the fall). Yet, I don't see us out on the streets, organizing en masse to voice our discontent. Why not?

While the Quebec protests now stand for so much more, let's try to remember what these students are actually fighting for: accessible education. Students in Quebec are fighting for the right to keep their education accessible to everyone. But shouldn't accessible education be a nationwide goal? Shouldn't it be something that students across Canada are fighting for?

Maybe, it's already too late for the rest of Canada. Remember, the average Canadian student pays \$5,366 for tuition. That's just tuition and does not include housing, and living expenses. Can students from a low-income family afford to pay this amount?

Are Quebec Students Right to Protest?

**HANNAH HIGGINS**  
1B NANOTECHNOLOGY

In a recent survey, 70% of UW engineers in a co-op program said they receive financial support from family members.

But what about students who don't have that support? Would they be able to afford tuition? Not without significant loans. In the same survey 18% of respondents said that they expect to be between \$10,000 to \$20,000 in debt upon graduation.

That's a significant debt load. Education is meant to be an investment in our future. But how much should we invest? There was a time when entering university was a no-brainer. Tuition was low, employment rates were high and student debt was all but non-existent. Not anymore. Tuition rates have skyrocketed, at a rate that has no correlation with the rate of inflation and employment rates, especially for new graduates, are at their lowest. The decision to enter university is no longer just a question of pursuing higher education. Students must question if it will lead them to valuable careers or will it merely leave them as a debt-ridden burden on society?

How many possible teachers, philosophers, professors, and engineers, have we lost because they couldn't afford university tuition? How many more will we lose, if tuition continues to rise? Quebec students are not simply fighting for lower tuition. They are fighting for the future. Students in university may be nothing more than students right now but we are the future as well. We are future doctors, engineers, lawyers. Some of us may even be future politicians. And Quebec students are fighting for these futures. They are sending their government a message: it's time the burden of funding universities was shifted away from students and back where it belongs. On to the government. Because in case we have forgotten, universities are public institutions.

These students are brave, stubborn, outspoken but above all they are tired. Tired of being ignored, tired of being told their voices don't matter, tired of being told that they are too young. So they have decided to speak out. In massive numbers they have taken to the streets to accomplish what no election ever could. They have sacrificed their winter semester, which they had already paid for, to make their discontent heard. And most importantly they are not backing down. Despite being labelled as criminals by the government, and lazy and entitled by much of the public they have not wavered.

It is my fervent hope that these students continue to stand strong and achieve their goal. But regardless of the ultimate result in Quebec, the rest of Canada can learn a lot from these students in Quebec. They have already accomplished so much, simply by speaking out. No longer will the student population in Quebec be ignored by their government. Contrast the student numbers in Quebec to that of Ontario. Imagine if we took to the streets, even for a day. Imagine if we spoke up, whether to protest our own ridiculously high tuition or merely in a show of solidarity for our Quebec counterparts. There's no question about it. Quebec is the Canada we all need to be.

For now, I anxiously await the results of the Quebec protests. They will truly prove what students, or average citizens, are capable of if they only speak up. And although the government does not show any signs of backing down, I will remind you of the famous words of a French author, Victor Hugo. "Never doubt the power of an idea whose time has come." For students in Quebec that time is now. Vive la Quebec!

In February, the government of Quebec announced an intention to incrementally raise the price of tuition by \$1625 over the course of five years, a proposal that was met with massive objections from the province's students. A province-wide academic strike involving approximately a third of student population ensued, despite its originating midway through the term. Since then their protest has developed and piqued national interest.

In recent weeks, protesters have strongly rejected a compromise proposed by the province's premier Jean Charest, early last week; yet students are no closer to returning to class than they were in the initial days of their three month protest. While I can empathize completely with a desire to minimize tuition costs while maintaining the availability of education, an en masse student protest will ultimately amplify the problem, as is occurring in Quebec. The strife faced by the students themselves, as well as their province and the nation at large has risen because even after three months, a satisfactory compromise cannot be reached.

The protest, which commenced as a dispute between Quebec students and their government, has evolved to encompass the entirety of society within the province. However, ignoring the external factors which have grown into their strike, the protest itself remains rooted in retaining the accessibility of education, which can be realistically funded by students within the province of Quebec.

While this is a worthy goal, and deserving of national attention, the demonstrations in Quebec have in themselves inhibited the accessibility of learning and education within the province. The most obvious example of lost opportunities are those surrendered by the students themselves; although payment for last term had already been made, the protesting students chose to go on an academic strike, and may now be facing the loss of an entire semester.

Receiving less acknowledgement from the media are the students not on strike, composing a two-thirds majority of Quebec's post-secondary student population. Having continued to attend classes throughout the protest, most have already written their final exams and finished their winter term, as many Quebec schools were able to continue operation with a relative degree of normalcy in spite of the strike. However, this resolution was not possible for all students wishing to attend classes during the strike period, resulting in a different manner of impediment to education. Are these affiliates of Quebec schools less entitled to an available education than those currently on strike?

But conversely, some institutions have been forced to cancel classes entirely in order to avoid conflict with on site picketers. This problem is particularly adamant with respect to smaller CEGEPs, which have been more profoundly affected by both the absence of students and demonstration blockades than neighbouring universities with large campuses. In some cases, schools have remained closed in spite of court mandated injunctions to resume sessions.

The logic applied in the protester's objections, that raising the cost of tuition will adversely affect the availability of education in Quebec, is also fundamentally flawed. The average Quebec student being educated within the province will pay

COUNTERPOINT

significantly less tuition than any other Canadian student, including those from other provinces and territories choosing to study at a Quebec university. Furthermore, many institutions within the province are internationally renowned for the quality of their facilities, curriculum, and teaching. Quintessentially, students from the province of Quebec have an ease of access to high quality education at a scale that is unmatched nationwide.



Huffington Post Canada

The cost of Quebec undergraduate education is unique in a second feature; the raises proposed by the government would be the first endured by the province since a tuition freeze that occurred in the 90's. The invariability in the price of Quebec tuition is a phenomenon, when the roots of educational costs are considered.

Effective undergraduate education requires a multifaceted system employing much more than the sound teaching of great professors. In order to maintain a high level of instructional quality, lecturers need to be actively involved in research and the advancement of their field, so that their knowledge base remains current and can be efficiently conveyed to their students. High level research also demands modern facilities, attained through expensive construction or renovation processes. Also required is sufficient space and equipment for undergraduate research projects and lab based courses to compliment the fundamentals taught in lectures. The progressive nature of many fields currently taught at universities and the expenses entailed with such advancement, coupled with two decades of static tuition costs creates a bizarre paradox.

This inconsistency between undergraduate tuition costs and the cost of effectively educating an undergraduate is not sustainable in conjunction with the province's current finances. While increases to the full operational expenses of a university are not the sole responsibility of its undergraduates, full responsibility does not rest with the tax payers either. Because while many universities are publicly funded institutions which also benefit society at large, students are among those who receive the greatest access to resources, and who reap the greatest advantage.

Quebec schools need additional funding in order to continue offering students the high quality education they expect. It is time that students realize that they too must bear some of the cost.

## Investing the Monies (Part 2)



**ROY LEE**  
3A NANOTECHNOLOGY

### YOUR BIWEEKLY CHALLENGE

*The Bi-weekly challenge is (currently) a column about saving and making money. I will be randomly picking topics but I'm always open to input if you have any.*

Hopefully you read the last column of the Biweekly Challenge; if not, this will all make a lot more sense if you do. Investing money can seem simple and in theory, you should be able to make money from it. However, it's a lot easier said than done.

After deciding what kind of an investor you want to be (again see the previous issue), you need to make choices as to how you're going to manage your portfolio. What is a portfolio? Your portfolio is all of your investments. It is a summary of what money you have and what kind

of method and option you are using. In short it is all the money you are investing or saving. This column will focus on the options provided by the Canadian government to benefit its taxpayer.

Your options are often selected based on your goals. For example, you wouldn't put money into your RRSP if you were saving up for the next school term - a regular savings account would be a better option. For each option there will be a brief description, then a list of **limits**, **benefits** and **drawbacks**.

Now that we've thrown RRSPs out there, what are they? RRSP stands for **Registered Retirement Savings Plan**. These are intended for long term life savings and, like the name suggests, retirement. You can, however pull money out before you retire to buy a house or go back to school. The government has special programs for these, and more details can be found here: <http://www.cra-arc.gc.ca/tx/ndvdl/tpcs/rrsp-reer/menu-eng.html>. **Limit** - the contribution room of a RRSP

is limited by your income. **Benefits** - Your contributions are tax deductible and any growth is not taxed until you withdraw it. **Drawbacks** - The money that gets pulled out is taxed.

TFSA stands for **Tax-Free Savings Account**. This is also intended for long term life savings, but it is a bit different from the RRSP. It is intended for us younguns who do not see the benefit of contributing to an RRSP until we make the big bucks and can really benefit from the tax breaks. You can find more details at <http://www.tfsa.gc.ca/index.html>. **Limit** - \$5000 a year since 2009 or since you turned 18. **Benefits** - All growth is tax free. **Drawbacks** - You are limited yearly based on your contribution room. If you withdraw money you cannot re-contribute that money in the same year.

RESP stands for **Registered Education Savings Plan**. In general, this is for when you decide to have kids and want them to go to school and become brilliant little munchkins. Or in some cases, if the kid

in question doesn't enroll in an applicable form of education, you get all the money and growth back. However, the Canadian grant money goes back to the government. The grants only apply to children below the age of 17. The child doesn't have to be yours and, with some more research, you can actually be both the contributor and the beneficiary of a RESP. Adults can have RESPs, but they must be closed after 26 years. More details can be found here <http://www.cra-arc.gc.ca/tx/ndvdl/tpcs/resp-reee/hw-eng.html>. **Limit** - the max amount is based on the kid, \$50 000 per kid. **Benefits and Drawbacks** - Your money grows on a tax deferred basis. The base capital that is pulled out is tax free, the growth is taxed.

So there you have it! A short and sweet (trust me there's a lot more information out there) article about government-aided investment options. The best thing for you to do now is use these tidbits of information to do a bit more research and **decide which of these is best for you.**

## The Family of Spring Term



**NOAH MACCALLUM**  
2B NANOTECHNOLOGY

Mid August, everything on campus seems picture perfect. The Geese are healthy, the trees are thick with leaves, and the days are long. Spring term is a time of studying in the sun and sleeping under the stars. Come September this great equilibrium is disturbed, and the student population descends on the campus like Panama disease on a banana plantation. After a characteristically slow response time from nature, it inevitably plunges into the bitterness of winter. When humans are stressed, they lose their hair; trees lose their leaves for similar reasons. And then, like clockwork, the majority of students depart and once again nature strives to emulate the Garden of Eden. This is not merely a statistical blip: I have been tracking this since 1A and a definite pattern is emerging.

While we don't have control over nature's mood swings, we can at least learn from them. There is a lot we can glean from the natural world around us. Squirrels teach us that if we save in excess, only

good will result. Geese teach us to fight for what's important in life. Long winters teach us to appreciate the warm weather. When our natural surroundings migrate, hibernate, or die when there is a campus-wide influx of bipedal mammals on campus, I believe that here, too, there is a lesson to be learned.

We are living in the pipe-dream of the 60s. Social media, texting, high-speed Internet, and smartphones: we have attained instantaneous communication with anyone we please. Current estimates say Facebook will surpass 1 billion users in August. It is clear to everyone on our high-tech campus that we have faster access to more people than ever before.

However, we must pay attention to a natural law that puts an upper limit on the capacity of a system. Such a limit can be seen in the maximum population of a certain species in an ecosystem, in the overall amount of life on campus, and in the attention span of people. The more human interaction we cram into a day, the less substantial each becomes; the cost of breadth is depth. Perhaps we don't notice because it is the new norm, but the amount of meaningful human interaction we encounter on a daily basis is less than it could be,

and less than it once was.

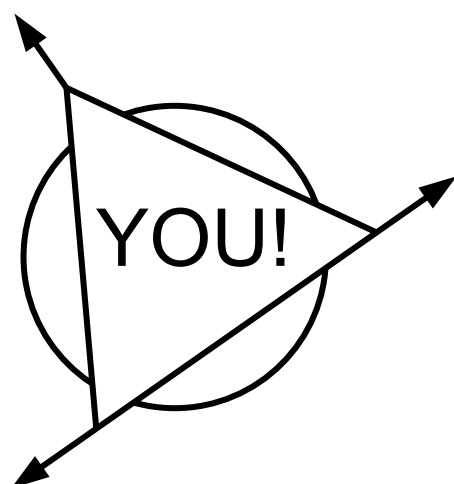
Post-war North American trends are at least partially to blame. Bigger houses in sprawling suburbs (for those who grew up here), the rise of television, and of course the advent of internet-based communication all separate and divide us. The problem is compounded by the fact that human interaction, like a muscle, improves with use and diminishes with neglect. When we live our daily lives as students, crunch time may keep us holed up in an effective vow of silence for over a week. Then, with a weakened interaction complex, we might be less keen to be social and stay home because it is easier. And so the trend continues. Of course, this effect is overstated to illustrate a point, but over time this lack of interaction truly adds up.

Campus during the Fall and Winter terms face a similar conundrum. The campus is packed with people, and it is easy to get lost in the noise. Two factors are responsible for such a feeling. It is all too easy to let people walk by without striking up a conversation, since there will be ample opportunity with the next 100 people who walk by. Also, the friend-dilution effect discussed earlier is present: going to a bar, a group of friends quickly balloons and

you end up going with a herd of acquaintances instead. And while many friends are good, a few friends are better. Why didn't we choose U of T? We all heard the cautions: Too big, too many people, and too much of an impersonal feel. You feel like a cog in the machine. One can only imagine the dreary winters of that factory of a campus.

Waterloo is a great place, and even during the other terms the student population still gives off good vibes. But I implore you to take advantage of the unique situation we Spring Term students find ourselves in. The next time you see a small group of strangers going to class wondering aloud when QNC will open, don't hesitate to interject and happily proclaim that the opening date is indeed September 21. Don't complain about the lack of people on campus; it is a blessing, not a curse. Go out and have some meaningful interactions with people. Find out their philosophies on life and death. Argue about anything and everything, there is no better way to crystallize one's beliefs. Work with them to develop each person's picture of an ideal life. You may find that people are more interesting than they seemed back in the other terms.

can be **CO-AUTHOR** of a **PUBLICATION** which can be put on your **RESUME** and build your **PORTFOLIO**



can earn  
**75 P\*\*5**  
points

can have the opportunity to apply theory to **REAL ENGINEERING PROBLEMS** while learning the concepts in **CLASS**

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# A New Age of Canadian Internationalism



Greystar Resources Mine in Columbia

Reflexiones colombianas



**ROB REID**  
EWB RESEARCH LEAD

Although people always seem to perceive the world they live in as being mired in crises to the edge of a catastrophic tipping point, the last five to ten years have an especially good argument to why today, we really mean it. For the first time since World War II, it is becoming very clear that a massive overhaul of global financial systems, reigning economic paradigms, and governance structures is truly needed. We see these symptoms as the EU struggles to protect its member countries from an economic meltdown, the civil war in Syria continues, Mexico's drug war escalates, and Canada becomes the first and only country to formally withdraw from the Kyoto Protocol. This time presents never-before-seen challenges and a world of opportunity for Canada to redefine itself as a country acknowledging the dysfunctions of today's systems and venturing innovative policies to position us to survive, thrive, and lead the world through similar reforms.

Although we have maintained a relatively strong economy (despite \$114 billion

in poorly publicized bailouts, according to the Canadian Centre for Policy Alternatives), an incredible resource wealth (land, petroleum, minerals, lumber, fresh water), and the world's most functional multi-culture, we continue to entrench ourselves in blatantly irresponsible policies. Luckily, the public is becoming more disillusioned with this course of action and the myth of Canada's Samaritan purity. The Walrus magazine's April issue features "We are peacekeepers no more" as a cover story. A recent Nanos poll shows the NDP as now having as much support as the incumbent Conservative government. Canadians may even be becoming more aware of the harmful practices of our industries overseas, especially mining companies, who are headquartered in Canada more than anywhere else.

This contrasts some recent actions by the Canadian International Development Agency (CIDA). CIDA is currently paying money directly to mining companies to support "corporate social responsibility" activities. The degree to which these programs actually help people is extremely debatable. These initiatives are widely considered to undermine sustainable democracies and economies while giving marketing appeal to sponsoring firms.

Furthermore, Canadian mining com-

panies have a history of human rights and environmental abuses and continue to have allegations made against them. These crimes are often never formally investigated or overruled by free trade agreements, and include forced displacement and unemployment, hiring of security contractors and paramilitaries responsible for rapes, beatings, and killings, and pollution of watersheds with tailings. A 2009 report by Mining Watch Canada examining the Colombian operations of B2Gold, Greystar Resources, Colombia Goldfields, and Nexen Ltd finds "striking correlations ... where investment ... takes place and rights abuses, ranging from murder and massacres and related massive land and property theft to violations of the rights to freedom of movement and to a healthy environment" and that "human rights violations are linked to efforts by those behind Colombia's murderous paramilitaries to create conditions for investment from which they are positioned to benefit"; a 2011 Human Rights Watch report on Barrick Gold's Porgera Mine in Papua New Guinea observes "a pattern of violent abuses, including horrifying acts of gang rape, carried out by members of the mine's private security force", "extrajudicial killings and other violent abuses against illegal miners and other local resi-

dents" and "[the discharge of] six million tons of liquid tailings (mine waste) into the nearby Porgera River each year".

Even worse: these decisions are being validated by major aid organizations. Plan Canada, World University Service of Canada (WUSC), and World Vision Canada are all currently in partnership with CIDA to prop up the activities of Barrick Gold, IAMGOLD, and Rio Tinto Alcan. These partnerships have been condemned by activists in Canada and human rights advocates abroad. "The solution is not to mediate and negotiate based on what has already been done, and no 'social works' carried out with the mining companies can compensate for the damage done, particularly in the face of rights having been violated" says Miguel Palacin Quispe of the Andean Coordinator of Indigenous Organizations.

As young people with at least 60 years left to enjoy being alive on this planet, it is regrettable that these decisions continue at so many levels of power while they are so glaringly misguided. As you move through co-op interviews or towards graduation, an informed mind and voice calling for the industries and governments we work for to be more responsible will be pivotal in ensuring we can all make the most of our time here.

## The African Experience



**JIMMY EHRMAN**  
2012 JUNIOR FELLOW

THE LONGER TRAIL

Hi Iron Warrior readers! My name is Jimmy and I am one of the 2012 Junior Fellows from the University of Waterloo Engineers Without Borders Chapter. The Junior Fellowship program is the most personal way for chapter members to become involved in EWB's work in Africa. It is a four-month placement on a team working in Africa on a development project headed by or affiliated with EWB.

I will be working on a project called Sustainable Land and Water Management under the Agricultural Extensions team in Northern Ghana. Specifically I will be in an area called the Tongo Hills just south of the large(r) city of Bolgatanga. The broad spectrum goals of the project include understanding the incentives for farmers to adopt sustainable practices. There are all kinds of issues to explore, for which I will keep you all updated!

I have heard a lot of stories about living in Africa from past Junior Fellows. One of the first things you often hear about is the relationships or living conditions shared between the JF and their host family. A common defining aspect (at least that which is communicated) is whether or not a JF has lived without water and/or electricity, or had their host mother cook, clean, or wash their clothes for them.

To some degree many of the things are ultimately out of the JF's control, but I have heard a few stories about JFs changing their living conditions to somewhere more rustic (no electricity or water). Or insisting that they do chores (washing clothes, cooking, cleaning).

Is this smart though? Is it correct to (as a guest) move brazenly against the grain of African gender roles? Is it sensitive to seek out more rustic conditions hoping for the "African Experience"? What is this saying about how I view Africans? Should I seek out rustic conditions to put myself on an even plain with what I see as "poor Africans", or am I just bolstering my ego and making myself feel tough? Would I really be fighting for women's rights by

washing my own underwear?

I want to be the guy to break gender roles and help cook (I love cooking, especially over a fire), but based on what I've heard that doesn't seem likely. It seems like a hefty struggle, with little potential gain, against people who are going to be housing me. Social change is clearly more complicated than showing people that I know how to sweep or sew. I feel that being derisive about household roles has the sole outcome (in my context) of dividing and alienating; at the very least it is a poor means of promoting women's rights. I feel that it amounts to placing yourself on a higher moral plain and assuaging guilt from participating in a social system below your ethical standards.

I don't think that seeking out a rustic experience is respectful to African communities. It is essentially turning poverty into a tourist attraction, and I find that incredibly demeaning. When did poverty become a physical challenge, like Everest, or an Iron Man? Is it okay to glorify and romanticize this situation as a test of one's mettle? I don't think so.

However I'm not there yet, and one of

the few things that I can be certain of is that I don't really know what to expect. Some of the wisest advice I've had on this topic was that I should "pick my battles", and I agree; things will be clearer once I arrive.

There are many things that will rub me the wrong way, and likely a few things that will make me feel angry and frustrated. Situations heavily impacted by the power relations between men and women will certainly be one of those things. I'm not sure how I'm going to approach that. It seems too reckless and cavalier to drop out of the sky and insist that I follow the customs which keep me comfortable. However it seems passive and mocking to sit back and observe my role in such a social system.

Peace, love and happy trails!

Want to read more? Check out my blog for many more thoughts and updates at: [thelongertrail.wordpress.com](http://thelongertrail.wordpress.com)

More information on the Junior Fellowship program and Engineers Without Borders can be found at:

[www.ewb.ca](http://www.ewb.ca)

## North of 60



**LEAH KRISTUFEK**  
1T CHEMICAL

Ascending from the banks of the Yukon River, the city of Whitehorse holds its own against the surrounding wilderness. The mountains and forest around are the perfect setting for the many avid bikers, hunters and skiers who have fallen in love with the North. Here, fresh moose meat is a more popular than beef and bears are frequently seen visiting subdivisions. Unlike southern places, Whitehorse is ruled by the weather. The winter here is one of endless night and bitter cold with light for only five or so hours a day. The summer is brief but beautiful with constant excitement. For Yukoner's, a two hour trip is equivalent to a twenty minute drive for someone 'outside'. Where we might travel from Waterloo to Guelph in 30 minutes, the next closest town in the Yukon might be two or more hours away.

With a population around 25 000, Whitehorse is without a doubt the largest city in the Yukon. However, in many ways it still feels like the small town that was thrown together as hundreds of hopeful gold miners passed through on their way to fame and fortune or complete ruin. It was a town built on the bravado of young men out to make a name for themselves and the determination of risk takers with nothing to lose. Today the town is full of character and tradition.

Isolation and harsh environmental conditions present a challenge to those who choose to live in the North. With the terrible beauty comes terrible hardships and interesting challenges. Darkness can be longer than 19 hours during the winter, which doesn't leave much time for everything to warm up. Temperatures



Leah writes of her co-op experiences in Whitehorse this term.

Far North Whitehorse

commonly reach  $-40^{\circ}\text{C}$  causing tires to become like solid blocks, making road salts useless and keeping engines from starting if they aren't plugged in. Since car plug-ins can't be provided on every street curb, trips in to town involve frequent trips back outside to restart the engine and let the car idle to keep the engine block warm. Luckily, the invention of fobs with the ability to start cars remotely decreases the need to re-enter the cold. After all, not every building can have an underground parking garage.

Often, taking the bus is simply the easi-

est solution for getting around. People of all walks of life rub shoulders every day, sharing the same problems. The sense of community in Whitehorse is strong. In the fall, around mid August, people gather wild cranberries. What they don't eat or preserve they can sell to local bakeries for okay profits, the same goes for moose meat and other types of products that can be gained from the land. Things in Whitehorse are not terribly more expensive than in Waterloo as there is road access after all. But why ship everything when better quality can be found in your

backyard?

I have only been on co-op in Whitehorse for two weeks so it's with some doubt that I retell these stories. However, the spirit of this northern town is plain to see even as students like myself flood in for the summer months. Ontario might be the most populated province but I begin to wonder if it isn't more than a little Americanized. To call yourself Canadian is not just to be an international traveler but also to be a good national traveller. Where better to start than where the stereotypes begin, in the great white North.

## Photography 101



**MICHAEL SELISKE**  
4A COMPUTER

BEHIND THE APERTURE

The summer months are approaching and with them comes nice weather and vacations. Each year the number of photos taken at any given moment grows exponentially as integration into more devices makes it easier and easier for people to take photos. Knowing how to use your camera and keeping a few things in mind can go a long way in improving your resultant photos. I will be writing an article each issue this term discussing ways in which you can improve your general purpose photography.

In this issue I will go over the typical "Photography 101" topics, which lay the foundation for further topics. We will begin by defining exposure.

The concept of exposure can be simplified to be the brightness of an image. The camera will change various settings such as aperture, shutter speed and sensitivity in order to control the amount of light that forms the resultant photo. Changing each of aperture, shutter speed and sensitivity (ISO) will have different effects on the photo and must be kept in mind depending on the situation.

### Aperture:

Aperture is the size of the opening that allows the light to enter the camera. Camera lenses contain blades, which can

be closed to form a variable sized hole through which the light passes. A larger hole means more light and a smaller hole means less light. The size of the hole can be described using an f-number, which is defined as the ratio of the focal length of the lens to the size of the opening. Therefore a larger opening would be described using a smaller f-number such as f1.4 or f2.8 and a smaller hole would be described using a larger f-number such as f8 or f11. The consequence to adjusting the size of the aperture is not only a change in the amount of light but also the Depth of field of an image. The wider aperture will allow the maximum amount of light onto the sensor but also creates a very shallow depth of field, which means that the object on the focal plane will be well focused but almost everything else will be blurry. If you have a smaller aperture (bigger f-number) less light will be able to reach the sensor but the depth of field will be very deep. Therefore when in a dark situation you want to try and use the smallest possible f-number so that your opening is large, however you must be careful since focusing becomes trickier.

### Shutter Speed:

Shutter speed is the amount of time which the shutter is open, exposing the sensor to the light. Most cameras (some of the smaller digital ones do not) have a door covering the sensor or film so that they are not exposed to the light at all times. When the shutter button is pressed on a camera, the door opens for a short period of time, exposing the sensor or

film to the light which is analogous with taking a picture. The amount of time for which the door is open controls the amount of light that can be collected. You can think of it similar to a bucket in the rain, if you put a bucket outside in the rain overnight, you will collect more rain than if you put it outside for a few minutes. In many situations we want to collect as much light as possible and it would therefore make sense to leave the shutter open for longer. The downside of this, is that while the shutter is open it is capturing the contents of the scene which may or may not be stationary. The slower your shutter speed the more opportunity the objects in the scene, or the camera have to move and this will result in blurry photos. Therefore it is important to choose a shutter speed that is fast enough to capture the motion of the scene but also slow enough to allow enough light in. This is a good thing to keep in mind when taking photos of fast moving objects such as sports but this will be discussed in further articles.

### Sensitivity (ISO):

The ISO or sensitivity of the capturing medium is a measure of how sensitive the film or sensor is to the light. In film terms, it was the sensitivity of the chemicals to the light, but in digital terms it is the gain applied to the received signal. The drawback to having a higher ISO is that with gain comes noise and therefore as ISO is increased, random coloured specs called noise begin to appear in your image. ISO or ASA is the standard-

ized measurement of the sensitivity of film but has been adapted to the digital domain and most manufacturers do their best to match the sensors sensitivity with the measurement, although results can be variable. The base ISO is typically 100 with the standardized values doubling at every level with most modern cameras reaching values of up to 6,400iso.

Putting all of these concepts together allows the camera to produce an image, which has the proper brightness level. There are many different combinations of the three variables, which produce the same brightness level. The camera is organized so that changing one of the three variables will double the light or reduce it by a half and is referred to as a stop. For example, if you needed to increase the shutter speed but still get the same exposure you would either have to increase the ISO or go to the next f-stop. Shutter Speed of 1/100, Aperture of f4.0 and ISO 200 would be the same brightness as the settings 1/50, aperture f2.8 and ISO 200 or 1/50, f4 and ISO400.

It's a difficult concept to explain in an article, so the best way to understand these concepts is to try it. DSLRs make it very easy to change these settings but you can usually still do it on a point and shoot if you can locate them within the menus.

This article lays the foundation for future articles and I will be mentioning these concepts often. Hopefully you learned something about how your camera works and are looking forward to my future articles!





# Get your share of the Spring WEEF-sicle! Online!



**LAURIN BENSON**  
WEEF DIRECTOR

“What is a WEEF-sicle?” you might ask. Well my friends, it is a tasty, frozen treat with a value of \$60,000!

For Spring 2012, WEEF will be maintaining the current spending of \$60,000 towards equipment, supplies and improvements that will enhance the undergraduate engineering experience at the University of Waterloo. If you are a member of a team, department, or initiative that deserves WEEF support, I encourage you to apply.

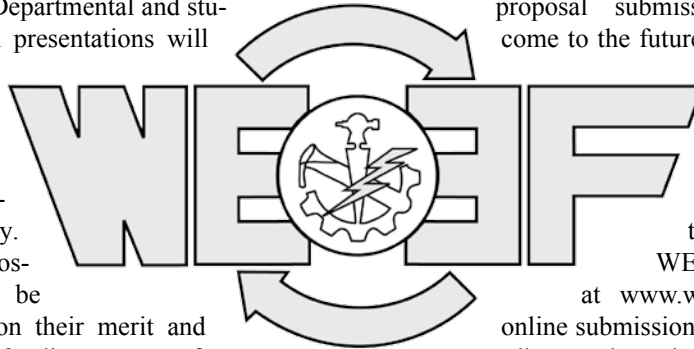
All you need to do is submit a proposal by June 15th and make a brief presentation to the wise and thoughtful Funding Council. Departmental and student team presentations will

t a k e  
p l a c e  
on June  
26th and  
28th, re-  
spectively.

All propos-  
als will be  
assessed on their merit and  
allocated funding as seen fit  
by your peers. Every class has a say  
in where your money goes, so please make

sure that your class has a WEEF Repre-  
sentative to sit on the Funding Council!

New starting this term will be online  
proposal submissions! Wel-  
come to the future! This term,  
all pro-  
posals  
will be  
submit-  
ted online  
through the  
WEEF website  
at www.weef.ca. The  
online submission process will  
walk you through the input of  
required information, funding options  
and breakdowns, and much more. This will



help us ensure that all information is pro-  
vided and also make the process easier for  
you.

In addition to this, several changes will  
be happening behind the scenes to ensure  
more accountability with WEEF funding.  
All unspent funding allocated to Student  
Teams and Departments will now expire  
after two years. Additionally, in order to  
receive funding for items, they must be  
expressly mentioned on the approved pro-  
posal.

Feel free to talk with your friendly neigh-  
bourhood WEEF Director (weef@uwater-  
loo.ca), or with Himesh, Julia, Keegan, and  
Kal, our Assistant Directors for the term!  
Until next time... WEEF IS GOOD!

## Spring 2012 Budget Approved

### The Spring 2012 Budget Requests and Proposal

Estimated Income		
Photocopies		\$500.00
Student Fees		\$36,150.00
Less: ECIF		\$542.25
<b>Total Income</b>		<b>\$36,107.75</b>
Fixed Costs		
Bank Charges, Payroll, Utilities, Office		\$21,400.00
Society Expenses		
	Requested	Proposal 3
President		
Speaker	\$3,200.00	\$3,000.00
Executive Discretionary	\$4,000.00	\$3,500.00
<b>President Sub Total</b>	<b>\$7,200.00</b>	<b>\$6,500.00</b>
Student Life Directorships		
Arts	\$42.94	\$42.95
Athletics: Running Club	\$66.00	\$15.00
Athletics: Ball Hockey	\$72.03	\$50.00
Athletics: Hockey	\$220.00	\$50.00
Athletics: Dodgeball	\$0.00	\$0.00
Athletics: Foosball	\$20.00	\$20.00
Charities: Floats	\$64.00	\$45.00
Charities: Pancakes	\$130.00	\$80.00
Charities: Purpling	\$20.00	\$50.00
Charities: BBQ	\$330.62	\$150.00
Charities: Wheelchair Basketball	\$200.00	\$75.00
Cardboard Boat Racing	\$348.00	\$250.00
Eng Play	\$250.00	\$250.00
Open Mic	\$3.00	\$3.00
Exchange	\$32.00	\$2.00
Frosh Mentoring	\$270.00	\$250.00
Genius Bowl	\$620.00	\$450.00
Golf Tournament	\$275.00	\$250.00
Jazz Band	\$1,400.00	\$1,000.00
Caneo the Grand	\$36.49	\$0.00
LAN Events	\$300.00	\$250.00
Mental Health Awareness	\$0.00	\$0.00
Music: Coffee House	\$158.00	\$125.00
Music: Band Wars	\$907.50	\$500.00
p**5	\$1,210.00	\$700.00
Photo Contest	\$32.00	\$32.00
Ring Road Grand Prix Classic	\$700.00	\$0.00
Skydiving	\$309.30	\$309.30
Zunt (Scunt)	\$575.53	\$350.00



**ALEXANDRA COLLINS**  
VP FINANCE

In my first IW article of 2012, I will present you with the Spring 2012 Budget. Many cuts had to be made in all areas of the budget to overcome the \$11,000 deficit. We are now projected to have a deficit of -\$2,956.49. There were three key reasons for decreased budgets:

- Cutlery, plates, and napkins are now available in the Orifice so the

costs of these items were removed from the budgets.

- Proposals were made in the Eng-Soc meeting to raise the ticket price of some events to reduce budgets.
- Reduction in prize money.

In other news, A LOT has been happening in POETS – great movies and shows, resume critiques, and a fabulous BOT. I would also like to use this space to give a shout-out to my Services Commissioner Matt Kerwin who is working hard to bring you a term full of awesome services.

Semi Formal	\$1,132.50	\$850.00
TalEng	\$453.00	\$385.00
TSN - EOT Video	\$430.00	\$0.00
Beach Day	\$74.52	\$0.00
Workshop: Sushi	\$213.00	\$175.00
Waterloo Eng Slush Fund	\$800.00	\$0.00
Year Spirit 2013	\$500.00	\$150.00
Year Spirit 2014	\$453.39	\$150.00
Year Spirit 2015	\$130.00	\$130.00
Year Spirit 2016	\$344.65	\$150.00
<b>Student Life Sub Total</b>	<b>\$13,123.47</b>	<b>\$7,289.25</b>
Student Services		
POETS Manager	\$500.00	\$700.00
Research Awareness	\$0.00	\$0.00
Resume Critiques	\$314.30	\$275.00
Scholarships	\$0.00	\$0.00
<b>Student Services Total</b>	<b>\$814.30</b>	<b>\$975.00</b>
External		
WEC	\$1,647.40	\$1,100.00
EWB	\$50.00	\$50.00
Canada Day	\$625.00	\$550.00
WIE	\$0.00	\$0.00
<b>External Subtotal</b>	<b>\$2,322.40</b>	<b>\$1,700.00</b>
<b>Total Society Expenses</b>	<b>\$23,460.17</b>	<b>\$16,464.25</b>
Donations		
<b>Donations Subtotal</b>	<b>\$2,000.00</b>	<b>\$1,200.00</b>
<b>Total Expenses</b>	<b>\$46,860.17</b>	<b>\$39,064.25</b>
<b>Net</b>	<b>-\$10,752.42</b>	<b>-\$2,956.50</b>

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ENGINEERING SOCIETY 'B' **ELECTION** SPRING 2012

# The Candidates

This insert is officially affiliated with the University of Waterloo Engineering Society and is endorsed by the Chief Returning Officer



**Yasser Al-Khder**

President

3A Mechatronics Engineering



**Scott Wood**

Vice-President, Education

2B Mechanical Engineering



**Erin Merkley**

Vice-President, External

2B Mechanical Engineering



**Peter Robertson**

Vice-President, Finance

3A Mechatronics Engineering



**Catherine Declaro**

Vice-President, Internal

2B Mechanical Engineering



**Keegan Skoretz**

WEEF Director

2B Mechanical Engineering

# Executive Positions

## PRESIDENT

The President is the 'face' of the society, and it is ultimately their responsibility to ensure things are running smoothly. They represent student interests at faculty and university meetings like Faculty Undergraduate Studies Council (FUGS), Engineering Faculty Council (EFC), Examination and Promotions (E&P), WEEF Board of Directors, FEDS Committee of Presidents (COPs), and Sanford Fleming Foundation Board of Directors (SFF). It is their job to present the student point of view and do their best to ensure that actions taken by these groups serve student interests. They are the official student link to the Dean's Office and regularly meet with the Undergraduate Student Liaison Officer (Robin Jardin) to present feedback on current issues affecting students. They also serve as the default student representative on tribunals held by the Faculty Committee for Student Appeals (FCSA). The President accompanies the VP External at certain larger conferences including CFES Congress, ESSCO Presidents Meeting (ESSCO PM), ESSCO Annual General Meeting (ESSCO AGM). The President serves as the spokesperson for the TOOL, and are the sole person responsible for its wellbeing.

The president is very approachable and welcomes any feedback or input students may have.

## VP EXTERNAL

The VP External is the representative of the society to groups outside of the university. They typically act as head delegate at conferences and are responsible for picking other delegates to attend with them. Their primary responsibility is to liaise with the Engineering Societies of other schools. They typically do this through organizations such as ESSCO and CFES. This person is also responsible for liaising with the professional organizations in Ontario (PEO, and OSPE), and promoting their student membership programs. It is the duty of the VP External to report concerns of other societies, and the profession back to student. The second main component of the VP External's responsibilities is to promote the image of Waterloo Engineering to the community at large, and they do this through the numerous directorships under them (Charities, Competitions, WIE, Shadow Day, etc...).

## VP EDUCATION

The VP Education is, as you probably guessed, responsible for representing student interests on in all matters that are academic in nature. This includes curriculum, academic policies, cooperative education, and professional development. They are

responsible for representing student interests on these committees: Faculty Undergraduate Studies Council (FUGS), Senate Undergraduate Council (SUC), WatPD-Engineering Curriculum Committee (CC), Cooperative Education Council (CEC), Coop Students Council (CSC), and Engineering Coop Working Group (CWG). They may be asked by the president to attend meetings on their behalf. They are also responsible for managing the society's academic services, which include the Exam Bank and Work Report Centre, Resume Critiquing, Course Critiques and Debt Load Surveys, Academic Rep Advising, and any student workshops being run that term. These services are available to all members that have paid their EngSoc Fee that term. The final responsibility of the VP Education is to actively pursue resolutions to any academic concerns that students have. This responsibility can encompass almost anything, so if you have an academic concern, please contact the VP-Ed to see what can be done.

## VP FINANCE

The VP Finance is responsible for the fiscal affairs of the society which includes the dispersal of funds and management of the budget each term. Directors submit their expense claims to them for reimbursement.

The VPF has signing authority of all the Engineering Society Accounts, and is ultimately responsible for the financial situation of the Engineering Society. They are responsible for managing the Novelties Store, and ensuring new and exciting items are available each term. The VPF typically manages capital expenditures, and brainstorms ways to disperse funds in ways that most benefit students. If you have an idea for a capital expenditure, or have a question about the fiscal management of the society please feel free to contact the VPF! Ideas for novelty items to be sold are always welcome!

## VP INTERNAL

The VP Internal is responsible to managing their directors and ensuring all the responsibilities of those directors are fulfilled. The VP Internal should be prepared to provide any support required by such directors. This means representing their concerns at executive meetings, answering resource questions and resolving conflicts. They are also responsible for ensuring the governance documentation is up to date (Constitution, Policy Manual), and the distribution of minutes after council meetings. The VPI is typically friendly and easygoing and prepared to answer your questions related to policies and events!

**RATIFICATION VOTE** **Wednesday May 23 @ 5:30 PM**  
Bring your questions! Bring your friends! **CPH 3607**

# CANDIDATE PROFILES

## President Candidate

### Yasser Al-Khder

3A Mechatronics Engineering



Hi Everyone.

Before I start, I would like to thank you for taking the time to read through the candidates' platforms. I am glad to see you taking interest in the upcoming elections, and I hope reading through these articles will aid you in making an informed decision when the time comes to vote.

Now that that's out of the way, let's get

down to business.

If I can summarize my platform in one sentence (and I totally can, otherwise I wouldn't mention it), that sentence would be "I believe the purpose of the Engineering Society is to improve the students' university experience". Because at the end of the day, all the events that EngSoc runs, all the services that it provides, and all the work the executive team, the directors, and the volunteers put in, is to help you and hopefully make your time here a little bit better. I guarantee you that will be my motto as the president of the Engineering Society, and will always be my goal for any action or decision I make.

You may ask at this point "well what do you plan on doing to improve my experience here at Waterloo?" and I would reply with "thank you for asking good sir/ma'am. Allow me to tell you..."

Firstly, feedback. If I plan on making

EngSoc work for you, I think you would agree with me that the first logical step would be asking you what you want from EngSoc. The best method I can think of is class visits; I think it allows the president to explain what EngSoc is and what it does, because I believe a lot of students have a misguided idea about EngSoc. It also gives the students, especially those who are apathetic or skeptical towards the Engineering Society, to voice their concerns and opinions. I promise you that I will take every bit of feedback into consideration and that it will never fall on deaf ears.

Another thing that I want to push for is diversifying our events and services to meet the students' needs. A lot of times I hear something in the lines of "How can I get my friends/classmates out to (insert event)?" Well maybe that event is not their type of thing. Maybe social events in general are not their type of thing. That's ok, as long as

we can find a way to service those students. By gauging the student opinion, I think we can find something for almost everyone.

I know this is a lot to take in. That's why I will list my qualifications in point form:

- Involved in the Engineering Society since 1A
- Held several directorships in EngSoc including Genius Bowl and Bus Push
- Held an executive position in EngSoc as VP External for the past 12 months
- Represented you on various councils including FedS, ESSCO, and CFES
- Funny, charming, kind, and all around nice guy [citation needed]

I hope by now I convinced you that I am the right person for the job. If I didn't, that's ok, as long as you make an informed vote. Honestly, I'm just glad you read through the whole thing.

## Vice President, Education Candidate

### Scott Wood

2B Mechanical Engineering



Hello my good people of Engineering! I would like to take this opportunity to introduce myself to the vast majority of you fine folks that do not know me. My name is Scott (Scoot, Scotty, Woody, and Woodsy are all acceptable) and I'm currently in 2B Mechanical Engineering. I have an abundance of experience with the Engineering Society after being my class' EngSoc rep (unofficially) for 4 terms. I am also currently the director for Genius Bowl and EngSoc Hockey (shameless plug: Keep both eyes open for posters and the mailing list for these events!!).

I know I can be a fantastic Vice

President of Education because I am a student just like you and I understand how much PD and really bad profs stink (Seriously, it's like 5 Wendy's Junior Bacon Cheeseburgers followed promptly by a Burrito Boy's run with Suicide sauce. Not pretty). I will do everything within my power to make your academic experience your least painful yet! Honestly, as Bruno Mars would say. I would catch a grenade for every single one of you beautiful people.

Here is a list of reasons why you should vote for me:

- I have experience within the En-

gineering Society having been a class representative for 3 on-campus terms (officially)

- I have a strong work ethic when others are counting on me to make their lives better
- I'm a very good listener and like to help people sort out their problems
- I can consume liquids very quickly
- I have a car, it's really old and about to break down

In conclusion, I know I can be the best VP Ed of everyone running! Please come out and vote for me come elections because a vote for Scott Wood is an unspoiled ballot!

## Vice President, External Candidate

### Erin Merkley

2B Mechanical Engineering



Hello B-Soc-ers!

I'd like to take this chance to introduce myself to all of you, and let you get to know me a bit better. My name is Erin Merkley, I'm currently in 2B Mechanical engineering, and I'm from Smiths Falls; a cute little town in Eastern Ontario, and I want to be your next VP External..

I'm very excited about these upcoming elections and the chance to get even more involved. EngSoc is made up of a great group of individuals that together make an even more unbelievable whole. I want to become a bigger part of something I'm very passionate about and love being involved with.

Representing EngSoc to outside organizations is one of the main duties of the VP External, not just including external engineering bodies, but also other faculty societies within the university. My goal is to share great things about our society with other schools and bring in new ideas to make us even better. I plan to improve relations and open communications open between us and other societies on campus, by attending their meetings and getting them involved in our events.

I plan to continue the great job that the current executives are doing, and make everyone feel like a part of the society.

I think I make a great candidate for this

position because I:

- have been EngSoc class rep since 1B
- was educational commissioner, representing the students to faculty leaders in the F11 term
- attended an Ontario-wide Engineering conference as a delegate
- have held several directorships
- love meeting new people

I want to get to know all of you, and to work with you to make our great society an even better one. If you have any questions at all, you can shoot me an email at eemerkle@uwaterloo.ca, or find me in POETS and speak to me in person.

# Vice President, Finance Candidate

## Peter Robertson

3A Mechatronics Engineering

Hey! I'm Peter Robertson, in 2014 Mechatronics, and I'm running for VP Finance! I've been involved in EngSoc since my 1A term back in Fall 2009 and have seen the life of three different B-Soc Exec teams. I want to combine the best of each VP Finance and watch EngSoc flourish during the length of my term in office. If you've met me then you know I'm an extremely friendly person and always open to new ideas. If you haven't met me, why not? You can find me either in class (sometimes), the Orifice, or resting my eyes in POETS. Don't be shy, come

find me and tell me about all your great ideas for EngSoc. I promise to consider each and every one, no matter unfeasible it seems. How can you know if something can't be done if you don't put the effort in to find out?

My goal is to work with my fellow Exec to improve the spirit of EngSoc and bring back the fun to events, while still maintaining the Services diversity introduced by our awesome current Exec. I feel that the enthusiasm in EngSoc has dropped off in the last couple years. I hope to restore this enthusiasm and get as many different

students involved as humanly possible by maximizing the EngSoc budget potential. As VP Finance I pledge to do all that I can to make events both fiscally and socially attractive to increase attendance and widen the EngSoc family. I pledge to find places in the budget to decrease costs, therefore providing more funds for services. Finally, I pledge to work closely with all Commissioners and Directors to ensure that EngSoc meets its unlimited potential!

My word count is 300, and I must meet my quota, so: These words are my last seven.



# Vice-President, Internal Candidate

## Catherine Declaro

2B Mechanical Engineering

Hello fellow engineering students!  
My name is Catherine Declaro and I'd like to be your next VP Internal. I am currently in 2B Mechanical Engineering and come from the east side of Toronto: Scarborough!  
Here's a list of what makes me the best candidate for this position:

- I'm passionate about the Engineering Society and am continually seeking ways to improve it.
- I have strong leadership and organizational skills developed through my experiences as the Mechanical 2015 EngSoc Class Rep since 1A, a direc-

tor for multiple events, and managing clubs outside of EngSoc.

- Due to my experience as a director, I understand the challenges faced when planning events.
- I'm always open to suggestions or feedback and am more than happy to give support to those who need it.

One of the main things I want to work on is getting more engineering students involved with the Engineering Society. I want to accomplish this by exploring more types of events that will help make us a more inclusive society as well as giving a face-lift to

the role of class reps.

My second goal is to support my directors and make their jobs easier. I want to do this by providing information on how past directorships were run and by maintaining a strong and open line of communication with directors.

If you have any questions about me or my platform, please come to the all candidates forum or ask me in person! I'd love to chat about your ideas and suggestions.

Thank you for reading and don't forget to vote for me, Catherine Declaro, as your VP Internal.



# WEEF Director Candidate

## Keegan Skoretz

3A Mechanical Engineering

Hi everybody! I'm Keegan Skoretz and I'm running to be the next Director of your Waterloo Engineering Endowment Foundation. I am currently in 3A mechanical engineering. I've served as a class rep since coming to Waterloo in 2009, and have also worked with the last 2 WEEF directors as an assistant. As an assistant, I've supported regular operation, such as preparation and execution of meetings, on a term by term basis. I've also been involved with initiatives such as the \$10

million party (have you seen the awesome new WEEF t-shirts? Kal and I designed those, they're sweet!).

In case you're wondering why I'm running, the answer is simple! WEEF has always acted in the best interests of engineering undergrads here at Waterloo, but there's always room for improvement. Underrepresentation has always been an issue at funding council, and the foundation will be able to better serve all of us by resolving this. I will make it my personal

goal to ensure that each class has a representative, and hopefully devise a system to ensure that this continues as we move forward.

Several years of experience with the foundation, as well as other leadership roles with orientation week and FEDs, has provided me with the tools I need to succeed as your new WEEF director. I'm also a very approachable person, so feel free to approach me with your ideas/thoughts/concerns wherever you may find me!



# Spring 2012 Election Procedures

**JON MARTIN**  
CHIEF RETURNING OFFICER

You have probably noticed the abundance of posters throughout the Engineering buildings as of Monday May 14, well there is an election going on, but this time it is a little different. Nominations closed on Friday May 11th and despite having a large number of people take nomination forms is one eligible candidate for each of the election races. So this election will proceed in a very different way than normal. While the normal process would involve cam-

paing from Monday May 14th to Friday May 18th followed by voting from Tuesday May 22nd to Saturday May 26th, and ratification at the third EngSoc meeting (June 6th), this election will be different.

As there is only one candidate in each race they are 'acclaimed', meaning they automatically win the 'election race', there will not be a regular voting period for all Engineering Society members. Instead the election will proceed directly from campaigning to ratification, where the acclaimed candidates must be accepted by the Engineering Society Council,

requiring a two-thirds majority vote. If any of the candidates are not ratified then that race will go into a by-election, where there would be another nomination period for those executive positions that are vacant, followed by campaigning and a voting period. So this means that your entire class will be represented in the election by the vote of your EngSoc class rep, let them know who you think can do the job and how they should vote – you could even hold a preliminary election in your class, have everyone vote so that your representative knows who the class wants to vote for. The

ratification of WEEF Director is also slightly different than the standard executive positions, as the winner is ratified by the WEEF Board of Directors rather than the Engineering Society Council.

In this issue of the Iron Warrior you can read the descriptions and responsibilities for each executive role and the campaign platforms for each of the candidates. Look for the posters around the Engineering buildings and talk with the candidates when you pass them in the hall, decide who you want to represent the Engineering Society B for the next sixteen months.

# Could our Generation Fix the PEO?



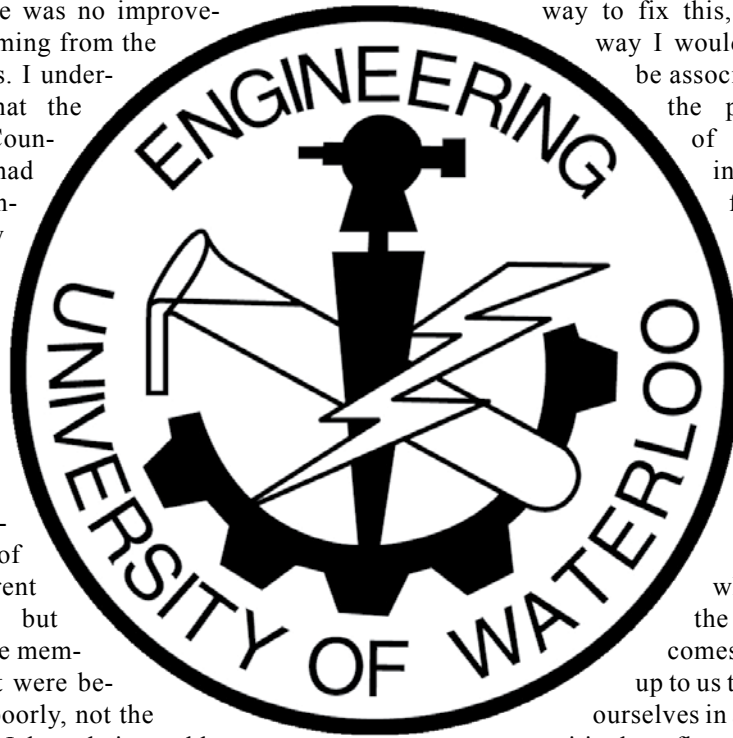
**ALESSIA DANELON**  
PRESIDENT

I know that student politics aren't perfect, but I also know most students try their very best and most of our flaws can be chalked up to lack of experience. We're young, our views are only as broad as our experiences, and for many of us that isn't a lot to go off of.

So what's the PEO's excuse? I went to the Annual General Meeting of the Professional Engineers Ontario, and in a room full of individuals who were licensed based on their experience and expertise, I was astounded by what I heard. It wasn't a problem with the motions that were brought forth, which I will detail later in this article. The thing that surprised me most was the lack of respect and professionalism that was coming from the members and the chair throughout the meeting.

I know political arguments can get heated; we've seen it in our very own EngSoc meetings. The difference was, this was not a student society where many people were still developing their leadership skills. This was the annual general meeting of Professional Engineers Ontario, it should have professional standards. It was bothersome to me that in a room full of professionals,

it felt like the group of student society executives I was with were the only ones who realized how unacceptable the comments and thrashing and speaking out of order were for our profession. I know I was an outsider looking in, but I had been to the meeting last year and there was no improvement coming from the members. I understood that the PEO Council had been under new leadership and a lot of things can be chalked up to the actions of the current council, but it was the members that were behaving poorly, not the council. I kept being told that what I was watching was not a reflection of our profession, but when it was the general members, not the council, being disrespectful how could I believe such a claim?



I was suddenly embarrassed for the profession I had been working towards for the last four years. The prestige and honour associated with licensure that I had seen among colleagues on co-op jobs was slipping away from my memory. All I could think was the only way to fix this, the only way I would want to be associated with the profession of engineering in the future, was if there was a culture shift, and a significant one at that.

Here's where you, the student, comes in. It is up to us to conduct ourselves in a way that positively reflects our profession. In today's world, focused on technology and innovation rather than infrastructure, many graduates of engineering may never obtain their licence. However, all our actions reflect the edu-

cation we have received. We rarely hear stories of the poor conduct of doctors, lawyers, and accountants from their licensing bodies. That might be because we are farther removed from that profession as engineers, but it's also because their members have not sent rash emails or uttered rude comments at meetings.

We are the future of our profession. I know outstanding engineering students from the University of Waterloo and others in Ontario. I know that the engineer that positively reflects the profession, the engineer that serves the public, attends this school. I also know that there is a group of very hard working individuals at the PEO that are working towards bettering the profession of engineering. If we want engineering to mean something in the future, we need to act with the same respect we'd like for our profession. We need to speak up when we feel a decision does not best serve our mission to protect society, but we also need to understand differences of opinions and make our voices heard without shunning out the voices of our colleagues. I think engineering is necessary and important to our society, but if we forget that we work for society and with them, then society might forget us. Respecting our colleagues is part of working for society, and I hope when our generation is in the workforce we will be a positive example for our successors.

## What's Going On This Term



**YASSER AL-KHDER**  
VP EXTERNAL

The Spring term is pretty lackluster in terms of conferences. There's only one, the Engineering Student Societies' Council of Ontario Annual General Meeting (ESSCO AGM), and the application form will be closed by the time you read this. So instead, here are some events that are going down this term right here in Waterloo!!! (or Kitchener)

### Women in Engineering Day June 27th

Come out and celebrate women in engineering! There will be a barbecue and fun events, such as WiE day Genius Bowl during the day, and a cross-campus Women in \_\_\_\_\_ seminar (an in-

ter-faculty event for other "Women in" groups on campus). See what past and present female engineering students have to say about their experiences.

### Canada Day July 1st

Every year Waterloo Engineering participates in Canada Day celebrations at Columbia Lake, and this year is no different. Many of you are probably going back home for the long weekend. However, if for some reason you're sticking around. I highly recommend you check it out. There's so much going on, and it always ends with a bang!! (no seriously, there's an awesome fireworks show at the end)

### Siemens Plantville Competition July 5th

Siemens are developing a competition where you play as a plant manager

on simulated plant software. The objective is to increase productivity and efficiency while maintaining the plant and making sure it's running. There are cash prizes for the top three teams, and you might gain some contacts within Siemens. I will talk about this competition in more detail, along with the registration process, in future IW issues.

### Waterloo Engineering Competition July 6th-7th

I know you're not just book smart, so why don't you show us your problem solving skills and engineering creativity at WEC? Participate in the Junior or Senior Design Competition (students in 2B or under are eligible for Junior, while students in 3A or above can participate in Senior) and build a prototype to solve a given problem, or join the Consulting Engineering Competition if you are the project manager type

and present a theoretical solution to a given engineering problem. More details about the competition and signup process will be available in future IW issues.

### Outreach

There are two major outreach events planned for the term. The first is volunteering with Big Brothers Big Sisters, where you will be in charge of organizing activities for a group of children. The second is volunteering at St. John's Kitchen in Kitchener. Students can sign up individually for these events. The outreach director is also working on setting up dates so a group of students can volunteer. Be on the lookout for posters/emails for this.

If you have any questions about the events, or if you wish to volunteer and help out, email me at [vpexternal.b@engsoc.uwaterloo.ca](mailto:vpexternal.b@engsoc.uwaterloo.ca)

# POETS

# MOVIE SCHEDULE

SHOWINGS BEGIN AT NOON

<b>Wednesday</b> May 16  <b>Bill Murray Week</b>  12:30 PM: Life Aquatic 2:00 PM: The Man Who Knew Too Little 3:30 PM: What About Bob?	<b>Thursday</b> May 17  <b>Bill Murray Week</b>  12:00 PM: Zombieland 2:00 PM: Caddyshack 3:30 PM: Lost in Translation	<b>Friday</b> May 18  <b>Bill Murray Week</b>  12:00 PM: Osmosis Jones 1:30 PM: Larger than Life 3:00 PM: Garfield	<b>Monday</b> May 21  <b>Victoria Day</b>	<b>Tuesday</b> May 22  <b>Kevin's Movies Day</b>
<b>Wednesday</b> May 23  <b>Angela's Movies Day</b>	<b>Thursday</b> May 24  <b>Erin's Movies Day</b>  12:00 PM: Superstar 1:30 PM: Star Trek IV 3:00 PM: Serenity 4:30 PM: Robots	<b>Friday</b> May 25  <b>Noah's Movies Day</b>  12:00 PM: Princess Bride 1:30 PM: Taken 3:00 PM: Anchorman 4:30 PM: Shutter Island	<b>Monday</b> May 28  <b>Mob Movies</b>  12:30 PM: Goodfellas 2:00 PM: Casino 4:00 PM: American Gangster 5:30 PM: Godfather	<b>Tuesday</b> May 29  <b>Pixar Day</b>  12:30 PM: The Incredibles 2:00 PM: UP 3:30 PM: WALL-E

# Minister of Training, Colleges and Universities Speaks to Waterloo's Exceptional Engineering Education



**ALESSIA DANELON**  
PRESIDENT

I have always loved being a University of Waterloo Engineering undergraduate. There's something about the students that attend this school that just sets them apart from the others. I recall attending a conference in 2011 where someone from the University of British Columbia said "Really, Waterloo? Do you guys have to do everything 110% better than everyone else?", a comment regarding our bid for the Canadian Federation of Engineering Students Congress of 2013 (we won that bid, and will be hosting the Congress in January 2013)

So I guess it shouldn't have surprised me that the Minister of Training, Colleges and Universities would call out the University of Waterloo in his speech. Hon. Glen Murray spoke as the keynote for the PEO Annual General Meeting, one of the highlights of the event. He noted that during the economic recession, 80% of those who lost their jobs,

numbering about 250,000, did not have a high school education and only 11% of those left unemployed had a post secondary education. This statistic, he noted, supplemented our speculations that our economy is driven by trained individuals and it was becoming more and more clear that learning throughout our careers was becoming more important.

Apparently 70% of the current jobs in the Canadian market require post secondary education. The average young professional spends about 3 years in one city, and only about 12 months in any job. Sound familiar? My first thought was that it sounded a bit like our co-op program, and then I heard the keynote speaker parallel this to our education at the University of Waterloo.

Hon. Glen Murray went on to congratulate programs like VeloCity and all our entrepreneurial support structures at Waterloo, as well as co-op and the school's focus on innovation and the integration of technology in the classroom. If he didn't specifically point out that Waterloo was doing something great, he gave an example that I knew was being implemented at

Waterloo. He talked about how technology was being used to bring more people into the classroom via video and sound feeds as the way to have our students learn at any time from anywhere. Sounds a bit like the E5 live link classroom. He spoke about how adaptation and the ability to be mobile were the biggest assets in today's workplace. Sound a bit like our co-op program. He spoke about how ideas and innovation were the economic drivers of today, and how new professionals need more than a degree - they need work experience, innovative experience and proof of personal drive. Sounds a bit like our school's emphasis on student teams and innovation.

The speech was engaging, informa-

tive, and even reassuring. It was great to know that the education we are receiving at the University of Waterloo, in the Faculty of Engineering was above and beyond what other schools were providing. It seemed to be just as dynamic and adaptable as the economy needs it to be. I know Vision 2015 is still in the works, and sometimes, among the homework and struggling over fundamentals, it's hard to see how all this is relevant. However, it seems someone has noticed and used us as the standard for Ontario. Our Dean, departments, professors and staff have all contributed to that through their hard work, and I don't think you'll find that dedication elsewhere. I know I was proud, and you should be too.

### EngSoc Executive Contact Info

EngSoc B Executive	executive.b@engsoc.uwaterloo.ca
Alessia Danelon - President	president.b@engsoc.uwaterloo.ca
Andrew Fisher - VP Internal	vpinternal.b@engsoc.uwaterloo.ca
Yasser Al-Khder - VP External	vpexternal.b@engsoc.uwaterloo.ca
Alexandra Collins - VP Finance	vpfinance.b@engsoc.uwaterloo.ca
Owen Coutts - VP Education	vpeducation.b@engsoc.uwaterloo.ca

## VP Internal Updates



**ANDREW FISHER**  
VP INTERNAL

Welcome to the summer term! Myself and AJ, Student Life Commissioner, as well as our numerous directors are super excited to be bringing you dozens of events for the summer term. In the next few weeks alone we have the Exchange Potluck, Running Club, LAN Party, Pancake Breakfast, Coffee House and many more! Take a look at the EngSoc Calendar below for more details. Are you interested in learning more about when these events happen? Join the EngSoc Facebook Page by searching 'UW Engineering Society.' Also don't forget to check out our poster boards throughout the hallways.

This past week we held a successful Get Involved Fair in the CPH foyer with over 100 signups! These volunteers are of huge importance to make all of our events successful. If you are still interested in helping out with the numerous events we are running this term, just drop by the Orifice to speak to an executive, or email us at executive.b@engsoc.uwaterloo.ca. There are still many posi-

tions to be filled!

This term I will be developing a new EngSoc Wiki with the help of our webmaster Jon Shahan. This Wiki will include the history of the Engineering Society, the current events and services we offer, a director reference guide, and much more. I hope to see this Wiki become a means for past alumni and current students to document the ongoings of the society with moderation by the executives. We are currently developing the back end of the system, but if you are interested in helping with the initial content, please email vpinternal.b@engsoc.uwaterloo.ca.


I also plan on improving Engineering's relationship with the other faculties. I will be going to at least one council meeting from each faculty to see what they are planning and hopefully let them know about some of the things EngSoc has in the works. I also plan to organize a few events to encourage some inter-faculty socializing so keep an eye out for some advertisements.

Something else to look out for this term is the P\*\*5 competition! 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. Every event EngSoc hosts can earn your class points if you attend! You can also submit work reports, exams, or run class events to earn even more points. Cash prizes are awarded to the top three classes, so be sure to start collecting those points early in the term! Submissions can be emailed to Patrick Mikolajczak at ptothefive@engsoc.uwaterloo.ca. A full list of points is available on the EngSoc website.

That's all, folks. Looking forward to a fun filled spring term!


EngSoc Skydiving!



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Campaigning  2014 Spirit 3D Twister 6:00 PM  Running Club 7:00 PM POETS Patio	Campaigning  Exchange Potluck 5:00PM POETS	Campaigning  Running Club 8:30 AM POETS Patio	Campaigning  LAN Party RCH 207		Victoria Day  Running Club 8:30 AM POETS Patio	Voting Period  Pancake Breakfast 8:30 AM CPH Foyer	
Wednesday May 23  Voting Period  Pick Up Soccer  EngSoc Meeting 5:30 PM CPH 3607  Running Club 7:00 PM POETS Patio	Thursday May 24  Voting Period  Ball Hockey	Friday May 25  Voting Period  Coffee House  Running Club 8:30 AM POETS Patio	Saturday May 26  LAN Party  Skydiving Parachute School of Toronto	Sunday May 27  Alumni Golf Tournament	Monday May 28  Running Club 7:00 PM POETS Patio	Tuesday May 29  Tal-Eng  Pancake Breakfast 8:30 AM CPH Foyer  Board Games 5:00 PM POETS	

# RIM Wakes Up... Sort of



At the start of the month, RIM used its BlackBerry World event to give the world a first look at its BlackBerry 10 software. While the software was announced last October (then called BBX), the public hasn't seen what it would look like until now.

The main menu of BlackBerry 10 looks like a blend between Android widgets, webOS cards and Windows Phone Live Tiles. Four big rectangular applications welcome the user, with relevant information displayed for each application. The phone, search and camera features are permanently located on the bottom bar. Many BlackBerry 10 applications are based on a new user interface, called Cascades. The fundamental concept of Cascades is horizontal swipes, which navigate through the hierarchy of the application. When the top level is reached, another swipe to the right will switch applications. Applications all fully run in the background, which is a shift from how other mobile operating systems pause or close background applications.

The primary functions of the device have also been given a visual and functional overhaul. When people call, a giant caller ID photo appears, asking the user to swipe down to answer and swipe up to ignore. The virtual keyboard has a novel autocorrect method that lets users enter predetermined words quickly. As users type, suggestions appear over certain letters, which users then swipe upwards to enter that word instead of just a letter. The camera has a new feature to help users who just miss the right shot. It takes multiple shots in quick succession, so users can use a scrubbing tool to find the picture they prefer, such as if someone has blinked or one is too blurry.

Developers at the conference received BlackBerry 10 Dev Alpha, which is a pre-release version of the operating system loaded onto a black phone which looks like a shrunken down PlayBook. The 4.2" screen is 1280 pixels tall by 768 pixels wide, giving it a pixel density of 355 pixels per inch, which is clearer than the iPhone 4's screen. The device has no external memory cards, using internal memory, and makes use of near field communication. Perhaps most significantly, the phone has no external keyboard, emphasizing RIM's efforts to design BlackBerry 10 to work with touchscreen-only devices.

The software development kit that developers can use to create BlackBerry apps has been updated with more friendly features, a welcome change from older tools which made BlackBerry devices harder to develop for than other platforms. Elements such as buttons and lists can be created without needing to code them by hand, speeding up development time. Developers claimed that it can take as little as ten days to create applications for BlackBerry 10, and porting from other platforms took little time as well.

RIM's strategy raises multiple questions about its future. Developers have, at least in recent memory, been reluctant to develop for the platform. RIM hopes to solve this problem by guaranteeing developers that they will make at least \$10,000 on their apps for the first year, by offering to pay the difference if they

don't. This comes with some stipulations to prevent people from not making an effort, but it shows a serious effort from RIM to have people make applications.

Shareholders of RIM didn't take too kindly to the announcement, as the stock fell to an eight-year low two days after the features were presented. The features RIM has announced are impressive, but it remains to be seen if they can compete effectively with other operating systems. iOS and Android effectively have a stranglehold on the phone industry today. This has been evidenced by Microsoft, who has found much trouble in getting Windows Phone into the hands of the masses. Even its flagship Lumia 900, which Nokia has been banking on, has had limited success in sales. With people claiming that Microsoft is falling behind, RIM will have to prove to people they have a good offering be-

yond just the U.S. government liking their phones.

Even corporate and government agencies are beginning to diversify their phone options, leaving RIM with little to fall back on if consumers don't like their phones. Their marketing strategy has been interesting so far, to say the least. At the end of April, a team of black-clad protesters arrived in a black bus with "WAKE UP." written on the side at an Apple Store in Sydney, Australia, carrying signs with the same phrase and chanting the phrase over and over again while Apple employees stared in confusion at the flash mob. The tech community assumed Samsung was behind the protest, after their "Samsunged" anti-Apple ads, but RIM then admitted to being behind it and followed up with giant newspaper ads with the phrase and a new website narrated by an annoying-sounding Australian man reading a sort

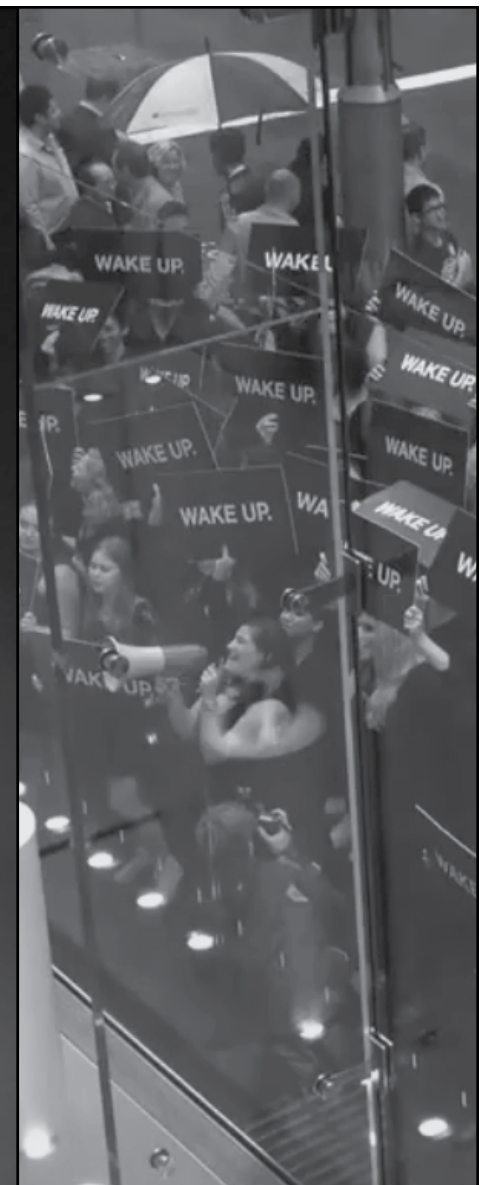
of manifesto about people who are "in business" with their "eyes open", saying to "Wake Up." and "Be Bold." However, they have yet to release a BlackBerry 10 phone and are currently losing rapid market share to more competitive offerings from other manufacturers.

It seems almost ironic that while RIM is at least demonstrating an ability to create catching campaigns, their former consumers seem to be waking up in their own right and picking Android, iPhone, Windows Phones; anything that demonstrates advances in technology and not a slumbering operating system. It's great that RIM has ideas ready for the future and wants to demonstrate that they are still a major player, but perhaps they should focus more on getting their phones released in a timely manner and less on bashing their competition before they have anything planned for the market.



RIM CEO Thorsten Heins announces BlackBerry 10's new features.

FinancialPost.com



Wake Up protests at an Apple Store in Sydney.

iJailbreak.com

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# Microsoft Goes Carbon Neutral



**ANJIDA  
SRIPONGWORAKUL**  
1B MANAGEMENT

On May 8, 2012, Microsoft announced on its official blog a decision to achieve carbon neutrality in its data centers, software labs, air travel, and office buildings beginning July 1, the start of the 2013 fiscal year.

Carbon neutrality refers to the action of balancing the amount of carbon released and offset to achieve net zero carbon emission, or using only renewable energies that do not produce any carbon dioxide. Microsoft's chief operating officer, Kevin Turner, saw this as an opportunity to infuse carbon awareness and a potential for pushing the responsibility for improving energy efficiency, reducing carbon emissions and increasing use of renewable energy. The announcement is a result of the expiration of the 2009 goal of reducing greenhouse gas emissions by at least 30% per unit by 2012 (which was met by Microsoft), and "was part of a global strategy of how to think about the role of information technology for enabling energy efficiency both within IT but also more broadly," according to Rob Bernard, Microsoft's chief environmental strategist.

Microsoft will impose a 'carbon fee chargeback model,' administrated by its Chief Financial Officer on itself, a carbon price based on market pricing for renewable energy and carbon offsets for emissions generated, applicable to its operations in 100 countries. Divisions would be rewarded for increasing energy efficiency and purchasing renew-

able sources of power to reduce their environmental impact. The company, seeing this as an opportunity to make a change in the world, plans to construct pilot buildings on its Redmond campus using software solutions to make buildings more energy efficient. They are currently working with CarbonSystems, an Australian-based company, to implement the Enterprise Sustainability web-based Platform, an automatic capture and extraction of environment data from

multiple sources, uncovering opportunities to identify how to reduce carbon footprint.

With this announcement, Microsoft became a part of over 100 companies committed to green initiatives. Last April, the Environmental Protection Agency ranked Microsoft as the third biggest customer for green power in the United States, with 46% of its power coming from renewable sources. Greenpeace's Senior analyst, Gary Cook, re-

marked that this was a good 'first step,' for Microsoft but wanted the company to start looking at transitioning to clean energy, encouraging Microsoft to follow Facebook's lead and choose renewable energy when building data centers. The plan as written, added Cook, still allows Microsoft to keep building data centers that rely on coal. Time will prove if Microsoft will be successful in pursuing this plan and in improving its environmental track record.



Microsoft's Redmond campus

Microsoft

## Dinosaur Flatulence Contributed to Global Warming



**NINA FENG**  
1B ENVIRONMENTAL

LEAFY THOUGHTS

The concept of global warming has been an attention-grabbing topic for quite some time now. There's always another discovery that either backs it or dismisses it. Countless studies have been conducted, and various causes and effects discovered.

There is a new theory to be added to the already extensive list of causes for global warming: Dinosaur Farts. A group of specialists from institutions which include the University of Zurich and the Liverpool John Moores University have proposed that the methane produced by these prehistoric beasts had a significant contribution to the overall rise in atmospheric temperature, millions of years ago.

The main culprits in the dinosaur world are apparently the sauropods, which include massive herbivores such as the Brachiosaurus and the Diplodocus. The digestive tracts in such creatures are believed to have contained microbes to help in food digestion, which produced the copious amounts of methane. These giant, plant-eating dinosaurs could have produced methane in a similar way to how cows and other livestock do nowadays. Researchers have found that the amount of greenhouse gases emitted by livestock exceeds the amount

produced by cars. However, while it is estimated that livestock contribute 50 to 100 million metric tons of methane per year, the sauropods are thought to have produced up to 520 million. That's over five times that of all the cows in the world. Actually, it's more than all of the methane produced annually on Earth in our present day. Besides the astronomical amount of gas produced, methane is also 23 times more effective as a greenhouse gas than carbon dioxide. With the dinosaurs producing 20 tons each, on a daily basis, it is quite probable that they really did affect the global climate with their flatulence.

Admittedly, as with most studies conducted on prehistoric organisms, the findings are very uncertain. For one thing, we cannot be sure that the dinosaurs' digestive systems functioned the way we think they did. The values can only be mere estimates, based on previous research and assumptions. For example, the calculations were done based on the assumption that their methane production was similar to that of a reptile, or mammal. However, it has been thought that dinosaurs are closer related to birds, so that assumption (though well-reasoned) may be invalid.

Ironically, whether or not they really emitted such gases in their lifetime, their dead bodies now make up for it, as they help run the majority of our motorized vehicles.

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# Erdinger Weissbräu and Mill Street Blueberry Wheat



**GRAEME SCOTT**  
3N CHEMICAL  
**ERIC EVENCHICK**  
3N ELECTRICAL

GETTING GOOD HEAD

You may notice that we are new. And this would be an accurate observation, as this is our first article. We intend to, for the next 2 years or until our livers break, write the beer column for this fine publication.

We want to do this for the simple reason that we like beer and we like to talk, and through the transitive property, we like to talk about beer.

We have decided to write our article from the drinking establishment known as Kickoff Waterloo, and we are writing with consultants Sean Walsh and Kayla Sheremeta, who are also both in Kickoff's. This is more just filler than anything, but thank you for reading this paragraph.

Today, we will be talking about wheat beer. Wheat beer is brewed with a large proportion of wheat in addition to malted barley. Fun Fact: By Law in Germany, top-fermenting yeast must be used for wheat beers. Wheat beers are generally light in colour and are quite tasty, however not all

people agree, necessarily. We apologize to the copy editor, that necessarily may not have been necessarily necessary.

The beer we have picked today (being the day that we are drinking the beer) is Erdinger Weissbräu, a beer that I picked because I've never had it before and Eric was late. Also, it was written funny on the Kickoff's chalkboard and I thought it was called Erdwger, because apparently Troy doesn't have very neat writing. This is something I have learned today. Nonetheless, I have deemed it an appropriate choice.

Erdinger is the world's largest wheat beer brewery, which is kind of like being the world's best juggler - it's interesting, but not many people actually care. The brewery is located in Erding, Bavaria, which is a state in Germany, also something I learned today. It is considered by many as the ultimate in Wheat Beer enjoyment; this is from their website, so that's like if the juggler congratulated himself.



So let's start talking about this beer shall we, because Eric is here so, yeah.

It's pretty good, in fact, we both quite like it. Sean likes it, and Kayla finds it drinkable. In this case we will give it 4 Surly Bartenders out of 5, which is our new rating system we decided to use.

It is lightly carbonated, a nice cloudy white colour, and has a light bubbly head to it. It is very smooth and goes down quite nicely with a nice citrusy aftertaste. On the whole the beer is quite fruity and sweet, without being overly obnoxious about it.

And speaking of fruity and sweet, we decided to try Mill Street Blueberry Wheat, both because we wanted more beer, and because it rhymed. Fruit beers such as this can be made either by using the fermented fruit in the brewing process or by adding flavouring extracts to the beer after brewing. We aren't sure which method Mill St. uses for this beer, as their website does

not specify this.

The first thing that can be noted of this beer is its colour. It is a purply red, much like if blueberry juice were mixed with beer. Hopefully you can picture the tapestry of colour we have laid before you.

The beer pours nice enough but with very little head, much less than the Erdinger, and is also much more carbonated. We were expecting a very fruity beer like Früli, which is delicious and tastes like alcoholic strawberries, but we were sadly let down. While drinkable, it is not decidedly sweet, and the blueberry flavour isn't very prominent. The blueberry taste comes out a bit stronger in the aftertaste, but is still not fruity enough for our taste. The beer is also noticeably heavier than the Erdinger.

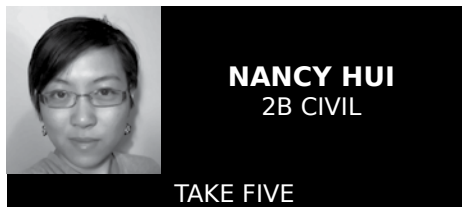
On the whole, we give this beer...2.71828 Surly Bartenders out of 5. Drinkable, but is not overly enjoyable and not as exciting as its novelty would suggest.

We hope you enjoyed our first article, seeing as we have two more years of writing to deliver to fine engineering students such as yourself.

Next week we will discuss Mike Hunt's Hard Lemonade.

Cheers,  
Graeme & Eric

## Movies About Summer Vacation



**NANCY HUI**  
2B CIVIL

TAKE FIVE

Welcome back to Waterloo, kiddies. Not all the dorms are air conditioned so I guess you're SOL if you were hoping to get anything done.

Clearly, this is my first spring term at UW and I've heard that it's rather pleasant and relaxed. To get y'all in the appropriate mood while your non-loo friends are out doing summer things, I offer this humble selection of movies that I feel captures the spirit of springtime for Waterloo, ranging from hopeful to tragic.

### Recess: School's Out! (2001)

The summer after fourth grade, T. J. Detweiler is left behind as his friends abandon him for their respective summer camps. But who else can he turn to after uncovering a conspiracy of unspeakable proportions?

Ahhh. Based on a beloved, self-aware animated show, this should push a few of the nostalgia buttons out there. If Principal Prickly's speech in defence of summer vacation and childhood doesn't bring a tear to your eye, then I'm very sorry about the crappy childhood you had.

Nostalgia aside, it's fairly entertaining its own right, especially compared with recent efforts aimed at children. Anyone enjoy Alvin and The Chipmunks: Chipwrecked? Didn't think so.

### Eurotrip (2004)

After a nasty breakup with his girlfriend at high school graduation, a dejected Scotty embarks on an epic cross-continent tour of Europe in search of his attractive German pen pal. Of course, it doesn't go smoothly.

Oddly innocent and good-hearted for a movie about getting laid, Eurotrip never truly descends into sadism and asks us to laugh at the character's unsalvageable futures. I wish that I had travelled before getting sucked into a five-year, unceasing cycle of school and work, though I doubt it would have spiralled into the giddy set of coincidences, acquaintances, and deus-ex-hooliganism in which Scotty partook. Also, Scotty got a song written about him. Did I? Nope. Not jealous.

Scotty doesn't know, so don't tell Scotty!

### Adventureland (2009)

Somewhere in 1980's Pittsburgh, James is a college graduate in Renaissance Studies who has his vacation plans cut short by a lack of funding. He lands a job at the titular amusement park, where nobody ever wins a Big Ass Panda at the games stalls.

Unexpectedly, a fragile rapport develops between him and Em, a fellow games operator who doesn't fit in with the festive atmosphere of Adventureland either. Sparks fly and trouble ensues.

Adventureland is best described as what happens when you can't afford Eurotrip. It's quiet, sweet, and quirky. There is no wild European sex. Sudden disasters have no easy solutions.

It's a pleasant movie, alright? Watch it if you've ever spent a summer working in a cruddy job with vapid coworkers, a well-meaning boss, and/or office romance, while your friends regaled you with tales of Europe. So, if this applies to you (curse you, school/co-op streaming!), you'll feel a little better after watching this movie.

### Stand By Me (1986)

Four guys go hiking in search of the body of a boy who was rumoured to have been hit by a train. Unlike most road movies, the adventurers in Stand By Me brave junkyards and leech-infested swamps on foot, because they're too young to drive.

Stand By Me occurs during the Labour Day weekend of 1959, which is, in many ways, the end of innocence. For one, the fifties were an age of traditional morals and roles. For another, the Labour Day weekend is the one last hoorah before returning to school. Funny as the anecdotes of

Lardass the pie eater and Choppy the ball-biting dog may be when recounted by the adult narrator, there is something sad about watching the four boys coming face to face with death, whether it be in the form of an oncoming train, a fresh body, a gun, or just the simple passage of time.

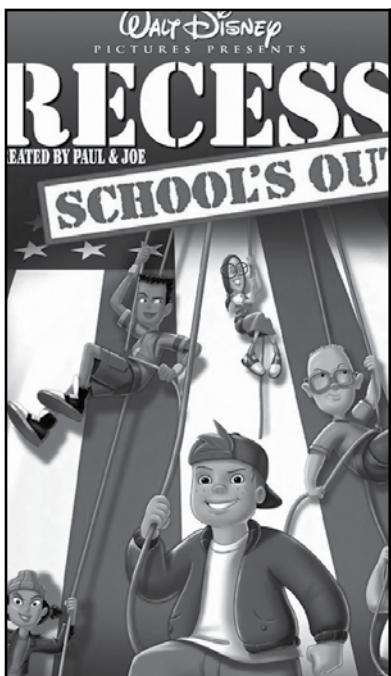
And yes, the Ben E. King song plays over the end credits.

### Y Tu Mama Tambien (2001)

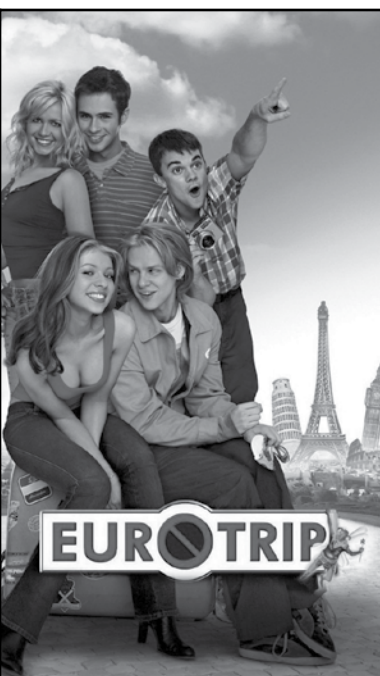
Spanish. At a wedding, Julio and Tenoch meet a beautiful woman and attempt to impress her with tales of a mythically beautiful beach named Heaven's Mouth. When she unexpectedly agrees, they go on a road trip to find a beach called Heaven's Mouth. Hormone levels are high, but so are socio-economic tensions in Mexico. Tragedy ensues.

Y Tu Mama Tambien translates to "And yo momma too", which represents the tone of Julio and Tenoch's friendship. But dammit. It's a very funny movie if you know Spanish or are okay with subtitles, but not very happy. In it I could see the fleetingness of the university experience, or the estrangement of old friends, the loss of one's livelihood, and the transience of life. It's one of my favourite movies.

If that's too deep for you, then enjoy the subtitled phallus jokes and extensive nudity.



Walt Disney Pictures



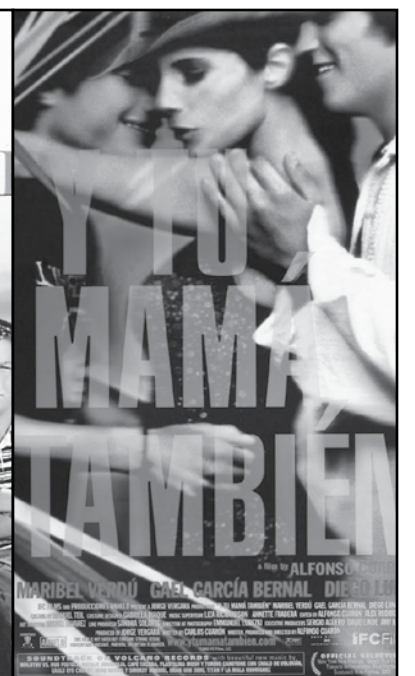
DreamWorks Pictures



Miramax Films



Columbia Pictures



20th Century Fox

## Beyond the Credits



Hello IW readers and welcome to the Spring term, a wonderful time of great weather and somewhat lax workloads (hopefully). Spring term is a great time to grab a Frisbee and head out onto the vast green space available on campus – oh, wait, they put a building there? Well, back to video games it is then.

For this article, I'm going to be looking at some of the ways companies have extended the lifespan of their games long after the initial release date. Some companies do this through downloadable content (DLC) while others use much more subtle techniques to still make money off of a game, either through microtransactions or through continued word of mouth.

Since the introduction of online systems like Xbox Live and the PlayStation Network, developers have had an easy way to extend the life of their game by offering expansion packs which can add new areas and new features. A good example of this from an Xbox 360 game is the "Keys to the City" pack released for Crackdown. The expansion pack added a couple of new vehicles and weapons, but also offered a new exploration/god mode, where you had access to most of the developer tools to spawn any type of vehicle (including a ramp truck for doing crazy stunts) and an infinite number of exploding barrels to make a giant pile to detonate and watch the resulting mayhem. The mode also enabled the player to level up the character completely as well as providing infinite life and ammo – it makes for some very entertaining speed run possibilities.

While Crackdown didn't offer any new areas to explore, this can also be a very common path for developers to follow, sometimes with mixed results. In many cases the extra missions and areas to explore end up feeling like an addition that has just been tacked on rather than a cohesive part of the game. I think this comes from the inability for developers to control when a player accesses that content without putting restrictions on it. If an area is populated by enemies rated for a mid-level character but is freely accessi-



One Skyrim mod enables you to wield lightsabers.

Gamezone.com

ble, then experienced players going back will find it boring and complain it wasn't worth the money, and entry level players will be overwhelmed and won't buy it. There is also the problem that these kind of expansion pack areas rarely have the same level of story development as the rest of game, again because you can't control when a player accesses it, and also because you can't have anything that affects the main storyline in case a player did not buy that expansion pack.

These kind of expansion packs can still be a fun addition to a game, as long as they are priced well in proportion to the gameplay time they provide. The biggest controversy that has occurred with DLC has been when companies load the content on the game disc but only unlock it when you buy the DLC. This 'DLC' is actually just an unlock code that allows you to access the content on the disc you already purchased. Many people have said that this is basically robbery, and that if the developers had finished that extra content for the game before release then it should have been part of the initial release and not charged extra after.

Having finally started playing The Elder Scrolls V: Skyrim, I have been very surprised with the amount of extra content and modifications that are available for free. I am playing through Valve's Steam system, so most of the content I'm talking about is from the Steam Workshop. New weapons and magic spells, alterations to existing features like blacksmithing, increased texture packs for villages and scenery, new species to play as – and all of this is free. Most of this content was not created by the original game developer, instead it is created by fans of the game who take the existing code and decide to take it a step further to shape the game into more of their vision. Sometimes these

mods aren't just additions to the games but change the basic gameplay in a fundamental way. A common example is the use of mods to reduce or eliminate the weight of an object the character is carrying. For those that haven't played the game your character can only carry so much weight before they lose the ability to run and can only shuffle around slowly. When you get to this situation you are pretty much forced to drop some of the objects you have previously collected, which can be very difficult to do. Should you leave behind health potions you bought or made? What about that weapon you paid for? How about a trophy of a quest you just completed? I'm sure a good number of people remember back to the days of playing Pokémon and finding that you just didn't have room for that extra pokéball – it can definitely be maddening. While I understand that the weight limitation makes for a more realistic game, it can take away the fun – which is the entire purpose of the game anyway. So in that case I don't have any problem with modifying the game code so your giant battle axe is magically weightless. If I wanted realism I'd go to the local blacksmith, get some amazing armor and go find a dragon on my own – wait, that might not be the best plan, I have assignments to work on.

Well, that was definitely a tangent, back to DLC and Valve offering free content for games. Maybe this shouldn't be a surprise when you consider that Valve has a history of releasing the source code for its own games, leading to amazing spinoff series that no one would ever have expected. Team Fortress, for instance, was originally a mod for Quake (by iD Software) and is now a huge craze for Steam with Team Fortress 2. TF2 recently went in a completely new marketing direction by dropping to the incredible price of

free! Yes, it is now possible to play the entire game completely free, so how do they make any money? Through microtransactions, where players can purchase equipment and character customizations, while the main content is free and will remain free even when new features are implemented.

Allowing the public to play around with the source code of your game is a great way to extend the lifespan of the original game and entice new people to purchase the original. Without any new content, a game will normally appear in the used games bargain rack within a year or two, sometimes sooner in the case of Duke Nukem Forever of course. If there is continually new content for the game, with new quests, weapons, entire skins making the game entirely new and different, then the game itself is almost continually new and will continue to spread through word of mouth. The biggest benefit to the developer? They don't have to do a thing, as they aren't the ones spending money and time developing new content; the public is generating its own content based on collective interests. The best mods, or the ones with the most popular content, will naturally become the most prominent – and that is the best source for new talent in game development.

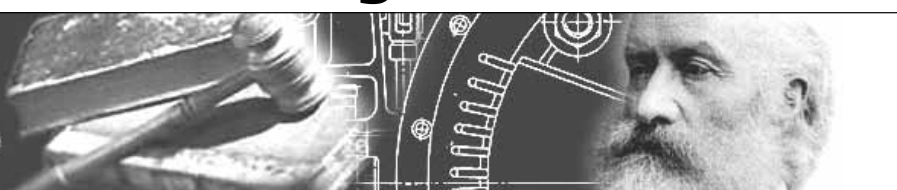
That's it for this article, hopefully you know a bit more about DLC, what kinds to look for and what kinds to avoid. Of course everything is open to interpretation, so if there is DLC that is already included on the disc and you basically are just buying an unlock code, that is totally cool – just make sure to complain to the company too. So enjoy the summer term, and Keep on Gaming!



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# Movie Review: The Avengers



**NANCY HUI**  
2B CIVIL

You don't need to have watched the Marvel movies from 2008 to enjoy *The Avengers*, though it would help.

A crash course for those who slept through it: Nick Fury, director of the extremely well-funded organization SHIELD, assembles a crack team of superheroes to defend Earth from an invasion enabled by Loki, a godlike being from another dimension. What SHIELD stands for is not important.

There's Tony Stark, a.k.a. Iron Man, a playboy billionaire engineer with a pimped out metal suit and fiery wit. Captain America, the frozen super soldier from WWII, and Thor, brother of Loki. They do not get along. None of this does anything to sooth the nerves of Dr. Bruce Banner, or his large, green alter-ego.

New to the team is Agent Clint Barton,

a.k.a. Hawkeye. I'm still not sure what his power is, but he's got a pretty wicked bow, a quiver of greatly specialized arrows, and highly improbable aiming skills. Agent Natasha Romanov, a.k.a. Black Widow, expands on her brief cameo in *Iron Man 2* as an agent skilled in the use of guile and deception.

Clearly one cannot just toss together a team of uniquely talented individuals and expect them to work smoothly together. Much property damage and human tragedy occurs before the Avengers get anywhere close to being able to protect the Earth.

I went into the theatre with high hopes, given the impressive continuity as established by previous Marvel movies, the action scenes, or muscular forearms and spandex uniforms. The cherry on top was that *Avengers* was directed and written by Joss Whedon. Therefore, I expected snark.

And I got snark. Not only that, but the writing was excellent. All the main and supporting characters were fully fleshed

out, most notably Scarlett Johansson's rendition of Black Widow, whom I was afraid would be reduced to fanservice. I needn't worry. Her character had unexpected emotional depth, especially in her friendship with Hawkeye, rather than being exploited for cheap romantic thrills. And did you notice that the main ship has a rather gender-diverse crew?

Also notable is Clark Gregg as Agent Coulson and Mark Ruffalo as Bruce Banner. Who knew that Coulson was a fan-boy beneath the suit and collected Captain America trading cards? Meanwhile, Banner doesn't turn into "the big guy" until halfway through the movie and only does it twice, but under markedly different circumstances. His slow transformation throughout the film is brilliant.

But the problem with ensemble movies is that it seems nobody gets their full share of screen time and character development dialogue. Even *The Avengers*, at 140 minutes, hardly gets close to satisfying my need for caustic asides and insults between the heroes. At the conclusion of

the movie, there was a fair bit of fighting and explosions in downtown Manhattan. I like fighting and explosions, but not as much as witty banter.

I also think that they should have revamped the main villain a bit too. Some might disagree but I always found Loki rather oily and unimposing, especially with the double-horned helmet, which I suspect is symbolic. Furthermore, if the Hulk has no trouble making Loki-shaped holes in the floor to great comedic effect, it's hard to take the guy seriously afterwards.

But if my only complaint was that my favourite characters didn't get enough clever dialogue and that the heroes are so much more awesome than the villain, then *The Avengers* is the well-executed and well-deserved payoff to four years of Marvel screen adaptations. They're currently working on a sequel. I'm excited.

Pro tip: there are TWO distinct Easter egg scenes after the credits roll. It ain't over until the fat lady sings, or, in this case, the skinny man eats.



The Avengers

Marvel Studios

## Henry "Hank" Pym, The Scientist Supreme



**DANIEL OSORIO**  
2B NANOTECHNOLOGY

UNSUNG HEROES

The Avengers, Earth's mightiest heroes, contain some of the strongest and most famous heroes of all time. Captain America: the pinnacle of good and patriotism, Iron Man: the billionaire, genius, philanthropist, Thor: the freaking god of thunder, and Hulk: an indestructible rampage of green anger. However, there is one hero that is always overlooked; a man with many different titles, but always known as Henry "Hank" Pym.

When the Avengers were first introduced, Hank Pym, under the title of Ant-Man, was present as a major part of the team's first adventure. To summarize, Loki, the god of trickery, tricked the Hulk into going on a rampage and Iron Man, Thor, Wasp and Ant-Man tried to stop him. As the battle ensued, Hank figured that they were all being tricked and brought the heroes to their senses. He then rallied them against Loki and defeated him. Seeing that together they were a powerful force for good, the Avengers were born. Hank Pym was at first reluctant to join, being a pacifist, but decided to join after seeing how many bad criminals were out there. So, you have Ant-Man to thank for bringing together the greatest superhero team known to man. In comics currently, he is the head of the Avengers academy, which is basically the X-mansion for non-mutant superheroes. He trains them in academics and training exercises as well.

Hank is the smartest man on Earth in the Marvel Universe. When the Avengers went to help the Higher Being, he dubbed Hank

the "Scientist Supreme". This means that his inventions are so amazing they defy physics, and could be considered magic but without magical principles. He is an expert in biochemistry, quantum physics, robotics, cybernetics, artificial intelligence programming and entomology. He even discovered a sub-atomic particle that he called "Pym Particles". This discovery allows mass to be shunted or gained from in an alternate dimension in order to increase and decrease sizes of objects. He also cre-

ated the indestructible robot, Ultron, and when it went rogue and defeated all the Avengers, Hank was able to defeat it by throwing him into the sun..... WITH HIS BARE HANDS!

as Ant-Man, he also possessed the Ant-helmet, an invention of his own that enabled him to communicate with ants. It was originally created to help him with his work as an entomologist, but led to him being able to defeat Iron Man! He had the bugs go into the crevasses of Iron Man's armor where the ants cut the wires to his weapons and main control functions. Hank's second superhero title, Giant Man, meant he could now grow to 60 feet tall. In this form, he had increased strength, defence,



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and agility. He could lift 30 story buildings with ease and even knocked out the Hulk when he was on a rampage. Lastly, Hank became the Yellowjacket. He added bio-blasters to his gloves, which could stun or knock you out completely, and a utility belt similar to Batman's, only with way more stuff. The Pym particles allowed him to shrink his gadgets to the nanoscopic level so his supply is virtually endless. He has also been trained by Captain America in hand-to-hand combat and various weapon styles. In addition, he can also fly because

after aliens kidnapped his wife, The Wasp, and killed her, he became the new Wasp to honor his wife with all of his abilities from his old titles as well. As for the aliens that killed her, Hank destroyed their mothership and most of their armada single handedly.

Besides Hank's impact on the greatest superhero team, his supreme intellect and his amazing power set that borderlines on kryptonian, Hank's most admiral qualities are his pacifism, willpower and his desire to help the world. Hank was initially reluctant to join the Avengers as he considered himself more of a scientist than a superhero and couldn't bring himself to believe that people could not be saved. He always saw the better side of people and believed that the super criminals could be rehabilitated and reintegrated into civilization. When he finally joined the Avengers he also took on a lot of the responsibility, making it his priority to ensure no one would be hurt and sacrificing himself if need be.

In summary, Ant-Man was a founding member of Earth's mightiest superhero team and continues to educate and train the next generation of Earth's mightiest heroes. As the smartest guy on the planet, he discovered a particle that is essentially a door-way into another dimension then fabricated a suit to manipulate that particle. He is a hand-to-hand expert, has enough gadgets to put Batman, Iron Man, and Inspector Gadget to shame, yet also has giant strength, control of potential poisonous insects, flight, power gloves, and an ability to become so small you can't even see him. To top it all off, he has a heart of gold and the mentality of a true hero. So when you're out watching the Avengers new movie and think "HOLY CRAP THAT WAS AMAZING" just remember it could have been 10 times better with one guy named Henry "Hank" Pym.

# Top Ways to Feel Like a Superhero(ine)



By now, we're sure you've seen the new Avengers movie (and the Dark Knight Rises trailer!), or at least one of the lead-ups [Thor (that movie with Natalie Portman), Captain Amurrka, Hulk (the good one), Iron Man 1, Iron Man 2, Iron Lady, Batman, Batman Returns, Batman Forever, Batman & Robin, Batman Begins, The Dark Knight], and if you haven't, leave home some time Patrick (Star, not Swayze (he's dead))! If you're anything like us, when you got home you started looking on Craigslist for hit-men {and/or prostitutes} to murder your parents as well as a nuclear testing facility around which to play. Luckily for you, our orphaned and nuclear-irradiated brains have prepared for you a list of short-cuts to feel like a superhero without any of the STIs or radiation-poisoning!

**The Batman:** Who doesn't want to be the Batman? By night he fights crime and by day he manages a multi-billion dollar corporation, flies around in a private jet, attends the most elite of galas, and shares a private mansion with a young boy and his manservant. Yes, Batman has it all, and so can you! The critical element of the Bat is that he works under the shroud of darkness and mystery. Batman stalks his prey, hears what they say, learns their ways (even if they're clay), never says nay, is sometimes a lil' cray-cray,

and makes them pay! For starters, you need to start spending a lot of time on the computer in your parents' basement looking up information on persons of interest. Next, learn their schedule and do some reconnaissance by observing them from afar in bushes, trees, trashcans, hidden webcams, trenchcoats, et cetera. And don't forget: Batman never let the police stop him so neither should you. Also, get a few billion dollars somehow or another; we'll let you dot the Is and cross the Ts.

**Iron Man:** By stark contrast, you might be interested instead in following the path of a billionaire playboy and CEO with a vast knowledge of science as well as expertly engineered gadgets and weapons technology. You might be asking, how is it that you can be like Iron Man yourself? The answer is simple: alcoholism. Yes, try being perpetually buzzed and stopping yourself from tapping into your ingenuity to build an awesome suit with whatever scrap is lying around! Also, get a few billion dollars somehow or another; we'll let you dot the Is and cross the Ts.

**Professor Xavier:** Konvict, muzik. You see her (or him) winding and grinding up on that pole; you know she [or he] sees you looking at her {or him}, but does she already know? What wouldn't you do to know? Yes, the ability to peer into their heads and interpret their electrical signals is a dream held by many and achieved by few who have nobly dedicated their gifts to TLC daytime programming. For the rest of us proles, however, there is another way to be like Professor X, Jean Grey, and Aquaman: a

carefully perfected technique involving reading their diary, hacking their e-mail/Facebook and slipping them some truth serum (MDMA) and forget-me-nows (flunitrazepam).

**Hulk:** Who isn't green with envy towards the Incredible Hulk? He's strong, powerful, muscular, burly, brawny, beefy, deezed, jacked, and has a really hot cousin. It isn't as impossible as you might think; in fact it's as simple as two words: hard work (just kidding, they're anabolic steroids!). Don't waste your time on a strict dietary regiment, exercise schedule and self-discipline. Now you only have to do one: the self-discipline to take your roids (also, you should probably still work out). Pretty soon we can guarantee that people won't like you when you're angry ... which will be often, because you're taking anabolic steroids.

**Mystique:** The duplicitous shape-shifter has taken many forms: he came as a bull and scored with chicks; she fed a poison apple to the fairest of them all; he came from a lamp and did various impressions of pop-culture icons and other cultures which bordered on racist; it lived out its life in a daycare center breeding incessantly. We, however, believe that the best of them all was the one and only Mystique (also we wanted to find a popular superheroine that wasn't a "girl"-sidekick or into bondage). While you may not be able to change your physical form, you can change your personality! We cannot stress enough the importance of this maxim: never be yourself! If you morph into who people want you to be then you'll be way more popular and hence happy.

**Fantastic Four:** This one is kind of a long-shot. Somewhere in Waterloo you'd have to find three friends and form a group consisting of a nerdy smart guy that bends over backwards for people, someone who's so shy that they seem to be invisible, a guy that's really self-conscious about his looks, and an overconfident hotshot. Good luck with that one.

**Cable:** Have you ever noticed how professors give you fun and simple examples throughout the term and then when it comes time for the final, it's in a different language? Well good luck: Cable is a telekinetic/pathic mutant with a quest to stop the rise of an ancient being known as Apocalypse from taking over the world. All you have to do is replicate Cable's own life story. Cable in present time works with the X-men, which include Cyclops and Jean Grey, his parents ... sort of. Jean Grey is not his mother, but rather a clone of Grey is/was/will be. Furthermore, Apocalypse infected him with a techno-organic virus that keep Cable's telekinetic powers at bay. Also, for best results make sure to have an arch-enemy who's a clone of yourself raised by your ancient world-conquering nemesis's followers. Shouldn't be too hard, maybe start with balancing your diet and developing a regular exercise routine.

Feeling super already? If so, you're a turkey for reading this! You didn't need our tips at all. Maybe the real superpower was inside you all along; maybe it was our love for you. In any case, once you acquire your superheroism be sure to never forget the immortal words of Uncle Ben: "our top-quality rice products offer endless variety for any occasion."



Make your own superhero!

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# The Iron Crossword

## It's That Term Again

**STUART LINLEY**  
3A NANOTECHNOLOGY

1	2	3	4		5	6	7	8		9	10	11	12	13
14					15					16				
17					18					19				
20					21					22				
			23					24						
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56	57	58	59				60	61			62	63	64	
65					66					67				
68					69					70				
71					72					73				

www.CrosswordWeaver.com

**ACROSS**

- 1 Pay, as a bill
- 5 Surrender
- 9 Math course
- 14 Ancient symbol
- 15 Copied
- 16 Low cal
- 17 Cheq. or Sav.
- 18 Mack
- 19 A.E. Store
- 20 Stravinsky work\*
- 23 Entire
- 24 Bingo
- 25 Amer. carrier
- 28 Caps
- 31 For voice
- 36 Start to a story, perhaps
- 38 Pinch
- 40 Tosca, e.g.

- 41 Blooming flowers, rain, and k, for example\*
- 44 Unsettling
- 45 Apple or cherry
- 46 Minus
- 47 Playground feature
- 49 Like some misses
- 51 Yellowstone sta.v
- 52 Edge
- 54 View
- 56 Assist escape\*
- 65 Cunningly avoid
- 66 Wry smile
- 67 If not
- 68 Stagers
- 69 Fairytale monster
- 70 Soft drink
- 71 Reduces
- 72 Oracle

**DOWN**

- 1 College house
- 2 'Harsh...'
- 3 Upon preceder
- 4 \_\_\_\_\_pack
- 5 Chess move
- 6 Rapier
- 7 Sample
- 8 Teach
- 9 Puck propeller
- 10 Caste
- 11 Culture go with
- 12 64-down synonym
- 13 Certain dino nickname, perhaps
- 21 Ailing
- 22 'Gimme a \_\_\_\_.'
- 25 Burros
- 26 Sioux structure
- 27 Earth, to Pierre
- 29 Mirr. & Webs., e.g.
- 30 Disapproval
- 32 Iridescent mineral
- 33 Get again, as membership
- 34 Like Kubrick films
- 35 Lariat
- 37 Revolutions, The Last Crusade, and At World's End
- 39 Patella
- 42 Order
- 43 Chef, perhaps
- 48 Powdered object
- 50 Sports zebra
- 53 Certain sticks
- 55 Jettison
- 56 Peon
- 57 Not guilty
- 58 Regretted
- 59 Turn over
- 60 Egg on
- 61 Bore
- 62 Burn soother
- 63 \_\_\_\_\_ of Man
- 64 12-down synonym

# Sudoku

## #2012-06

**JACOB TERRY**  
2B NANOTECHNOLOGY

Easy

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

Medium

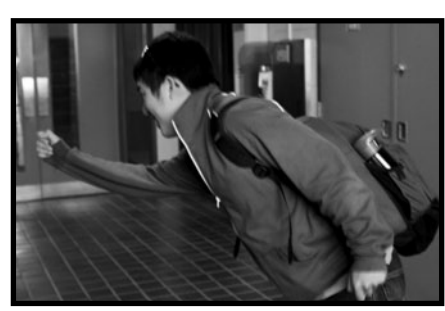
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	6		7					
	1		3					2
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			1	4				2
	2				5		6	
					3		7	
7		9		1	5			4

Hard

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

**IRON INQUISITION**  
Emily Gruber and Nan Huang, 2B Nanotechnology

*"Now that you're back on campus, how do you protect yourself from geese?"*



*Run from them.*  
Sean Dy, 4A Management



*Avoid them and hiss!*  
Reena Paink and Kendra White, 1B Chemical



*Run over them with my bike!*  
Alison Lee, 3A Nanotechnology



*Walk around them.*  
Jason Nguyen, 4A Civil



*Cower in the fetal position.*  
Michael Hu, 2B Civil



*Stare them in the eye and walk like a warrior.*  
Alen Daniel, 2A Mechatronics