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THE IRON WARRIOR

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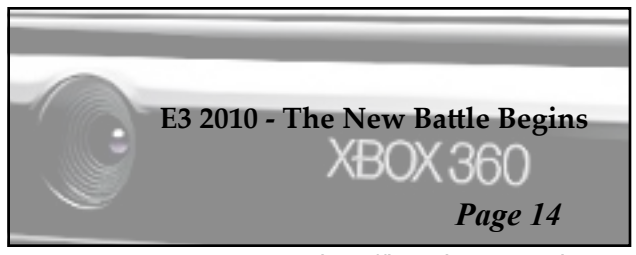

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EXCLUSIVE ENGINEERING 5 PREVIEW

The Iron Warrior Tours the Newest Engineering Building on Campus

JON MARTIN
2B CIVIL
PHOTOS BY
ANGELO ALAIMO

As Engineering 5 nears completion, we're sure everyone is anxious to see the newest building on campus. After breaking ground in June 2008, the area formerly known as parking lot B has seen a flurry of construction activity leading up to a Spring 2010 completion of the new building.

Thanks to Sue Gooding, Operations Manager for Engineering, The Iron Warrior was lucky to have been granted a full tour of the E5 as it approaches substantial completion and future grand opening. In the meantime, here are our first impressions of the newest addition to the engineering faculty.

When you first enter E5 up the exterior west-facing stairway, you come into the second floor entryway, and just stop. This large open area is dominated by central stairs built in a switch-back style connecting the building from the second to sixth floors. The ceiling of the lobby, about five

See E5 on Page 8

The first floor student team design center centralizes student teams into one location with improved facilities.

Engineering Professor Wins National Award

Leonardo Simon's Innovative Plastics Nets Top 40 Under 40 Award

ERIN MATHESON
2B CHEMICAL

On June 4th, the Globe and Mail unveiled the recipients of the 15th annual Top 40 Under 40 award. This award event, organized by the executive search firm, The Caldwell Partners International, honours leaders and ground breakers in all fields from business, to science, to aviation, and everything in between. An initial list of 1,200 to 1,400 nominations from across Canada is narrowed down to a short list of 100, which is then narrowed down to the iconic final forty by a panel of 25 business and community leaders. The panel bases their decision on five criteria: vision and leadership, innovation and achievement, impact, growth/ development strategy and community involvement. This already daunting award is made all the more impressive by the fact all of its recipients have made all of their accomplishments before reaching the iconic mark of forty years of age. This year, amongst the CEO's, Doctors, and big world Bankers is a slightly more familiar name: University of Waterloo's very own Leonardo Simon.

I had an opportunity to sit down with Dr. Simon and learn a little more about his work. Hailing from the state of Rio Grande Do Sul in Brazil where he completed his undergrad as well as Masters and PhD, Simon currently works in the Department of Chemical Engineering conducting research in materials, more specifically plastics. His lab work consists of taking various liquids and gases and turning them into solids using autoclave reactors, and then analysing the resulting products for it's various properties to help understand both the resulting product and the processes used to make it. By having this high level of understanding of the process that goes into manufacturing plastics, the resulting material can be altered and constructed at a nano-particle level to achieve the desired results, be it resistance to heat, strength, or whichever property is desired for the plastic's intended use. Simon is also currently looking into using renewable resources as the feed reactants for the plastic manufacturing process, which is the beginning of the work he is currently being praised for.

In 2006, work began on a large-scale automotive research project that would begin to change the way industry thinks about what to put into their vehicles. Through collaboration with the University of Guelph, what was soon to become the feedstock for this process was discovered. Farmers were looking to find better value for their crops, particularly wheat and soy. Only about 30% percent of a crop of wheat is harvested and turned into either food and sold commercially, or feed for farm animals. The same applies for only 50% of a typical soybean crop. The remaining portion of the crop is left on the field as waste, and local farmers had approached researchers at Guelph in hopes of finding a more profitable use for the waste. Simultaneously, the automotive industry was look-

See SIMON on Page 3

Erin Matheson

Professor Simon holding a Ford Flex Model Car and His Top 40 Under 40 Award

Letter From the Editor

In This Issue, and My Rant About Megapixels

ANGELO ALAIMO
EDITOR-IN-CHIEF

Hello everyone, thanks once again for picking up *The Iron Warrior* and turning to page 2. Midterms are winding down as the term enters its final stretch. The following has been said many times before but I must re-iterate: time, during the term, flies very quickly

I must say, this past hell week, the second of my academic career, wasn't pretty. I won't go into details but my marked and returned work term report is the only good news I can gather from the past week.

Moving on - In this issue, as you have already likely seen from the front cover, wehave brought you an exclusive look from inside Engineering 5. If you haven't seen the inside spread of photos from the building, go check them out now on pages 8 and 9!

Before beginning this term, I had several features I wanted to cover in my issues as Editor-in-Chief, and getting into Engineering 5 and getting my readers an inside look before the building opens was one of my major goals for the term.

After an quick email to the dean's office, all the details were in check for Jon Martin and I to be given a tour by Sue Gooding, Operations Manager for the Faculty of Engineering.

Our tour lasted well over an hour and half to walk through every single floor of the building, starting from the second all the way to the sixth concluding with what Gooding called "The Gem" of the building which is the student team design center.

I couldn't agree with her more. The amount of space given to students in this building is extraordinary. Essentially, the first two floors of this building are for student teams and students. The large number of upgraded facilities for engineering student teams will benefit their future projects immensely.

I won't drone on and on about the building here as you can just read the article, but I can tell a lot of thought went into implementing this building and I can't wait for it to open in the coming months.

Apart from the E5 feature, The Iron Warrior brings you an interview with Chemical Engineering Professor Leonardo Simon who recently won a Top 40 under 40 award for his research.

In the past couple weeks, City council voted on the next step for Northdale which we discussed back in Issue one, so a short update on the matter can be found in this issue on the next page.

I know you've likely heard the recent announcement suspending the Warrior's football team from competitive play due to doping allegations. This story quickly hit national media from coast-to-coast and even international media with The Daily Bulletin linking to a story from The New York Times. The football team held a press conference last Thursday hoping to overturn the administrations decision to no avail. Other campus media have done a good job in reporting this story so we have brought you quick update on the happenings of the press conference.

Also on the topic of doping, the PCP this issue brings an interesting topic regarding whether or not drug testings should be mandatory for all varsity athletes across the country.

The logo from for The Iron Archives this issue comes from an issue in 1992 where production of the newspaper switched over to computers. The Iron Archives is quite long this issue but a good read indeed.

Moving onto the sports side of things, we have a new column for you sports fans summarizing the happenings in the sports world. With the world cup now well underway, I haven't seen POETS so packed apart from OTs.

Also on the sports side, Kirsten Hoedlmoser brings another excellent article in her series to get you running. This issue, the article talks about eating right, providing a quick brief on foods to eat and foods to avoid.

On the entertainment side, The Brew Man Group, or should I say 1/2 of the pair, reviews two herbal beers. Our gaming column, The Future of Gaming, brings an overview of the E3 expo summarizing the major announcements as of press time.

Moving on from the contents of this issue, there is a topic that I want to speak about that has been bugging me for the last couple weeks: Megapixels.

As I think i've mentioned somewhere before, photography is one of my biggest hobbies. I've been an avid photographer for many years and have easily taken tens of thousands of photographs. As my skills of a photographer has progressed, I have seen technology improve dramatically in the realm of photography.

Early consumer digital camera resolution generally fell in to the 1-3 megapixel range. Somehow, manufacturers got into a race to see who could pack more megapixels into a digital camera.

Soon enough, your 5-megapixel compact simply could not take as good pictures as next year's 12-megapixel model. *Or so you thought.* For a long time, higher resolution is believed to give one better, more detailed images, and that may have been so in the *early* days of digital photography.

The fact is, camera's don't take the picture, the person behind it does. If one doesn't know how to operate a camera and doesn't have at least a basic understanding of photographic principles, it's very unlikely good images will result.

What are megapixels anyway? Essentially, images are an array of pixels m-by-n, just like what Math 115 taught us.

A pixel, in it's simplest form, is a small square (several micrometers wide) on a sensor which measures the intensity of light by accumulating charge and then transferring it to a processor which assembles an image. An image sensor has millions of these pixels (hence the mega) that work with each other to produce images. For example, a one megapixel sensor has a resolution of 1000 x 1000 pixels thus equalling 1-million pixels.

The general population, swayed by marketing, thinks more mexapixels = better pictures. The truth is, *it's a big lie!* More mexapixels in some cases actually equal even worse images than lower mexapixel sensors.

More pixels on a sensor equal to a higher pixel density. With a constant amount of light, each pixel has less light to accumulate per pixel. So if we had a 3 MP sensor and a 8 MP sensor side by side and took an image with all settings constant, the 3 MP image will look brighter than the 8 MP image. So what does this mean in the real world? Well, if you have a high resolution sensor like the 8 MP sensor described in the previous sentence, the image signal generated by the sensor will need to be amplified (gained) in order to reach the brightness of the 3 MP sensor. When a signal is amplified, random noise gets introduced into the signal as a byproduct. Ever see those odd coloured grainy patches in images you've taken at night? That's noise.

Noise is a negative thing to see in images as it detracts from what is actually being photographed. Thankfully, cameras have processing techniques to remove this noise from images in order to give a clearer end result, but at what expense?

Detail.

Higher resolution sensors are supposed to give more detail for an image, but if there's an abundance of noise, and then the image has to be de-noised thus destroying the detail; *where is the net benefit?* Generally, there is none. In fact, some lower resolution sensors actually have much more detail than higher resolution cameras.

This past week, I roamed around campus with my DSLR taking some random pictures. As I was walking someone began to walk beside me and asked me "How many megapixels does that camera have?" I replied with the amount, but went on a rant about how it's not about megapixels, and someone should not look at resolution to determine what camera to purchase. If I was to buy a compact today, I would try to get as low megapixels as possible on the largest sensor size possible. Having low pixel density would be my main goal before I would consider any other features.

Thankfully, the megapixel race has slowed down considerably in the digital compact world, but history is repeating itself in the mobile phone world as a new smartphone seems to be released each week with a high resolution camera numbering in the 8+ megapixel range. Funny, sensors in mobile phones are generally way smaller than digital compacts, so you can imagine how much marketing crap goes into the phones. Why would I ever buy a 12 MP camera phone that has a sensor smaller than half my pinkly finger nail that will probably produce an image full of red/green/blue splotches. Why would anyone buy one?

Of course, sensor design will improve over the next few years which will likely focus on noise mitigation which will allow even higher resolution cameras without this effect, but until then, be wary of the way cameras are marketed - especially for mobile phones.

Alright, enought of that. Enjoy the rest of the issue, as always, if you have any comments or questions, please send them my way at:

iwarrior@engmail.uwaterloo.ca

Angelo Alaimo

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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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Engineering Professor Wins National Award

SIMON from Page 1

ing to the research community for help. Manufacturers were looking for lightweight, renewable materials to be used in vehicles to help reduce dependency on foreign oil, as well as reduce the impact on the environment by using more environmentally-friendly products that grow every year. These needs combined to create the BioCar project, an initiative funded by the Ontario Research Fund that officially started in 2008. This project combines efforts of researchers from the Universities of Waterloo and Guelph as well as the University of Toronto and Windsor who hope to bridge the gap between the automotive industry and farmers. There are many individual projects that make up the BioCar Project, but Simon's is the first to go commercial.

Simon's contribution to the BioCar Project combined his expertise in material science with the vast availability of feed material from the farmer's crop waste. Simon has taken this crop waste, such as wheat straw and similar material, and used it to manufacture a lightweight polypropylene plastic that can be used in injection moulding. Using this eco-friendly renewable material removes the need for heavier chemicals such as calcium carbonate. This achievement is the first of it's kind in the world, and is truly remarkable, since injection-moulding plastic can be used to make truly anything; coffee mugs, plastic chairs, electronics, the list goes on and on. Where Simon has found his niche for this technology is in the automotive sector, since injection moulded polypropylene is used in extremely large quantities to make many components that go into vehicles such as storage bins, bumpers, and many interior shell components.

A project like this didn't go unnoticed for long, after being shown the potential for this technology, automotive giant Ford picked up the technology, and announced in November 2009 that they would be using Simon's material in components of their 2010 Flex model. The storage bins in the third row of the vehicle will be made with the wheat straw material, but plans for expansion to include more interior and even motor components are currently in the works. The benefits of this project are further magnified as the extensive process required to produce a vehicle suddenly becomes much more local. "The very nice thing today is that wheat straw is grown in Ontario, it's processed in Ontario initially, it crosses the border to be manufactured into a part, it returns back to Ontario, and the vehicle is assembled in Oakville," Simon explains. Part of the environmental damage caused by manufacturing is a result of the transportation of materials to and from various manufacturing locations that are extremely far form one another. The process utilizing wheat straw reduces this dramatically.

A project like this didn't go unnoticed for long, after being shown the potential for this technology, automotive giant Ford picked up the technology, and announced in November 2009 that they would be using Simon's material in components of their 2010 Flex model.

The focus of the project isn't just the potential environmental benefits. When asked if this project was another indication of the 'greener' direction of the field of material science, Simon explains the slightly different angle. "I think the key word is sustainability. We want to be economically sustainable, we want it to be socially sustainable, where the people doing the job have a good quality of living, and the environment should be sustainable as well." The scope of the project focuses on every person it affects, from the farmers all the way through to the vehicle owners, and not one group on the way is ignored.

When asked about his achievements, Simon is exceptionally humble and aware of the efforts of others that made this all possible. "I attribute our success to teamwork and talent," he explains, "Talent of our graduate students, talent of our co-op students that worked throughout this project, and talent of our industrial members that are supporting this project. We all worked together towards one end, and the thing became commercial." Simon is also currently sharing this opportunity with undergrad students, as a few years ago he created the Waterloo Team for Sustainable Automotive Materials. Members of this team develop car parts using renewable materials, and collaborate with the Alternative Fuels Team (UWAFT) to compete in the EcoCar Challenge.

"I attribute our success to teamwork and talent. Talent of our graduate students, talent of our co-op students that worked throughout this project, and talent of our industrial members that are supporting this project. We all worked together towards one end, and the thing became commercial."

This project can only grow from here; commercial vendors are now knocking at Simon's door to get their hands on this revolutionary material. The unique aspect of this project is that its commercial scope knows no bounds. It can be applied in literally every industry, and the material can be created almost everywhere. Simon explains, "It can reach any market, that's the advantage. If you have bad weather one year, say droughts or floods in North America, Asia will likely have plenty of this material available. Much like food." A dependency on this technology at this point seems to be anything but risky. The only current shortcoming seems to be that the technology will not expand as rapidly as it potentially could, since most manufacturers still need to keep peace with the big oil companies from which they've been receiving petroleum-based materials for years. This isn't stopping Simon however, he plans to use this to his advantage, "We're looking to have a hybrid; integrating petroleum, mining and agriculture as equal suppliers of materials." It's a true milestone in the strive to make both materials and the automotive industry a little ore eco-friendly, another big push in the environmental effort that will have global effects that started right here in Waterloo.

If you are interested in finding out more about the Waterloo Team for Sustainable Automotive Materials, visit www.autobiomobile.uwaterloo.ca

Northdale Update: City Council Votes

AMRITA YASIN
3T CHEMICAL

Monday, June 7th, 2010 marks an important date in the history of Waterloo City and consequently UW and WLU students. On this day, the Waterloo City Council listened to a presentation by City of Waterloo Development Services and Protective Services staff regarding the future of Northdale area in Waterloo.

For those of you who are unaware of this event, City of Waterloo instructed the staff to compare its long term development plan for Northdale with an alternative vision called HUG Waterloo, and make appropriate recommendations considering the tools and resources available to the City. Northdale is the name given to the area bounded by Columbia St., King St., University Avenue, and Lester St. The former plan emphasizes intensification only in the nodes and corridor and encourages a mix of short and long term residents in the area. HUG Waterloo on the other hand proposed a world class and environmentally friendly urban architecture.

Kasper brought forward the fact that the deteriorating condition of the houses is not necessarily due to student negligence but more than often due to negligence on the part of owners.

At the meeting the staff presented another plan to be considered as an option which included for the development of Terms of Reference for a Land Use Study to study the potential for phasing and draft a community improvement plan. Another change was inclusion of part of the Sugarbush area comprising of Hickory, Fir and State streets, with the Northdale area to be considered for development and rezoning purposes.

After deliberations and considerations, the final decision included the following elements: The staff should initiate a comprehensive land use study for the Northdale area, Sugarbush would not be included in this study and only the area bounded by King, University, Columbia and Phillip be considered Northdale, the staff should develop Terms of Reference for the land use study in collaboration with the stake holders, the staff should initiate a Community Improvement Plan after the land use plan, and that the Community Relations staff should develop a Community Outreach Program with the post-secondary institutions.

The official representation from the University of Waterloo Administration was from Bud Walker, Director University Business Operations, along with David McMurray, Vice-President, Student Affairs, Wilfrid Laurier University. This joint presentation was deemed as "historical" by the Chair of the meeting, Councilor Mark Whaley. They stated that "the existing approach does not meet the needs of residents and stated that both Universities would establish proper accommodations immediately in nearer proximity to schools, and that high density developments further out with increased amenities and services may be implemented through a staged plan and rezoning."

UW Federation of Students (FEDS) was represented by Sarah Cook, VP Administration and Finance. Cook spoke about student issues and how the visions don't address them. She further spoke in favour of high density/small unit buildings, intensification along new corridors, the creation of safe, secure and affordable housing for students and inclusion of student lounges and study spaces in residences.

Other UW students who spoke as members of the community included Ian Kasper; Faculty of Mathematics representative on FEDS Council, Mackenzie Keast, President; Waterloo Students Planning Advisory and Diego Almaraz; a Planning student at UW. Kasper brought forward the fact that the deteriorating condition of the houses is not necessarily due to student negligence but more than often due to negligence on the part of owners. Keast talked at length about the different regional and provincial policies monitoring the use of land and that needs to be considered before proposing any land use plan. Almaraz presented pictures of successful urban communities and villages from around the world giving a vision which Waterloo could form into reality.

Another motion presented by Councilor McLean was a joint program between the City and Regional Police to have paid police officers in the Northdale area for a period of 6 months. This was not agreed upon by the other councilors due to a concern of converting a neighbourhood into a patrol area and no details of the costs this program would incur.

Let's hope that this direction that the City has decided to take mitigates the housing issues and reduces the friction between long term residents and students.

Football Roid Rage

ERIN MATHESON
2B CHEMICAL

A bomb was dropped on the Athletics department that was heard across the nation. On June 14th during a press conference held by UW administration, it was announced that the team would be suspended from play for the 2010-2011 season following "The most significant doping issue in CIS history," as described by Canadian Interuniversity Sport (CIS) CEO Marg McGregor.

This all began following the arrest of player Nathan Zettler by Waterloo Police. Zettler was charged with possession of steroids and human growth hormone for the purpose of trafficking. Following his arrest, the University ordered to have the entire team tested for steroid use. A urine test from linebacker Jordan Meridith found Tamoxifen, which is commonly used by athletes to fight steroid side effects. It is a banned substance as per the 2010 World Anti-Doping Agency's prohibited substance list. Meridith fessed up to using the substance and has been suspended from the CIS for two years. Linebacker Joe Surgenor also admitted to using banned substances, and has been subject to the same penalty. A total of nine players from the Warriors football team tested positive for banned substances.

Following these results, administration decided to suspend the team from play for the upcoming season and give the two of the team's coaches, head coach Dennis McPhee and assistant coach Marshall Bingemean, one year paid leave. This decision sent a shockwave through the entire student body, with groups voicing their opinions against the administration immediately. The friends and families of the clean 53 players organized a press conference at Columbia Ice Fields on June 17th, which I had the opportunity to attend.

Supporters packed into the CIF gym alongside the members of the team, all sporting yellow t-shirts with the word 'believe' written in black letters across the front. The goal of the press conference was to let the University hear their plea to let the clean players play the upcoming season. Senior players, an incoming recruit, the father of the new recruit, as well as Carl Zender, a former assistant coach of the team all made statements to the media with the support of the crowd that surrounded them. Their statements attacked the University's decision to completely disband the team, and they begged that the clean players be put on probation versus a suspension, so they could play the upcoming season. Zender accuses the administration of planning to lay down the suspension after incoming recruits had already chosen to come to Waterloo, "If you don't think that this all, all of it, was thought out behind the scenes, give your head a shake." They blamed part of the understanding on the fact that the current Provost has yet to be in an administrative position at a school with an active football program until now, which is true. Zender went on to explain how current players who were planning to leave Waterloo to play football elsewhere would loose most of their credits and be set back in school. He also warned that the administration was punishing the innocent and endangering the varsity athletics program as a whole. Every statement made was accompanied with thunderous applause and roaring chants of, "Let them play, let them play."

Later that same evening, the university circulated a statement that read in part: "The decision stands to suspend the team from competition." Since the CIS amended their rules to allow clean Waterloo players to transfer to another school to play football this season, instead of having to wait the standard year after transferring, the clean players are left with one of three situations. There are about 27 players who will now begin the process of transferring schools, including applications, registration, and getting onto another school's roster before the CIS football training camps begin towards the end of August. Even if they are able to play football elsewhere, these players will be set back academically, since a credit-for-credit transfer is never possible. "A fourth year student here will be lucky to be given credit for two, maybe two and a half years elsewhere," Zender explained. The second are the new recruits coming in who have already committed to coming to Waterloo but cannot transfer. They will be forced to spend a year at a school they chose for football without even attending a single practice. The third, and most heartbreaking, are those in their final year of study here who cannot transfer, and cannot play. For some, hopes of being drafted into the CFL are now gone, but for all of them, the ability to play the game they love for one more year has been taken away.

The program is scheduled to resume in 2011, but at this time the team is only expected to have about 38 players. "They'll have to recruit 50 incoming freshmen because you need about 80 players because of safety and liability issues," Zender explains, "You can't put players out there who could hurt themselves, they have to be trained and ready." It is expected that the team won't return to its current level of play for at least another 5 years after that while the team rebuilds. The worst of it all is that by then, most of us will be gone and the current students would not have been around when this suspension happened, and Waterloo will simply be known as the school with the outrageously bad football team. Where will the motivation for the athletes come from then? The direction of the team as well as the remainder of the varsity program could not be more unsure, and sadly all the athletes and fans can do now is simply sit and wait.

Erin Matheson

Members of the warriors football team at last Thursday's Press Conference at CIF

Engineering Academic Integrity

AMRITA YASIN
3T CHEMICAL

A few weeks ago The University Committee on Student Appeals (UCSA) presented its report to Senate regarding of discipline cases that occurred in the university from September 2008 – August 2009. Compared to the 2007- 2008 academic year (617 undergrad students, 3 grad students) the number of cases in 2007-2008 (781 undergrad students, 18 grad students) increased. However, the number of cases represents a meager 3.1% of the entire student population. The disciplinary cases are categorized into cheating, plagiarism and misrepresentation. Cheating is further categorized into unauthorized co-operation or collaboration, unauthorized resubmission of work, unauthorized aids or assistance, violation of examination regulations, impersonation and theft of intellectual property.

The cases are not reported by faculty or program in order to preserve confidentiality. In Engineering, disciplinary cases are investigated by the Associate Dean for Undergraduate Studies, Professor Wayne Loucks. The Iron Warrior decided to interview him regarding the occurrence and nature of these disciplinary cases.

The general procedure followed by Professor Loucks is as follows: when a Faculty member reports an offence a detailed letter is sent to the student(s) according to the Policy requirement. The first meeting between Professor Loucks and the student(s) is very general with the Professor taking on the role of an advisor rather than an investigator at this point. The student is asked for a detailed response letter which is often more organized and detailed than his/her verbal account during the meeting but rarely does it differ from what was told by the students. Moreover, in the majority cases students do agree that the incident happened and so the focus of the meeting is why and how it happened.

The common reasons by the students include 'I didn't know that was wrong or inappropriate, I realized that now that I read the instructions", "I missed the first class when the instructions were told". Sometimes if the student was caught with a crib sheet during an exam he/she would say that the sheet wasn't actually used. According to Professor Loucks, at the end of the day the reason doesn't matter. What matters is that the student(s) were seeking to get a credit for something that they didn't write or in cases of excessive collaboration on assignments, left the professor confused as to if the individual deserves a credit for an assignment where the goal of was not to find the answer, it was to derive it. Moreover, 56% of all cheating at the undergraduate level occurs in year 1 and decreases steadily to year 4; very few students are multiple offenders. It is either they become more careful and don't get caught or don't do it at all.

When asked if there was a trend among certain courses, the Professor commented that it depends on the nature of the course. Some courses only have a midterm and an exam while some have assignments too. In the latter kind there are more chances of collaboration and thus an offence. Lab courses also have an increased chance of academic offenses because there are more people involved. On the other hand, offences in exams are random and not too common. In Engineering, it is also hard to comment on the difference between on campus and DE courses because engineering students don't take many DE courses.

There has been an increase of 10% in academic offences in the last decade. What is hard to tell is that if that is the increase in the occurrence of offences or their detection and subsequent prosecution.

According to Professor Loucks the aim is to target the group of honest students and tell them what is right and wrong so they don't get tempted. There is a very small fraction of dishonest students who deliberately do it and will do it no matter what - the aim is to increase transparency and prevent the majority from crossing the line.

Professor Loucks comments that PDEng 15 Integrity Quiz plays an integral role to spread awareness among students. Making the students actually go through the quiz involves them more; they know what the rules are and don't delude themselves into doing something that has been explicitly told is wrong. Moreover, PDEng is also the only course that reliably measures every submission and cheating cases, if any are caught.

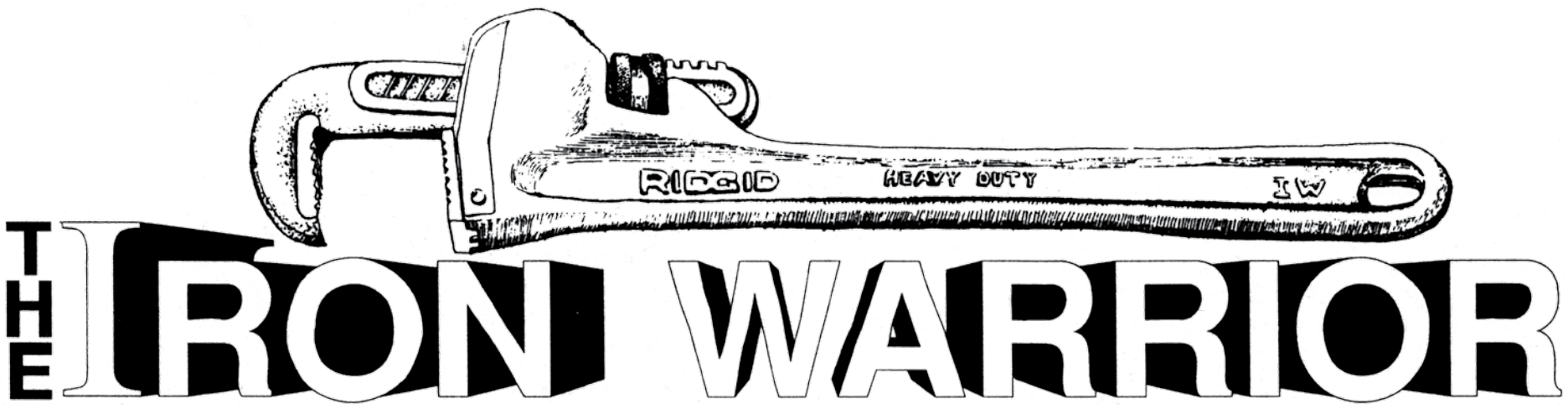
A very important element in spreading awareness among students is training of the TAs. In the delivery of the courses the three key people are the professor, students and TAs. The TAs should be clear on guidelines and policies and what could constitutes allowable collaboration and help from peers within the framework of the course so that when students approach them for help they do not misguide them.

The best instrument that we have is our ability to detect and take action. Detection is done in computer courses using programs such as Moss – measure of submission similarity to evaluate the similarity between computer codes. Students with weak language skills are more prone to being detected. The program Turnitin comes into play. It is used to monitor plagiarism by checking the content against the citations. It puts all students on the same footing and encourages them to be honest.

Some other ways discussed that can prevent cheating in exams include assigned seating and having alternate versions of the exam. In the former, statistically speaking the probability of two friends or acquaintances ending up sitting together is very low. But there are no university policies in place right now to enforce these. It is a challenging task to impose these guidelines. According to Professor Loucks, if the process to enforce such actions is made easier more professors will be willing to implement them.

When asked about UW's performance against other schools, Professor Loucks commented that UW is not too different from other schools in what students do – who gets caught or prosecuted is a different story. All schools carry out the penalty differently. For example, the University of Virginia has a judiciary of students who decides between expulsion and pardon. There the professors have a lot of freedom in what constitutes an offence. On the other hand the procedure followed in UW is quite standardized. Although there is always room for improvement the process in its current form works quite well.

In 2007, The Academic Integrity Committee drafted a report entitled "Toward A Level Playing Field: Enhancing Academic Integrity at the University of Waterloo". This report includes surveys conducted both among students and faculty, analyzes trends and makes recommendations for improvement. One of the key things that this report highlights is "To achieve a culture of high academic integrity, it is critically important that all groups – students, staff, faculty, administration – become involved and engaged." Students should not view Academic Integrity and Policy 71 as a restriction or as an imposition. It is for our own intellectual growth and a strong sense of right and wrong. By making ourselves aware of and in compliance with the rules and regulations in place, we will be able to grow into honest individuals and help others to do so too.



From The Iron Archives

Enviromental Engineering, '95 Engsoc Service Study, Canadian Pride, and Ontario Bill 124

AMRITA YASIN
3T CHEMICAL

Spring Issue # 4 – June 22, 1990

Gerry Keay, a 2B Mechanical student wrote about the option preceding the introduction of environmental engineering as a program. Chemical engineering was a key department behind environmental engineering. Environmental was to be introduced as an option to engineering students starting Fall 1990. According to Professor Scharer of chemical engineering, the motive behind investigating environmental engineering was "the satisfaction many senior engineering students felt with the scope of present pollution control options in fourth year courses."

Due to lack of funding from the provincial government environmental could not be offered as a separate discipline that year. However, the Faculty decided to admit forty extra students with the intention of enrolling them into environmental engineering when it becomes a degree program. Of these, 10 would go to Civil, 10 to Systems Design and 20 to Mechanical. These programs were chosen because their core courses closely resemble the proposed curriculum for environmental engineering program. An obvious question that Gerry asked was how was the Faculty so confident that these forty people would willingly switch programs. The answer was, "During this year's Campus Day, which was held in March, the attending high-school students were asked if they were interested in such a program. Their very positive response has made the Undergraduate Office confident that they will have no problem finding enough students to fill a class of forty."

Gerry clarifies that the proposed Environmental Engineering programs would not have any direct connection with the Faculty of Science which was going to start an Environmental Science program in Fall 1990.

Gerry said that an estimated two calendar years will have to pass before Environmental engineering will be made a program. The introduction of the option was justified by the Environmental Engineering Option Committee as "In the first two years, there is only a three course difference between the proposed Environmental Engineering program and most of the other present disciplines. Because of this similarity, if this option made into a degree program within the next two years, students taking the Environmental Engineering option will be able to switch into the degree program with no loss of time."

The proposed option required three required courses – two Environment and Resource Studies and one Organic Chemistry course, and additional four courses chosen from a grouping which reflect one of four themes with the option. The four themes resembled the options in third and fourth year of the proposed degree program. These options include Waste Management, Thermal Process, and Decision Modeling and Environmental Systems Modeling.

In the end, Gerry discusses the role of environmental engineers in society and says, "…the role of environmental engineering will be to fill the present gap between the professionals on the ecological and technical sides of the environmental debate… they will provide both the technical expertise in modeling and design and a thorough understanding of the environmental impact of modern technology".

Spring Issue # 3 – July 4, 1995

Recently a new position with the title CFO – Chief Feedback Officer was established at the EngSoc council meeting. The CFO will be responsible for drafting an anonymous survey asking about the performance of the executives.

In this issue of *The Iron Warrior*, Erin Dunphy, member of an Internal Relations Committee within EngSoc wrote about Engineering Internal Relations Survey Results. It seems like EngSoc used to have a directorship only identified as 'Internal' in the meeting minutes from Spring 1995. This particular survey conducted by the respective directors asked students for feedback on EngSoc services, events, Orifice and approachability of class reps, directors and executives. The article also called for further suggestions in response to the results of the survey.

The most commonly used service was CnD followed by exam bank, photocopying and Iron Warrior. The list of services that students would have liked to see is pretty interesting. It includes binding capabilities (now offered by EngSoc), more old exams, copies of old labs (oddly enough no requests to ignore Policy 71 we're included for that one), faxing services, hot food in the C&D, alumni contacts, picnic tables in the quad, music at lunch, more community related activities, 24 hour study room, and a housing board.

The survey results for EngSoc activities showed that the largest number of students participated in Frosh Week events, followed by SCUNT, Pubs, and Athletic events.

When asked why students don't participate in events it stated, " "NO TIME or NO MONEY". In addition to this, people seem to feel that events are uncoordinated and not well advertised. Not enough notice is given and events are planned for awkward times. Several people commented that they feel that the events are too cliquey and that they do not feel a part of things."

Improvement suggestions to events included less alcohol, better organization and advertising, fix timing around midterms, less cliquey atmosphere, more positive engineering attitude, more academic and charity-related events. Event suggestions included Say 'hi' to Betty day, road trips to theatres, concerts, events, seminars on new technologies, athletics with other faculties and writing workshops.

88% students said they felt comfortable approaching directors, class reps and executives. The main reasons for being uncomfortable approaching the people included intimidation and not knowing the people.

Another interesting opinionated question was related to budget allocated for alcohol. The comments against this notion said that EngSoc needed to be more professional and not use alcohol for rewarding someone, there is too much emphasis on beer in general and the money should be spent for the good of everyone. The comments for this notion said that there is no problem with adults celebrating their hard work by having alcohol; it's a matter of personal choice.

Some general comments included a general appreciation of EngSoc services, POETS and the fact that people meet new people through EngSoc events, but that EngSoc should be more productive and inclusive of everybody.

Even today while EngSoc provides many services to students and organizes a wide range of events there is concern that not everyone feels a part of it. Maybe there should be a mechanism in place to get continual feedback from students regarding EngSoc.

Spring Issue # 3 - June 30, 2000

Being a multicultural country questions are often raised about Canadian identity and what Canadian culture means. This topic was also discussed by Stephanie Purnell, 1B Chemical and Peter Cresswell, 3A Systems in the form of a PCP: Does Canada need to be more nationalistic. Stephanie taking on the point side argued that in the multicultural Canadian society "solidarity is hard to come by". She presents the example of Quebec which continually threats the federal government and the provinces of separating and forming an individual country and further states, "While living in Canada is an enormous opportunity to experience different lifestyles, often there is no common bond to help facilitate these experiences." Stephanie pinpoints the problem by saying that "while Canada's diversity is wide-ranged, each culture is isolated".

But she doesn't stop here and takes a huge leap to hold this isolation of cultures a factor to racism and intolerance. And to prevent these traits from developing, "there must be a common bond to connect all Canadians – pride in our country. Our country is ultimately the thing that is common to all of us."

Stephanie talks about a beer commercial that caused a lot of excitement among people and was the first example of the feeling that said "We are NOT American" (the only thing that seemed to be common among Canadians previously). Some people think that being Canadian means living up to the stereotypes such as "dog-sled-owning-ice-fishers". She ended her article beautifully by saying, "The choice is not to revel in these stereotypes but to celebrate the diversity that is Canada…It is a land with great mountains and plain, and beautiful lakes and rivers. We can take pride in the compassion of our government – welfare, the abolishment of capital punishment, subsidized healthcare…by focusing on the good of Canada we are celebrating our nationality. This type of nationalism cannot be wrong, and should be encouraged."

Peter takes on a completely different stand by saying that "nationalism has lead humanity down a path of pain and suffering". He demonizes nationalism in general and defines the problem by saying, "Nationalism is an exclusive property… Because nations are exclusive parties – individuals on one side or the other – they immediately assemble the groundwork needed for competition." Peter presents the example of the Cold War. He says, "… it had dramatic consequences…The arms race, arguably was enough to bankrupt the former USSR and drive it into the chaos in which it now stumbles."

Shifting gears to our society he poses the question, "Do Canadians need to be more nationalistic? Perhaps more like the United States? Or can we as Canadians attempt to get beyond the limiting and harmful nature of nationalism?" He cites the Canadian poet F.R. Scott who said, "The world is my country". Expanding on this feeling he says, "Indeed, if we as a country were able to escape the gravity of nationalistic pride and focus our concern less on ourselves and more so on the welfair of the human race as a whole, it would seem we would all be much better off."

Being an immigrant and immensely proud of my cultural roots, I deem Canadian nationalism as being proud of the societal values and opportunities – something that people living in this society can relate with and be proud of regardless of their background.

Spring Issue # 3 – June 24, 2005

On June 24, 2005 in IW issue # 3, there was an article by Bill O'Keefe, a chemical engineering PhD student about Bill 124 – The Building Code State Law Amendment Act. This legislation was filed in 2003 and "established new mandatory qualification standards for building officials and designers including engineers. Civil and mechanical engineers are most affected by this legislation. When this legislation takes effect, engineers will have to pass written examinations that will test their knowledge of the Ontario Building Code (OBC)." PEO – Professional Engineers Ontario objected to this bill on grounds of invasion into PEO's mandate under the Professional Engineers Act. As Bill puts it, "it is PEO that has the mandate to set technical standards and to regulate the practice of professional engineering. Requiring engineers to write exams to test their knowledge of the OBC is a particular slap in the face since engineers are already required by law to know the relevant codes and are considered incompetent if they do not." The PE Act 941 72(2)(d) covers professional misconduct for engineers.

See ARCHIVES on Page 6

ENGINEERING SOCIETY EXECUTIVE REPORTS

Presidential Report

SCOTT RANKIN
PRESIDENT

Knees bruised, forearms skinned, sweat pouring from my brow, I ran swiftly from the dark silhouette glimmering in the night sky as if the stars had grown a mind of their own and were set for a vengeance against me. The sign read "Walmart", I stopped, turned to towards it, screamed "WHAT DO YOU WANT FROM ME?! WHY HAVE YOU FORSAKEN ME WALMART."

I stood there in shock as the walls crumbled around the sign which eventually fell itself, what remained was only a yellow spherical orb, that rolled towards me. It had a face… difficult to recognize, since as it rolled I only caught glimpses, it seemed to be smiling at me. Legs locked in fear, I was unable to move, this sphere, this horror, whatever it was had bound me to an imaginary gurney of my own terror and depression. It stopped abruptly, stared blankly at me with its dead eyes, I now fully recognised what was in front of me, the sphere was twice the height of me, and it eyes, they were terrible. I felt as if they were staring deeply into my soul calculating my weaknesses, understanding what truly drives me to despair. I knew what it wanted. It wanted savings. It wanted lower prices. It wanted to drive my small company out of business.

Suddenly my body shook; I looked up to see my brother standing above me.

"Dude. You really have to stop."

-Smokey the Bandit

PS: EngSoc is good

VP Finance Report

MINA LABIB
VP FINANCE

Good day weary travellers,

Welcome to the place where all dreams go to relieve themselves. In this land, it is known that the sun rises in the south and sets right behind the KFC on Main St. There are only two rules in this land: 1. Never interrupt a dream mid-stream 2. Never interrupt a dream mid-this-rule's-number

If you abide by these rules, you can sustain your existence. One may see any number of great and mysterious wonders here.

Hark! To our left we see a leprechaun riding a unicorn, under a rainbow, over a bridge, to a field where the grass is greener. In my last excursion here, I had followed them, against my better judgement. I slowly approached the unicorn-riding leprechaun. As I approached, I stepped in something that the unicorn had left in its path. Jelly beans. But my shock got the better of me, and I yelped in disgust. But alas, I had broken the second rule of the land.

Almost immediately, I was lifted up by an unknown force and placed on a makeshift raft and hurtled down a river. As I was moving down the milky-white waters of the river, on my raft I looked around and noticed there were only but a few more people. And I thought to myself, "Had there been more people here, more fun would have been had. But, that is their loss"

After this moist journey, I landed on a shore, and found a large crate at my feet. I took off the lid, and found a small ornate chest. I opened this and found a turquoise orb. As soon as I touched it, there was a flash, and it started emitting smoke light, projecting a message in the air:

Remember the words of your predecessor:

P.S. Finances are good

VP External Report

KEVIN LING
VP EXTERNAL

Hey everyone, I hope midterms are going well. Here's a quick update of what's going on...

WEC registration is now open! The registration will be open until July 2nd . Since there is a limit to how many teams we can accommodate, registration will be first come first serve so sign up soon to ensure that your team gets a spot. In case you aren't sure: Junior Team Design is open to students who will not have begun their 3A term by Winter 2011, Senior Team Design is open to students who will be in 3A or above by Winter 2011, and the Consulting Engineering division will be open to all students. The competition starts on Friday July 9th. There will be some pizza and pop for the competitors. Then presentations will take place on Saturday July 10th with a few door prizes that will be raffled off. Winning teams in each category will get a cash prize from the Sandford Fleming Foundation as well as the opportunity to represent our school at the 2011 Ontario Engineering Competition, hosted by the University of Western Ontario. More info, registration, and competition descriptions can be found at http://wec.uwaterloo.ca.

In other news, after Joint Council meeting this weekend, there will be a barbeque with proceeds going to Save the Children. The BBQ will be before Orientation Leader events that night, so if you're around you should stop by, grab some dinner, and support a great cause! If you'll be around for the BBQ and want to help out, we could use a few extra set of hands. Just let me know if you'd like to help out.

This week I'll be heading to the Engineering Student Societies Council of Ontario's Annual General Meeting which is being hosted by the University of Ottawa. I'll be sure to let council know how it goes when I get back.

VP Internal Report

PETER KELLY
VP INTERNAL

Hello once again my beloved B-Soc, A-Soc (on work term) and random others that may be reading this.

Well the term is ½ done now, and it's finally summer. Midterms are finished, what could be funner! Don't you just love the longer days, as well as the abundance of sun rays. The chirps and tweets of little birds; apparently I'm now rhyming my words. I'm writing this article to keep you informed, you have no excuses and you have been warned. Coming up soon on June twenty six (26), is a day when A-Soc and B-Soc will mix. That's right you guessed it, it's joint council, come one come all, come Gretel and Hansel. If you are a rep for your fine class, you need to RSVP, so get off your ass. We'll discuss where we were, where we are, and where we're going, I hope that all of you will be in showing. So come on out for an evening of fun, I know I'll be sad when it's all done. Just talking about joint council puts me in the mood, and of course like always there will be food.

What: EngSoc Joint Council Meeting
When: June 26th, 3:45pm
Where: CPH 3607
Who: Everyone
Why: It will be fun

Love,
Peter Kelly

VP Education Report

ALEX HOGEVEEN RUTTER
VP EDUCATION

Hey all, I am looking for input on a student submission to Vision 2015. What are undergraduates' priorities for the next 5 years? One priority that has already been identified is to create a minimum standard for TA critiques. Other possibilities include greater student involvement at department meetings and curriculum changes and increasing the standards/training for teachers entering the university. Email me (bsoc.vped@gmail.com) for other ideas and priorities.

Also, a few updates from some of the academic committees

FUGS-New option and change to minimum average for 1A students: The average required to pass 1A will move to 60%, in agreement with the other academic terms. However, students will be given the option to drop two of their courses and take a reduced-load term. Such students would still go on co-op and be able to complete the two dropped courses, as well as a "Special topics in engineering course" the subsequent fall. They would then continue their education with that year's cohort. This policy still has several committees to go through.

Co-op Education Council-Undergraduate Research Scholarships Running out of money: I would encourage everyone who is eligible to continue to apply for undergraduate research scholarships, but they may be implementing a merit-based system for who receives the money, as opposed to the existing first-come, first-serve policy.

Senate Undergraduate Committee: Late assignments default to 0, unless otherwise stated by professor-If the professor fails to make explicit a penalty for late assignments, students should assume they will receive a 0, though the professor may still have the option to implement a less harsh penalty.

WatPD Committee. Proposals for the new curriculum are due next week. We will be evaluating the proposals, and if we can find something acceptable, we will give the go-ahead for development. **CONTINUE TO DO PDENG AND YOUR WORK-TERM REPORTS** as degree requirements are difficult to change, especially for students already enrolled at the university (Class of 2014 and earlier).

Next EngSoc Meeting
June 23, 5:30 P.M.
CPH 3607

Joint Council Engsoc Meeting
June 26, 3:45 P.M.
CPH 3607

Iron Archives Continued

From ARCHIVES on Page 8

The bill further discusses how architects agreed to implement a parallel system since they too would have been affected by Bill 124. He futher says, "the majority of architects now believe this move to be a mistake citing increased controls and bureaucracy created at the expense of architects, the end result being only to tarnish the reputation of their profession". Like architects PEO also originally considered developing a parallel system but in June 2004 took the stand that the parallel system will only lead to duplication and increased costs would not demonstrate competency and hence will not be implemented.

PEO applied pressure on the provincial government establishing a "Government Communications Program" involving the MPPS at the local level which resulted in the delay of the implementation of Bill 124. Furthermore, this communications program will be maintained indefinitely in order to raise the profile of engineering in Ontario and to increase the role of Engineers in the development of government policy.

The bill addresses the audience advising them of the ways to get involved with engineering profession such as registering PEO as an Engineering Intern Training (EIT) program to get involved with local engineering chapters, become a member of the Ontario Society of Professional Engineers (OSPE). Finally he advises the civil and mechanical engineering students to read up on Bill 124 and write to the MPP to express their opinions.

Bill 124 was indeed incorporated in the Ontario Building Code Act dated January 1, 2006.

ENGINEERING SOCIETY EXECUTIVE REPORTS

WEEF Director Report

GRAHAM STONEBRIDGE
WEEF DIRECTOR

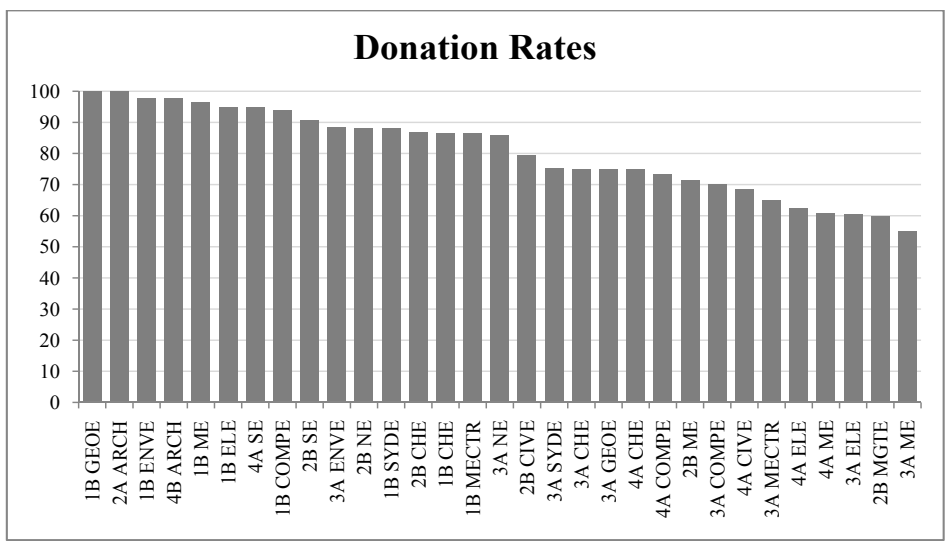
The proposal period wrapped up on the 19th without an issue. Much more money was requested this term than the $60,000 we can give out, so clearly the funding council will have some tough decisions to make.

If you have submitted a proposal, don't forget that you need to make a presentation to the Funding Council! Presentations will occur on June 24th in RCH 305 and June 29th in RCH 306 at 5:30 pm. Dinner will be provided to the WEEF Class Reps that attend (1 or 2 per class). To ensure your class/department gets a say as to where the $60,000 will be allocated, please be sure that a representative from your class attends! Visit the list of class reps at www.weef.uwaterloo.ca/council.html to make sure your class has a rep.

After presentations are completed, the funding council (comprised of all the WEEF Class Reps) will convene on July 5th to determine how this term's WEEF money will be allocated.

In other news, WEEF return statistics are here! Overall we saw a 20% refund rate this term. This a 10% improvement over Winter term (B-Soc Power!). Check out the accompanying graph to see how your class performed.

Questions, comments or suggestions are always welcome – email me at weef@engmail.uwaterloo.ca



Why the Drop?

Lower WEEF Allocation Explained

GRAHAM STONEBRIDGE
WEEF DIRECTOR

As you may have noticed, the $60,000 allocated for spending this term by WEEF is less than the $85,000 you may have remembered from the last several terms. Why the drop? And what impact will this have on the WEEF Funding Council's decisions

First, let me remind you that WEEF stands for the Waterloo Engineering Endowment Fund. Each term WEEF takes a portion of the yearly interest from its principal account, and applies this money to projects that benefit undergraduate engineering at Waterloo. Every time a donation is made to WEEF, the endowment principal grows and the potential interest accrued each year increases. Thus the amount WEEF can allocate each term depends on both the principal – which has been steadily increasing thanks to your generous contributions – and the yearly interest rate.

Typically we have seen interest rates of at least 4%, which has been phenomenal for everyone in Engineering. Unfortunately someone thought it would be a great idea to screw up the economy and consequently the projected interest rate for this fiscal year is only 2%. Applying your math skills, the amount we can allocate for each of the next three terms is approximately $9,000,000*0.02/3 = $60,000.

This fluctuation in interest rates has been fairly typical over the last twenty years. In 2003 the term allocations dropped to around $40,000, and two years later it was back up to $75,000.

What effect does this have on the decisions made by WEEF's funding council (composed of one or two representatives from each on-stream class)? With respect to the process by which we make decisions, there will be no significant change. WEEF will continue to consider proposals under the usual criteria: number of students affected, product life, educational benefit, total cost, and any number of other factors that the engineering population might deem important.

This term, Engineers Without Borders (who have not submitted a proposal) will give a short presentation to the funding council about sustainability and the global impact of WEEF's decisions. With any luck, the funding council will arrive at a wise and rational funding decision in a reasonable amount of time at our meeting on July 5th.

In the next couple terms, look out for invitations to an Annual General Meeting where WEEF will discuss these topics in greater detail. If you have any immediate questions, please do not hesitate to contact me at weef@engmail.uwaterloo.ca.

FEDS Student Council Update

YOUSIF AL-KHDER, PRAVEEN ARICHANDRAN, TREVOR JENKINS, JORDAN LUI
FEDS STUDENT COUNCILLORS

Hello pretty people. Here's an update on what is going on in the world of FEDS. You all should have received an update from the Executive a few weeks back that had some important information that may be iterated that we'll highlight here too.

First off, the Health Service Extension that was approved during last fall's referendum is progressing. Right now, student input and opinions on the functional design of the expanded facility are being collected. To get your input in, check out http://studentspace.uwaterloo.ca/health-survey. It won't take more than 5 minutes, and it's STRONGLY recommended you complete it if you want your voice heard!

Keeping on last fall's referendum, you may recall that the proposed Student Services Complex building failed when it went to referendum. A motion recently passed that requires Brad Moggach, President of the Federation, to revisit the proposal. Don't expect to hear much on this for the interim, but don't be surprised if it pops up again.

As reported in the first issue of The Iron Warrior this term, there were two plans put forward to Waterloo City Council regarding the Northdale Neighbourhood. Northdale is the area bounded by Philip, Columbia, King, and University, that is predominantly student housing. FEDS Student Council passed a policy stating that it supports neither proposal, and will actively monitor the situation due in part to the fact that students weren't extensively consulted in either's development. After going to Waterloo City Council two weeks ago, they decided to start an intensification study of the area to examine all the options and possibilities.

Next up is an issue that doesn't directly impact engineering students but will have an effect on students' academic freedom overall. A proposal recently was presented at Co-op Educational Council and will be passed onto the Senate Undergraduate Council this fall. The proposal will basically lock students in co-op programs, where both co-op and regular streams exists, once they've passed their third work term, and only allow them to leave due to extenuating circumstances. Again, it's something that won't affect engineers directly since we only offer co-op programs. It's something that originated in Math, and has been an issue that has been on the radar for the last few years. Council passed a motion stating opposition to the proposal as the "Federation of Students supports a student's right to academic freedom," and "believes the University of Waterloo should not be putting the interests of external businesses ahead of its students."

Finally, we want to congratulate Yousif Al-Khder from 3N Management who was acclaimed as a new Engineering Councillor for FEDS Students' Council. As you may recall from the last article, that means two seats are still vacant. Everyone will be informed as to when nominations for these two remaining seats opens again.

If you have any questions or concerns, please don't hesitate to contact any of us!

Cheers!

Yousif Al-Khder, Praveen Arichandran, Trevor Jenkins, Jordan Lui

Engineering 5: Finest Building on Campus

E5 from Page 1

floors above, is covered with LED lights to provide a soft blue light through the room. These lights can currently been seen at night from the outside of the building.

The central atrium stair case itself is obviously meant to be an architectural set piece, but in a useful way. The staircases are solid black with ridges of LED rope light, adding more indirect light without blinding fluorescent bulbs.

The central atrium stairs shown from the second floor (left, center) and from the 6th Floor (right).

Standing in the central atrium you can't help but look up, your eyes are naturally drawn to the far side where you can easily see through to the sky outside – a far cry from the many solid enclosed concrete structures on campus.

The second major thing in the central atrium that draws your attention is the massive panels of glass wrapping around each floor. From the ground floor you can see above into hallways, seminar rooms and common areas.

Looking north from the staircase, you will see the best view of the expansive Student Design Center which is located on the first floor below. With open ceilings in the student team's garages you are able to see into the areas from the second floor, the feeling of impending creativity and industry advancement is hard to avoid. The area just looks like a great place to work and brainstorm new ideas, and there are more areas for this exact purpose.

On the second floor and facing the student teams garage area are designated offices and meeting rooms for their use. The student teams will be sharing these offices which include a general office area and workspace for drafting or other activities. These large meeting rooms will hold around sixty people, with network and power connections for laptops throughout. One of the best of these meeting rooms located in the corner of the building has one wall overlooking the student teams garage and the other two looking out onto the building landscaping and surrounding area.

Inside the Engineering 5 link looking towards the Engineering 3 Tower

While most of the student team's garages were able to be located in the central area some had to be located on the second floor. The robotics team room is very similar, except without the garage door, as they aren't driving any full size vehicles out it is a perfect fit.

Now, coming off of the right side of the lobby is the engineering computer commons, which will add another 24hr computer lab to the faculty. This lab has space for approximately 93 occupants, lots of natural light, and acoustic dampening to reduce carrying noise.

Continuing on, we toured the upper floors, which have space for undergrad, grad, and faculty use. On all of the floors the perimeter is mostly used for faculty offices and general meeting rooms, while the centre area is used for seminar rooms and other offices. Good sized lab rooms are paired with offices for grad students, as well as occasional program specific computer labs and study lounges. One of the most interesting features is the split seminar rooms and scissor-lift walls. Located throughout the building, these large rooms can be split down the middle by panelled walls covered in chalk boards. The interesting part will be when these walls are retracted into the ceiling to leave a single seminar room for large presentations. All of the boards in the building are chalk rather than white boards, a choice made in consultation with faculty and staff.

Inside the faculty offices you can see the window treatment, visible from the outside as the different shaded triangles. From the inside this effect is shown to be a pattern of dots on the window, with different diameters creating the shading. While the dots are initially disconcerting you quickly adjust and begin to look past them, though it will be a little weird for the new occupants the first few days.

Each floor has a distinct layout, as specified by the occupying programs, Electrical and Computer (ECE), Mechanical and Mechatronics (MME), and Systems Design (SYDE). MME and SYDE will be moving their administrative office to E5, while ECE will be maintaining their current office in EIT and using the new space for seminar rooms and offices.

Each floor of E5 has its own feature to separate it from the rest of the building. Obviously the student teams garage and the central lobby dominate the first and second floors, but the third floor has the overpass link.

Extending from a new tower attached to E3, the link joins the existing engineering buildings to E5 passing over Ring Road and the train tracks. This link looks very expansive from the inside, with even more windows looking out over the road below. Avoiding inclement weather using the link to get to E5 will be very welcome.

There are also two architectural gardens in the building, one on the second floor and

Panorama of the east side of main campus from the 6th floor of Engineering 5.

another on the fourth. The second floor garden is covered with low plants and mosses, maintained by plant ops. This garden is above the anechoic and will therefore be inaccessible to public use due to vibration concerns. The fourth floor garden, called the "winter" garden, will be publicly accessible; it is located in the large open space visible from the west face of the building

After touring the upper floors, the first floor was our last stop, and likely the best stop on the tour.

Each team bay of the Student Design Centre garage is equipped with a panelled garage door of clear Plexiglas, opening onto a large central area with shop equipment including sinks, compressed gas, and plenty of work space.

The view of the student team design center from the largest of the meeting rooms.

Every engineering team is sure to be amazed by the amount of space available to each team, with each garage bay equipped similarly to the central work area. Also located in the student teams garage are two separate bays for painting and sanding, both with all the necessary equipment and ventilation systems.

At the rear of the building is the new UWAFT garage, outfitted with all necessary equipment for using hydrogen fuel. We were also able to tour the new student machine shop, as well as the attached spot welding room.

In every room in the building, the amount of space is the thing that catches you: large rooms, design studios, and production areas. Nowhere else on campus is there a building where so much of the space is devoted to student teams, or general undergrad use such as the machine shop.

In many of the existing engineering buildings, there is always the feeling of cramming as much stuff into the space available. Here the rooms are the size they need to be, and there are so many open areas where people can meet and exchange ideas. In many areas of the building there are open alcoves between offices or seminar rooms, with large bright windows letting light into what could be a great impromptu meeting spot.

Overall, Engineering 5 is an amazing building, open, welcoming, and innovative. The design and function are new and modern, without looking too flashy in a way that will become outdated in a few months. As you walk around you can tell that this building is built for the students, both for curricular and extra-curricular goals. It is meant to be the next source of innovation from the University of Waterloo, giving all of the engineering teams the tools and environment needed to excel. Though people in specific faculties will see more use of E5 than others, this building will become a hub of activity for engineering design at Waterloo and will definitely be the catalyst of great innovations to come from the faculty.

For more pictures, check out the article online at:
http://iwarrior.uwaterloo.ca/?p=2696

From Left to Right, Top to Bottom: The entrance to E5 from the E3 to E5 link bridge, the view from the 6th floor corner office showing the fritted glass accent, the currently empty 93 seat engineering computing commons, and the eastward view towards the under-construction Engineering 6.

The image may look spotted due to fritted glass covering the building

POINT VS. COUNTERPOINT

Should drug testing be mandatory for all university athletes in Canada?

POINT

HOBYUNG LEE
2B MANAGEMENT

As many of you have probably already heard, the University of Waterloo has recently announced that during the next season of varsity football, competitive play will be cancelled. What lead to this has been retold several times, but to sum up, it started with the arrest of a Waterloo Warriors football player who was charged with possession and trafficking of anabolic steroids. This eventually led to at least 8 other players who have been charged with anti-doping infractions, which then lead to the suspended season.

This without a doubt is a very unfortunate situation, one that will not only affect the present, but one that could have very big ramifications for all parties involved down the line; however, when this whole situation started, I looked into the drug policy and procedures in place and was shocked (but not surprised) to see that the current system in place is more flawed than Miley Cyrus' front teeth. Last year, the Canadian Interuniversity Sport (the national governing body of university sports) tested 211 athletes out of the 10 000 plus who participated in varsity athletics last year. In other words, these guys and gals were just not being tested.

So how on earth can universities cry foul of a drug problem when the NATIONAL GOVERNING BODY has basically allowed their athletes to do whatever they want without even the slightest threat of being caught?

There are many avenues that one could take to resolve drug issues in sports. There are plentiful sports leagues around the world that have drug testing policies in place that CIS could follow as a guide in terms of drug testing.

But the easiest of them all is to simply test every athlete that competes.

Keeping with the current CIS policy, how is it fair that only certain athletes are tested on a team? Yes, it is a random process, but when top level athletes compete, why take away from their credibility, their talent by testing a measly 2% of the entire athletic body? In the world of higher learning, why accentuate the importance of honesty, integrity and credibility in academics when the same can't be done for all other aspects of those same schools? When we engineers hand in our assignments, are we not all under the same microscopic eye that is Policy 71? It would be absolute bollocks if for every 100 assignments, 98 of them had a blind eye turned towards them. Why can't the same be said for drug testing?

And no, drug testing is not cheap, costing $500 - $600 a test. But this should be a necessary cost, a small price to pay to make sure that the competition amongst the countries institutions of highest learning go about with honesty and integrity.

The point that I am trying to convey is simple: test anyone and everyone who competes on a highly competitive level. All athletes shouldn't be under a constant microscope, but testing everybody will help level the playing field and keep those athletes who are tempted honest.

Just make everyone pee into the plastic cup. Simple.

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

COUNTERPOINT

ERIN MATHESON
2B CHEMICAL

Media outlets have been bursting at the seams this past week with the news of the suspension of the Warriors football team for the upcoming 2010-2011 season due to 9 players testing positive for banned anabolic steroids. Regardless of the outcry of the 53 clean players and hundreds of their supporters to allow the clean players to play the upcoming season on probation, the administration is standing by its decision to cancel the program for the year.

Where the question lies now is how we got to having nine of our varsity athletes using banned substances without catching on? A lot of questions regarding mandatory drug testing enforced by the Canadian Interuniversity Sport (CIS) which oversees all varsity athletics. I personally don't believe that this is the right way to go, for a number of reasons. Firstly, mandatory drug testing of all athletes is outrageously expensive, ranging anywhere from $500-$600 per person, and there's no way the CIS can realistically generate these funds year after year, since it oversees over 10,000 athletes across the country.

This extends above and beyond a simple dollar figure, however. The athletes selected to be on our varsity teams aren't just selected to participate in their sport, they're selected to be representatives of the University within each domain of their respective sport. This applies at every university that participates in any CIS sport, and each one chooses their own athletes, CIS simply runs the league. Why should we rely on CIS to baby-sit our athletes?

CIS currently reserves the right to randomly test any one of its athletes for the use of a banned substance, and it typically exercises this right on about 2-4% of its athletes every year, and the organization should have every right to continue this practice. What needs to be enforced, is that the Universities need to be held accountable for the athletes they choose to represent them within CIS. The next step, how each University goes about enforcing this, is entirely their prerogative.

Should a particular University's athletics program have the time and resources to test all of their athletes before sending them out to compete and they feel it's necessary to do so, they can sift through pee-cups to their heart's content to assure that their athletes always compete clean. For the schools that may not have these resources, there are other ways to go about making sure that their athletes stay clean; through various monitoring and awareness programs to assure that their athletes realize the severity of the consequences of using banned substances. The point is, regardless of the funds and other resources available, there are plenty of ways to keep a school's varsity program clean, while increasing general awareness amongst the athletes about this typically rarely mentioned subject.

In the case that an athlete were to test positive for a banned substance by a random CIS drug test, the metaphorical hammer should then come down both on the athlete themselves as well as their school for allowing them to compete. What the repercussions for the school would be are debatable in itself but the point is the school needs to take responsibility for the representatives that it selects. This isn't American Idol, who gets picked to be on these teams actually matters to a lot of people in more ways then one. Both athletic departments and administrations need to take a moment and make sure they're giving the right pep talk before they let they're players step out on the field, and they need to make sure that it's actually being heard.

Iron Warrior Sports Briefs

A decorated hand, English woes and its Waterloo connection

LOHIT SARMA, SHREY SINDHWANI
4A COMPUTER &
3T NANOTECNOLOGY

As the clock wound down, Kobe Bryant sprinted after the ball joyously flung by Lamar Odom. The Lakers had edged out the Boston Celtics to pick up their 16th NBA championship following a nerve wracking 83-79 final at the Staples Center.

Often criticized for being too selfish, Bryant overcame a terrible shooting night by playing the facilitator and walking away with his second Finals MVP award. The win gives him a ring for every finger on one hand.

With the Lakers playing through injuries and overcoming the stiff Celtics defense, the newest entry in the Staples Center rafters will hold a special place in Bryant's heart as it was won against the very same opponent that beat them in '98. As Kobe puts it, "Gives me one ring more than Shaq. This one is by far the sweetest, because it's (the Celtics),'' Bryant said after the Lakers beat Boston for the first time in a Game 7. "This was the hardest one by far. I wanted it so bad, and sometimes when you want it so bad, it slips away from you. My guys picked me up."

They sure did, with R on Artest scoring 20, along with 5 steals and 5 rebounds. Artest will be remembered for providing the much needed offense in the first half, keeping the Lakers in the game despite shooting a horrendous 28% for the half. Gasol overcame a terrible first half to make some crucial baskets down the stretch, coupled with 18 rebounds for the game. The win also gave Phil Jackson his 11th win as a coach, tying Bill Russell for the most ever championships in the NBA.

The Zen master, as he is called, is known to win his NBA titles in bunches of three and that may just tempt him to come back next year for one final hurray before he bids farewell to basketball for retirement. Credit must be given to the Celtics for putting up such a good fight. Often criticized for being "too old" or "too slow," the Celtics overcame Wayde and the Heat, Lebron and the Cavs, and Dwight and the Magic before finally running into Kobe and his Lakers.

The playoffs also saw Rojon Rondo develop into one of the league's premier point guards. Both teams head into the off-season with contrasting fortunes. Phil Jackson and the Lakers may be heading into a budding dynasty with most of their core players locked into long term contracts. The Celtics, on the other hand, have to deal with Ray Allen's impending free agency and the possibility of Rasheed Wallace and Doc Rivers not returning to the garden, with Wallace having thoughts of quitting the game.

Fifa World Cup :

The biggest sporting event on the planet- 2010 FIFA World Cup South Africa - got underway on June 11 at Soccer City, Johannesburg with the host nation playing against Mexico.

Siphiwe Tshabalala's spectacular strike opened the tally for the 19th FIFA world cup, but South Africa conceded an easy equalizer to Mexico and had to settle for a draw.

France and Uruguay played a goalless draw under the influence of buzzing vuvuzelas horns. Uruguay's Nicolás Lodeiro became the first player to be red-carded at the World Cup, but the French lacked the decisive punch to take advantage of the 10-men opposition.

In Group B, South Korea started brightly with a strong performance against Greece with their captain, Park Ji-Sung, sealing the game at 2-0. One of the tournament favourites and coached by the legendary Diego Maradona, Argentina defeated Nigeria by a narrow margin of 1-0 at the Ellis Park Stadium (Johannesburg).

2009 FIFA World Player of the year, Lionel Messi made trademark runs to bamboozle the Nigerian defense, showcasing his talent at the world stage.

In Group C, England came into the World Cup with a strong qualifying campaign. Replacing the injured Rio Ferdinand as captain, Steven Gerard drew first blood against USA in the 4th minute with an exquisite finish, but a howler from the English goalkeeper, Robert Green, ended the game in a draw.

In Group D, Germany demolished Australia. To add salt to their wounds, the Aussies lost their influential captain, Tim Cahill, to a harsh red card. In the other group game, Ghana left it late against Serbia to win in the 85th minute through a penalty kick.

In Group E, Japan's gritty performance overwhelmed the toothless Cameroon, as they registered their first ever win outside their own country. Group E favourites, Netherlands, struggled to unlock the Danish defence without their influential winger, Arjen Robben, until the 46th minute when an unfortunate own goal broke the deadlock. The Dutch won 2-0 with Dirk Kuyt's first goal of the World Cup.

Group F saw a stale Italian performance against Paraguay in a game that ended 1-1. New Zealand and Slovakia shared the same score line in the other Group F game.

In Group G, the most successful country in World Cup history, Brazil, found it hard to break the North Korean's defence. Eventually, Maicon's bullet found the goalkeeper wanting and Robinho's vision was finished in style by Elano to give Brazil a two goal lead. There was late drama, but the Samba Kings eventually won 2-1. In the other Group G game, Cristiano Ronaldo's Portugal drew against Ivory Coast in a goalless game.

Group H saw the biggest upset of the World Cup yet. The European Champions, Spain, could not break the Swiss defensive wall and were caught on counter attack. With almost 70% possession, it was a frustrating night for the Spaniards as they lost 1-0.Chile impressed everyone with their attacking flair in their opening game against Honduras to win the other group H game 1-0. The opening round has been a low scoring affair with the teams very cautious to start their journey. The vuvuzela's continue to cause consternation, with France's Patrice Evra complaining of being waken at 6 AM.

Closer to home:

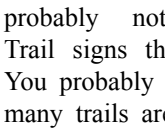
The raptors continue their pre-draft work outs while adding P.J Carlesimo to their coaching staff.

The Jays management decided to shake things up before the weekend series with the Giants, signing infielder Nick Green to a Major League contract, while optioning Mike McCoy to Triple-A Las Vegas.

The Leafs name Dion Phaneuf the new team captain while adding Claude Loiselle to the management team.

On a side note: Robert Green's stunning miss on a routine shot that enabled the US to tie the score at 1-1 had a Waterloo connection. The British media blame Toronto based model Elizabeth Minnet for the miss. Minnet, a UW alumni with a major in economics dated Green until a month ago. While his manager was quick to dismiss her as the reason behind his lapse in concentration, Minnet and UW are sure enjoying this 15 minutes of fame.

Kitchener-Waterloo`s Iron Horse Trail



ALISON LEE
1T NANO

Walking around Waterloo, you've probably noticed the Trans-Canada Trail signs that mark many pathways. You probably also know that Waterloo's many trails are great for jogging, strolling, and getting around on a bike. It's summer and you want to get outside, but where to start?

The Iron Horse, of course! A piece of local history, this trail is a particularly scenic section of the Trans-Canada Trail that links Waterloo and Kitchener. It's flat, paved, and fairly straight because it used to be a section of the Grand River Railway. The route takes you beside the backyards of houses and factories, parallel to major streets but without the exhaust fumes and noise. There are even old artifacts, like industrial machinery, in spots along the trail that reflect its past. After being abandoned, the railway was turned into a convenient pathway twelve years ago. "Iron Horse" was just a nickname given to trains back when they were the latest mode of transportation, and thus the trail got its name.

Although it's somewhat of a well-kept secret, the Iron Horse Trail does far more than just physically connect Kitchener and Waterloo. It's used by tons of commuters every day, including chipmunks and deer that live in the various parks it passes though. People walk it just to get away from the city sounds, to grab some bagels and wood oven pizza at the City Café Bakery, or to escape copious construction on a certain campus. Audio files from www.ironhorsetrailstories.ca reveal even more about the trail from the perspective of locals. Apparently there's a giant patch of fresh (and free) mint somewhere along it, and likely a few ghost stories.

To start on the trail from Waterloo, get to Caroline St and Allen St, just behind the Brick Brewery. You could also start at Waterloo Park and just head down Caroline St. past the Valumart. The whole path is 5.5 km end-to-end, but conveniently at its midpoint is Victoria Park, not too far from downtown Kitchener. This is a perfect place for a romantic/study date, or a nap. It's also just a great place to be a kid at the gigantic playground (some of which resembles a pirate ship!). If you're a runner, Victoria Park is an ideal turnaround for a 5km run. If that's not hardcore enough, make it a 10 km run by turning around at the Kitchener trailhead at Ottawa St. Either way, it sure beats Ring Road.

Whether or not you decide to venture to the Iron Horse Trail, be sure to do some sort of outdoor exploration before the term is up. If anything, the Iron Horse will get you to Kitchener, where there's lots to do in the summer. Pick a weekend, get out, and go nuts. And if you end up hating it, you can blame me and visit the DC library instead.

Canada Day At Waterloo

LESLIE MERRITHEW
CANADA DAY DIRECTOR

What better way is there to celebrate our country's awesome day of birth than by coming out to CIF field for UW's annual Canada Day celebration?! Show up at 2pm and enjoy the [hopefully!] gorgeous weather while listening to great bands like The Rosewoods, Hello Bella, Rufus John, and Breaching Vista! Enjoy other attractions such as the arts and crafts booths, all the local food vendors, and of course the best fireworks in Southern Ontario!!!

Do you want to claim a victory by dunking the President or VPs of the Engineering Society? Go see EngSoc's part of the field during the day and have bragging rights for the next year!

Other cool stuff that's happening: EWB and UWSTEP will be in attendance showing cool things like a treadle pump and how to power a bike with an ordinary fan and lights. The Engineering Jazz Band is playing at 2pm at the Children's Stage and make sure to check out the Water Boys (UW's premier male a cappella group) at 3pm on the Children's stage, or support them as they sing happy birthday to Canada on the Main Stage at 5:45pm! After listening to them, make your way to the cupcake tent for some free cupcakes!!

If that's not enough to entice you to come, think about how cool you'd look if you went to the face painting booth, or how you'd feel once you discovered a local food vendor that you never knew about! Mmmmm… food! Speaking of food, the Wok Wagon will be offering fresh Chinese food right on the field, Angelo's Grill Chicken will be bringing a little bit of Greece to our celebrations, and S&B Southern BBQ will be barbecuing the day away! These are only a few selections of the delicious vendors that will be on the field, so make sure to come and discover the others!

If you decide to come (which you will, right?!), don't forget to check out the arts & crafts vendors! Pick up your birthday or holiday presents early, or find something totally awesome for yourself! Discover local vendors selling cool things that you never knew about!

Does all this sound absolutely awesome? If you're so pumped about Canada Day that you want to get involved, why not become a volunteer instead of just hanging about all day!? You can volunteer to help out with EngSoc, Info Tent (with me!! We find lost kids, so we're very important!), Security, Main Stage, set up the day before, take down the day after, etc. "What do I get for giving some of my time??" you ask! You will get a free T-Shirt (yay!), a free meal from the concessions tent for every 4 hours you volunteer, and smiles from me and the rest of the Steering Committee!! Yay for smiles!

To volunteer, simply sign up online at: www.canadaday.uwaterloo.ca/volunteers.htm

If you have any questions, don't hesitate to stop me or the Canada Day Directors (Anna Shen, Victoria Osler and Angela Rossi) in the halls and ask!

Solar Windows Win Millennium Technology Prize

ALEX HOGEVEEN RUTTER
3A ELECTRICAL

The $800,000 bi-annual Millennium Technology Prize, courtesy of the Technology Academy in Finland, was granted to Swiss researcher Michael Graetzel for the development of dye-sensitive solar cells (DSCs) which mimic photosynthesis to produce energy.

Rather than using silicon to capture and transport photons, as in traditional photovoltaic cells, DSCs use dye-based 'chlorophyll' combined with nanostructure 'leaves'. The light-absorptive dye forms part of an electrolyte solution which absorbs photons from the sun to create carriers. The semiconducting titanium oxide nanocrystal 'leaves' then carry the charges to an external circuit, creating an electric current.

As yet, the dye-based technology is not quite as efficient as silicon-based cells. However, as the process does not require direct incidence of the photons, DSCs do not lose nearly as much efficiency under cloudy or indirect light, so a comparable maximum efficiency yields higher average energy than traditional cells. Furthermore, though industrial production commenced only in 2009, DSCs will cost much less to produce than traditional cells as the materials and manufacturing process are relatively common and inexpensive. For example, titanium oxide is already used as a paint base and is much cheaper to produce than silicon.

Another major advantage of DSCs is their versatility; as the dye can be incorporated into other materials, DSCs require no additional physical space. This characteristic has already been incorporated into mobile phones to generate power. One company has even included the cells in a backpack to power mobile electronics. Unlike traditional photovoltaics which stand as a separate installation, DSCs can be incorporated into windows, walls or other surface that are currently unused for this function. Larger-scale operations in buildings and other structures are expected to be a significant contribution to renewable energy portfolios by 2020. Potential applications are limited only by our imaginations.

There are a few key lessons here for budding engineers. The original research in photosensitive dyes commenced in the early 1970s as a response to the oil crises. Revolutionary changes take time: if you're in it for a quick buck, it is much easier to adapt an existing technology, such as finding new materials with which to combine the dyes than to invent the technology yourself.

Furthermore, research interest and funding will generally be controlled by market factors. In this case, interest rose and fell with the price of oil and was not revived until the current environmental concerns and oil scarcity. With that said, students interested in materials research, or other technology which may not have immediately foreseeable commercial applications, can take heart that research today may drive monumental technological change decades from now.

Graetzel credits his inspiration to the natural world. Rather than trying to conquer the natural environment through raw human inspiration, he looked at what billions of years of evolution have to offer and saw how the idea can be adapted to human technology. A similar inspiration is behind the YeZ (mandarin for "leaf"), a concept car designed to be powered completely by photosynthetic processes. Whether you are a civil engineer drawing inspiration from a beehive, a chemical engineer mimicking photosynthesis, or an electrical engineer learning from bioluminescence, sometimes the solutions are already out there and just need to be found.

Entrepreneur of the Term: Eric Migicovsky

SYLVIA WU
3A MECHATRONICS

I met Eric Migicovsky from the SYDE '09 class on a sunny afternoon in Allerta's office. It's on a quaint street just off Columbia Street. From street-view, one has no idea it's actually housing a high-tech brewery. Eric has a jovial and relaxed attitude than can only be described as "the self-employment glow". Having recently worked as an office bottom-feeder at a certain fruit company of large networth, I can only envy how much he enjoys being at work.

In this family style dwelling, Eric and three other like-minded and creative individuals are creating a "smartwatch" to be coupled with Blackberries. It created quite the stir when featured on Crackberry last year, and plenty of Blackberry owners all round the world have expressed interest. Check out getinpulse.com to read more about the watch.

Sylvia Wu

Eric Migacovsky shows off his InPulse Smartwatch to *The Iron Warrior*

Eric was first inspired to create such a device while biking in the Netherlands two years ago, where he was an exchange student. Reaching for one's cellphone while biking on the riverbank is not without risk, but an important call might just warrant a stop. A miniature caller-ID display on one's wrist seems like the perfect solution, thus the InPulse was born.

Eric's idea was put into motion when he joined Velocity's inaugural class in 2008. "Velocity taught me how to talk to people, how to network," he reflects. He was never shy about sharing his idea and the feedback he got really pushed him to bring this idea to fruition. Also through Velocity, he presented his idea at the Impact Conference and other similar entrepreneurial conventions. The business case prize he won through going to these conferences are partly funding InPulse's development.

Velocity brings in venture capitalists frequently to chat with the residents. Naturally, I assumed that Eric's project is backed by a VC he connected with at Velocity. However, I was told that 90% of start-ups in Canada are not backed by venture capital. It's definitely not the only way--Allerta received funding from the Ontario Centre of Excellence and other organizations that support entrepreneurship. A quick Google search on my part turns up plenty of programs that provide grants, loans, support, and mentorship for young entrepreneurs (young = under 30).

In all possible ways, Allerta seems to be on a great track to become a successful business. By the time this issue reaches your hands, Eric should be eagerly awaiting or already unboxing the batch of electronics from China that will allow a thousand prototypes to be assembled. I couldn't get a release date out of Eric, but my trip has confirmed the Blackberry watch's existence. I saw 3 fully assembled prototypes and got to try the demo UI. The watch body is a solid piece of machined aluminum (please refrain from making Apple connections here), and feels a lot lighter in your hand than it looks in the picture.

Advice from Eric Migicovsky to our readers who aspire to be entrepreneurs: Just do it. Serious entrepreneurship takes a great deal of devotion, so for those of you who want to create a product and flourish in the market, get to it before you start losing hair and have babies to feed!

Let's Start a Conversation

How can cyclists, pedestrians, and motorists co-exist in peace?

SYLVIA WU
3A MECHATRONICS

Cyclists freak me out. I've come pretty darn close to hitting a few ever since I got my G2 in 2006. The "almost" is entirely due to the relative tameness of cyclists in Waterloo. They mostly bike on sidewalks if there is no bike lane, and they don't have the confidence/arrogance of spandex-donning Torontonian cyclist commuters who weave in and out of slow traffic. When I visit the great metropolis, I'm constantly fearful of clipping one of the Lance Armstrong look-a-likes and getting slapped with a huge lawsuit and decades of horrendous insurance rates. I'm thankful that most Waterloo cyclists choose to ride on the sidewalk, so I can have the road all to myself and my fellow motorists.

My world was turned upside down when I fell in love with a cream step-through frame "commuter" cycle in a shop window. I pulled out my wallet, convincing myself that buying a bike will not only be good for my fitness, but good for the environment too. (I love using the environment to justify creating further waste by buying more shit.) For the next week and a half, I enthusiastically biked everywhere, including an excursion to the Farmer's Market in St. Jacobs. On this long trip (by my standards), I discovered how ridiculously uncomfortable it is to ride on the sidewalk. Thanks to the individual concrete slabs that make up our sidewalk, I get a jerk every 0.8 meters or so. After making it over the McDonald's on King & Columbia, I've decided to brave it on the street. It sure wasn't easy to swallow the embarrassment when cars swerve around me to avoid the same freak-outs I have so very often in Toronto. But, but the ride is so smooth! The embarrassment only multiplied tenfold when King St. became one lane and the sidewalk option disappeared all together...

On the way back, it wasn't so fun. A small truck almost clipped me. After that, I stayed on the sidewalk for good despite the complaint from my buttocks. Swerving around pedestrians wasn't so fun, especially when said pedestrian is pushing twin strollers with earbuds in. What's a faux-cyclist to do? What's the proper cycling etiquette? Will someone please write a manual?

I want to hear from fellow motorists, real cyclists, and pedestrians about your experiences with each other. What frustrates you? What can we do if the municipality isn't keen on making separate paths for everyone? Come on readers, I know you've got to fall into one of the three groups (Unicyclists count as cyclists too remember). Email me at ***wundermatchen@gmail.com***. to let me know how you feel about sharing the road. Hopefully, I'll get some submissions by next issue to compile a good "chat log" of sorts.

This submission comes from Comp `14
who held a Demotivational poster competition
Winner: *Peter Samsonov*

Eating Well to Run Well

Tips to start your running routine

KIRSTEN HOEDLMOSER
4A CHEMICAL

So often, men and women are pressured to look a certain way by media and social forces: men are almost always cut, and women are nearly always slim. Some of these people come by their bodies naturally or healthily, some via photoshop, and some via more unhealthy methods. To the media I say: screw you! It's so much better to be active regardless of your physical size than it is to be an unhealthy couch potato. If you're trying to lose weight for your health via taking up running, that's fantastic. Just remember that you should strive for health, not a body type or clothing size.

No matter what your motivation to run is, don't skip food! The more muscle you have, the more energy your body burns. You can't build muscle without eating well. If you strictly limit your diet or miss meals, you're going to do your body far more harm than good!

As any engineering student who's been running on caffeine for too long can attest, what we eat can greatly affect our physical state as well as our mental wellbeing. If you're running or active, choosing the right foods can become even more important, because running can really take it out of you. There are times where I arrive home from a run so hungry that everything from my towel to my bed frame looks delicious. It's important to eat the right things before and immediately after your runs and workouts so that your body can perform to the best of its ability and recover afterwards (and also so that you have something to dry yourself with after a shower, and to keep you from sleeping on a mattress on the floor).

One of the most essential things to monitor when you're running or working out is how hydrated you are. By drinking water throughout the day, you'll ensure that you're not dehydrated. If you like to run or work out in the morning, wake up a little earlier than you think you need to so that you can drink water in case you're dehydrated. Sports drinks, such as Gatorade, can help you replace electrolytes lost through sweating. They also give you a carb boost if you need one.

It's best to eat something about an hour before your run. Some people may need to eat sooner, and others may need more time to digest. Stick to simple foods! Think BRAT: bananas, rice, applesauce, or toast. Half of a bagel with peanut butter or bananas with Nutella are my two favourite choices. What you pick and the amount you eat should depend on a) how hard your workout is going to be, and b) what type of workout you're doing. For example, if you're going to go run 20 miles, you'll probably want to eat something more substantial then a small cup of applesauce. If you're going to do intervals or sprints, it might be better to stick to lighter foods that won't weigh you down or make you feel really full.

If you want to avoid vomiting during your run, stay away from dairy when choosing your pre-run snack! For most people, anything milk or cream based – including cheese, yogurt, creamy sauces like alfredo, and creamy salad dressings – will result in stomach cramps and nausea. From personal experience, it's also best to avoid marshmallows, chilli, burritos, an entire bag of carrots, fuzzy peaches, and Swedish berries. Don't ask. You're better off not knowing. Just consider yourself warned.

Make sure you refuel with protein-rich food no later than 15 minutes after your run or workout. This window of time is essential for getting food into your body so that your muscles can recover and get stronger. One of the best options you can reach for is chocolate milk – it has the perfect blend of sugar, carbs, and protein to help repair your muscles after you're finished.

If you're having difficulties making healthy food for yourself around school and running, there are a few tricks you can use to make things easier for yourself. If you like sandwiches for lunch, make a few ahead of time on the weekend. Just don't add any tomato or dressings until the day you're going to eat it, otherwise you'll end up with soggy food. Likewise, you can make dinner meals in bulk on the weekend and then freeze them for later. I like to make a big pot of foods like chilli, curry, or rice and black bean salad on Sunday afternoon so that I'll have meals at hand later in the week. Check out the recipes for all three of these meals online at the link below.

As always, all are welcome with the Accelerated Masses. It doesn't matter whether you're new to running or have been running since age 10. We're a welcoming, encouraging, and supportive group. Got questions about running? Email acceleratedmasses@gmail.com. We meet on Mondays at 6 pm and Saturdays at 11 am.

Run happy!

Next IW issue: Take Your Marks

Editor`s Note: For some sample recipes, check out the article online at: http://iwarrior.uwaterloo.ca/?p=2700

Accelerated Masses Meets
Monday at 6pm
Saturday at 11am
POETS patio

'Tis the Season: Take the First Step Into Backyard Grilling

CHAD SEXINGTON
4X MANGENEERING

Good Afternoon Sexy Readers!

Summer is now in full swing (so duck?) and you know what that means!

Yes, you were right my most intelligent and attractive readers, it's barbeque season. So what? You might ask. Well, there are few better ways to get into the summer spirit than having a backyard BBQ with a dozen good friends. Cold drinks, golden sunshine, and the sizzle of succulent meat and veggies on the BBQ makes the hours just fly by. So what do I need to BBQ like a champion grillmaster?! You exclaim (with a question mark). Fear not my sexy reader, grilling and barbecuing foods might be daunting at first, but really it's very easy to become a top backyard chef.

To start with, you're going to need a barbeque. You can use charcoal or gas, and while this debate is 'hot' amongst pro grillers, what you really need to know is that for beginners, the propane BBQ is a good place to start. Propane or natural gas grills allow a greater range of control over your cornucopia of grill options, and they're not as much work to set up and clean, which is a real bonus when you're partying with your friends, or in a bit of a hurry because your assignment is going to be late. You'll also need tools like a brush, tongs, a spatula, and a knife. These should be metal so that they don't melt. Also a good thing to have if you're a new griller is a meat thermometer. This will let you know when your meat is finished. Remember, there is a difference between barbecuing and grilling. Barbecuing involves lower, indirect heat and grilling involves intense, dry, direct heat.

Contrary to popular practise, cooking food isn't about cooking things as fast as possible as hot as possible. Gas grills come with adjustable heat settings for a reason. First, put some drinks in the fridge to cool down. Then move on to turning on your barbeque. For meats, select a high temperature for the first few moments to sear the surface of the meat and lock in flavour (grill the outside). Once you're done this, a medium-high temperature will prevent the outside of your meat from burning (barbecuing). Marinating your meat can be a key aspect to grill flavour, but in lieu of space, I'll let you discover them for yourself (a quick marinade takes less than an hour!). Fruits and vegetables can be wrapped in foil and put on a medium heat side of the grate for the majority of the cooking process, but they take a bit longer than meat, so set these up earlier, or grilled direct. Get creative when you're choosing non-meat options: eggplant, mushrooms, peppers, apples, pineapples, pears, potatoes and even pizza are common to see. Finally, grilling oil is important for meat and veggies. Don't forget to oil your grill surface with a brush before putting down veggies or good cuts of meat so it doesn't stick too much and the flare ups don't get out of control (you shouldn't have uncontrolled flaring going on, since burned meat and veggies aren't very tasty).

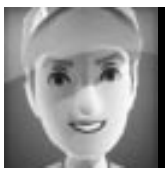
Meat is a hard thing to choose for the grill. Not because it's difficult to make, but because there are so many options!

Beef, Chicken, Pork, Buffalo, Sheep, Venison, Duck, Salmon, Trout and many more options are all easily purchased at your local butchers, and taste great on the grill. If you are in doubt, any butcher worth his apron knows a recipe or two, and they always love to share (or just check online for fantastic grill and BBQ recipes). This is also where your thermometer will come in handy (they cost about 4 dollars). If you can't decide which meat you want to make, make them all! Personally, I have had the opportunity to simultaneously sample BBQ Beef, Chicken, Pork, and Venison (deer). Eating a skewer of 4 meats at once creates such a contrast of meaty flavours, the only way to describe it is with tears. The transition from 4 meats back to 1 will not be an easy one, and so care should be taken not to overload your senses or your guests taste palettes. This one should only be attempted by the meatiest meat lovers there are.

And so my sexy readers, I leave you to your grills and BBQ's. If you want more information, check out allrecipes.com summer sizzlers, they have many good recipes for meats, veggies and more.

Future of Gaming: E3 2010 – The New Battle Begins

Summary of Expo Announcements From the Big Players in the Gaming Industry



JON MARTIN
OBI JON1138

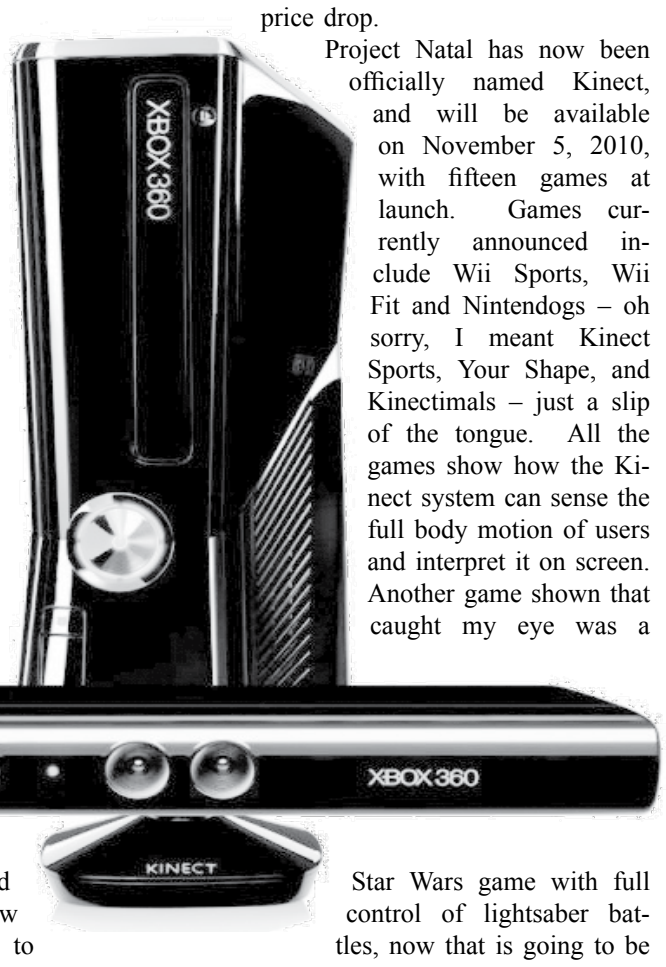
This week has seen many new announcements in the gaming industry, as was expected for E3. The Electronics & Entertainment Expo has long been the place to show off the newest technology, gadgets and gear a company has to offer. In the gaming industry it has been the venue for announcing some of the biggest games and releasing the next generation of gaming consoles. This year was no different with all of the big three – Nintendo, Sony, and Microsoft – showing off amazing new technology, and some other companies announcing their own surprises.

Nintendo

With the monumental success of the Wii Nintendo has had little need to revamp their existing console, despite demand by some gamers for high-definition graphics. The biggest news for the Wii recently has been the introduction of a gloss black system with matching controllers. As Sony and Microsoft are both entering the motion control market with HD capable games I think Nintendo is soon going to lose the edge in this market. But, Nintendo did have a new system to show off, the 3DS. As the name implies the new iteration of the DS is capable of 3D images, without the need for expensive glasses. The 3DS has a standard touch screen on the bottom section along with the familiar controls, though a sliding wheel type joystick controller has been added which can be used instead of the direction keys. The major difference is obviously in the upper screen, which is a larger 3.5 inches, and trades touch sensitivity for the 3D effect. This visual effect is created using a stereoscopic system, displaying two images of slightly different perspectives to achieve the 3D illusion. Interestingly there is a slider control on the side of the system which can vary the depth from 3D down to 2D to suit the users preference. The system includes one internal camera and two external which can be used to take 3D pictures. Nintendo has also said that the system is able to display 3D Hollywood movies – don't know how, but that is cool.

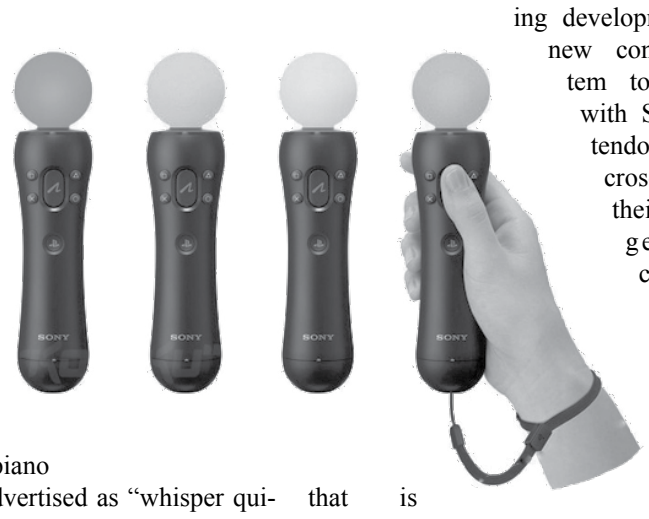
Sony

Having already achieved great success with the PS3 Slim, new hardware changes were announced for the PS3, though other rumours still persist. Sony has been showing off the new Move motion control system as well – and announced pricing. The Move system utilizes the existing PS3 Eye camera, used in conjunction with the new controller. While two controllers are shown in displays and commercials, only the one with the ball is actually required for the system. The second controller, dubbed the navigation controller is used for buttons and navigation, and does not include any motion sensing technology. The system will debut on September 19, 2010, the motion controller will retail for $50 while the Navigation controller will sell for $30. The Move system will also be available in a bundle pack including the Playstation Eye and Sports Champions. If you don't feel like shelling out money for the Navigation controller the existing PS3 six axis controller can be used instead, though it might be a little awkward to hold one handed. Sony has announced upcoming games utilizing the Move system including a new game called Sorcery, a new title with Jak, Daxter, Sly Cooper, and Ratchet and Clank all in one game. Sony has also announced new 3D games for the PS3, approximately 20 by the end of this year including Killzone 3 (the 4th stage), the next Motorstorm, Ghost Recon, and Grand Turismo 5. A new level has been introduced to the Playstation Network as well. Playstation Plus will cost $50/year or $18/3 months, and will give members early access to demos and game giveaways like Qore and two PSN Minis. The standard PSN features will remain free.



Microsoft

This year's E3 saw both the debut of a new console version and controller method, and some immediate price changes. Despite the leak of photos in a European advertisement Microsoft's unveiling of the new slim Xbox 360 went very well. The new Xbox 360 S has a much more angular design rather than the standard concave shell of the existing system, in a beautiful piano black finish. Advertised as "whisper quiet" Microsoft is hoping to kill the stereotypical comparison between the 360 and a jumbo jet taking flight. This noise reduction is achieved through a change in the internal fan setup, using two small fans instead of the standard one, as well as a new cpu structure. The main feature changes are built in wireless wi-fi (which sells for $100 as a separate accessory) and a 250GB hard drive. The new system is on sale now, retailing for $300, the same price as the current elite model. This new system is the only one currently in production as Microsoft has stopped producing the arcade and elite models – clearing out existing stock through a $50 price drop.



Project Natal has now been officially named Kinect, and will be available on November 5, 2010, with fifteen games at launch. Games currently announced include Wii Sports, Wii Fit and Nintendogs – oh sorry, I meant Kinect Sports, Your Shape, and Kinectimals – just a slip of the tongue. All the games show how the Kinect system can sense the full body motion of users and interpret it on screen. Another game shown that caught my eye was a Star Wars game with full control of lightsaber battles, now that is going to be cool – no more hitting a button and seeing a pre-rendered move. Kinect looks like it is going to extend the trend that the Wii has started, getting people off the couch and interacting with the game world.

Earlier I mentioned another company announcing a new surprise, well, that would be SEGA. The company famous for Sonic the Hedgehog – which incidentally is getting a new installment, Sonic 4, and returning to its side-scrolling heritage – is going to be re-entering the console market after a really long hiatus. SEGA has announced it is starting development of a new console system to compete with Sony, Nintendo, and Microsoft when their next-generation consoles hit the market in the coming years. So, that is just some of the news that came out of E3, now for some opinions and predictions of my own, I hope they don't seem biased – its more the wallet talking. While the pricing for Playstation Move has been released Microsoft did not announce the price of Kinect for when it does come out in November, though there have of course been rumours. Soon after Microsoft's press conference Kinect was listed on major retailers including Amazon, Best Buy and Game Stop at a price of $150. While this initially seems like a lot compared with the price of the Move system I think Microsoft has an opportunity to turn this in their favour. After this free market research Microsoft can gauge the public willingness for the rumoured price and choose a different price point for launch, but they also need to advertise the long term difference in cost between the systems. In my honest opinion I would not be as tempted to buy Move as Kinect, even if I already had a PS3, as the cost of the system keeps building. Some games for Move require motion sensing for each hand – think of a boxing game for example – in which case you need to buy two of the Move controllers, that's $100 right there, plus the camera of course. If you want to have enough controllers to play two player co-op in a game like that, now you need four controllers – that's $200 plus the camera. I think you can see my point when you look at the fact that Kinect is a one-time purchase, that can recognize and isolate the movement of multiple people at the same time, without the need for additional accessories. The other thing that sways my interest is the innovation of Kinect, and the absolute abandonment of controllers. I think Sony is going to have to work hard to distinguish the quality and prowess of Move specific games from the Wii, which has a larger install base for what is arguably a very similar product. If the Wii is rereleased with better graphics and more accurate controls – which has already been addressed with Wii MotionPlus, I think the Playstation Move is going to be in trouble.

The biggest complaint that people had with the new Xbox when it was announced was the lack of a built in Blu-ray player, which I agree with, but also understand the difficulties. While it would be great to have Blu-ray included in the 360 as it is in the PS3, it would be very difficult to implement for games without alienating a large portion of the install base. One of the biggest arguments for Blu-ray in gaming is the ability to store more information on a single disc, thereby avoiding the need to swap multiple disks – which has happened on some 360 games. This presents a problem when you sell the blu-ray attachment after the system is already established, any company that switches to producing the game on blu-ray is going to alienate the large portion of the 360 install base that does not purchase the blu-ray player, and it would be too expensive to produce a distinct version on each format. Because of this I don't think we will see a blu-ray player for the 360 anytime soon, at least not for gaming.

So, that is it for this issue, lots of new technology to see and look forward too, as well as some upcoming battles between Microsoft and Sony as they enter the motion control market, entering late into a field already dominated by Nintendo. Let the battle begin, and as always… Keep on Gaming.

prof *Quotes*

Send in your prof*Quotes* to:
iwarrior@engmail.uwaterloo.ca

"We weren't meant to drink our mother's milk our whole life, that would just be weird." - Weber, CHE 161

"I told my date that my tile bathroom floor is really beautiful, and that she should come see it." - Henneke, ChE 241

"In OSes, you always want to kill the entire family, otherwise you'll have children running around the OS without parents."
-S. Fischmeister, ECE 354

" It's, you don't need to memorize this, I can't even remember this"
- Wang, ECE 342

(Talking about another prof) "You tell him that degrees kelvin is wrong, and if he disagrees I'll spank his... hand."
- Henneke, ChE 241

"I'm like 007 calling for help."
- Simon, ChE 231

The Brew Man Group - Sampling Some Herb

NEIL PARTRIDGE
3T CHEMICAL

Welcome fellow beer aficionados, to another classic issue of Brew Man Group from yours truly, Neil! Hold up, a group requires at least two or more persons, which means that even with Dan included, we still fall short by a half! But in all honesty, the last I heard from Dan was through a very short and mysterious email from the Euro-city of Amsterdam. Questioning his motives, I came to a quick conclusion; Dan must be sampling some herb.... No, not THAT type of herb; the kind most conducive to watching GI Joe PSA's and snacking up on chicken fingers (which by the way, is awesome). Rather, I speak of the very diverse and delicious field of herbal and spiced beers
(Dan swears that Amsterdam is all about their herbal beers)!

For a quick background on herbal/spiced beers, it's useful to start with the basics. The modern definition of beer identifies four main constituents: malt, water, yeast and hops. The latter ingredient is our point of interest, as it can be noted that the use of hops were uncommon before the 14th century since the bittering and preservation qualities were not validated. However, hops were not even seen in beer before 800AD even though it's production predates 2800BC! Then, what was used before hops? You guessed it, a combination of herbs and spices, collectively dubbed as 'gruit'. These potent mixtures were often comprised of three main ingredients: sweet gale, yarrow, and marsh rosemary. As an aside, one semi-credible source cites that these can stimulate the mind, create euphoria and enhance sexual drive (sounds pretty good to me!). Adversely, hopped beers can actually be used as a natural estrogen replacement therapy, regrettably causing a condition in men called 'brewers droop' (Damn...). Wow, let's get back to gruit; each brewer had their own special medley which may have also included: Ginger, caraway seed, cardamom, nutmeg, cinnamon, aniseed or even dandelion roots! Unfortunately due to several factors, the most prevalent being the recognized preservation qualities of hops, as well as the German purity law (four ingredients only), the exclusive use of gruit is an extinct practice.

Today, we can still observe many of these herbs and spices making their way into our beers, adding complexity where traditional malt and hops fall short. Business saavy brewmasters understand that spicing may add to the value of the product. Take Rickard's White and Mill Street Belgian Wit as an example; both contain coriander, which is typical for hefeweizens and wits. For this issue, I tracked down another two semi-appropriate examples from the LCBO (I had hoped for something a little more extreme, but what can you do). Enter Green Tea Ale by Great Lakes Brewery, and Roseé d'Hibiscus by Dieu du Ciel.

Great Lakes Green Tea Ale with Ginseng: Picking this one up off the shelf, I couldn't help but be amused by the paint stroke font and stylized green tea hanzi. If completed with bamboo, this label might have fooled me as an Asian import (kidding, I know better than that). Anyways, this brew pours light amber and quickly develops an eggshell white head. If based solely on sight, I would single this out as a lager right away, but thus is the nature of some blonde ales... Looking past that, my nose does indeed detect a hint of green tea, but mostly I would say that it's just a wee bit grassy. A quick sip backs this up, as I could hardly differentiate green tea from the lighter kilned malts and carbonation, instead detecting something else vegetative (perhaps this is the rooty ginseng kicking in). To be honest, I expected a lot more punch given that Great Lakes dedicated their whole label to state "Holy shit, green tea in beer!" At minimum, I should have at least been able to clearly pick it out. This was not the case; and at least for myself, the addition could easily have been omitted. **[2/5]**

Roseé d'Hibiscus: Coming off at first disappointed from Green Tea Ale, I had high expectations from my favorite brewpub to date, Dieu du Ciel. You may recall, our first article was dedicated to Péché Mortel, an incredibly delicious imperial stout with a strong espresso accents... Well, Roseé d'Hibiscus seems to be targeting the deep, floral qualities of the Hibiscus flower, and imprisoning it into strong wheat beer. And literally, this beer stands out! Pouring into my glass as an almost fruit-punch like pink, Rosee d'Hibiscus really wears the mask of a Bacardi Breezer, with the reassuring body of a hefeweizen. The nose re-enforces floral and fruity notes. The first taste is a little too sweet and for lack of a better term 'girly', but you definitely settle in in a few sips. Just don't let your grandfather catch you sipping on this, it might lead to a thorough heckling. **[3.5/5]**;

Props to hops // Neil and Dan (In Spirit)

How To Succeed In The Workplace

PETER KELLY
4A CIVIL

Editor`s Note: This is the first part in a series of three humourous articles on how to `succeed` in workplace. It does not represent actual engineering conduct.

Part One: *NEVER take on full responsibility.*

By playing the game from the shadows you assure that when shit falls, it doesn't fall on you. It is key that when the boss asks for someone to spear-head a project or complete some type of large task you be very selective as to what you agree to. The main goal is to get credit with minimal effort.

For example; Mr. Johnson, you stern boss has requested someone to form a tender for a large project. Do you volunteer? WRONG. You do / don't volunteer. You wait for someone else to react, and then once they are committed, you also volunteer. See scenario below.

Mr. Johnson looked down at his employees with distress as he paced the front of the conference room. He looked as though he had slept very little in the past weeks, and his usual elegant suit looked wrinkled and dull. He swiped the sweat from his forehead, placed his bulky hands on the conference table and with what seemed great exhaustion utters, "Alright guys, we are somewhat hurting for work right now and things aren't looking good, but there is a large proposal that I need done and done well for next Thursday for a $100 million dollar job, who's my man?"

The room grew with excitement and angst; this proposal, if won, would be enough to sustain the company until Christmas and provide everyone with that much desired bonus. Everyone knew that there would be a lot of pressure on this job and it would have to be done right. There was no room for error. The project managers of the company exchanged uneasy looks, as they knew what one of them would have to do. Finally, after what seemed like hours, Marvin Hansen, an experienced PM raised his hand as to volunteer, but it was roughly at the same time that Steven Markham slowly raised his hand after Hansen.

Mr. Johnson, looked at the two men, and asked "Who's taking the lead on this?" To which Markham replied, "Oh, well if Hansen wants to do it he can, I'm working on closing the Peterson account right now anyways, but I can definitely assist him with it." Hansen returns with a "that sounds great to me!"

Mr. Johnson seemed as though a weight had been lifted off his shoulders and was happy to see that two of his best men were going to be working on the proposal.

Let's Discuss.

Why does this work? Well for starters, Mr. Johnson should recognize the fact that Markham (you) volunteered in the first place, but he knows that you won't be working on it fully, that's Hansen's job. Now, you are covered on both sides; should things not work out Hansen will have hell to pay, he was the leader after all. Where were you? You got caught up closing the Peterson account . But, if things go well, you were right in there, weren't you champ? Hansen (likely being a team player kind of guy) will thank you and make sure you get some of the credit, and Mr. Johnson takes the two of you out for a nice lunch and perhaps that nice Christmas bonus will come with some extra stuffing.

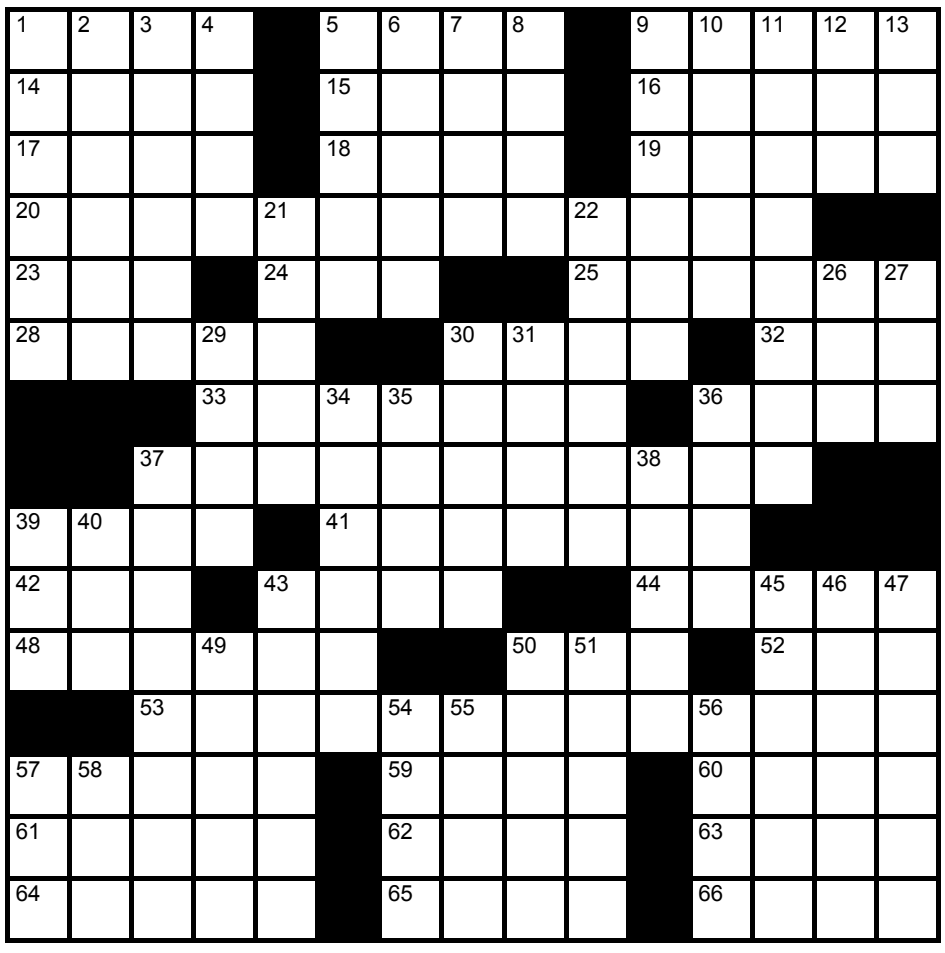
You get into the good books, and stay out of the bad.

Solution To Last Issue's Iron Crossword

1 P	2 A	3 D	4 S	■	5 B	6 A	7 A	■	8 A	9 S	10 P	11 E	12 N
13 A	S	I	A	■	14 R	I	G	15 A	■	16 N	A	U	R	U
17 I	T	L	L	■	18 I	N	O	N	■	19 T	W	I	G	S
20 S	O	D	A	21 F	O	U	N	T	22 A	I	N	S	■	■
23 A	R	O	M	A	■	■	24 I	S	M	■	■	25 S	26 O	27 L
■	■	■	28 I	D	29 I	30 O	S	Y	N	31 C	32 R	A	S	Y
33 P	34 A	35 S	■	■	36 B	L	T	■	37 I	R	O	N	I	C
38 A	R	C	39 A	40 D	E	D	■	41 B	O	U	N	C	E	R
42 S	I	R	D	A	R	■	43 O	U	T	■	■	44 E	R	A
45 H	E	A	D	M	I	46 S	T	R	E	47 S	48 S	■	■	■
49 A	S	P	■	■	50 A	C	T	■	■	51 A	L	52 A	53 T	54 E
■	■	55 H	56 Y	57 P	N	O	A	58 N	59 A	L	Y	S	I	S
60 S	61 T	E	E	L	■	62 O	W	E	N	■	63 E	T	A	S
64 K	O	A	L	A	■	65 P	A	V	E	■	66 S	E	R	A
67 I	M	P	L	Y	■	■	68 N	E	W	■	69 T	R	A	Y

The Iron Crossword

LISA LIU & KAELEE OXFORD
3A ENVIRONMENTAL



Across

1. ___ with a view
5. 27, to 3
9. Hotel amenities
14. One of the Greats
15. Face-to-face exam
16. Arm off of a larger body of water
17. PDA
18. Containers, usually having lids
19. Not sealed
20. Expression of support
23. ___ Khan
24. "___, humbug!"
25. Not picked up
28. Slow, musically
30. Short shot
32. ___ v. Wade
33. Found in field books (2 words)
36. Keats, for one
37. State of being irritated
39. Swear
41. Busy (3 words)
42. Summer '09 Waterloo Logo sound
43. Affectedly creative
44. Andean animal
48. What middlemen do
50. Batman and Robin, e.g.
52. "i" lid
53. John McCain, once (3 words)
57. Bar wedged under a wheel to prevent rolling
59. Vestments, e.g.
60. Channel
61. Guinness, e.g.
62. Andes capital
63. Greek god of war
64. Bach composition
65. Lane scrambled
66. Chipper

Down

1. Lift
2. California county
3. "The Wizard of Oz" prop (2 words)
4. Exec's note
5. Army attack helicopter
6. Dickens's ___ Heep
7. A big theory
8. "... or ___!"
9. Mum
10. About
11. Girl's hair device (2 words)
12. "A rat!"
13. Chester White's home
21. Depth charge target
22. What X-men did
26. ___-eyed
27. "Are we there ___?"
29. Type of cargo boat
30. Celebrate
31. Land of the Mormons
34. In the shape of coils
35. Mar, in a way
36. Collection of bets
37. A spar projecting from the bow of a vessel
38. Block house?
39. 30-day mo.
40. Certain intersection
43. Land
45. What Ad-block is for
46. Whiner
47. Dead (2 words)
49. Clear, as a disk
50. Skin layer
51. Singer Keith
54. Eye
55. Catch
56. What birds do with their wings
57. Popular EA game franchise
58. Ace

Congratulations to SYDE '12 for being the first to complete last issue's crossword!

The Iron Sodoku

ERIN MATHESON
2B CHEMICAL

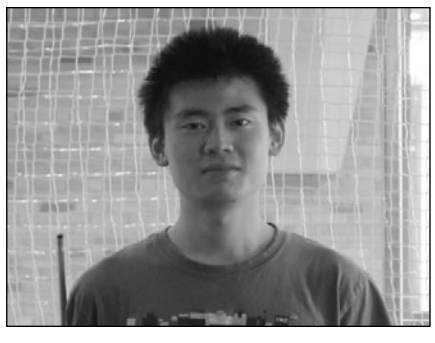
	1	3	6					
6				3		7		1
7	5				1		3	8
		4						7
			8	9	2			
8						9		
9	3		1				8	2
5		1		8				4
					3	1	9	

THE IRON INQUISITION

How excited are you for the FIFA World Cup?

Cailin Hillier, 3A Geological

Owen Coutts
1B Systems
"Go USA!"



Zhong Ma
3A Electrical
"I'm rooting for Germany."

Mat Sabhanayagam
3A Geological
"I'm pumped, haven't gone to a single class."

Phi Vo
3A Electrical
"OMG, haven't missed a game yet"

Mary Bland
Class of her own
"I'm English, what kind of question is that?"