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the IRON WARRIOR

THE NEWSPAPER OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

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Ian Leung:
Musician Adept

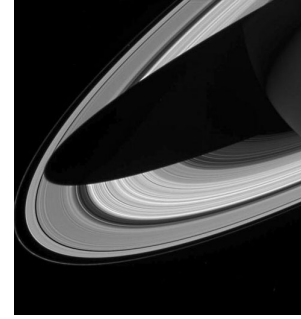
Page 8



Wednesday 28th
Rain. Maybe

Iron Warrior
Weather Report

Page 2



Cassini-Huygens
Probe

Page 4

Pranks on the POETS Patio: 08SYS Soaked by SYaniDE



Karim Lallani

3A Systems

The baby systems class (08SYS) took a class picture last week that they'll never forget. The high-spirited 1B systems class has been really active this term compared to my class (SYaniDE). They raised more money than us during Vince Week, donated more blood than us during the engineering blood drive, and they beat our class in the genius bowl. They were starting to think they were better than us, which is why we decided to show them who's the best!

Similar to a prank that we pulled on the girls in our class last term, we told the 1B systems class that it was a systems tradition to take a class picture during every summer term. Being as naive and trusting as they are, they were really excited about the picture. Since I'm a nice guy (haha), I told the class to keep their books and bags in the classroom, as well as to keep their cameras at home, because I didn't want to get anything important too wet. By saying this to them, I thought at least someone in their class would catch onto the prank, but no one did.

The class picture took place outside



The spectacle unfolds as the upper year Systems class shows the first years what Summer term should be like.

POETS, and we planned everything perfectly so that the 1B systems class would be trapped in a corner, so that we could soak them until they were all drenched. We had the standard arsenal for any water prank: water guns, buckets of water, 75 water bottles, and 100 water balloons. We didn't do a good job hiding the water bottles and buckets, because the 1B systems class walked right by everything; however, they still didn't catch onto the prank.

First year students are way too trusting!

Everything was in place, and it was finally time to take the picture. The picture that we took of them was great, because they were all happy and smiling. After the picture, I thanked them for being such a great class, and I told them to yell out 08SYS as loud as they could on the count of three. They yelled, "3, 2, 1, 08SYS!", and the battle began. 08SYS was the code word for Battle Team

Number One, who sprayed 3 buckets of water for the initial attack. Instead of running into an open field, the whole class decided to run into the corner just as we predicted. We blocked off the doors with the two biggest guys in our class, and we soaked them with water bottles and balloons. They were all thoroughly drenched, but most importantly, this will be a memory that none of us will ever forget!

Going Abroad for Exchange



Kiran Dhaliwal

3A Electrical

There are many life-changing experiences that we get exposed to through university life such as sitting in lecture halls the size of your high school cafeteria, blowing your first co-op paycheck on electronics or booze, befriending people who actually know the name "Descartes" and getting randomly whacked in the head by a phonebook. As exciting as these moments are, the one that I chose to bring to attention today is the opportunity to study abroad as an exchange student. I have first-hand knowledge of the trials and triumphs of the UW Engineering Student Exchange program since I'll be blowing this calculator stand in my 3B term. As such, the following tips should help you plan for an enjoyable term overseas.

Start Researching Early!

While it is possible to get a last-minute

spot in an exchange placement, it isn't a wise idea because there are often language requirements for schools in Europe or Asia which might stop you from being able to attend your school of first preference. You typically need to show that you can communicate well in the host language, either by having learned it at home or taken 3 university-level courses in that language.

You may need to plan for 4th year projects which often need to be co-ordinated in your 3rd year of school.

You may miss out on certain courses, or may have to take courses offered in later terms for your program and make up other courses when you get back.

There is an academic requirement of having a cumulative 70% average up to 2B before being able to apply, so plan to pull your grades up early if you think this would pose a problem for you (some exceptions for this rule have been made in the past though).

Continued on page 3. Please see "Tips to Make Exchange..."

Life in Purple



Newly-elected EngSoc President Karim Lallani awakes in the CPH Foyer to find himself completely purple.

Prof: "So who's ever seen a Z-transform?" Student: "I saw my parents doing one." Prof: "Oh really? In public?!" – Prof. Lipshitz, MATH 211

Letter from the Editor

John Olaveson

2B Civil

Editor-in-Chief



Welcome to the final issue of the Iron Warrior this semester. I've had a blast being Editor-in-Chief. Of course, I owe a great lot of thanks to my staff for all of their hard work throughout the term. I thank them all often, but I want to recognize each one now, since we don't have enough room for a staff appreciation page (despite all my efforts to fit one in).

My assistants Phoebe and Kiran. Phoebe has volunteered to be the Editor one day, and has kept things moving in the office in the meantime. Kiran organized the editing duties to make sure typos were a thing of last semester. My layout editors Cindy and James. Cindy kept me awake until 4 am the day of the first paper, then my lenient side came through and I sent her home. She's the most enthusiastic writer on staff and has threatened me if I don't give her one of the staff awards. James has been a huge help in the office. The paper before your eyes has a lot of his hard work in it. He will be taking over as EIC next semester, so let's all give him a big thanks (while I sigh a breath of relief). And another pat on James' back for the new submission system which makes everyone's job easier (no more email tag!).

To all my copy editors. Old Man Musser kept me awake during lectures, always rudely and always getting a laugh from those around me. Alyssa my beloved housemate is leaving me for another man. Derek just appeared sometimes and disappeared like a wraith but he's another example of the wonderful first-years we have around here. Keith tried to resist my recruiting tactics while we were working at the airport, but in the end I got to him. Kevin was also quiet during the semester but was a steady force. To all of you and the first four people I mentioned, your efforts spared me hours and hours of meticulous, detailed work with a red pen.

A shout out to all my writers, the people that keep me from writing millions of words worth of meaningless garbage (because after the first few words, I've got nothing left of value... except the next few paragraphs, which I've been saving all semester). Mike wrote about sports and concerts and the ridiculousness of Village life, Ed related the benefits of MSG, Francis prepared a beautiful piece on

Professor Macdonald and then made fun of me, Dan gave us all a history on the engineering profession, Huy was our biggest poetry producer, Alicia told us all of life in Waterloo, Sung Hon was mostly quiet but gave us all a brief and accurate look at the national leader's debate, Elisa shared her literary experiences, Tsu captured the opinions of the populous for each issue's Iron Inquisition, and lastly High Rider for his superior attitude which led to many hilarious moments. I think LowRider! is offering rewards for the capture of High Rider, but this is just a rumour.

My thanks to Mat for use of his camera, to Elliot for his camera when Mat was gone and the two pieces he sent in, Richard for his random help, Naoreen for putting up with me, and the other one- and two-time contributors.

Some other people have helped bring me to this point. Jeff Henry kept things in top shape through the winter and left me with lots of little problems to sort out (who needs a desk lamp?). Joseph Fung and Maria Simoes taught me how to lay out the paper in an eye-pleasing fashion, and Joseph had the additional pleasure of training me for the duties of Editor-in-Chief.

For those of you who will be following the IW next term, Andre Beltempo will be in the command chair. Good luck to him. We in the office now hope he can recruit us some eager and eloquent 8-stream Frosh to join our staff next winter.

And what list of thanks would be complete without a mention of the Exec, those happy people who keep this school's social functions running and are almost always late with their reports? Well, I hear they were slightly better than last term, but not by much! Levits, Strickland, Grant, Emma, Alfonsi, and Erin, thanks for putting up with my constant bi-weekly hounding. Grant and Erin were the only ones to miss an issue. Grant says it was because nothing interesting ever happens with finances. What a lame excuse!

To the new EngSoc Exec, look forward to at least one semester of me hounding for exec reports. I have promised some of you that I will be a chimp on your back and I intend to stick to that. Oh, and congratulations. I'm sure all of you will prove to be wonderful workers and will keep our halls full of the cheers of excited students.

For anyone who is looking for an editor's position on the next Iron Warrior staff, on-line submissions will soon be available. There will be an email sent out to the b-soc mailing list when the form is ready. Keep your eyes open, and remember that I won't be there to harass you next semester. James

is a great person and won't yell at you like I do. If you just want to help us out in the future, look for meeting advertisements early in the winter. Or talk to James. We always like to see new people.

There are some people who brought my semester down. Those people tend to sit in the back of the lecture room during my classes. These people never learned the fine art of shutting up. When they attend lectures (which is often, considering how extensive their personal lives seem to be), they talk and talk and talk, so loud that most everyone now knows too much about their lives. These people have been told repeatedly by professors to be quiet. My favourite quote came from Professor Rothenburg; "Paul, shut up!" Too bad Paul is just one of many culprits. I could name more, but I am afraid I would miss some people and they would feel left out. I'm sure they all know who they are, as does the rest of my class.

The non-stop talking of these people has caused problems for the rest of the class. Those of us who try to learn from lectures (hard enough to do when Calculus is involved) have to fight to hear the professor over the white noise coming from behind us. Airplanes and fire alarms I can live with, but these people never let up! Professors are warned that our class is unruly and impossible to control. Senior professors are now allowed to refuse to teach our class. The professors you upper year civils remember teaching your courses are not the same as the ones we have, thanks to a bunch of inconsiderate people in the back two rows of my classes.

This behaviour has been going on since 1A. Myself and my classmates and professors have been hoping that they would mature enough to realize that they are being rude. No such luck yet. They don't even have the decency to fail out!

I wish that they would leave my class in peace so we can enjoy our academic days in this school. Well, enjoy them as much as anyone can enjoy academics.

If anyone wants to hear the uncensored version of this editorial, come by the IW office, or stop me in the halls. It may surprise you to learn that I am capable of swearing. But I will be professional and leave my bad words out of this fine paper.

Questions? Comments?

We welcome letters and feedback from all our readers. Please email us at:

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the IRON WARRIOR

The Newspaper of the University of Waterloo Engineering Society

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Iron Warrior Weather

Sunday 25th

Rain heavy today, like the rest of this so-called "summer."

Monday 26th

100% chance of you having too much work to do this week.

Tuesday 27th

Partly cloudy. Try to forget about work and enjoy any sun you see.

Wednesday 28th

Rain. Maybe you should work on the six assignments due in the next two days.

Thursday 29th

Rain again. Last day for procrastination unless you're in arts.

Friday 30th

Last day of lectures. Only partly cloudy, so plan a nice picnic for tomorrow.

Saturday 31st

Today it will dump rain on the nice picnic you planned yesterday.

Sunday 1st

Rain again. Recapture your childhood by playing in some mud.

Monday 2nd

Civic Holiday. More rain expected, so that everyone can "enjoy" the "day off."

Tuesday 3rd

The only nice weather this term - too bad finals start today.

Wednesday 4th

Partly cloudy, with a 40% chance of failure for your exam.

Thursday 5th

80% chance of showers today. Sleep in unless you have a 9:00 exam.

Friday 6th

Partly cloudy to make you think the weekend will be nice again.

Saturday 7th

Respite from finals for most, but crappy weather.



High Rider

3A Electrical

Dear High Rider,
If you owe a bookkeeper \$50,000, and you don't pay him, and he shoots off your foot, why do you still owe him the money?

-I.M. Limpy

Dear Limpy
I was going to comment extensively on the interconnectedness of the laissez faire economy, the astute observations of Machiavelli on Florentine politics, and your current difficulties. However, I have just realized that, from the sound of it, you are not likely to pay this \$50 000 anytime soon, leading me to infer that in the not so distant future, other and more essential parts of you will be obliterated in the same manner. Thus, you can hardly benefit from my wisdom.

-High Rider

Dear High Rider,
I see you're enrolled in the co-op system, but you have not applied to any jobs. What's going on?

-JM

Dear JM,
The co-op system must be the most flagrant fraud in existence. Of my many terms here at Waterloo, only less than half will have been filled through co-op, and they are easily the worse half. I am fortunate enough to pursue more worthy alternatives, although there is the forfeit of more than \$400 in order to avoid using this repugnant system.

I am the last person to unfairly generalize, but co-op jobs stultify creativity, pervert your morals, cause permanent brain damage, increase suicide rates across the board, encourage the wanton use of hardcore drugs in order to escape such an iniquitous life, and rob you of your soul. Finally, and worst of all, they make you look forward to your engineering classes as a respite from such a horrid existence. I could say much, much more, but I believe that is enough to answer your question.

-High Rider



Sung Hon Wu

4A Computer

As a 4th year student there are a lot of important decisions to make. For example, the decision on what to do after (gasp) I graduate. I could decide to pursue grad studies, only to find out my marks are not high enough. Or I could start full time work, only to find not a single employer will give me interviews, let alone hire. Then there's the decision on where to live; go back and live with my parents, or strike out to find a cave (house) to call my own. The decision could be to fulfill the dream of backtracking through Europe at the cost to my (meager) savings. These are all tough decisions, but I recently found the toughest one, what quote to put in my Rigidbook spot.

You may laugh, but its true, it is so much harder than the other ones. There are a hundred landmines to go through in selecting that perfect picture and quote. First the picture. There were eight for me to choose from. The first problem, the photographer must have a grudge against me because he seems to have messed every picture. There's one with my head off center, another one where a pimple is so big its looks like my face has a volcano on it. After two visits and a lot of soul searching, I decide on what I think is the least unacceptable one. Hopefully no one will take my picture and put it into a horror movie someday.

Then there is the quote, the oft-dreaded quote. The last time I had anywhere near this amount of dread was in high school for my yearbook, when I had to make a 75 word quote. That was longest 75 words I ever had to think up. I think I sweated blood trying to find the right combination of 75 words that would be inspirational, pay homage to my family and friends, and still be interesting without sounding fake. And now they ask me to make it 250 words, 250! Four times 75! This is like trying to kill me 4 times. Sure I have the option of not having a quote, but then I'll forever be remembered as just a name and a face, an ugly face at that.

The first important decision, should I put in a quote from someone else? In high

school I had my favorite quote and poem by the poet Robert Frost, Stopping By Woods On A Snowy Evening,

*"The woods are lovely, dark and deep,
But I have promises to keep,
And miles to go before I sleep, ..."*

So if I decide to put in a new quote, it has to be different, but what and from whom? I could go for an inspirational quote, such as,

"Our greatest glory is not in never failing, but in rising up every time we fail." Ralph Waldo Emerson.

Or I could go for something witty like, *"I don't know half of you half as well as I should like, and I like less than half of you half as well as you deserve."* -Bilbo Baggins (The Fellowship of the Ring: J.R.R. Tolkien)

Or I could go for trusty Murphy's law, *"If at first you don't succeed, destroy all evidence that you tried."*

A very difficult choice indeed.

Beyond just quoting someone else, there is the personal blurb. Now this one gets very tricky. Should I acknowledge my friends, for all the great things they have done for me and if so, how many should I acknowledge? Acknowledge too few and some people are going to be hurt, thinking that I obviously have some secret grudge against them. Acknowledge too many and my blurb looks silly with references to people who I really never knew. Then there is the even worse minefield, how should I acknowledge my significant other of the moment? If I get one word wrong, the explaining of why I would use the words "mean" vs "meant" will never end, as in "You meant a lot to me" vs "You mean a lot to me."

I think the proper policy to employ is to give a quote to all your friends and significant other(s) (for those who have more than one the blurb may create some tensions!) and let them vet it. Its like how they vet a potential vice-presidential candidate, the candidate quote will be tested for anything offensive, upsetting, politically incorrect and if found guilty, purged and never to be seen in the Rigidbook.

After this exhausting work, I didn't succeed in getting that all-important quote on the first try, so now I will follow Murphy's law, and destroy all evidence of this article. If you see my Rigidbook quote, well, I spent 5 minutes on it and it was so easy to write one....

Techbytes

Stop buying DVDs!

Bill Gates, the genius who once reportedly predicted that 64k of memory would be plenty for everyone, and that tablet PCs would be replacing paper in no time, is boldly predicting that optical discs such as CDs and DVDs will be obsolete in 10 years. He told a German tabloid that CDs and DVDs are way too easy to lose and that no one would want them. As an alternative, he suggested that people would have super-intelligent bots in their homes that can read minds and know exactly what you want to watch or listen and start playing it the moment you step into the house.

It sounds freaky.

That prediction came on the same day when Microsoft, along with a few other companies, had decided to allow limited copying of next-generation DVDs onto portable devices. Coincidence, or a marketing ploy?

Dot-com stocks

Analysts are predicting a general decline in the value of dot-com businesses on the stock markets. After Yahoo! revealed that its most recent quarterly results only matched expectations, net stocks took a dive. Competition on the net is heating up once again, and many businesses are having trouble finding new, lucrative customers. As a result, many believe dot-coms that "just match" analysts' expectations are no longer sufficient to ensure that a company will be able to generate attractive growth in the future, especially since the current share prices of the internet sector are already overvalued. Many of these share prices have already taken into account the most ambitious growth projections, and any result falling short of being spectacular will naturally cause investors to re-evaluate their options.

For example, Netflix, the leading online video rental service and retailer, saw its share price drop by a quarter after its results fell short of expectations.

Tips to Make Exchange A Fun And Enriching Experience

...continued from Page 1.

Visit the Undergrad Exchange Office and their website at www.eng.uwaterloo.ca/~exchange.

The exchange website has lots of useful info from choosing courses in exchange schools, travel tips, forms, links for exchange partner schools and much more.

You can also visit Cindy Howe at the undergrad exchange office for more specific information after you have done your preliminary research into the school(s) of your choice.

Important deadline information is also available on the site, so pay close attention to that.

Talk to previous exchange students

These students may have travel tips and can possibly tell you about the fun places they visited.

They can tell you how they dealt with administrative issues at the host school

such as timetabling, buying textbooks, getting into residence etc.

They can relate their problems with you as well, such as bad residences, bad courses, avoidable expenses, illnesses etc.

Health

Call the Waterloo or your hometown's travel clinic to find out which vaccinations you may need before you leave. Keep in mind that most of the vaccines are not covered by OHIP, but your personal health insurance plan may reimburse you for the costs.

Find out from the travel clinic or through your own research if there are any other health risks you face, such as food-borne or water-borne diseases.

Investigate the necessity for extra health insurance while you're overseas. Some health insurance plans cover you for only 60 days out of the country, while the UW health plan usually covers up to 150 days out of the country.

Miscellaneous Info

Don't trust the deadline for exchange since some exchange opportunities fill up well before the deadline.

Look for cheaper flights through travel agencies that cater to a particular region of the world (e.g. European countries or Asia) whenever possible because they often hold tickets for members of their community, up to the last minute.

Check out www.iadora.com for reviews on exchange experiences at schools around the world, by international students.

Make sure you have all the proper travel documentation up-to-date, such as your passport and visa, as well as copies of your passport, ID cards and other pertinent documents.

You will probably need to open a bank account in the country you visit, so look into the necessary steps to do that with each bank.

Apply to the scholarships offered by

UW for students going away on exchange in order to buffer some of the travel costs.

Find out about how the marks are evaluated at other schools because many of them run on a credit/no credit system. This means that your UW transcript will not have numeric marks that term.

With this advice in mind I hope you can plan to take advantage of the socially and intellectually developing opportunity that studying abroad can provide. Being able to work or study in another country can be a real eye-opener to the way our global community lives, learns and works. It also gives us a chance to represent our own great nation and perhaps motivate more international students to come here. Ultimately, going on exchange provides students and international communities with a unique experience that can have a lasting impact on both. Now if only your reprieve from the demands of UW engineering could last that long...

Columns

Who Owns Your Water?

Scott Griffiths

2003 Systems Design Alumnus

Actually, it doesn't seem like anyone does. According to recent discussions at UW on water privatisation, anyone could tap our ground water and drain it without paying for the water itself, so long as they could afford the nominal registration fee with the local government. UWIHDA (UW International Health Development Association) and EWB (Engineers Without Borders) put on a double-header focused on water privatization last week. UWIHDA invited Sara Ehrhardt, Water Campaigner for the Council of Canadians (SYDE '03) to introduce the documentary "Thirst", which was recently released. On Wednesday, EWB hosted a discussion group on water privatization and issues surrounding the world's water supply. Here is what transpired.

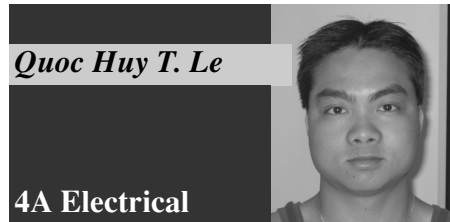
Private companies own approximately five percent of the world's distribution and treatment facilities. Governments in developed and developing countries have contracted out the development and operation of water facilities to only five companies worldwide—they are French, British and American. Reasons why these companies are invited are very different in developed and developing countries. As "Thirst" pointed out, the community of Stockton, California invited in a British company to manage its water because of over US\$170 million in potential savings. In Canada, Hamilton, Ontario has had a private company managing its water facilities for many years and whose contract will come up for renewal this year. In developing countries, private companies are invited into developing countries to install new water systems that can result in increased water prices of between 30 and 300 percent, as in Cochabamba, Bolivia. In the poorest country of South America, increased water prices meant that the poorest of the poor could no longer afford to buy water. As a result, citizen resistance forced Bechtel, the American company invited to operate Cochabamba's water, to leave promptly.

Bottled water is a separate but equally alarming issue in the privatisation of water. Marketing around bottled water has yielded billions of dollars in profit to multinationals such as Coca-Cola and Pepsi, even though water quality is often no different than what comes out of your tap (You've heard of 4x filtered water? Go to Mississauga and you'll find the same quality water.) Why don't we just trust our municipalities to supply us with the same clean drinking water they always have?

So in the age of a looming "water crisis" we asked, what can we do? Perhaps we shouldn't be watering our lawns with valuable and costly potable water and collecting rain water instead. Perhaps we should resist the temptation to buy bottled water, which encourages companies to drain our water tables and export the water elsewhere. (By the way, one of the largest sources of water for bottling is just north of Waterloo, so in effect we are draining our own water table.)

Next week's EWB discussion group will focus on genetically modified organisms (GMO). Please join us Wednesday, 28 July on the Grassy Knoll (beside the Grad House) at 12.30pm and bring your lunch. Remember to look up the articles we've posted about GMO on our website, <http://www.uwaterloo.ewb.ca/>.

Space... The Final Frontier Now It's Privatized



On Monday, June 21, 2004 at around 8:15am PDT the first privately funded manned spacecraft landed safely 90 minutes after successfully taking off and leaving Earth's atmosphere. The jet named "White Knight" blasted off with the rocket "SpaceShipOne" from Mojave California. At a height of about 15,240 metres off the ground, the two separated and the SpaceShipOne 63 year-old pilot, Mike Melvill accelerated to Mach 3 to attain the target altitude of 100 kilometres. There were a few glitches in the flight, though. The pilot reported that he heard a loud bang. It was later suggested that a part covering the nozzle on the back of the plane may have buckled causing the noise.

The spacecraft was designed by Burt Rutan who also designed the Voyager airplane that flew non-stop around the world in 1986. Coincidentally, SpaceShipOne was funded by billionaire Paul Allen who is a co-founder of the Microsoft Corporation. SpaceShipOne is eligible to compete for the Ansari X Prize which awards 10 million dollars to the first three-member team to place an aircraft 100 kilometres above the earth's surface, return, and then do it again within two weeks with

the same craft without government or military funding. The purpose of this contest is to promote private space flight.

This event is a historic landmark not so much because of the fact that this is the first time private funding has put a man into space. It is important because it is an indication that technology and applied science have evolved to the point where space-travel can be affordable and even profitable for the private sector. Even though, for the mainstream corporation, affordability is marginal at best, the notion that super-atmospheric travel will become profitable in either this or the next generation becomes more of a reality as each successful trip is made into space.

The region just above our atmosphere is not the only target for private endeavours. Project LETO (short for Lunar Exploration & Tourist Organization) is the first major project that strives to make the moon a tourist attraction. There is even a company called "Buried on the Moon" based in Kansas that is dedicated to placing the cremated remains of 2,016 lucky individuals on the moon within the next two years. Now, whether these goals are attainable or not is not the point. What counts is that there is both sufficient demand and means for private companies to begin to consider the possibilities that lie beyond our planet.

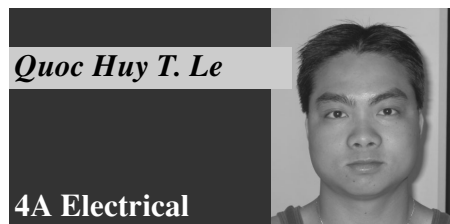
On the flip side of things, one could ask, "Private corporations putting people in space? Is that a good idea?" These concerns are not at all unfounded since the

goal of any corporation is money and profit. It is not inconceivable that corners may be cut and "acceptable sacrifices" may be made in the name of business. But what else would you expect from a future where outer space will undoubtedly be ruled with a capitalistic philosophy? Unfortunately, it might take a few disasters before corporations will finally settle into an agreement with the ethics and cost of space travel. But it will be done. After all, isn't flying, statistically, the safest way to travel? So, too, shall space-travel become a safe and economical mode of transportation.

Speaking of safety and ethics, that's where we, the future engineers of the world, come in. A new area of exploration and a new market of exploitation mean new challenges in both design and innovation. The balancing act between cost and safety, functionality and simplicity, and speed and accuracy ultimately lie in the hands of the engineers. With the space market soon open to competition, the driving force that was needed to push the envelope of technology even further will have finally arrived.

So here's to Mike Melville and his privately funded spacecraft. The doors to interplanetary space have been opened and the moon is ready for business. May the future engineers of the world exercise their brains and talents to make this space-bound future a reality. Let the bidding start. But remember, the sky is no longer the limit!

Cassini-Huygens: Saturn Up Close



Wednesday, October 15, 1997: a three billion dollar orbiter named after Italian mathematician Giovanni Domenico Cassini and a probe dubbed in honour of Dutch physicist Christiaan Huygens is launched from Cape Canaveral Air Force Station in Florida. It travels a distance of 3.5 billion kilometres. Nearly seven years later at 9:12 pm PDT on Wednesday, June 30, 2004, Cassini-Huygens fires its main nuclear-powered engine for approximately 96 minutes as part of a complex insertion manoeuvre designed to allow Cassini-Huygens to be captured as a satellite of Saturn.

Cheers of joy rang out at the Jet Propulsion Laboratory, a division of the California Institute of Technology, when the first close-up images of Saturn's rings were sent back from Cassini approximately 1.5 hours after it entered orbit (about the time it takes for a radio signal to travel from Saturn to Earth). Because of this massive temporal delay Cassini's orbital manoeuvres had to be completely automated so there was much apprehension at headquarters as to whether or not Cassini entered orbit safely. Fortunately, Cassini was able to enter in between two of Saturn's outer rings known as the F and G rings.

Cassini's mission will span about four years. During that time, the Cassini orbiter is scheduled to have a close flyby with seven of Saturn's thirty-one known moons (Titan, Mimas, Tethys, Hyperion,

Dione, Rhea and Epimetheus. Fittingly, it was Giovanni Domenico Cassini who discovered the moons Tethys, Dione, Rhea and Lapetus in 1684, 1684, 1672 and 1671, respectively. During the course of its seventy-six orbits around Saturn, Cassini will gather data about Saturn's gaseous surface and stormy winds. Some of its time will be spent studying the rings around Saturn. (It was also Domenico Cassini who discovered the large split in the Saturn rings which, today, is called the "Cassini Division"). This includes the separation of the rings into concentric bands and the role that the "shepherd" moons (Pan, Atlas, Prometheus and Pandora) have in maintaining the structure

"The Saturnian system may give hints and clues as to the origins of our solar system."

of the bands.

One of the primary missions of Cassini-Huygens is the study of Saturn's largest moon, Titan. Titan is of particular interest to planetary astronomers because it is the only moon with an atmosphere. Scientists believe that the atmosphere on Titan right now is similar in chemical composition to the atmosphere that was present around Earth before life began to develop. The only difference is that Titan's development, because of its smaller size and its extreme distance from the Sun, may have been retarded or halted due to the lack of solar energy.

Cassini's close flyby of Titan is scheduled for Tuesday, October 26, 2004. On Christmas Day of this year the Huygens probe will separate from the Cassini

orbiter and head towards Titan. (Quite fitting, considering it was Christiaan Huygens who discovered Titan in 1655). On Friday, January 14, 2005 Huygens will begin its decent towards Titan which will take the form of a twenty-day ballistic freefall immediately before it hits Titan's atmosphere. During its parachute through the atmosphere Huygens will begin 2.5 hours of intense scientific observations during which it will transmit data to Cassini which will relay the information back to earth.

So what's so interesting about Saturn and its rings and moons that warrant the expenditure of over three billion dollars plus several hundreds of thousands of man hours from seventeen different countries? Aside from unlocking the secrets of Saturn's characteristically enigmatic rings and Titan's unique possession of an atmosphere, the study of the Saturnian system may give hints and clues as to the origins of our solar system. The rings around Saturn provide a rough model of the particle rings that orbited our Sun several billion years ago. Another property that has scientists puzzled is why Saturn is the only planet in our solar system to have its magnetic poles perfectly aligned with its orbit. What Cassini discovers may have geologists rethinking their theories on how planetary magnetic fields form.

So keep your eyes and ears pierced for the next four years while NASA, the European Space Agency (ESA) and the Italian Space Agency (ISA) announce more discoveries about Saturn and its sidekick, Titan. You can also find breath-taking pictures at the official websites: <http://www.nasa.gov/cassini> and <http://www.esa.int/Cassini-Huygens>. In the meantime, buy yourself a high-powered telescope and exercise your imagination.

POINT VS. COUNTERPOINT VS. COUNTER-COUNTERPOINT

Which Diet is Worse, Atkins or Village?



Well, you have decided to go on a diet and have decided to go with the latest fad. Although the McDonald's is probably the most renowned diet right now, made infamous by the film "Super Size Me", chances are you probably want to lose weight rather than becoming a big fat dynamo with liver failure. Since this is probably the case you would default to the next over-hyped diet - the Atkins.

The Atkins diet is supposed to "knowledgeably select which foods to eat based on your need to achieve weight loss and weight maintenance, enjoy good health and prevent disease."

The primary principle behind the diet is that "Both carbohydrate and fat provide fuel for the body's energy needs. Carbohydrate is the first fuel to be metabolized. However, when the intake of digestible carbohydrates is sufficiently restricted (without caloric restriction), the body converts from the primary metabolic pathway of burning carbohydrate to burning fat as its main energy source. This results in weight loss." Okay....., then you are supposed exercise and eat in moderation to keep the diet working. For more information go to "http://atkins.com/why/index.html". However, I am very sceptical about whether the diet really works better

than any others and that most people think it is a miracle weight loss formula. People will lose weight when they exercise anyway.

Now I am already a very slim individual so the people who know me may be wondering why I am taking on this assignment. It's simple, the editor told me to. My long and arduous diet with the Atkins began on Wednesday. So I sat down, turned on the TV and tried to decide where to go. That's when Jared (the Subway spokesman) said to go Subway, so I did. There I tried the Turkey Breast & Bacon Melt; the next day I tried the Turkey Breast & Ham. Then as I decided that I never wanted to eat a Subway Atkins sub again. I had an epiphany why diets don't work. Foods that people diet on are nasty, and are either bland or disgusting. Hey, if I can't keep on Atkins for two days, how is anyone supposed to keep doing it for life? Furthermore, these diets are a complete rip-off. \$11 for a sub with a bag of chips and a pop. What? I can't help but think that Subway is pretending to perform liposuction on the obese of America, but is only ripping people off and disillusioning them with false hope. Maybe Jerad didn't ever lose weight! After all, did anyone see the pictures of him before he lost weight? Did I lose any weight? NO. Maybe Subway is simply a quick scam to get money off us. Could it be that Subway is the new evil empire of the food industry? Step aside McDonalds and Starbucks. Maybe, maybe...

P.S. Please don't sue me with slander or send your corporate 'hit men' after me.



Living in Village 1 for my first year at the University of Waterloo, I learned many lessons that will carry with me for the rest of my university experience. The biggest lesson is that home-cooked food is the best thing to happen to me this term.

Having gone on the Village 1 diet for four months, I can honestly say, I would rather take the time out of my busy engineering schedule to cook a nice hot meal. My diet consisted of chicken, more chicken, and pasta. I mean seriously, I like variety, but day in and day out, they continue to feed us the same food over and over. Every other day they have had a chicken dish for the "dinner meal". See, I do not mind chicken. There are barbequed chicken, grilled chicken, breaded chicken, fried chicken, spicy chicken, etc., but Food Services seem to not understand this. They give us the same chicken dish every time. You all know the phrase that everything tastes like chicken. In Village 1, they take that to heart, and make you chicken.

Also, I have eaten so much pasta here that it will make Italian restaurants jealous. The pasta does not even taste good. It's the same ravioli day after day. I must go into the caf at least twice a day, and that is all I see. The theory is, the un-eaten food that goes down the mystery shoot ends up as

beef ravioli. A lot of people do not eat their food because they cannot stomach it, or are just too full from all the fat. So the beef ravioli ends up on the tray every night. This is just a theory, but it makes one think.

Speaking of taste, Village 1 caf food lacks it. I do not think they have heard about salt and seasoning. Here is a lesson for them: it is this lovely stuff that comes in a box from any grocery store and has big letters on it saying "SALT". I love how I have to put the brown mystery sauce on my food to give it some flavor. It's not that hard; they take our money, they better make my food taste good with it. Lately, the food has tasted better, but I think it is because they are hosting the girls 14-17 year-old volleyball camp. It makes the university look better that way.

I feel bad for the girls staying here, and eating the food that I have to eat everyday for a term. I put on my frosh fifteen in 4 months in 1A. I did not even spend all my meal plan money from last term, and I still put on all the weight. How is that possible? The other thing that I have noticed while on this diet is that I am easily frustrated, and raging a lot. I do not know if that is Waterloo Engineering's fault or the food's fault, that's for you to decide.

Editor's Note: Point vs. Counterpoint is intended as a forum for objective and thought provoking debate on various issues. The views and opinions expressed here do not necessarily reflect those of the author(s), the Iron Warrior, or the Engineering Society.

Engineers Finally Build Something... and Then Break It

Neal Damgaard
2B Civil

On the afternoon of July 14, most of 2B Civil showed up to what was undoubtedly the best-attended Solid Mechanics tutorial of the semester. As a voluntary attempt at extra credit, students of the CivE 205 course had been encouraged to design, construct, and test their own Popsicle stick bridges. The requirements of this project were simple: the structures had to weigh at least 200 grams and span 750 millimetres; dimensions were also given for clearances above and below the test level, as well as for the maximum height of the bridge deck. The building materials were equally simple: Popsicle sticks, florist wire, and general purpose glue were all that was permitted. Bridge strengths were quantified by their capacity divided by their weight squared,

with a maximum permitted deflection of 30 millimetres.

Many types of bridges were found among the entries into the competition: there were trusses and suspension bridges, pre-stressed spans, arches and hanging decks, pin-connected determinate structures and composites of the above. The structures ranged from sturdy and low-profile beams to tall and intricate truss combinations.

Many of the bridges also showed a large amount of imagination and intuition. Two good examples of this were Team 4's inverse-parabolic suspension bridge, which was oddly evocative of a canoe, and Team 7's twinned-arch structure. Others showed a high degree of craftsmanship, especially the carefully constructed truss of Team 8, which was wonderfully symmetrical.

The amount of pride invested in the

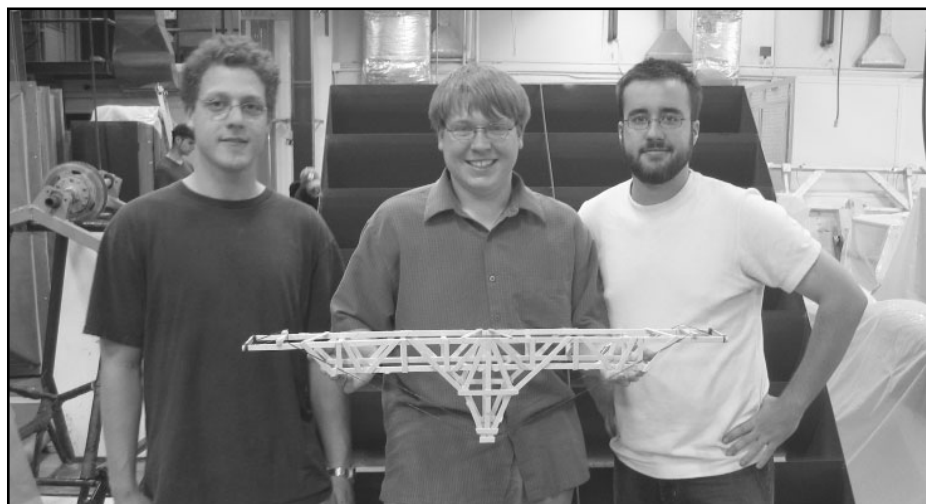
structures was also evident. Students not generally given to outbursts cheered when the bridges flexed and failed. The team members watched intently while the structures were tested, sometimes not wanting to look but at the same time finding it difficult to turn away. Photographs were taken of the teams with their bridges, like proud parents with their children, and the spans were often set up in the testing machine with a care that could not be explained by competitiveness only.

First prize went to Team 10's lightweight combination truss and inverse suspension bridge. This structure scored an impressive 868, weighing only 225 grams and having a capacity of 44.0 kilograms. Second place went to the highest-capacity bridge of the competition, an uncomplicated and brawny low-profile inverse suspension bridge, the creation of Team 3. This bridge was able to sustain a load of 79.8

kilograms while weighing only 304 grams, giving the team a score of 863, only five points behind first place.

The educational value of this competition should not be underestimated. It represents one of the few opportunities available to the CivE people to independently exercise creativity and design philosophy. Much of what goes on in class consists of a simple true-false, correct-incorrect bifurcation, which, while obviously necessary in the context of the studies, nevertheless has little in common with the engineering industry.

In addition to this, however, the competition was quite simply a lot of fun. Many of the participants enjoyed the experience greatly, and at least a few were thinking of retooling and retesting in order to prove the functionality of their designs to some of the more cynical observers among the class.



The winning bridge proudly displayed before it got crushed.



Group 3 shows brawn to match the brain that went into their bridge design.

Engineering Society Executive Reports

A Teary-Eyed Goodbye

Josh Levitz

President



Ladies and Gentlemen, after 32 months of being on exec, and about 184 Iron Warrior articles, this is my final writeup as an EngSoc exec member. Before you all start getting teary eyed and depressed, think about it this way: They're newspaper articles, that's all! Now that we have that cleared up, let's get into my thank yous and goodbyes.

First of all, I'd like to say thank you to my exec for the past 16 months. Jeff, Emma, Strick and Grant, I couldn't have done my job without you guys and I appreciate everything you've done for me and the Society. I feel we left the Society in an amazing state, and you should all be proud of a job well done. For the new exec, we'll be watching you every step of the way (except maybe Wednesday nights... Bomber comes first), so if you need anything, don't hesitate to ask any of us. Karim, you look good in purple, but I think I may have looked a bit better.... ya not really....

To everyone else I've worked with over the years, it's been a pleasure. Our directors and volunteers make this society what it is, and I appreciate all the help you've given us. I've met some of my best friends through EngSoc, and I can't

explain how grateful I am to have had the chance to work with so many student leaders. Keep up the good work, and I'm still around for another term if anyone needs some extra help with directorships!

And a special thank you to Mary Bland. Your help during my exec terms allowed me to do my job to the best of my ability. I would've been completely lost without your guidance and I owe you for that. Oh and I do appreciate your crazy British humour... it actually sounds funnier with that accent of yours! Take care, and good luck with the new exec—be sure to whip them into shape!

There's one more person I've missed who deserves my thanks more than anyone... Tom Jones, you've gotten me through the hard times. And you're right TJ, it's not unusual to be loved by anyone! Don't know where that came from, but we'll go with it.

I would love to be able to thank everyone individually, and I'm sorry I don't have the room to. I wish you all the best of luck in the future though, and I am going to miss the good times I've had being on Exec. My university career would not have been as amazing as it has been if it hadn't been for the Engineering Society. So this is it for me...if anyone has comments or otherwise, you can still email me at bsoc_prez@engmail until the end of the term, or at jalevitz@engmail from here on in. Take care and I'll hopefully still be seeing everyone around.

Josh "32 Months and it ends with an article" Levitz

Blood Drive, Canada Day

Jeff Alfonsi

**Vice President,
External**



Thank you, and a bid adieu. This is my very last exec article. In lieu of updating you on current issues (ok, there aren't any pertinent ones), I wanted to take this chance to thank everyone.

First and foremost, I gotta thank my mother, because no thank-you speech is complete without a shout out to mom. Next, on to my dearest exec: I will miss you. Emma was always knee deep in the proverbial administrative BS; Grant had such cute and witty remarks; Erin was well endowed; Matt is a genius; and Josh was the man who got me involved with EngSoc (and it only took 2 trips out West to bribe me).

My directors have done so much for me. Charities were unbelievable, the Santa Claus parade and Canada Day were massive successes, and WIE and Bridging the Gap are taking on new and improved forms thanks to their respective directors. Hopefully Vince Day and the Blood Drive Competition (both started by systems class...SYS-DUMS) will continue to mark UW Engineering as leaders in the community. There are so many directors I wish I could explicitly thank here. You all rock like Neil Young in the free world!

To tie things up, I would like to thank Mary for helping me learn the ropes as VPX (you are so much better than the rest of those British wankers...haha). John and Cindy, thanks for putting up with my tardiness in submitting these articles.

I had a blast and wish I could have done more. Right now EngSoc is hot like Carmen Electra in chaps. With a tear and a wave of my hand, I wish good luck to my new exec.

Great Events Next Term!

Andrea Rayner

**Vice President,
Internal - Elect**



First off, thanks so much to everyone that came out and voted in this year's elections - that's awesome!!

Secondly, thanks for voting for me!

You guys rock.

The next few terms should be really great. I'm very excited to work with the new Executive. I've got a whole bunch of ideas for some really great events and I'm looking forward to working with all the new Directors. If you ever have any questions, or ideas you'd like to share, feel free to let me know. I don't bite... hard... I hope that everyone has a fantastic fun filled work term, and we'll see you again in January!

Apply for Directorships!

Karim Lallani

President - Elect



I am thrilled to be your new EngSoc president. On behalf of the new exec team, we are all very excited and we look forward to working with you over the next 16 months.

Starting in September, I will be working for YOU, and I will be YOUR voice. I want to keep the lines of communication very open, so if you ever have any suggestions or concerns, don't hesitate to get in touch with me.

Before I get down to business, I just want to thank the current exec team, because they have done a spectacular job over these past 15 months. During this time, I have seen an increase in participation at EngSoc events and the creation of awesome new events such as Genius Bowl. They have put out countless hours of their time in order to keep the Engineering Society up and running, so they definitely need to be shown some appreciation. If you see any of the current exec in the hallways, you should give them a pat on the back (not with a phonebook), and thank them for doing a wonderful job.

My first order of business is to choose the directors for Winter 2005. There are over

125 directorship positions available, so make sure you apply, even if you've never done a directorship before. I'm on the search for some new faces in the Engineering Society, so if you want to get involved and meet new people, you should be an EngSoc director. I've added a few new directorships, so be sure to read through the descriptions of available directorships. You can apply to a directorship electronically on the EngSoc website or you can pick up a hard copy of the application in the Orifice. The deadline to apply is Monday July 26 @ 4:30 p.m. There will be NO exceptions to this deadline!

The foundation of the Engineering Society is its directors, so please spread the word and we'll hopefully have a great group of spirited directors!

My goal as EngSoc prez is very simple and it can be described using two words: BIGGER & BETTER. This will be my motto, and the motto that I will spread to both the directors and executive. I will motivate everyone to strive to make every event and service that EngSoc offers bigger and better. While I'm president, I promise you that you'll see a dramatic increase in participation, fun new events, and a dose of some much needed flavour to spice up the Engineering Society.

If you have any suggestions on how to improve EngSoc or concerns about anything, don't hesitate to e-mail me (klallani@uwaterloo.ca).

Conferences and More

Christina Waters

**Vice President,
External - Elect**



Such an exciting time we are in! Exams are coming, coffee is being injected intravenously, the end of term is approaching and the new exec is planning a takeover. Credit must be given to Jeff, who has done a wonderful job representing Waterloo engineering students and getting us in touch with the outside world....a tough act to follow for sure.

So, what is in the future? The well-rounded engineer theme is going to be exercised thoroughly in the Winter term and you can be sure that Bridging the Gap

will envelop a whole new meaning.

I am also encouraging ideas to be thrown at me. I have had a few people come up to me with conference bidding ideas, asking/begging to go on conferences, telling me which subjects they would like to know more about with respect to their Department, and just general interest ideas.....I completely encourage that!! The more ideas presented, the more opportunities we can explore. Woo!

On a final note (a tribute, if you will):
The old exec is finally gone.
Now they are our lowly pawns.
The spotlight dims, fading fast,
They desperately want to make it last.
Familiar jokes, surroundings flee
Newbies come, usurp kindly.
Big shoes are left, which must be filled,
We will never forget them, their memories instilled.

Pulitzer Prize Part Deux

Matt Strickland

**Vice President,
Internal**



Well, it's been a slice. Since this is my last report I suppose I should use this space either to recap the term or to crash and burn in 200 words of lewd comments and easily disproved lies. I don't doubt that you'd be more entertained by the latter, but I'm going to stick to the tried, tested and true.

So what's changed since I took office? I can honestly say that there is far more spirit, a ton of new wicked events, and

way more involvement. We've bolstered our line up with brand new events such as the Golf Tournament, the Genius Bowl, and the Dodgeball Tournament. The amount of first years who are taking active roles in EngSoc is astounding and our events are extremely well attended.

In what little space I have left, I'd like to thank a few groups who made my term fun and action packed. First off, I'd like to shout out to the other outgoing members of the EngSoc Exec for all the good times. Class reps deserve a huge thank you for keeping their classes informed and bringing a ton of enthusiasm to EngSoc meetings. Finally, I'd like to reiterate my appreciation of our directors: it's these people who ensure that EngSoc is the biggest and easily the best student society on campus. Rock on!

Engineering Society Executive Reports

Dreaming of Europe



Grant Holohan
Vice President,
Finance

So this is my last exec spiel. My usual brevity is the stuff legends are made of – but not today. Today I depart from the norm, and indulge in my last chance to produce a column that no one will read.

Unlike most of you, who will be toiling away on work terms in the fall, I'll be enjoying my last work term overseas. Oh, but the fun doesn't stop there. Chalk one up to only needing 5 of 6 work terms; the most work I'll be doing will be trying to remember where my hotel in Munich is as I stumble from Oktoberfest. Yes, it's true: the 6th work term is not for working, but amassing a rather large debt, in exchange for 4 months of unimpeded backpacking through England, France, Germany, Italy, and Spain. It's about the only thing keeping me alive through the final month grind that is 4A mech. I can't promise to write you, or send postcards... or even think about you for that matter, but I can promise to think about me... and isn't that what it's all about?

Okay now, back to reality. What's happening in the EngSoc finances, you ask

(somewhat bitterly)? B**5 went down on July 20th. For the first time in B**5 history, the event didn't fall on a Sunday. The reviews were mixed about the change in day. One student said, "I like bowling, and I certainly enjoy a nice beverage with it, but Sunday was my big drinking day. Now I have to drink again?" Overall, I can predict that the event was a huge success, and everyone enjoyed themselves.

I'm impressed that you're still reading. You must still be looking for some financial report. I guess I should make an effort to please everyone. Your new VPF is my former opponent Dave Johnson. Let it be known, though, that there is no animosity between us, despite me acquiring photos of he and my girlfriend "embracing" at the bomber. Let it stand resolved that there will be a seamless transition in your finances. In fact, Dave and I have already had our first meeting.

And of course, it wouldn't be an exec spiel if I didn't remind directors to get their expense forms in. Submit them by July 30th if you want your money before January. In addition to the orifice being closed, I won't be writing cheques until the end of exams. If you wait until then, you'll have to get Big Johnson to cut you a cheque next term.

That's it. There ain't no more. The end is near. Good luck to everyone, study hard. I can feel those Spanish beaches already...

Finance Info to Be Online



David Johnson
Vice President,
Finance - Elect

Well now that lectures are almost over, and we're all getting ready for finals, it's time for everyone to bear down and finally get to work on all those assignments pushed aside since midterms. As for the finances, I'm working with Grant to ensure that we have a smooth transition from this

term to the next. Next term, I'll be holding some training sessions for new (and old) directors on how to fill out budget forms and expense statements. As I promised I hope to increase availability of financial information by publishing it on the EngSoc website. I intend to do that as a project over the next work term.

On that note, I've got to go study now. See you in January! The VPF job is, in my opinion, the most interesting one on the exec because its soo MONEY. It's going to be my job to help directors in organizing everything from athletics and semi-formals, to charities and drama productions.

Education, Co-op Issues?



Ken Hanes
Vice President,
Education - Elect

So, another term is winding down and since I'm sure that most of you are as busy as I am right now, I'll keep this short and sweet! As I'm sure you've heard by now, I'm part of your new, (and improved) EngSoc executive, so you will be seeing and hearing me a lot over the next two terms.

I want to make it clear to everyone that I am always open to suggestions and comments. If you have any pertinent education, administration, or co-op issues feel free to approach me in the halls or email me and tell me what's up.

If you haven't heard yet, director application forms are available on the Engineering Society website, or in the Engineering Society office. Come out and

apply! If you don't know what to apply for, feel free to come and ask me or one of the other new exec members what each of the directorships entails. The education directorships are all very important and I would love to see each of them filled this term. From course critiques to student workshops, I hope to see all of your names on an application form, and I'm looking forward to working with you next term. The next sixteen months are going to be awesome, and I sincerely hope that each and every one of you comes out and gets involved and makes next term even better than the last few terms.

I want to take this opportunity to thank the current exec for a job well done. If it weren't for you guys, I wouldn't have gotten involved with the Engineering Society when I did. I can only hope that my partners in crime and I have a similar impact on EngSoc and that we meet all of your expectations.

On that note, I hope that everyone has an excellent co-op term, and enjoys the remainder of the summer. Good luck on exams everyone, see you next term!

The Peril of Apathy



Emma Bardon
Vice President,
Education

I came to a realization the other day. The problem at this school isn't with the administration, but with the students. Students complain that tuition is too high, yet they don't apply for financial aid. Students complain that they don't know what the requirements to graduate are, but won't look them up. Students complain that their profs suck, yet they won't commit that to writing either on course critiques or to their departments when asked for feedback. Students complain that there aren't any good co-op jobs, but won't do anything at their jobs to try to make them better (like asking for more/better work). Students complain that there's nothing interesting to do around Waterloo, yet they seem to go out of their way to be uninformed about the dozens of events run by directors and on campus clubs. In other words, you all suck.

You can try bludgeoning these people over the head with information, but it won't work. Students here like their apathy. They want to be babysat, and not do anything for themselves. There are people at this university who are begging for your feedback. They are paid to listen to you bitch. In fact, you pay them to listen to you bitch, and they end up getting a really easy job thanks to your apathy. Your mommy is not going to call and complain-you have to do it all by yourself.

Here are some numbers for you. There were debt load surveys distributed to all of the class reps a while back. This survey only exists because the administration wants to assess whether the tuition increases have hurt the students, and how the students are coping. This was the perfect chance to complain, and you know what-only 33% of you did. Two thirds of you didn't even care enough to tell the University that you are up to your eyeballs in debt. If I were in admin, this would tell me that you just don't give a damn, and will pay whatever I ask. Big raises for everyone!

Can you imagine what would happen if we got 100% feedback on these things? Karen Dubois in the Dean's office would not only have to read over three thousand surveys, but she'd have to manually enter all of the results. At about 5 minutes per survey (especially if you all wrote nice detailed comments) this would probably take up about 250 hours of her time. Of course, since 67% of you didn't bother to fill these in, Karen effectively got an extra four weeks' vacation on you. Wouldn't you rather make her work for her salary that you, via your tuition, pay?

The same goes for financial aid. A ridiculous percentage of your tuition goes to financial aid that very few people apply for. Imagine if every single student filled out a bursary application-do you know how much work that would be for the registrar's office?

Ken, you have a thankless job ahead of you. I wish you luck.

For the other three people reading this, I wish you luck as well, and I hope that at some point in the future you find something worth helping yourself over, since you obviously haven't found it yet.

WEEF Funding Allocations

Proposal	Requested	Allocated
Chemical and Environmental-Chemical		
Equipment to increase capacity of CHE032 lab	\$12,000	\$4,000
Civil, Environmental-Civil, and Geological		
Academic network version of GPS-X	2,348	0
GPS	3,121	3,121
Undergrad Newbury Streamlab Demonstration Flume	1,043	1,043
Systems Design		
Systems teaching and workshop lab upgrade	3,279	3,279
Monitors for Systems DASL lab	2,988	1,000
Electrical and Computer		
Audio wireless microphone system for room E2-3344	954	0
Monitor replacement and upgrade for Nexus labs	2,410	3,000
Oscilloscope	4,858	0
Oscilloscope GPIB to USB adapter	6,672	0
Miscellaneous		
Engineering student machine shop	27,000	13,500
Subtotal – Departments	64,325	28,943
Student Teams		
WARG	6,900	4,200
NTT Project	730	730
Free Flight Glider Team	735	600
Formula SAE	5,800	4,800
Clean Snowmobile	1,500	500
Mini-Baja (WOMBAT)	3,870	2,470
Midnight Sun	5,560	2,757
Subtotal – Student Teams	25,095	16,057
Total	\$89,420	\$45,000

Features

Olympics

Dan Arnott
1B Environmental

It's a Summer Olympic year. Worldwide, athletes are beginning to feel the stress and anxiety of a big event to come. And so are the people running the games - the opening ceremonies take place on August 13th and the city of Athens is nowhere near ready for the Olympic Games.

It is no small task to hold the most widely renowned athletic competitions in the world, and the Greek government is spending over \$7 billion for the occasion. New athletic venues, athlete housing, infrastructure, and even rail transit systems are being constructed, and thousands of police and soldiers are being deployed to keep the peace. In addition to normal considerations, Athens has been plagued by additional problems which have many people doubting the success of the games.

Even before September 11th, there has been a lot of pressure on cities hosting the Olympics to provide a safe, secure, and essentially 'terror-free' environment for the games. Although generally a stable political area, Greece has been struggling to eliminate all threats. Even so, Amnesty International has criticized the Greek government for targeting refugees, immigrants, ethnic groups and the homeless as part of their 'security measures'. The construction of one Olympic venue left 137 Roma (Ethnic Gypsies) homeless, with no compensation. However, there are approximately 70,000 Greek guards - seven for every athlete at the games.

Although the Greeks seem to have the security situation well under control, ticket sales are still lagging, with a reputed 1.95 million of the 5.3 million available seats sold. For what it costs a city to host the Olympics, a lack of interest can have harsh economic consequences. However, with Greece's Euro 2004 football (soccer) victory, ticket sales are expected to jump.

Despite fever-pitch construction, many Olympic venues are still being finished. Although Herculean progress has been made on the Olympic stadium, it is still nowhere near finished, currently lacking seats and landscaping. There's apparently still a pretty big hole in the ground, and guards are preventing tourists from taking pictures. For what the games are costing Athens, this comes as no surprise, as any bad press will surely be amplified. However, in addition to the Stadium and other Olympic venues, local infrastructure is being greatly improved - light rail transit and subways, highways, and parks are only a few examples of the \$7.2 billion dollar Olympic legacy Athens will be left with.

Matters were complicated by an hour-long power outage across most of Athens on July 12th - during the first full trial of Athens's new rail system, nonetheless. With traffic signals disabled, trains not running, and air conditioners not functioning on a 40°C day, it can easily be seen how disruptive such an outage would be during the Olympics. Although the blackout was attributed to poor grid management rather than insufficient power, Athenian citizens and international investors in the Games surely had their doubts.

Even so, among the incessant noise of jackhammers and under the shade of scaffolding, the sheer energy with which the Athenians do their job will likely make the Olympic situation a positive one in the end. The Olympic Games may have originated in Greece, but hosting them is a challenge for anyone.

Ian Leung: Profile of an Artistic Engineer



The upcoming compilation CD "Warrior Nation", due out in September, features artists and entertainers with ties to the University of Waterloo. The faculty of engineering is proud to be represented with its own electronica composer. Ian Leung, currently in his 4A term in Electrical Engineering is one of the artists featured on the Warrior Nation CD. The Iron Warrior is pleased to present an in-depth interview with a promising talent.

When did you get started in this area of entertainment?

I think I got into this kinda thing when I was around 15...and the only people being entertained was myself. I remember the first few things I did...I'd grab random tracks off CDs, sample them as WAV files, and cut out bits and pieces of sound that sounded interesting. Rock CDs with big drum breaks were golden back then. After a while I had my own virtual drum kit, with all these samples of snares, kicks, hi-hats and everything. I'd take these sounds snippets and cut and paste them into loops, and form some semblance of organized sound.

What types of music do you listen to? Which ones most influence your compositions? What inspires you?

I used to listen to a lot of big beat, back when it was still kinda cool. The Chemical Brothers, and the Crystal Method are huge influences...I still listen to them now. They've made me the person I am today. Not only do they rock, but their beats are so dense, you need a knife to cut through them. Every time you put one of their albums on with a good set of headphones, you'll hear something new that you didn't notice before. It was like finding hidden treasure, and was very inspiring. It shows that these guys work hard at making their beats quality, and this makes me want to put the most into my tracks as well. Most of my earlier work was me trying sound like these guys, and failing. Check out the Chemical's Dig Your Own Hole, and the first two Crystal Method albums for some quality beat-work.

As the years progressed, I've diversified and mellowed out, as most people do. It's all about the down-tempo stuff now. A few years ago I was living quasi-alone in an apartment, and listening to a lot of trip-hop like Portishead and Massive Attack. Whatever you do, don't live alone and listen to Portishead. It's quite depressing. Instead, check out stuff by Zero 7, Thievery Corporation, and Lemon Jelly. Very chill. They're all great around 2am, although the music will still work before then.

How do you come up with these sounds? Do you hear them in your head first, or does it just come to you when you mix on your computer?

I usually have some kind of idea of what I'm looking for when I start messing around with sounds. It's pretty hard to come up with anything worthwhile by just sitting at the computer and blindly messing around, at least with my current way of doing things. Tracks tend to work out better when I actually have a musical riff or hook in mind, and then I can just put it down and build up upon it and see where it takes me. That's how "Sunspots" really

came about: messing around on guitar and coming up with this guitar riff and bassline, and just taking it from there. The best songs tend to come from solid musical ideas. Since the idea is already good to begin with, they also don't take as long to produce because they'll probably already sound good. "Sunspots" and "Phat Times" were both made in the same work term, which is probably the fastest I've ever made anything. Back in the day when I didn't know what I was doing or how to use the software properly, things would take upwards of a year, working on and off.

Things also tend to work when I'm mining a good (and copyright free) sample source for ideas. Most of "Phat Times" was taken from about 40 minutes of audio from the camping video, which I could just listen to and cut out interesting snippets. "Two in the Morning" was based on sounds from a 5 minute jam between a sax and guitar. I cut out a few segments that were loopable, or that could be made into hooks and riffs, and built everything up from there. I should make the original available somewhere; it's a pretty good performance. Those guys can really play.

What instruments do you play? Do you have any formal theory training? Do you ever use these skills to enhance your music?

I was forced to learn Piano growing up, I picked up a guitar in Grade 9 and bought my friend's drum set a few years ago, and spent quite a bit of time teaching myself how to play them both. All that time spent learning music theory and harmony actually became really useful in learning new instruments, figuring out songs, and making my own stuff. It's interesting how education works. You spend years studying things that are totally foreign to you and make no sense whatsoever, but once you start working in that field everything starts to click. I'm hoping I can say the same for this whole Engineering bit, because right now I don't understand a damn thing.

There's also this issue with form and formula. There are some rules to writing songs, which dictate how your musical ideas should interact with each other, which parts of the song should lead into other parts, and whether the builds will all work properly. If your song's not built properly, your audience won't feel what you want them to be feeling. However, if you build all your songs the same way, it becomes formulaic. You'll be writing the same song over and over again with slightly different notes, like the way Linkin Park does. I'm not sure where form stops and formulaic begins. That stuff they didn't really teach in school. I'm working on that.

Are there any specific recording or production techniques that you use to make your music unique?

Recently, I've been playing with the idea of incorporating white noise into my tracks. Subconsciously, your mind picks up white noise and associates them to a mood or a feel. You can hear this in all those new-age songs, with the clichéd wave sounds and whale calls and whatnot. You hear the waves, your brain relates them to the sun and the beach and being calm, and you just chill.

I've got these songs, "Phat Times" and "Two in the Morning", which try to put this theory into work. "Phat Times" is based on the video my friend made of our Algonquin Park camping trip. Throughout the entire thing, white noise from a campfire is going through the left speaker, and

sounds from the beach are going through the right. Most of the beat is made with random bits of percussive noise as well. The rest of the track has this catchy campfire guitar riff, and sound clips of me and my friends acting like retards.

"Two in the Morning" was based on a live jazz jam for the V1 talent show, back in the summer of 2001. My buddy was the organizer, so he hooked me up with a tape. I cut up the track, and some good sax and guitar riffs out of it, and build the song on top of that. Most importantly, the tapes didn't just capture the music playing, but all the other sounds around it. You can hear the audience clapping and talking to each other, and the wind blowing into the microphone. This all helps to make it feel real and live, like something that actually happened, and not like something some kid just cut up on a computer.

What instruments/tools (either hardware or software) do you use in your mixes?

Here's a list of what little gear I have: Yamaha Pacifica electric guitar, Peavey Rage 158 15watt amp, Yamaha classical acoustic guitar, Shure SM58S microphone, Intel P4 2.5Ghz desktop computer, Brain, Soundblaster Audigy 2 ZS, Cool Edit Pro 2.0, Samples.

Contrary to popular belief, the most important piece of equipment in this list is actually not the Shure microphone, but your brain. One of the great things about technology these days is that you can create some really quality stuff with an absolute minimum in gear and monetary investment. As long as you have something you want to express and the drive to get started, you can trust in your brain to take care of the rest.

You're in engineering, would you ever consider a career in music? Why or why not?

This is always a hard question. The problem with a career in music is that it's very financially unstable. It's not that I'm looking for money, I'm looking for money as a means to financial security. I want to be able to afford everything I need and most of what I want for myself and for my family. A decent engineering job with a decent base salary can hopefully provide this, and with these things some sense of security for my family and myself. Taking care of my family, both present and future, is pretty important for me. Making a good living in music is like winning a huge lottery, or several consecutive smaller ones. Unfortunately, just having good music isn't enough. There are so many talented musicians out there with good music that nobody's ever heard of, because weren't lucky, good looking, or interesting enough.

If things go moderately well in the music industry, maybe I'll be able to scrape myself a little living for myself as a studio engineering or producing small acts or something. That would be enough for myself to get by, and I'd be a pretty happy dude. However, scraping by isn't enough in the big picture. I want to be able to support my parents when they retire, and my family when I get one. Going for a career that you may enjoy more at the cost of security for the ones you love seems almost selfish.

If I can succeed in music then that would be great, but I'm not going to bet my future on it.

For a full transcript of the interview and for songs created by Ian, please visit: <http://www.soundclick.com/eon>. Information about Warrior Nation can be found at <http://radio2.feds.ca/warriornation>.

Semi-Formal Extravaganza



Alicia Liu

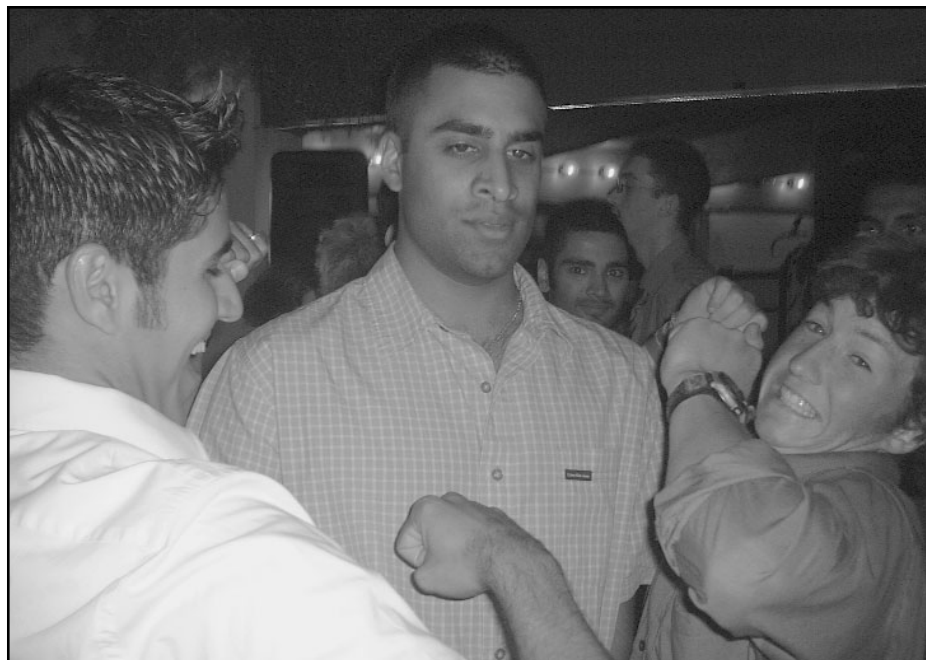
2B Computer

we have such good food on campus. Yes, you read that right. On campus! Where is this place that serves such ambrosia, you may ask, while your teeth fight their way through another piece of über-fried and as-yet-unidentified mystery meat from the V1 cafe? It was at the swanky University Club tucked behind the SLC. This venue serves as a regular dining establishment, but is only open to faculty. How unfortunate.

Highlights of the night included dancing to the music of the moustached, half-Swedish, half-German pop sensation Günther (make sure to warm up that neck before you attempt this), a photo-op with the TOOL, and surprise gang grinding. No newly elected EngSoc presidents were hurt in this covert operation.

The night ended with square-dancing-like twirling about and a sing-along en-masse, but the evening did eventually turn into a beautiful starry night. All in all, a delightful evening and a wonderfully refreshing break. Big thanks to the Semi-Formal Directors Erin, Shruti, and Mark.

It was a beautiful starry night, when beautifully dressed people stepped out to dine on succulent delicacies and dance the night away...Okay, so that was embellishing the Engineering Semi-Formal somewhat, because at 7:30, it was still as bright as mid afternoon, and wearing such formal wear (a far cry from the requisite Engineering undergrad uniform of T-shirt and lounge pants) in this bright natural light felt...unnatural. However, the food was absolutely delicious. Numerous salads, two pastas, and a main course of tender, moist, flavourful chicken cooked to perfection, plus three cheesecakes and many other desserts made for a distinctly scrumptious meal. I couldn't believe that



A newly elected EngSoc president gets the gang grind from crazy people off the street.

Debt Load Survey Results

Does your family support you financially? Yes: 62% No: 38%

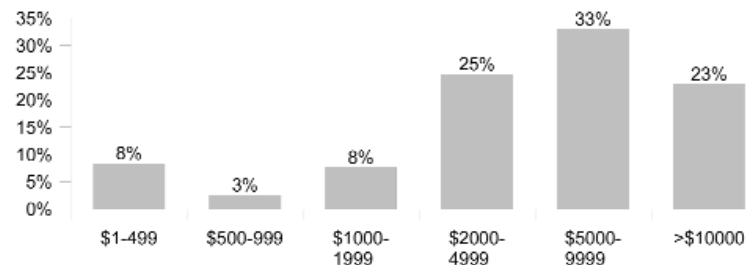
Average cost of living for a 4 month...
 ...school term: \$7,944 ...work term: \$3,322

Have you applied for local aid / other bursaries to pay for school?
 Yes: 43% No: 40% Not yet: 17%

Have you applied for OSAP?
 Yes & received: 30% Yes & denied: 23% No: 47%

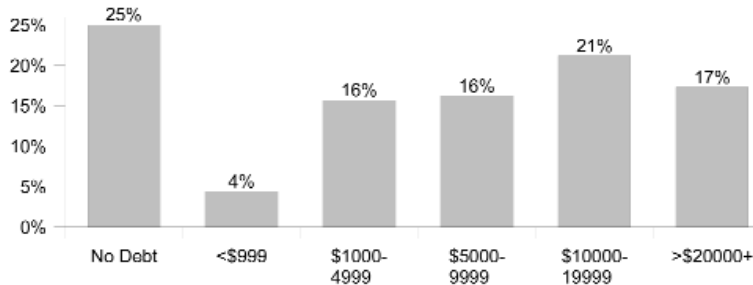
Do you have a loan for academic purposes?
 Yes: 37% No: 49% Not yet: 15%

How much is the student loan?
 (applies only to those who answered "yes" to previous question)



Has the differential tuition increases caused you hardship?
 Yes: 42% No: 23% Not yet: 35%

How much debt do you expect to be in by graduation?



Do you live at home while at school?
 Usually: 5% Used to: 2% No: 93%

Have you lived at home while on work terms?
 Always: 23% Sometimes: 45% Never: 31%

Average weekly salary while on work term: \$565

Number of surveys sent: 1822 Total Responses: 595 (33%)



Sandford Fleming Foundation
 E2 3322, ext 4008, sff@engmail
www.eng.uwaterloo.ca/~sff

Student Travel Grants: Available to students participating in technical conferences. Please check our web site for further information.

Emergency Loan Funds: SFF has made available funds for short-term emergency loans, interest free for 90 days. These loans are available to engineering undergraduates, on either an academic or work term. Contact the Student Awards office for further information.

The John Fisher Award for Leadership

The John Fisher Award for Leadership is made from time to time to a graduating student whose activities throughout his/her academic career have made significant contributions to Co-operative Engineering Education. Nominations for the Award can originate from student groups, faculty members and the Foundation. Nominations should document the nominee's contributions and other support for the nomination. Contributions are to have a professional orientation and can involve student activities, the Sandford Fleming Foundation work or other appropriate functions. Letters from colleagues, faculty members, and others knowledgeable of the nominee's efforts will be given consideration.

The Award at Convocation consists of a Citation and an Honorarium of \$1,000. For more information, contact the Sandford Fleming Foundation. The deadline for nominations is April 1, 2005.

Arts & Entertainment

Behind the Curtains

Cindy Bao
3A Electrical

As the rest of you enjoyed another engineering drama production, the Iron Warrior was able to score some exclusive inside stories from the cast and crew members of the play.

This term's play is *Arsenic and Old Lace* by Joseph Kesselring, which was selected by director Marcy Sanderson and assistant director Chris Fairles after a month of reading different plays to look for "something that was funny and had a big enough cast so as many people as possible could get involved." Among the contenders was Steve Martin's *Picasso at the Lapin Agile*, which Sanderson has considered three times, but dismissed for not having enough roles.

Having done *Arsenic* twice before in real theatres, Sanderson thought the familiarity was a good place to start, yet she admitted, "I wasn't aware of how big of a challenge we were taking on when we chose this play."

In the original script, the story took place in a three-storey set, but due to space limitation in the ES2 Greenroom, it had to be simplified considerably. To actually construct the second level turned out to be more complicated than anticipated, and the cast didn't get to rehearse with the set until a week before the show.

The complexity of the set, along with the need for costumes and props, also presented financial difficulty. Working on a

tight budget, the crew had to pull some strings. Yet, Sanderson was not eager to go the sponsorship route, and the play stuck to its limited resources. Impressively, in the end, "between EngSoc budget, the ticket sales and creativity, [they] managed to pull it off."

Unsurprisingly, the cast and crew members found it hard to balance the long hours of preparation and rehearsal, school and maintaining a social life. At the same time, the play posed many unique challenges to everyone involved. Grant Holohan, while trying to sound like a Brooklynite, started off with a hybrid Southern and Australian accent. Huy Le found it hard to part with his moustache for his role while living up to the expectation of looking like Genghis Khan. Yet, many claimed the experience rewarding, especially for Brooks Turton, who decided that the lonely Mr. Gibbs was created for him!

Arsenic will be EngSoc's last play in the Greenroom. Although it is not yet known where the new location will be, Sanderson has high hopes of moving to Hagey Hall from the 60-person Greenroom theatre. Despite the fact that she will not come back as a director (assistant director Chris Fairles will take over), she is anticipating a bigger venue for the future.

When taking on the play, Sanderson's ultimate goal was for people to appreciate the great latent talent in Engineering and undoubtedly she succeeded. When asked what she wants the audience to walk away with from the play, she said "I hope they laugh."

Cindy's Kitchen: Desserts

Now we come to the best part of the meal — desserts, as we conclude a term of Cindy's Kitchen. Thank you for your continuous interest and support. I had fun experimenting with the dishes and hopefully those around me didn't mind being the guinea pigs.

Last, but not least, good luck with your exams and don't forget to maintain healthy eating habits while you are studying.

Strawberry shortcakes

For the strawberry season, there is no dessert more satisfying than freshly made strawberry shortcakes. It is also very simple to make, as all you need to bake is the soda biscuits.

For the whipped cream, a tinned one or CoolWhip will do if you are looking for instant gratification, although I don't really recommend the latter. For real whipped cream (30%), if you don't have a beater to whip, there is another way. Pour the cream into a liquid-tight container, and repeat the following steps: close the lid and shake for a couple minutes, then open the lid to let more air in until you are happy with it. The result tends to be runnier than the whipped one, but it worked for us before we got a beater at home.

2 cups flour
1/2 tsp salt
2 tbsp baking powder
3 or 4 tbsp butter
3 tbsp sugar
1/2 cup milk
1 cup strawberry
1/2 whipped cream

1. Mix flour, salt, baking powder, 2 tbsp sugar, work in butter with hands
2. Add milk and roll into a 3/4 inch dough.

3. Cut into 4 equal squares and bake at 400° F for about 15 minutes.
4. Crush strawberries slightly and add 1 tbsp sugar
5. Split hot biscuits, let cool and top with strawberries and whipped cream

Makes 4 servings

Pecan Chocolate Brownies

Courtesy of Ann Olson's Sugar

Brownies have a certain timelessness to them. No matter what your age is, a piece of warm, soft brownie never fails to please. I even had them chilled in the fridge and the result was not too bad: they were a bit firmer and would have been much better if I had used roasted hazelnuts instead of pecan to get a better crunch.

1 cup unsalted butter
1 cup cocoa powder
1 3/4 cups sugar
4 egg, room temperature
2 tsp vanilla extract
1 1/4 cups all purpose flour
1 tsp baking powder
1/2 tsp salt
2/3 cup pecan pieces

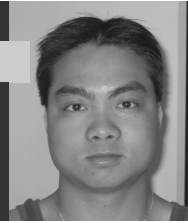
1. Grease an 8 x 11 inch baking pan with butter.
2. Melt butter (over stove or in microwave) and pour into a larger bowl. Sift cocoa into butter and stir in. Stir in sugar.
3. Add eggs to mixture, blending well after each addition. Stir in vanilla.
4. In a separate bowl, combine flour, baking powder and salt (do not sift). Add to cocoa mixture and blend. Stir in walnuts.
5. Pour into pan and bake at 350° F for 35 minutes, until firm when touched.

Makes 12 servings

Marlong Brando: The End of a Silver Screen Legend

Quoc Huy T. Le

4A Electrical



On what was supposed to be a special day for the country of Canada, the world of Arts and Entertainment suffered a historic loss. Marlon Brando died at the ripe old age of 80 from lung failure on the evening of Thursday, July 1, 2004 at UCLA Medical Center.

Arguably the most influential actor of his time, Brando was the foremost practitioner of what is known as "method acting" in which an actor draws from his own experience to put him or herself in the mindset of the character. His breakout role was in Tennessee Williams' "A Streetcar Named Desire" in which he electrified audiences with his passionate portrayal of the brutish Stanley Kowalski. It was in the film "The Wild One" that he was asked, "What are you rebelling against?" To which his most famous response was, "Whaddya got?" His other masterpieces include "On the Waterfront," the disturbing "Apocalypse Now" and the unforgettable "The Godfather" for which he won the 1973 Academy Award for Best Actor.

He refused the Oscar. He didn't even

show up. Instead, Brando sent a woman named Sasheen Littlefeather to read a statement about the treatment of Native Americans. The response was worse than the one received by Michael Moore when he delivered his acceptance speech last year.

Being a very private man and living a secluded life, Brando was never one to revel in the media. His off-screen appearances were mostly limited to political statements about Native and African Americans. He married three times and had at least nine children. His family troubles came to a head in 1990 when his oldest son, Christian, was convicted of killing his half-sister's boyfriend. Marlon testified at his son's trial, but Christian was still sentenced to ten years for voluntary manslaughter. Marlon's daughter, Cheyenne committed suicide in 1995.

Even when all his life's tragedies and scandals are considered, they still pale in comparison to the impact his work on-screen has had on the world and on Hollywood. This man, who at nineteen was expelled from military school for insubordination, has influenced a slew of amazing actors such as Al Pacino, Robert De Niro and Jack Nicholson.

In a special memorial service Marlon Brando was cremated. Much like most of his life, the ceremony was private and the only attendees were a small group of family and friends.

Arsenic and Old Lace

Cindy Bao

3A Electrical



On July 17th and 18th, a group of engineers who have an itch for acting presented us *Arsenic and Old Lace*. The 1944 screwball comedy incarnation of the play by Joseph Kesselring is perhaps better known than the theatrical original.

The entire play took place within one setting, a house in Brooklyn which is home to the Brewsters. Two old sisters, Abby and Martha, poison lonely older gentlemen with arsenic laced wine, to end their lives of misery and grant them eternal peaceful rest. The bodies are buried in the cellar by their nephew Teddy, a self-proclaimed Roosevelt. One of the ladies' victims is accidentally discovered by another nephew of theirs, the cynical theatre critic Mortimer. He is determined to hide the fact from the police, who frequent the house.

However, the plot takes a turn when Mortimer's brother Jonathan, after years of disappearance, comes home with a new face. Along with him are Dr. Einstein, the masterful plastic surgeon and a companion so secret that his presence has to be kept hidden from rest of the family.

Running over two hours with a sizable cast of fourteen and rather complex staging, this production is likely one of the most ambitious seen around Engineering in recent years. However, the strong talent demonstrated by the actors confirmed that they were up to the dramatic challenge.

Every character in the play has an individual drama, and many of the highlights of this production are found in physical cues rather than verbal. Having witnessed Neil Cavan's previous performance, I have

always thought of him as an actor who has a sweet, gentle interpretation of his roles. In this production however, he portrayed Mortimer with spontaneity and geared all his energy to the character's strong emotions to make the audience believe the only sane member of the Brewster family has at least some of the family genes.

In contrast to Mortimer, the role of Jonathan demands coolness and control, which Huy Le managed with calculated precision. The moment he walked on stage, he played Jonathan perfectly, down to every step he took. Despite being the valiant family member, he added farce to the story with his own cruel and forceful nature and thereby won the audience's heart.

While the portrayal of the tension and hatred between the brothers commanded much of the scenes, others also stood out, with excellent performances. Aunts Abby and Martha, played by Amy Gill and Melanie Roskell respectively, were credible in every way, from their fondness of Teddy and Mortimer to their slightly wobbly walks. Their portrayal as being ever so sweet and polite is central in order for the audience to view their characters as people who think their of their murders as charitable work. Julia Kossowski as Mortimer's confused and neglected-feeling fiancée, Grant Holohan's goofy police and playwright wannabe Officer O'Hara, and Arick Arslan's Dr. Einstein with a German accent, all manage to steal scenes from more major characters and provided the audience with some hearty laughs.

Although my attempt to exact something deeper out of this dark comedy failed as the curtain fell, the members of the production undoubtedly fulfilled the promise of a funny yet solid play, directed and performed with talent and enthusiasm. As the end of term approaches, what better way to escape than by sharing the love of theatre with your fellow students?

ARTS CORNER

My Euphoric Dream*Quoc Huy T. Le, 4A Electrical*

Lost was i, in pain and sadness.
A mind in immolation.
Evil brought me near to madness.
Bowling to temptation.

An empty Soul, devoid of love,
Painting hatred art.
Then, like a breeze, hugging a dove,
You came and touched my heart.

Before, i was a wandering waif.
For bread, i had to plead.
To think of You, is to feel safe.
You're all the food i need.

Through trying days, we sometimes fight
And tears of hurt i'll cry.
But strength in faith tells me You're right.
Into Your arms i fly.

Your light so warm. Your touch so mild.
You never let me go.
As a mom who feeds her child,
Your grace and mercy flow.

While we walk, You hold my hand
And breathe the life of spring.
Experiencing what You have planned
Makes even nature sing.

At night, when i lay down to sleep,
I feel Your tender kiss.
I'm glad that i am yours to keep.
Our marriage of peaceful bliss.

A Dying Lake, A Screaming Sky*Rahul Bhardwaj, 3A Electrical*

Today she left me,
Today she went away,
That breeze which blows past my face
And I sit letting her words consume me,
She still lives next door, but she leaves with
him tomorrow,
And the breeze no longer passes over me, so
thin, so hollow

How amusing is the death of a lake?
For every second I laugh, my heart cries,
How amusing is the destiny of my fate?
For every second I laugh, my heart dies

Fish buried under the dust, a suffocating hold,
The sunrise calls, fly away, cut away from me,
Take away my love, hang and execute me cold,

Runaway, runaway child
Fly away, fly away little butterfly
Grace the trees of my insanity,
And disappear into the leaves,

Runaway, runaway precious,
Fly away, fly away as I loose you in the breeze
Run away, and take my misery and pain with
you.....please,

The future is a shadow and my past has walked
away,

Your thoughts that touch, on my knees, broken
and thirsty I pray

Clouds above, dark and heavy,
My sanity lies thin,
Yet it will never rain on me,
I cannot offer the peace you will find with him

But call out to me,
Let me close my eyes,
As the clouds roar above, dark and heavy,
The mocking of the screaming sky

A Dream of you,
Call out to me, let me sleep...as I let my heart
die.....
A Dream of you, crashing down as I cry,
A dying lake, a screaming sky,
My dying lake.....my screaming sky

I was never perfect but something I will never
regret,
That one thing that stands before no other,
It's the choice to love you, its that choice to
bleed for you,
My sweet Angel, my sweet Lover

At my funeral, there will be no presence,
No flower over my head stone,
At my funeral, there will be no quiet sky meant,
Without you, this lake will dry alone

And, She still lives next door, but she leaves
with him tomorrow,
And the breeze no longer passes over me, so
thin, so hollow

Thorns of May*Rahul Bhardwaj, 3A Electrical*

They are everywhere, and I am blind,
Blood on my hands and fear on my mind
Did anyone, someone, tell you to explore?
Standing in the dark, I am searching the
floor

Blind I am, that gave me hope,
And now I bleed, there are everywhere,
The feel of glass, being blind is a joke

I feel for my kin in the darkness scared,
But they're everywhere, can't you see,
Piercing my skin, my own family.....,

Mother, I thought you loved me?
Father, I thought you cared?
Brother don't you feel me?
God ! I am so scared

I reach out into a cloud,
Scared, I stretch,
I feel you Mother, I remember,
But it is only pain and tears I recollect
Sweet pain of my memory,
Sweet pain you deliver and I accept,

Blind yet picking glass pieces off the floor,
My love has been shattered,

My mind has been broken and torn,

No longer a blue sky,
No longer a sun tangerine,
Love, the worst pain in the world,
Make it stop please,

Countless nights I have cried,
And countless I will more,
Its not your fault, I tried,
It was never your fault, I know,

I can see through the glass, reflecting love
faked,
The pain of the pieces, deeper and deeper
driving that stake.....
Deep are my thoughts, try to understand
my plight
People I love are the ones I hate, that is my
eternal fight

Blind but still for love I will search the red
floor,
Forever that a love might exist, an Iron
Maiden nevermore,
And though my hands will bleed and my
arms grow sore,
I will pull out the glass pieces, bleed and
then search some more.....

blind, and thensearch some
more.....

Engineering Arts Week*Alicia Liu***2B Computer**

So last week was Arts Week, and if you
were walking around CPH during your
lunch, you might have noticed some
strange activities going on. Here's a recap
of what could have been seen, for those
who for whatever reason don't walk
around CPH during lunch.

Monday

Students using sidewalk chalk for
artistic expression and mathematical pro-
paganda, such as a Van Gogh-esque starry
night and an anti-decimals campaign to
make $\pi = e = 3$, followed by a fierce game
of charades. The two teams were neck and
neck, with neither failing to guess the
meaning of any of the dramatic enact-
ments. So the rules were changed such that
each team told the chosen actor of the
other team what to act out. Even with
extremely difficult and diverse topics such
as Dean Sedra, leprechaun, ménage-a-
trois, Gay Pride Parade and septic-tank
cleaner, each team still did not falter on
any of these. We finally had to conclude
the game with a sudden death round,
where each team had to guess the same
thing. Appropriately enough, the answer
was "Arsenic and Old Lace", highlighting
the acting talent that exists in the depart-
ment.

Tuesday

Students trying to construct a poem
from a pile of words written on separate
sheets of construction paper. The winning
entry is as follows, titled "Live my
Kodachrome Thriller Spring" (punctua-
tion added for effect):

A boogie dancing finger sizzles her
spot
I flattened my flying friend soaring hot

Reflecting on ... talking
Thinking is ... fire
Dreaming of ... freedom
I love enormous ugly drunk ladies
This was my eternity flowing
That was her flower exploding
Girl girl beer girl heaven
Me came.

An honourable mention goes to the
poem that generated "Diamonds can
answer jaded love."

After the spontaneous poetry came the
spontaneous art, with four people each
drawing a different part of a figure without
knowing what any of the other people
were drawing. The picture is available
from the Arts Directors for viewing.

Wednesday

Students participating in the quintes-
sential Arts Week event, sculpting with
duct tape. However, this soon turned into a
"duct taping". The prize, consisting of the
remaining duct tape, has been awarded to
the duct tapee. This may be of particular
interest to some in case he should consid-
er avenging the loss of his leg hairs.
Disclaimer: We, the Arts Directors, would
like to state emphatically that we do not
condone such behaviour with duct tape,
nor, *ahem* any websites that such behav-
iour may cause to arise.

Thursday

The culmination of the week of course
was the highly anticipated faculty-wide
Rock, Paper, Scissors contest, with many
worthy contestants coming out. The most
consecutive ties stands at nine. After many
breathtaking, edge-of-your-seat matches,
the final showdown included the defend-
ing champion Jeff Alfonsi, who tenacious-
ly won in straight sets to continue his reign
as the Rock, Paper, Scissors champion.

Friday

You should have noticed by now that
Arts Week is a four-day week.

Thank you to everyone for participat-
ing! And remember, submissions to the
Art Contest are accepted until July 23rd.

The Day of the Triffids*Neal Damgaard*
2B Civil

The Day of the Triffids is a book about
how intelligent, ambulatory, carnivor-
ous plants take over the world. No, it's
not another jibe at W. Bush; and however
silly this premise might sound, the book is
an immensely enjoyable read. I too was
sceptical as I read the blurb on the back
cover during the last work term, but in the
end found it much easier to pick up than
to put down.

The Day of the Triffids belongs to the
same genre as HG Wells' *War of the
Worlds* and such modern non-classics as
Independence Day and *The Day After
Tomorrow*. These are interesting works,
insofar as they deal with the subject of
how much better off mankind would be if
it was mostly dead. The author, John
Wyndham, preferred to call his works
"logical fiction" rather than science fic-
tion, and I think this suits *Triffids* better,
since it differs substantially from the cor-
pus of science fiction works, most notably
in its profound mistrust of technological
advancement.

The story begins with its protagonist,
Bill, waking up in a hospital to an eerily

quiet world. A run-in with a triffid, a bio-
engineered plant with a poisonous flail
which is cultivated for its valuable
extracts, had left him temporarily blind,
so that he missed a highly unusual meteoro-
logical event. This works out to his
benefit, as this same event leaves its
viewers completely blind, and thus exter-
minates the vast majority of humanity.
The rest of the book follows the advent-
ures of Bill and a few of his accidental
companions as they set about surviving in
a world which is at once very familiar and
wholly different from the one we know.

While *The Day of the Triffids* is obvi-
ously not a book that should be read too
reverentially, it nevertheless frequently
(and less shrilly than some works of
Asimov, for example) touches on ques-
tions of a philosophical nature, such as
the value of technology to humanity, the
apparent purposelessness of modern life,
and the relativity of ethics and morality to
a certain set of circumstances. Its charac-
ters are more real and more interesting
than the cardboard cut-outs of much mod-
ern fiction, and it is written with enjoy-
able wit and flair. All in all, it is an
engrossing and agreeable read, well suit-
ed to a bit of relaxation following
midterms.

Regulars

GenE 100: Wrapping Up

Dan Arnott

IB Environmental



Okay, to start off today's lecture, here's a question for you fourth-years in the back: HOW MANY DAYS 'TILL I.R.S.? (I'll take your word for it—it's something like 1300 for me). Now does anyone still believe that your Iron Rings are made of the metal from that bridge that collapsed in Quebec in 1907? Sorry to disappoint you; they're not. But that accident did have a role in starting the tradition.

I'm sure you've all heard how on August 29, 1907, 75 people died

when a cantilever bridge over the St. Lawrence River collapsed during construction. The consulting engineer, an American named Theodore Cooper, learned that you couldn't lengthen a bridge by two hundred feet without accounting for the increased dead load. The bridge failure increased awareness of the engineer's obligation to safety and ethics.

In 1922, the seven past-presidents of the Engineering Institutes of Canada formed the Corporation of the Seven Wardens. Not associated with any educational institution, the Corporation would administer the Ritual of the Calling of an Engineer (or The Iron Ring Ceremony), wherein graduates would receive their Iron Ring to remind them of their commitment to safety and the public welfare. The words of the Ritual were written by Rudyard Kipling, who is also responsible for such classics as "The Jungle Book."

Moving on, we may not all be Softies

or Comps, but we all use computers. And although there are many larger-than-life engineers in the 20th century, we probably owe Rear Admiral Grace Murray Hopper more than any of them. Born in 1906 and deceased in 1992, she revolutionized computer language to the point that non-mathies like us could understand it. Despite being told that "Computers didn't understand English," she developed the first compilers and was instrumental in developing FLOW-MATIC and COBOL in 1959. They say she also coined the phrase 'computer bug': a moth flew into one of the huge old machines and shorted stuff out. Without Grace Hopper, computers would be as inaccessible to us as they are to most artsies.

Since the turn of the 20th century, the engineering profession has grown and changed in

ways once never thought possible. Fields such as Computer, Software, Chemical, Systems Design, Mechatronics, Environmental, and Aeronautical engineering have flourished, as well as dozens of sub-specializations. Technological advances have revolutionized long-standing disciplines like Mechanical, Electrical, and Civil. Computers as we know them have only existed for 50 or so years, and it's hard to think of our society without them. Chemical engineers have given us plastics, polymers, solvents, dyes, and many other materials which make our lives easier, more pleasant, and safer. And we don't have to fear killer robots running amuck in our cities, because the Mechatronics engineers who build them are bound by the same code of ethics as the rest of us.

Thanks for taking Engineering History 100. If you want to fill out a Course Critique, please slip it under the door of the IW office (across from the Orifice).

"Without Grace Hopper, computers would be as inaccessible to us as they are to most artsies."

Chic Flicks: Book review on the Shopaholic Series

Elisa Zhang

Co-op student



In the movie world, they have so called "Chic Flicks". This also applies to the book world. When the editor asked me what I have read during the last two weeks, I told him my guilty pleasure, reading "Chic Flick" books. They are essentially about nothing other than jokes that most female readers are able to relate to. They are un-educational; they usually do not provoke deep thoughts; in fact, they are so useless that I decided to devote an article to them. Among the "Chic Flicks," I am currently reading Sophie Kinsella's Shopaholic series.

How many times do we hear guys complaining about their girlfriends' obsession with shopping? Being a girl myself, I love to wander in the mall just to window-shop sometimes. Psychology research shows that some women even turn to shopping when under stress. If shopping is so popular among the females, why don't we have books devoted to it? With this thought in mind, Sophie Kinsella, a financial journalist, started to brainstorm her story about a shopaholic while she was riding on her regular bus route. Rebecca Bloomwood, the main character of the book, was a financial journalist who found herself constantly struggling to find

the balance between her limited income and her unlimited desire for shopping. By throwing away unopened bank statements, not answering the bank's request and giving ridiculous excuses to escape meetings with a bank adviser, she tried to avoid her problems. She was stressed out over the on-growing bills. Every time she felt stressed, she turned her head towards shopping for relief. This vicious cycle continued on. We can see ourselves in her. Did we ever receive a bank statement and wonder what happened to our visa bill? Did we ever go to a store and load up the shopping cart with items that we did not need but were on sale?

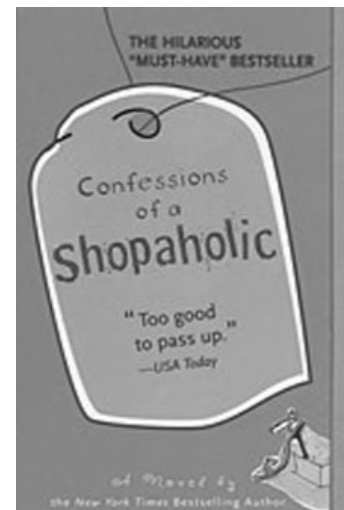
Despite her immature behavior when it came to shopping fever, Rebecca was a charming, funny, creative and heart-warming character. She tried to fight an ethical battle for her neighbors with their insurance company. Her actions were true to her heart, which warms up our heart.

Rebecca's adventure made me laugh out loud in public when I was reading the book. Sometimes, we just need to be entertained, and I found a source of enjoyment when I read these "Chic Flicks".

Good literature is a piece that we can relate to in real life. I can relate to the Shopaholic series. Does that also make them good literature?

Sophie Kinsella's Shopaholic series consist of *Confessions of a Shopaholic*, *Shopaholic Takes Manhattan* and *Shopaholic Ties the Knot*.

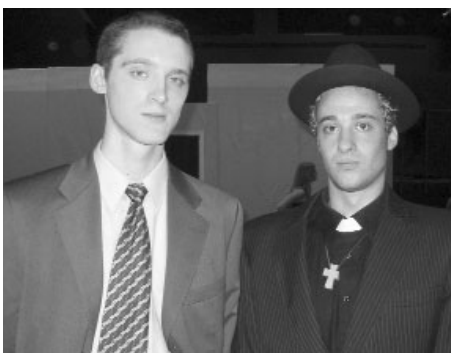
Other books recommended by the same author include *Can You Keep a Secret?*



the Iron Inquisition

Tsu, Cindy, and James

Why Did Your Summer Term Suck?



"Because of the sinful insanity of Brooklyn!"
Mr. Witherspoon & Dr. Harper



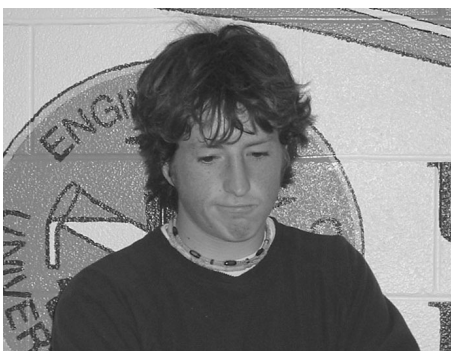
"Because we found out that we were BOTH Brewsters afterall..."
Elaine Harper & Mortimer Brewster



"Because we were looking for an escaped convict...that we never did find."
Officers Klein, Brophy, O'Hara & Rooney

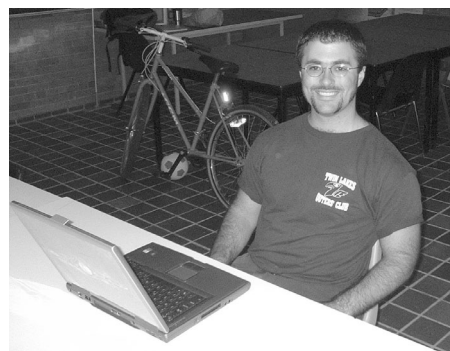


"Because I killed 12 people...but was only able to eat 9 of them."
Jonathan Brewster



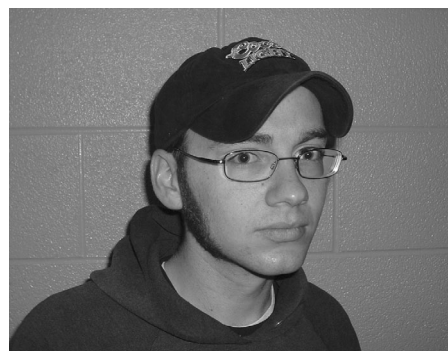
"Cindy thinks Karim is cuter than me."

Matt Strickland, impeached VPI



"How can you sit around and do work when you look this good?"

Craig Duffieco, 4A Enviro-Chem



"It didn't, this has been one of my best 2B terms yet."

Dave "Sideburns" Girodat, 2B Civil



"Its too cold to take off my pants!"

Daniel Broten, 3A Systems