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the IRON WARRIOR

THE NEWSPAPER OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

volume 25 issue 14 | 5 November 2004



Engineering 6-year plan to be developed

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What's NASA doing now?

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BUSH WINS 2ND TERM AS US PRESIDENT UNLESS SENATOR KERRY WON, IN WHICH CASE. . . KERRY WINS U.S. PRESIDENTIAL ELECTION!!!



MOT YOUR AVERAGE TERM PUB



Sheldon Petrie
3B Mechanical

It was a dark and stormy night, with the lurking horrors of impending midterms and moderate to severe inebriation, Engineers of all years donned their Halloween finest and showed up for what was to be one great night.

With pumpkins carved out courtesy of a few of those Bond, Chemical Bond folks, some decorations to jazz up POETS, a little live music, some sugary treats to keep the costumed hoards at bay, this MOT was poised to go down as one

for the record books.

A few early arrivals had to wait for Bar Services to finish setting up but a good number of people started coming in just after 9. Alas, something was wrong! These costumed people did not have any candy!

So, set to task was one of our lovely ladies of security (thanks Melinda) on both door guard and candy duty. All those who were in costume were provided with a few pieces to tide them over before the beer kicked in—if it hadn't already.

As the night progressed, an ever increasing array of costumes were seen, including a drag-queen, Superman, Duff-Man, an incredible Legolas costume, the

Mario brothers, two police officers, a very large man in chain mail, a couple of French maids and fairies, various superheroes, a frosh who, despite facing a CHE 102 midterm the following day, wished to drink his troubles away (though Bar Services was less than forthcoming), and one peculiar head of security who carried a sword and wore chain mail as well.



As the rain tapered off, more and more people went outside to get fresh air.

Continued on page 4 See MOT that rocked the world.

"Interpolation? What the hell does it matter?! It's just a bloody number. . ." - Prof. Renksizbulut, ME 353

Letter from the Editor

Andre Beltempo

3B Mechanical

Editor-in-Chief



Instead of focussing directly on the U.S. Election, I'm going to discuss the most hot-button issue facing U.S. electors, and the international community as a whole. I'm going to review the current situation in Iraq. Before going further, I'm not going to argue about the justification of the war. Something that I've noticed is that everyone is fixated upon whether or not the U.S. should have invaded in the first place. This is obviously a serious issue, but I would like to highlight that regardless of the decision or your thoughts about it, it's happened. The decision, for better or worse, was made. Iraq has been invaded. The U.S. troops are there now. We can't reverse this. So let's stop analysing a decision that was made in the past. What's far more important and immediate, especially for Iraqis themselves, is what's going to happen in the future. My contention is that the U.S. must stay in Iraq for as long as it takes to stabilize that country. By invading without planning the peace, relying on political rather than military direction, and committing the bare minimum of resources, the U.S. found itself 'in over it's head' despite having the successful examples of the rebuilding of Japan and Germany after WWII to fall back on.

Firstly, the U.S. military is the finest fighting force on the planet. No one will dispute this. In a set-piece traditional military battle, they are unmatched. Where the American military has historically run into trouble is when the military is not given a free reign on operations. As an example, FDR did not direct the tactical operations of Allied forces during the Second World War, rather he established strategic policy, such as the 'Germany first' decision. He left the remainder of the military decisions to his subordinate, but far more militarily experienced General Staff. The military is a blunt instrument, and this is why the decision to use them is so agonizing. Politicians need to realize that when the military is committed to an operation, that the primary purpose of the military is death and destruction. Talk of 'surgical strikes' and 'precision munitions' aside, war is a very messy, very bloody business, and once you start putting guys with guns in places, people will die. So, recognizing this, once a war has begun and soldiers are on the ground, the best idea is to allow the military free reign to complete their assigned strategic objective, without impos-

ing restrictions which may be seen to reduce political or societal fallout in the short term. If you didn't want too much death and destruction, you shouldn't have called in the military in the first place. These restrictions simply have the effect of frustrating a military mission, and prolonging the conflict. The best way to minimize death and destruction once a military is conducting a mission is to allow them to complete it. Vietnam is a classic example of this. By not allowing the military to attack the North directly, and citing certain targets 'off-limits' the Vietnamese were immediately able to capitalize on the apparent haphazard conduct of the War. We are witnessing something similar in Iraq today. The U.S. military needs to be given a specific objective, and the resources to complete it. After the 'official' end of the war, the objective should have been to ensure adequate logistics for the Iraqi people.

The greatest mistake that the U.S. made during the invasion of Iraq was not planning for the subsequent peace. This is inconceivably short-sighted. The outcome of the war was not in doubt, yet the soldiers on the ground, upon reaching their assigned objectives, were not given further orders with regards to policing, re-establishing infrastructure or securing specific Iraqi bureaucratic institutions. After Germany and Japan fell in 1945, literally millions of tons of food, logistics and other essentials, which had been earmarked for the task, were delivered by literally millions of troops. They rebuilt the bridges they'd destroyed, oversaw reconstruction of the shattered cities, and ensured that the populace was engaged in rebuilding and re-establishment of civil order. Conversely, in Iraq, the U.S. allowed all civil institutions to disband, and literally watched for a week while suddenly unemployed Iraqis destroyed their own infrastructure and bureaucratic institutions. To me, this was one of the most blatantly stupid strategic decisions in the history of modern warfare. Unfortunately, the soldiers on the ground were not equipped to deal with the maintenance of order, re-establishment of infrastructure, or gainful employment of the Iraqi populace, nor were they present in sufficient numbers to ensure compliance with any U.S. post-invasion decision. In a perverse decision, they were equipped 'lightly' to ensure that their own logistic 'tail' and hence cost of maintenance were kept low, presumably so that the current U.S. administration could claim that the war was fast and cheap. In the traditional sense the 'official' war was ridiculously small and cheap, but the cost of this is the continued mess in Iraq. The Iraqis could not be expected to magically re-order themselves after having lived under a very strict totalitarian regime for 30

years. The problem that exists now is exacerbated by the fact that the U.S. government is paying literally billions of dollars to private corporations for the 'rebuilding'. Again, although this appears to benefit everyone, since corporations are more 'efficient' than government operations, and free-market competition should allow the most effective companies to survive, the problem is that these companies are also entirely random elements that do not provide a stable effort. Some are acting as security services, but since they are civilian 'security' personnel, i.e. mercenaries, they do not obey the same rules of engagement as the U.S. Army, for example. Therefore, the response of any given foreign man with a gun is entirely varied depending on who he's working for, since they're not all 'professional' soldiers. As one of Murphy's laws of combat states: "Professionals are predictable, but the world is full of amateurs." By reducing real troop strengths and throwing money at the problem, the U.S. has created a situation where the total number of U.S. troops killed may be lower, in the final analysis, but where amateurs are facing amateurs. This results in a complete mess, since average Iraqis don't know whether the foreigner with the gun is going to shoot him or wave. By handing off control of the country to these fragmented groups, while leaving their token force in the country, they have effectively relinquished control of the situation, since they cannot dictate any objective at all anymore. With the military occupying/rebuilding the country, at least they would be able to specify concrete objectives to be accomplished.

The ongoing insurgency in Iraq is a direct result of poor U.S. planning, and exhibits some dangerous parallels with Vietnam. The U.S. will not lose the same numbers as they did in Vietnam, for the simple reason that they don't have the troop strength on the ground to do so, but guerrilla campaigns historically have only been won by removing the 'base', i.e. by going into an area where they are operating, and then working with the civilian populace over a long (years) period of time to rebuild the civilian infrastructure and local economy. Doing this bit by bit, over the entire country, would erode the support base of the insurgents, since people aren't going to help guerrillas with guns if they don't agree that there's any reason to be fighting anymore. In any case, the U.S. had better do a 'look before you leap' type decision whenever the next President decides to look at Iraq. Some serious thought needs to be given to how to really sort out the mess, but if I had to guess, keeping the lights on, getting some hospitals running, and employing people is probably a good place to start.

the IRON WARRIOR

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

The Iron Warrior encourages submissions from students, faculty and members of the university community. Submissions should reflect the concerns and intellectual standards of the university in general. The author's name and phone number should be included. All submissions, unless otherwise stated, become the property of The Iron Warrior, which reserves the right to refuse publication of material which it deems unsuitable. The Iron Warrior also reserves the right to edit grammar, spelling and text that do not meet university standards. Authors will be notified of any major changes that may be required.

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Dear LowRider: UW_LowRider@hotmail.com One Ride Two Ride Red Ride LowRide

Dear LowRider,

Do you agree with Byron?

-Who knows?

Dear I wish I know who you were,

Please don't write nonsensical stuff all over campus. I can think of 5 better things that you should have written, such as:

Do you agree with Donald Trim?
Do you care who Byron is?
Do you agree with LowRider?
Do you agree with Random Graffiti?
Do you agree with the hypothesis that Marcellus Wallace's soul was in the briefcase, not some stupid diamonds?
Now, get some more chalk and get to work!
-LR

Dear LowRider,

As far as I can tell, everybody who is anybody has a theme song, from EDCOM to Mr. Ed. Do you have a theme song, or some kind of LowRider anthem? I'd love to hear it.
Thanks,
-Some Guy

Dear Some Guy,

As a matter of fact, there IS a LowRider song. It's not as popular as it once was, and I'm not too sure why that is exactly. It's mostly kind of to the tune of "Jingle Bells" because the copy-right is expired. Back in the 80's they switched it to the tune of the "Knight Rider" theme

for 3 weeks when that show was popular. It's been back to the original ever since. Here you go, by special request:

LowRider, LowRider,
LowRider is cool!
Oh what fun it is to give advice,
In a super kick-ass column!

Writing for IW,
Always on Page 3,
Other people write,
"Articles" too, (ha ha ha!)

I get tons of letters,
LowReaders get witty advice,
I always wear my bandana and frown.
And the ladies treat me nice!
-LR

Dear LowRider,

Long-time fan, first-time writer. I don't want to go into too much detail (protecting the identities of those involved, you know), but, I am a former executive of a large on-campus organization who, for reasons that I don't want to go into here, is working in a small South American country. (That should do nicely.)

Anyhow, my question is: I think my successor at this 'organization' is doing a really crappy job and tarnishing my well-deserved legacy. Should I...

a) live and let live and let him or her find his or her own path

or
b) Stuff an angry machete-armed Malaria-infested Spider Money into a box and Fed Ex it to room 1103 in the SLC

I am so confused. What would you do LowRider?

Sincerely,
-Guessing in Georgetown
Dear Person who I do not know in any way, shape or form,

What's up, dude? I hope that things are going well for you in South America. It sounds hot there. I had a letter from a guy who did a co-op term there once, but I haven't heard from him since. I even published his address and everything...Jerk.

Anyway, you bring up an interesting point. What does one owe one's successor - and what does one's successor owe to one? Read that again slowly if you got less than 85 on the ELPE. I don't think that you're talking about Engsock. I bring a megaphone to all the meetings to make things run smoothly, and I'm doing a good job because most of them (cough... Kate... cough...) aren't messing stuff up too bad at all.

It's definitely not Chem Eng Soc, because they run a tight ship and have a damn sexy President/Dictator For Life, if I do say so myself. (Pause for emphasis.)

Maybe you mean FEBS, or some kind of club. You can read what I said about clubs last time, but as for FEBS, who cares?

-LR

PS: I bet you \$10 that if you did mail the monkey, Imprint couldn't make it into a readable story. Maybe that Heramb guy could, but he'd have to apologize for it the next week.

Dear L.Rider,

I hear that you are not the original LowRider, that you are just the most recent (and best) in a long line of

LowRiders. Is this true? Does this mean that you will eventually be replaced?

- Mechette

PS: Is there a LowRider fan club?

Dear Mechette,

Does your name mean that you're like a Mech, except a girl? Who would have guessed that one, eh? You must have the pick of... Mech guys. Good for you...

You are correct about me not being the Original LowRider. If you want to learn more about the history of LowRider, read issue 5 from Fall 2002 at the IW website. It's somewhere in one of the internets.

The truth of the matter is, I will be replaced. Soon. If I don't fail any courses. So I'm announcing that I AM LOOKING FOR THE NEXT LOWRIDER.

In keeping with the great tradition, all applicants must be in Chem or convince me otherwise. You must be willing to obtain your own red bandana, and pass all skill-testing questions. More importantly, you have 2 weeks to email me, or seek me out, and answer this question:

Dear Applicant,

Why should you be the next LowRider?

-LR

I'm looking forward to reading these.
-LR

PS: Of course there's a LowRider Fan Club. Talk to Laura M, as she is the Prez of that club too.



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FALL 2004 TECHNICAL SPEAKER COMPETITION RESULTS

The Technical Speaker Competition was held on Friday, October 15. The competition was keen and the selection of a winner difficult according to Prof. R. Legge of Chemical Engineering. Prof. Legge is the Faculty Co-ordinator for the competition and the Foundation would like to thank Prof. Legge and all the Department Co-ordinators for their effort in ensuring the success of the Competition.

FIRST PRIZE Anam Rabbani, Mechanical Engineering

OTHER COMPETITORS Priya Bhola, Chemical Engineering
Travis Kelley, Systems Design Engineeirng
Adam Wilson, Electrical and Computer Engineering

Funding for these awards comes from engineering student contributions and depends on them for continuation

The MOT that rocked the world



...continued from Page 1.

Fortunately those who came in costume only did not suffer too much in the misty rain and cool temperatures.

With POETS quickly reaching capacity, which was increased from BOT this time as the Patio was licensed, the crowd inside seemed to be doing just fine, singing songs, comparing costumes and chatting it up with friends and peers—most of whom haven't seen one another since BOT in some cases.

There was a large B-Society turn out, with many familiar EDCOM faces showing up here and there. Most of the executive took time out from their busy schedules to take in the sights and sounds of MOT as well.

Around 10:20 there was a hush that fell over the crowd as security cleared a path from the main doors to the stairwell. Once again, the TOOL was making its appearance for the gathered crowd.

As the theme to 2001 played, the

TOOL bearers came in dressed up in their typical finest, but each bearer was wearing a Halloween mask! The engineers (and two artists wielding spatulas) chanted the typical TOOL chants and roared as the TOOL was raised for all to behold.

As the bearers received their refreshments, the hard-working P**5 directors made their way up to the balcony to reveal the MOT points standings. With Back in Black playing in the background the banner was revealed to show the points standings:

3B SE-Xperts	19530
2B Bond, Chemical Bond	17290
3B Members in Tension	13010
3B Long Wrench Big Nuts	7115
2A SE(x,y);	5840

Throughout all of these proceedings Digicom (sorry Jeff, I had to) was filming



throughout most of the night. With any luck you will make it into the TSN video to be shown at EOT on December 3rd.

As the TOOL made its discreet exit, the long awaited band came on and played good tunes for the rest of the evening. As the night went on people left in small groups to go onto their unknown destinations, most of which included talk of the Spur or Kick-Offs. As these people left even more people were let into POETS as it was at capacity for most of the night.

As the band completed its session, people gathered just below the steps to POETS to compete in the costume contest. Winners were chosen by crowd popularity with Security deciding on the winners. Despite competition from Duff-

Man, the two Mario brothers and the big guy in chain mail, without question the best male costume went to Ryan Consell, in his amazing Legolas costume. It came complete with hand made maple bow, two fighting swords, prosthetic ears, and outfit. Winning for both best female and best team, were the twins—conjoined at the back to be exact.

Congratulations and thanks to all and everybody who joined us for one of the best MOT pubs ever held. Please join us again at End of Term. With any luck the weather won't be too cold, though knowing Waterloo anything can happen.

If anyone has any suggestions or ideas for EOT or POETS in general do not hesitate to email the POETS Management.

D'oh! Simpsons actually reflects Society

Charling Li
2B Mechanical

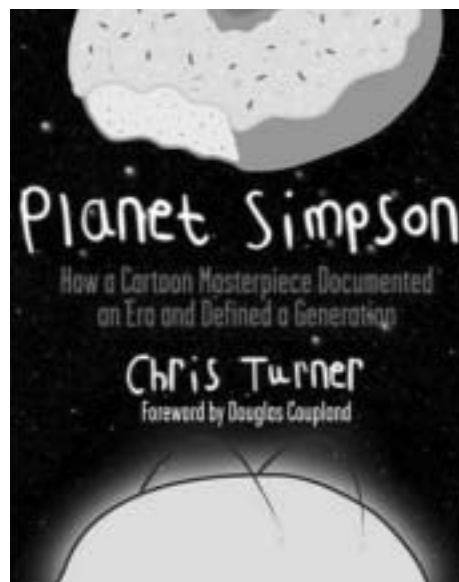
On Friday October 22, author Chris Turner came to visit UW and hawk his book, "Planet Simpson", which details "How a Cartoon Masterpiece Documented an Era and Defined a Generation". Sounds like something any hardcore Simpsons fan could've written, right? Well, this hardcore fan actually went through the trouble of doing it, and he did a thoroughly good job. This 450 some odd pages isn't your usual episode guide or trivia compilation. It is an in-depth analysis of how the Simpsons satirized our world. In the 1 hour presentation and question-answer period, Turner showed clips from well-known episodes and then read from parts of the book. The first clip was from the episode where Homer tried to sue an all-you-can-eat seafood restaurant for not letting him eat all that he could eat. This led to a discussion on how Homer represents our insatiable and impulsive consumerist society. Turner brought up interesting points. While Homer lives out our society's fondness of excessive consumption of everything and anything, Springfield is a city tailored to meet his demands. Stores like the "International House of Answering Machines" and magazines such as "Ballpoint Pen Digest" are frivolous and irrelevant, but nevertheless find a market in a place like Springfield which may as well be Anywhere, USA.

The next clip showed Bart and Lisa at Kamp Krusty, where the children were being mistreated and abused. When the camp counsellors tried to pass Barney

Gumble in a clown suit off as Krusty, Bart decided that he'd had enough. He'd been scorched by Krusty before, he exclaimed. "I've got a rapid heartbeat from Krusty-brand vitamins, my Krusty Calculator didn't have a 7 or an 8, and Krusty's auto-biography was self-serving, with many glaring omissions, but this time, he's gone too far!" Bart proceeded to overthrow the camp counsellors, wreck havoc, and establish "Camp Bart". In the end, however, Bart forgave Krusty, as he always does. Turner attributes this to Bart being representative of a diehard member of the church of pop. Krusty can disappoint Bart over and over again, but Bart never loses faith in him.

Other topics Turner touched on include how Sideshow Bob is the most cultured character on the show. He tries to take over Krusty's show with a most altruistic reason in mind: he wants to turn the show into a cultured, high-minded educational hour for children, with lessons on "nutrition, self-esteem, etiquette and all the lively arts". (And here I thought he was just a boring freak show.) Turner delved briefly into the idea of Kent Brockman, Springfield's iconic anchorman, being representative of our glibly hysterical media. Whatever happens, Kent is always on the scene, providing either misinformed commentary or his delusional fantasies, all with an unflappable professional flourish: "and THAT's the news, folks!"

The question-answer period included some thoughtful and intelligent questions from the audience (which gave me a sense of what being in an arts class might be like), and Turner proved himself to be genuinely well-spoken with a deep wealth of knowledge with respect to his topic.



All in all, Chris Turner gave a convincing case for his thesis. If you used to think that the Simpsons was a complete waste of half an hour (like I did), you will soon realize otherwise. There is more to the Simpsons than gratuitous violence (a la Itchy and Scratchy) and overused phrases (think "D'ohh" or "Why you little..."). If you're a hardcore fan and think you know all there is to know about the Simpsons, well, you'll just know more. This book is not heavy reading, and though it is on the long side, it is thorough and easy to understand. If you would simply like to increase your vocabulary and general understanding of our pop-culture world, this book is for you. "Planet Simpson" is reasonably priced at \$35 bucks at the Bookstore, and yes, they did jack up the price at the book signing after the presentation, but you can get it for much cheaper if you just look on the 'net. Happy reading!

Draft dodging and the United States

John Ng
Graduated

A quaint little city in British Columbia called Nelson decided to build a monument honouring the American citizens who fled to Canada during the Vietnam War to avoid the draft. These citizens, numbering around 50,000 to 125,000 in total and predominantly in the middle class, settled mainly around that area of our country. This statue, as well as the associated "Our Way Home" festival, was created to celebrate the contributions to Canadian culture by these people. The festival and statue itself were privately funded.

Fox News managed to get wind of the story through the Associated Press and decided that it didn't like that very much. They headlined the story, incorrectly indicating that the mayor of Nelson was involved, which prompted a whole flurry of citizens to e-mail the city of Nelson to stop construction of the statue. The Veterans of Foreign Wars group, the largest Veterans' group in the U.S., is also working with President

Continued on page 10. See Draft Dodging statue creates consternation in United States

POETS: More than just a 5 letter Acronym

Sheldon Petrie
3B Mechanical

So, it's a weekday afternoon, classes are over and you just can't seem to gather enough interest to march to Dana Porter, Davis Centre, a computer lab, or wherever you spend 50% of your time studying. Instead of that, you are looking for something to do—something entertaining, sociable and most importantly: cheap. Well, for those of you who have not yet been to one of the best places in Engineering to get to know and hang out at, consider POETS.

POETS (Piss on Everything Tomorrow's Saturday) is located right beside the C&D in on the first floor in Carl Pollock Hall (CPH). The entrance to POETS (also known as CPH 3383) is through a set of double doors on top of a small set of steps and a side ramp. Other things to note are large wooden carvings depicting the map of the University (refer to the engineering handbook) and a large wooden carving of a custom POETS logo.

The double doors and adjoining windows are white from the outside but from within a mural of sorts has been painted depicting a marching medieval army. At any rate, inside on the main floor you will find a whole bunch of stuff to enhance your lunch hours, afternoons and pretty much any time between 8:30 a.m. and 5 p.m. On the main floor are numerous chairs and sofas to relax and enjoy you meal, snack, or breaks during one of those darned pesky labs. The main attraction, however, is the large 10' screen, projector and very nice 6 speaker surround sound system with an earthquake-inducing subwoofer.

While the projector dates back to the founding of POETS (I heard they used to play Duck Hunt on the darn thing, believe it or not) the speakers and Onkyo receiver were gifts from the graduating class of 2002 and are very, very impressive.

At the front of the room is a bar with counter which holds all of the stereo and video equipment. Behind the bar are paper towels, an assortment of pens and markers, darts, and many, many more things than I can list here.

If you hear a low humming noise in the mornings it's probably the large refrigerator directly behind the bar. This refrigerator is typically empty except for Thursdays and Fridays to keep the beer sold on those days cold.

In the back are two dark boards and a foosball table. Watch out for a tournament in the next few weeks.

Above the main floor is a study area which is fairly quiet and secluded—one of the few areas outside of an empty classroom or library you can study on campus. If you take the time to look around POETS one will see the walls covered with pictures of a few IRS ceremonies, pictures of the TOOL, notable victories by Engineering student teams and various exploits of those that shall not be named.

POETS has regular operating hours during the day between Monday to Friday and programming starting between 10 and 12 depending on the type of content and day of the week. Thursday and Friday programming typically includes action and/or sci-fi/fantasy films, Kevin Smith movies on occasion, and comedies that you can enjoy no matter what time you start watching. Monday through Wednesday programming tends to be slower, with TV fare

(Family Guy, Futurama) on Tuesdays and trilogies on Thursdays.

POETS is also available for private bookings for anyone interested provided there is no conflict—typically this is never a problem. Past classes have organized coffee houses, meet and greets and the like. Those who do not have cable TV, or have the privilege to live in Unit 36, are known to book out POETS to watch cable TV. Academic Representative meetings are held there on occasion (with free food for those involved). Additionally, three times a term, pubs are held in to celebrate Beginning, Middle and End of the current term. ID is checked at the door so while frosh and those under 19 will be allowed in they will not be served—Bar Services, which handles all of the alcohol served in POETS and on campus is present. A band is booked for the Middle of Term (MOT) and the end of term video showcasing highlights of the previous OT's, charitable events, and other events of note.

While having a good time is most important, there is still one important and over-riding thing which makes the term pubs great: it's shiny, 60" long and weighs over 100 lbs. It's the Tool and it is graciously brought out on each and every term pub where it shown before all of the students present.

On a final note, it must be pointed out that just like everything else at this University, what you get out of something depends on what you put into it. Special Events like the Open House, Beach Day, term pubs and others all need volunteer help to one degree or another. Any and all ideas are welcome and if you have any questions or comments please send them to the POETS managers.

Charobeeem Cooks: Recipes for the ages

Carolyn Sutherland
1A Mechanical

Hello all Iron Warrior readers! For my debut, I have decided to share some of my most cherished recipes with all of you; the first being the suite-renowned

Tuna Pasta Salad! *cue chorus of angels* But seriously, this has to be the best recipe in the world for busy engineers! It's quick, simple, tasty to the point of being addictive, and it's impossible to screw this up.

TUNA PASTA SALAD

Prep: 15 min. Serves 2 144 Calories

1 cup tri-coloured corkscrew pasta
1/2 cup green beans trimmed & cut into 2 inch pieces (just use scissors to cut them)

1/4 cup red onion thinly sliced
1/3 cup low fat Italian dressing
1/8 cup chopped fresh parsley (or dehydrated parsley flakes)

1/2 cup cherry tomatoes, sliced in half

1 can (7 oz) tuna in water, drained
1/8 cup sliced black olives (just buy a tin of sliced olives)

1) Cook pasta according to package directions but do not add salt. About 7 min.

Before pasta is done, add green beans to pot. When cooking time is finished remove pot from heat & add onion. Drain mixture in colander & rinse under cold water. Drain again.

2) While pasta mixture is draining, in large serving bowl combine dressing, & parsley. Mix well.

3) Add drained pasta mixture to dressing. Add tomatoes, tuna & olives. Toss to coat & serve. This recipe can be halved/doubled/quintupled/you get the idea

Isn't that simple? Yes, yes it is very simple. Don't feel you need to follow instructions exactly; use whatever pasta and ingredients you want! For example, I don't use onion because I don't like onions, and you may not use olives because you don't like olives. Thanks must be given to my aunt, who gave me this recipe. Unfortunately, she can't remember where she got it from, but the point is that it's here now, just waiting to be put to use! So go now, go forth and cook!

Speaking of cooking, if you'd like something a little more labour intensive but equally tasty, why not try a chicken & veggie stir fry with peanut sauce? Just be sure to make sure the chicken is fully cooked (no pink anywhere; everything must be white), as chicken can be finicky when it comes to things like salmonella you know

WARM PEANUT CHICKEN VEG-ETABLE SALAD

Prep: 25 min Serves 4 271 Calories

Continued on page 9. See Cook This

ENGINEERING PLANNING SESSIONS

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Dean's Office
IW News Bureau

The Faculty of Engineering is in the initial stages of a Faculty planning exercise, to develop a 6-year plan for the Faculty and every department. A key aspect of this planning process is broad consultation - providing students (undergraduate and graduate), staff, and faculty the opportunity to have input into their department's and the Faculty plan. To that end, the Dean's office wants to be sure every interested community member is provided with information about the process as it gets under way. Planning information sessions for undergraduate students, graduate students, staff, and faculty will be held on the dates specified below. Each ses-

sion will be presented by Dean Adel Sedra, and will be about an hour long (including time for presentation and time for discussion/questions from the group). More information will follow as it becomes available.

Undergraduate Students:

Where: CPH 3374

Date: November 9, 2004

Time: 5:00 p.m. to approx 6:30 p.m.

Please note that at this session there will be pizza available.

Graduate Students:

Where: DC 1350

Date: November 10, 2004

Time: 3:30 p.m. to approx 5:00 p.m.

Please note that there will be refreshments available.



"Back to the Future" - Marty McFly would care about the FUTURE of Engineering. . . come on out November 9th and learn about where Engineering at UW is headed. . .

ENGINEERING SOCIETY EXECUTIVE REPORTS

The President

Laura Mooney



President

I hope everyone's midterms have gone well, and now that we're into

November there's a nice moment to pause before the fury of project reports and finals comes down on us. The exec has all been busy this past month with conferences at the beginning, Oktoberfest in the middle, and midterms and MOT at the end. Our first EngSoc swing dance lessons happened as well, with a great time had by everyone who came out.

The EWB Wine and Cheese fundraiser also happened this month at the old Seagram building. The venue was fantastic, and the words from George Roter (Waterloo Engineering grad and founder of EWB) were very informative about the work that EWB does both abroad and in Canada to improve the standard of living in third world countries.

The next EngSoc meeting is

November 10 in DWE 1501, and I look forward to seeing many of you at the meeting now that midterms are over. We'll be meeting the candidates for the upcoming EngSoc elections, starting Paul and Paula Plummer Award nominations, and going through the usual bevy of announcements and class rep feedback. Ciao 'till then!

VP Internal

Kate Kelly

Vice President,
Internal

Wow, what a Halloween weekend, I hope everyone had as a good a time as I did! I heard MOT was fantastic with the alive music and whatnot. My cousin and I almost won a costume contest at Elements! It was fantastic! Soo much fun.....bad camera, my feet hurt.....

So...whats going on soon? Lots of stuff! Buy a semi-formal ticket! Its 'Las

Vegas' themed! Soo coooL! November 6th! I'll totally be there, all dressed up and snazzy and no date!

A**5 bowling is November 7th...the bus ride is free! Sign up! I'll be there and I betcha I'll beat Rajat.....and maybe Jon at bowling! And remember to dress up! Team Theme is important!

The next EngSoc meeting is November 10th, same bat time and same bat place.....Arts week is coming up. November 15-19th submit your artsy stuff. Genius bowl is the 17th, sign up your teams!

Just a bit of advice before I go....water...I love it!

Jonathan Fishbein

Vice President,
Education

Ladies and gentleman, may I have the Lesteemed honour to present to you Exec Report number 4. I also remind you to please hold your applause to the end so we can try and speed things up. With midterms come and gone, it's been a slow couple of weeks for EngSoc stuff and I only have a few things to report on. So without further ado, let's begin.

The first thing I have to talk about this week is an update regarding the online course critique results proposal that the office of the Vice President Education (i.e. me) passed up to the Dean's office for approval and adoption. The Dean proceeded to present this proposal to all the department chairs and associate deans. The faculty has chosen to accept EngSoc's proposal for online course critique results without any modifications. For those of you who missed that last sentence, I'll summarize and repeat. The Engineering Society has received approval from the faculty to post the results of the course critiques on our website to our members. This is a momentous decision for EngSoc, but more importantly for the whole university. We will be the first faculty on campus to allow our course critiques to be readily accessible to students over the internet. This is just another example of how EngSoc and the engineering faculty are setting the bar for the rest of the faculties and student societies on campus. Now that we have faculty approval for this system we need to start working on the development of it. Graeme Baer, EngSoc resident web-maven, will be heading up the development

of this system along with me. If anyone is interested in helping out with the system's development feel free to contact me at asoc_vpedu@engmail.uwaterloo.ca. The plan is to get a system in place by the end of the term so it will be ready to go in the winter.

The second thing I have to say this week is another update on an issue I touched on last week. In my past exec report I mentioned that the Ontario government is conducting a review of the post secondary education system headed by former Ontario premier Bob Rae. This past week, I had the pleasure of attending one of the stakeholder roundtable discussions hosted by the Rae review committee and Bob Rae himself. The stakeholder roundtable discussion brought representatives from universities, colleges, students, and secondary school boards together to try and look at issues and possible solutions to improve post secondary education in the process. The questions that were discussed were: how can we, as a government increase participation and success in higher education, how should we improve the quality of higher education, how can we make sure that our institutions constitute a coherent and coordinated system to meet Ontario's goals for higher education, how do we pay for higher education to ensure opportunity and excellence, and do we have the right structures in place to know our systems is achieving the results we want? Anybody interested in hearing more about all this can come find me in the Orifice, and as anyone who was in the orifice when I got back from this meeting can tell you, I will be more than happy to discuss it. The commission will also be hosting a town hall meeting in the Waterloo area on November 5th where everyone is invited to come and share their thoughts on improvements for higher education. Watch for more information on that.

The last few things that I have to mention is that the faculty has started the next stage of its co-op review committee meetings of which I am a member. The committee is currently sifting through all the student input it received in the previous term and using it to help identify the problems in and some recommendations for the co-op system. The PDENG steering committee is also working hard to ensure that all you '09s will have a course in place when you go on co-op. There will be a PDENG presentation in the last of the GENE 010 sessions on November 4th as well as members of the PDENG steering committee will be visiting the first year concept classes to inform you '09s of what to expect.

Well that's all I got for this week. Ironically this is the first exec report I've written that has spilled onto two Word pages, especially since I said at the beginning that it would be brief. Meh. Just more for you to read when you're bored in class.

VP External

Nick Lawler

Vice President,
External

The leaves are gone, and finals are just around the corner...eek! It's been a crazy term and it's not quite over yet, despite the signs that are around. I've got a few important conferences coming up, and I need some of you to attend with me. The first is CFES (Canadian Federation of Engineering Students) Congress, which will be happening this year at the University of Toronto. It promises to be an amazing time with Mike Lazaridis (UW Chancellor and RIM co-founder) giving the keynote address. Students from all across Canada and abroad will be descending on U of T for a entire week of fun, workshops and did I mention fun? All expenses will be paid for by the gracious funding by the Dean of Engineering. This conference will be held from January 3rd to the 7th. We will be staying in a hotel in downtown Toronto. If

you are an eight stream frosh, a de-streaming fourth year, or planning on failing this term, your applications will be forwarded to the B Society VP-X Christina Waters, all others come to me. Applications are available online on the EngSoc website, and are due no later than November 19th. The second great conference is for first years only. It's the First Year Integration Conference (FYIC). It's being held at Ryerson this year and will be held from Friday February 4th to Sunday 6th. I want to get all the names in now, since all the possible first years are on campus right now, and it's a lot easier. This conference will see other first year engineers from all across Ontario gather to discuss the trials and tribulations of first year engineering, as well as socialize. The folks at Ryerson have worked incredibly hard on this conference, and it is shaping up to be an excellent experience. Like Congress all expenses are paid by the Dean. Applications for FYIC are due Friday November 26th. On an internal external matter look for a Remembrance Day ceremony at 11:00am on November 11th. The ceremony will be held in the CPH Foyer.

WEEF Report

Nick Lawler

Vice President,
External

Participation is up this term I have not got the official numbers from the registrar's office as to the number of students enrolled in each class so I don't have accurate stats. Thank you to everyone who continues to support WEEF. This is a big term for WEEF, there will be an election for a new WEEF Director. If you are interested in becoming the next director, get a nomination form from the orifice and get it filled out.

There are some important dates to note that are coming up in the near future. Friday, November 12 at 4:30pm is the last day to

hand in WEEF proposals. A soft copy must be emailed to weef@engmail.uwaterloo.ca and a hard copy put in the WEEF mailbox in the orifice or slid under the WEEF office door. Tuesday, November 16 at 5:00pm in RCH 302 proposal presentations will be held. The following week on Thursday, November 25 at 5pm is funding council. This is the meeting in which the WEEF Reps decide where the money is to be spent and is also in RCH 302. It is very important that one WEEF representative from each class attends both the proposal presentations and the funding council.

If you have any questions or concerns about proposals or other matters please email me at weef@engmail.uwaterloo.ca or stop by the WEEF office (E2 2349A) Wednesdays between 11:30 and 1:20 or Thursdays between 3:30 and 5:00.

VP-F

Rajat Suri

Vice President,
Finance

Hey guys!!!

Not much to say this time! The Budget was passed at the last meeting. Donations were completed as well, and if your organization won an EngSoc donation, then email me at asoc_vpfin@engmail to get your donations cheque! And if you want directorship money, fill out an expense form and put it in my box! Other than that, I'm late and I don't want to piss off Andre.

Want a Job? CECS Important Dates

November 1:

- Co-op job postings begin to occur daily. Each posting closes at the end of the following business day. Job ranking cycles and Job match results will continue until December 17. Watch JobMine login page for notification of any change in the posting schedule.
 - Co-op job postings open) at 6 am
 Career Services Workshops:
 Job Search Strategies: Learn the "how to" of job/work search, networking, and employer research. Creative and traditional methods are explored. NOTE: Much of this information is similar to the CO-OP 101 Job Search session. Co-op students should attend only if they need a refresher. Register online at www.careerservices.uwaterloo.ca
 3:30 – 5:00 pm, TC 1208

November 2

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Job rankings open at 3 pm
 - Monday job posting close at 11:59 pm
 Career Services Workshops:
 Letter Writing: Learn how to use letters to your advantage in the job search. Register online at www.careerservices.uwaterloo.ca
 3:30 - 4:30 pm, TC 1208.
 Résumé Writing: Discover techniques for writing an effective résumé. Register online at www.careerservices.uwaterloo.ca
 4:30 - 5:30 pm, TC 1208.
 Rotman School of Management, U of T Information session about management and accounting programs Register online at www.careerservices.uwaterloo.ca
 11:30 am – 1:30 pm, TC 1208.

November 3:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Job rankings close at 9 am
 - Job match results available at 10 am
 - Tuesday job posting close at 11:59 pm
 Career Services Workshops:
 Interview Skills: The Basics – Understand the fundamentals of successful interviewing. NOTE: Much of this information is similar to the CO-OP 101 Interview Skills session. Co-op students should attend only if they need a refresher. Register online at www.careerservices.uwaterloo.ca
 3:30-4:30 pm, TC 1208
 Interview Skills: Preparing for Questions- Discuss and learn from taped excerpts of actual interviews. Register online at www.careerservices.uwaterloo.ca
 4:30 - 5:30 pm, TC 1208

November 4:

- Co-op & Grad employer interviews continue

- Co-op job postings open at 6 am
 - Job rankings open at 3 pm
 Wednesday job posting close at 11:59 pm
 Career Services Workshops:
 Interview Skills: Selling Your Skills – Don't stop at the fundamentals; you must also prove your skills in the interview. Here is your opportunity to practice and improve. NOTE: Please attend only if you can stay the full two hours. Register online at www.careerservices.uwaterloo.ca
 3:30 – 5:30 pm, TC 1208

November 5:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Job rankings close at 9 am
 - Job match results available at 10 am
 Thursday job posting close at 11:59 pm

November 8:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Friday job posting close at 11:59 pm
 Career Services Workshops:
 Job Search Strategies: Special Session for International Students International students will learn best approaches to search for work in Canada after graduation from UW, including visa requirements. NOTE: first hour of session covers general job search strategies; last half hour details visa requirements. Register online at www.careerservices.uwaterloo.ca
 4:30 – 6:00 pm, TC 1208

November 9:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Job rankings open at 3 pm
 - Monday job posting close at 11:59 pm
 Career Services Workshops:
 Business Etiquette: Proper etiquette is crucial to a successful job search and to your career. This workshop will cover dining etiquette as well as appropriate behaviour at interviews, employer receptions/sessions and other networking activities. Register online at www.careerservices.uwaterloo.ca
 2:30 – 3:30 pm, TC 1208

November 10:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Job rankings close at 9 am
 - Job match results available at 10 am
 - Tuesday job posting close at 11:59 pm
 Career Services Workshops:
 Career Decision Making: After this session you will be in a better position to assess yourself and your "fit" in the world of work. Register online at www.careerservices.uwaterloo.ca
 3:30 – 5:00 pm, TC 1208.

November 11:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Job rankings open at 3 pm
 - Wednesday job posting close at 11:59 pm
 Career Services Workshops:
 Successfully Negotiating Job Offers: Increase the odds of getting what you want when negotiating salary and other details related to the job offer. NOTE: This workshop is geared towards graduating students. Register online at www.careerservices.uwaterloo.ca
 4:30 – 5:30 pm, TC 1208.

November 12:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am - Job rankings close at 9 am
 - Job match results available at 10 am
 - Thursday job posting close at 11:59 pm

November 15:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am - Friday job posting close at 11:59 pm
 Career Services Workshops:
 Letter Writing: Learn how to use letters to your advantage in the job search. Register online at www.careerservices.uwaterloo.ca
 3:30 - 4:30 pm, TC 1208.
 Résumé Writing: Discover techniques for writing an effective résumé. Register online at www.careerservices.uwaterloo.ca
 4:30 - 5:30 pm, TC 1208.

November 16:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am - Job rankings open at 3 pm
 - Monday job posting close at 11:59 pm
 Career Services Workshops:
 Job Search Strategies: Special Session for International Students International students will learn best approaches to search for work in Canada after graduation from UW, including visa requirements. NOTE: first hour of session covers general job search strategies; last half hour details visa requirements. Register online at www.careerservices.uwaterloo.ca
 4:30 – 6:00 pm, TC 1208

November 17:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Job rankings close at 9 am
 - Job match results available at 10 am
 - Tuesday job posting close at 11:59 pm
 Career Services Workshops:
 Job Search Strategies: Learn the "how to" of job/work search, networking, and employer research. Creative and traditional methods are explored. NOTE: Much of this information is

similar to the CO-OP 101 Job Search session. Co-op students should attend only if they need a refresher. Register online at www.careerservices.uwaterloo.ca
 2:30 – 4:00 pm, TC 1208

November 18:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Job rankings open at 3 pm
 - Wednesday job posting close at 11:59 pm

November 19:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Job rankings close at 9 am
 - Job match results available at 10 am
 - Thursday job posting close at 11:59 pm

November 22:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Friday job posting close at 11:59 pm

November 23:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Job rankings open at 3 pm
 - Monday job posting close at 11:59 pm

November 24:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Job rankings close at 9 am
 - Job match results available at 10 am
 - Tuesday job posting close at 11:59 pm
 November 25:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Job rankings open at 3 pm
 - Wednesday job posting close at 11:59 pm
 Career Services Workshops:

Writing CVs and Cover Letters

This workshop will show you how to prepare an effective curriculum vitae and cover letter when applying for positions. Watch for TRACE flyers with sign-up information. Register online at www.careerservices.uwaterloo.ca

12:00 noon – 1:30 pm, TC 2218

November 26:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Job rankings close at 9 am
 - Job match results available at 10 am
 - Thursday job posting close at 11:59 pm

November 29:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Friday job posting close at 11:59 pm
 November 30:

- Co-op & Grad employer interviews continue
 - Co-op job postings open at 6 am
 - Job rankings open at 3 pm
 - Monday job posting close at 11:59 pm

Upcoming Events from EngSoc

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
31	1	2	3	4	5	6	<i>If you'd like to advertise your event in the Iron Warrior, please send your information to iwarrior@engmail</i>
	Foosball Tournament	Shadow Day	Exec Election Nomination deadline	WIE Social		Vegas Nights Semi-Formal	
7	8	9	10	11	12	13	
A**5 Bowling		Faculty of Engineering Planning Session	EngSoc Meeting #4	Remembrance Day	IW Submission Deadline		

Columns/Opinion

Sports: Boston Red Sox finally lift curse

Brent Carrara
3B Software

Welcome to this week's rendition of the Sports Update Column. In this week's article we'll take a look at the only major sport I have yet to talk about: Major League Baseball. Last edition's article took a look at the top and bottom 3 teams in the NFL. The picks I made turned out to be pretty accurate with the exception of giving the Indianapolis Colts the top position. Since that time, the Colts have lost some of the offensive lustre that I was raving about, but be sure to check back after week 10 for another update of the top and bottom 3 teams. This week we'll take a look at the lively 2004 MLB playoff race that offered up some great moments and historical events in the process.

This should go without saying, but the Boston Red Sox are our 2004 World Series champions. With all the publicity around the event, however, I'm sure all my loyal readers are well informed about the result. The Red Sox have officially laid to rest the "Curse of the Bambino". For those of you just being introduced to the curse, here's a little history lesson for you. The "Curse of the Bambino" is an 86 year old curse which began in 1918. Prior to 1920, the Boston Red Sox had a pitcher named Babe Ruth.

You have undoubtedly seen a picture of the Babe or heard the legend that he has left on the game of baseball. Most of you have also probably seen the move "Babe" where John Goodman gives us some insight into the life of probably the most famed player to ever play the game. He is the most famed player because of the curse he has left on the Red Sox for the past 86 years. During the years the Red Sox had Ruth they dominated, winning championships and pennants. In 1918 the Red Sox won their 5th and seemingly final World series with the Babe leading the way. In 1920, however, things took a turn for the worse, when then owner Harry Frazee sold Babe Ruth to Colonel Jacob Ruppert of the New York Yankees for a whole \$10,000 so he could finance a girlfriends' play. Now I'm not a genius, nor do I pretend to be a master financier, but what the hell was he thinking?! What kind of a fool gives up the greatest player in the game for nothing to finance a play? Not only did Frazee give up his best player but he also put the Red Sox into a World Series funk that just ended last week.

The Red Sox didn't take the easy route to their first championship in 86 years.

They were forced to go through their bitter rivals, the New York Yankees. The Yankees had dominated the Red Sox for years and hold the professional sports record for number of championships for a single franchise. The Yankees took a 3-0 series lead right off the bat, putting the Red Sox in a position that had never been overcome in baseball history. With their backs against the wall, the Red Sox were forced to win 4 games in a row, and you

know that they did, becoming the first team in history to do so. They then went on to win 4 straight games against the St. Louis Cardinals to capture their 6th World Series in team history.

Some of the other highlights of this year's playoffs were the play of Carlos Beltran, of the Houston Astros, who tied the record for home runs in the playoffs despite not even getting to the World Series. Carlos will become a free agent in the off season and with the Yankees looking for a center fielder they will probably be throwing big bucks at this bright young star. The play of Albert Pujols re-introduced us to one of the brightest young stars in baseball with his fantastic numbers at the plate and gold glove worth fielding at first base. Probably the greatest



story, however, was the play of Curt Shilling of the Boston Red Sox. Curt suffered an ankle injury, in which the tendon in his ankle was torn from the bone. With the introduction of a new medical procedure created by the Red Sox team doctor, Curt was able to pitch in the Yankee series and the World Series, not losing a decision after the new procedure was used. All in all, this playoff run was one of the most memorable and exciting in recent memory. Hopefully, now that the Red Sox have finally claimed a World Series title, Bill Buckner can now sleep in peace and harmony and we can throw away the famed clip of him allowing a slow roller to go through his legs, giving the Mets life in the 1986 World Series. That act ultimately led to the Mets capturing the World series and the Red Sox reveling in the curse. I hope you all tuned into these great games and enjoyed the playoffs as much as I did. Cheers!

"...sold Babe Ruth [to] the New York Yankees for \$10,000... what the hell was he thinking?!"

Pitfalls of EngDating

Andrew Dodds

1A Mechanical



By the time this hits the stands, hallway floors, or wherever else you like to toss these things, midterms are over. Give yourself a pat on the back. You buckled down, let the books show you who's your daddy, and with a little luck you came out of it with marks higher than the speed limit on Ring Road.

That over with, it's dawning on you that you might like to spend time with those things. You know, the ones that you play "Where's Waldo" trying to find in your lectures. Yeah, that's right: girls. Well my friend, whether you're looking to rent or own, or you just want to take one out for a test spin because you can't afford the cost, heed my warning. Women are pretty, like shiny knives. Everyone likes a shiny knife. The problem is that if you start to get lost in the sparkle of that beautiful piece of work, you might cut yourself, or your food - both horrible fates to befall any man. This fate is easily befallen if you date your fellow Engineers. For those of you who don't agree with me, I have two words for you: Come-on! Should that fail to convince you, read on to discover my DON'T DO advice acronym.

Dating someone as smart as or smarter than you. It's a good idea to surround yourself with people smarter than you (not a concern for artsies), that's not what you're chasing her for. Never try to find someone who can argue you into seeing another Hugh Grant flick, or to culture yourself with things that don't bash, crash, or bite into each other. Shakespeare may have caught your eye once, but after that you'll gouge them out a la King Lear.

Qn you like glue. Busy people don't

look for partners they won't ever see. Here, you'll never go weeks without her company. Or days. Or classes. Put simply, you won't ever hang with anyone else ever again. You're in class with her, why would you want to be anywhere else, right? I don't need to be a lifeguard to recognize suffocation when I see it.

Not-so-cheap date. Unlike arts and AHS girls, our Engineers won't be done after one BEvERage or two. Heck, some might be thirstier than you. If ever you wanted to know what Fido felt after your Mom watched too much The Price Is Right, get yourself a girl who loves the nectar more than you.

Tough competition/low selection factor. Class of 100, 5 girls, only one you ever wink at. There's no way you can give her more attention than the 50 or so others vying for her. Give up right now.

D is for Diversification (and other words if you still think Eng girls are where it's at). You'll find yourself talking about homework and everything else you already have in common, and you'll both think you're so clever for coming up with the idea to go to the EngSocial together. Yawn. Broaden your horizons. Visit a foreign country, or wander into Hagey Hall sometime.

Odd seating arrangement post-relationship. You'll sit behind her to avoid her stare, and never see or hear the education up front. Maybe you'll sit in front of her, and be unable to fall asleep under the watchful eye of the professor's lesson on Chemistry: verbatim your textbook. Still not convinced? Sure, you can find a nice girl in your class or faculty, but guys, it's not like that's going to happen. I mean, it could happen that a girl in your class likes you, and if she does, go for it. Otherwise, I'd rather save my luck for the next 6/49 ticket I buy. A few million should help to ease the pain of wondering about what might have been, or make you forget about it and everything else. See, there's always an answer. Have fun finding yours.

The price of the Engineer's soul

Taneem A. Talukdar
2N Systems

This is the story of how I recently sold my soul (or rented it out cheap, at least).

I work for a company in Calgary, and our clients consist of all the major oil companies that are drilling for oil all over Alberta. So, the other day I was called out for a service check on our equipment on a client's site a few hundred clicks north of Calgary.

Hidden deep in the woods, only accessible by roads hastily ploughed through by the clients themselves, the oil rig was a hive of activity buzzing with the sounds of man and machine. While standing on top of one of the trailers and taking down our equip-

ment, I surveyed the place with my eyes.

In the middle of the clearing, rising high into the air, was the main drilling rig. It was painted bright red. I then noticed the truck next to it: emblazoned across the sides was the name "Halliburton", followed by the company's address (State code "TX").

A company with practices and leadership like Halliburton represents to me everything that stops us as a species from reaching for something higher. And here I was staring at it in its own element.

Did I continue with my work? Of course I did. I am not one to sacrifice myself in the name of protest. But if I had to do this now, even before I've started on my career, where am I headed?

"...emblazoned across the sides of the truck was the name 'Halliburton'"

EngSoc presents,

VEGAS NIGHTS

November 6, 2004
@ the University Club
starts 6pm to 1am
\$25 includes dinner/dance
Tickets on sale now in CPH foyer
from 11:30am to 1:30pm (last day November 5)

Camelot! Camelot! Camelot!

It's only a model. . .modelling and how you can learn it all

Matt Ueckermann
2B Mechanical

Open source. Those two sweet, sweet words contain a world of possibilities to the poor schmoe who happens to own a pretty decent computer system. Not making sense? Okay fine. Throw in the words 'internet' and 'free software,' and maybe I'll start sparking some interest. What I'm talking about is software freely available on the web - powerful enough to bring anyone into the competitive world of 3D computer modelling. I've heard so many people whine and complain that they don't have 133t 3D modelling skills to sell to employers because they don't have enough money to buy 3DS Max, Maya, Solidworks, AutoCAD, or some other outrageously expensive software package. Well, I'm going to tell you how to get those skills so you can finally create a super model of a super model to import and play in your own game, without spending a dime... legally!

Okay, so let's assume that you just finished putting together a raw system... you need an operating system. Most people "find" a copy of Windows to install, but if you can't seem to remember where you

put that serial number, you might consider installing Linux. After wondrous Windows decided to completely die on me for no apparent reason during the middle of last semester (taking a lab report with it), I have started to make the switch to Linux. There are quite a few different distros out there, I like Mandrake 10, personally, but I'll let you sort it out. Good, now you have an operating system.

Next, let's hook you up with the first of Matt's picks for free 3D packages. Go to www.discreet.com, head on over to products, downloads, and get yourself Gmax (Windows only). That's 3DS Max's little brother. You may know 3DS Max as the choice program for Lord of the Rings. Well, I started in Gmax and modelled a Ferrari Testarossa as my first project. Gmax has

“. . .get yourself Gmax, that's 3DS Max's little brother. You may know 3DS Max as the choice program for Lord of the Rings. . .”

excellent tools for modelling using meshes, polygons, patches. The interface is pretty intuitive, and after running through a few tutorials you'll be well on your way to creating cool 3D graphics. Gmax does have a few problems though. First, it doesn't have any rendering capabilities apart from the real-time renderings you see on screen. This means that you can't make any pretty photorealistic images. Fine, just export it to another app... Problem: Gmax doesn't provide easy exportation to other applications. This

makes sense because, after all, Discreet IS trying to make some money from 'little brother.' So let's move away from 'free' and on to 'open source.'

Hop on over to www.sourceforge.net (great source for free software), and search for Matt's second pick, Wings 3D. This is a great little polygonal modelling application. At first I thought it was horrible, but I gave it a chance and discovered its power. Start with a simple cube, and after ample cutting and tweaking you can have an impressive model of a face in half an hour (depending on your skill). It does come with rendering capabilities, but I would recommend it more as a modelling tool. After creating your model, you can export it as a wide variety of formats, or leave it as a .wings file to import into Matt's last pick, Blender. Head on over to www.blender3d.org and get it... NOW!. Blender is a pretty freakin' cool free 3D app. Free doesn't mean crappy either, it was used for pre-production of Spiderman. Originally it was developed as an in-house motion picture application, and later released as open source. It comes with almost everything a 3DS Max has, plus a few extras such as a game engine



3D Model created with Wings by the article author in under 30 minutes

for your super model(s). Being open source you have the freedom to change anything directly in the code and then recompile. Extras created by others include a pretty cool physics engine that you can pick up at sourceforge.

I would also suggest getting Yafaray, a renderer with caustics and raytracing, for better looking renders. The only downside to Blender is its unintuitive interface... but grab the quickstart guide, read the manual, and/or run through a few tutorials, and you'll be creating your own Gollum-like creature* in no time. Happy modelling.

*of significantly lesser quality, n00b.

For Those About to Rock...

Hilary Lockie
1A Chemical

Although many people may think of a club as a bar or dance hall in which to spend evenings getting their groove on, dictionary.com defines "club" as "a stout, heavy stick, usually thicker at one end, suitable for use as a weapon." A beating with the latter seems more desirable, however, upon having your ears molested with the "music" that the former permeates its denizens with. This is an Engineering newspaper, so, in plain English, club music sucks. And by club music, I mean hip-hop, rap, most techno and anything that doesn't involve the band playing their

own instruments.

Actually, I have a slight amendment to that statement. Some of the aforementioned music styles are cool, but only the old stuff. Everyone knows what I'm talking about: Vanilla Ice, MC Hammer, Men Without Hats... But the new stuff is someone talking to a beat and making up words ("thurr"). It's crude, repetitive crap that seems to be destroying the music scene for future generations; we can do without it.

I'm a member of rez council, and it was my group's responsibility to plan an upcoming residence-wide dance, so we discussed what we needed to sort out. One girl said she knows a great DJ - super! Music for all! So I asked her: "Is the DJ going to play just club music, or will he play some real music too?" To which she replied, and I quote, "I don't think anyone would have a problem with club music. Everyone I know likes it."

Right.... This is tough for me to break to you, but NO ONE I know likes club music. There's this thing called rock, it's been around for a little while. It involves this crazy, new-fangled gadget called a guitar... but you wouldn't have heard of

that. The last time I checked, rap didn't involve any musical instruments. It's a damn shame.

Alright, I'm being a little harsh. ("Opinion: a belief held with confidence but not substantiated by positive knowledge or proof.") However, if you would like to discuss with me the musical worth of the crap put out by, uh, Fifty Cent, or whoever it is you kids listen to these days, be my guest.

Basically, I'm trying to say that I would like to go to a dance where they're playing music that everyone can enjoy, for once. I'm not saying they have to play Britney Spears and Spice Girls, but there is a plethora of songs out there that are feasible alternatives. Time Warp, Love Shack, Rasputin, Cotton Eye Joe.... They may be old, they may not have those bass beats that come close to the frequency at which human intestines erupt, but you can sing along! I don't like dancing much (and a few people can attest to that after my performance during frosh week) but I can tolerate boogying down enough to do 50 sit-ups on a concrete floor during Rock Lobster. So why is it so hard for all these organizers to hire a DJ that will play a combination of songs that actually sound different from each other?

University is a diverse environment. Being an organizer for a University event requires some flexibility and catering to everyone's wants and needs. A good start would be to organize a social gathering of some sort that involves music that does not offend the ears of so many eager event-goers.

AC/DC would be nice. And if you don't at least agree with that, why are you in Engineering?

Cook This

...continued from Page 5.

1/4 cup Catalina dressing (or leftover Italian from the Tuna Pasta Salad)
1 medium red pepper, cut into strips
2 cups broccoli florets
1 lb. boneless skinless chicken breast, cut into strips
1/2 of a medium red onion, cut into strips
1/4 cup smooth peanut butter
2 tbsp. light soy sauce
6 cups torn salad greens

1) Heat dressing in a large non-stick skillet on medium-high heat. Add vegetables; stir-fry 3 min. Add chicken; stir-fry an additional 5 min. or until chicken is cooked through (cut a thick strip open; if it's white inside, it's done).

2) Add peanut butter and soy sauce; stir-fry 2 min. or until vegetables are crisp-tender and mixture is heated through.

3) Serve warm over salad greens. This recipe can be halved.

Thank you to a Kraft insert in Reader's Digest for this lovely recipe. Just be sure to not use too much peanut butter, or else the sauce will be too heavy. Also, cut your chicken against the grain (perpendicular to the lines in the muscle) and in fairly thin strips to reduce cooking time. As an added bonus, this is a LOW-CARB meal! It contains only 15 g of those pesky carbs! Feel free to contact me at csutherl@engmail.uwaterloo.ca



Letters to the Editor

Letter to the Editor:

Response to "Women in Engineering: Truly a dying breed."

Leanne Whiteley
Graduated

This article is in response to the article entitled: "Women in Engineering: Truly a dying breed?" in the October 1st issue of the Iron Warrior relating to the reduced number of women enrolled in 1st year engineering programs. As a former Women in Engineering Director, I have seen the statistics for female students enrolled in first year programs. I had tried plotting the data to see if there were any trends. Unfortunately, at that time, the numbers were very scattered and there were no apparent trends. Therefore, I was surprised to see an article indicating that there was a trend. I obtained data from the same data source as the previous

author and plotted the data for the individual disciplines, as well as, the total for the entire faculty, as shown in the adjoining figures. Unfortunately, there are only data available

for nine years and the data are limited to females enrolled in 1st year programs.

When you look at the overall picture, it is clear that the numbers have dropped in the last two years, but with only nine years of data, it can not truly be considered a "trend". When you look at the individual disciplines, there would appear to be a "declining trend" in the last two of years, with the exception of Geological, which has seen an increase over the last two years, and Environmental Chemical, which is a program that hasn't been offered in the last two of years. However, when the Environmental Chemical program was offered, there were a large percentage of women enrolled in the program. Perhaps, the latest "trend" can be attributed, at least in part, to the cancellation of the Environmental Chemical program.

Although, it is difficult to determine a statistical trend based on the data that are provided, the Dean's Office and the Women in Engineering Committee have

taken notice of the decline of females enrolled in engineering programs in the last two years. Upon reading the previous article, I invited the Dean's office, the Women in Engineering Committee, and the 1st Year Office to read the article and provide any comments that they may have.

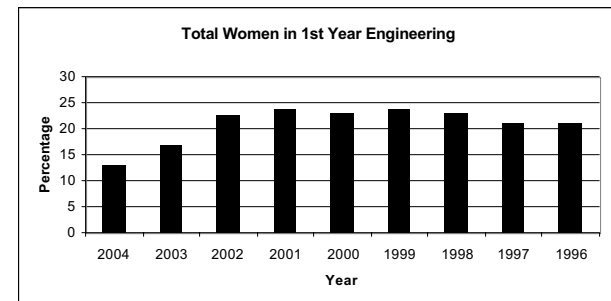
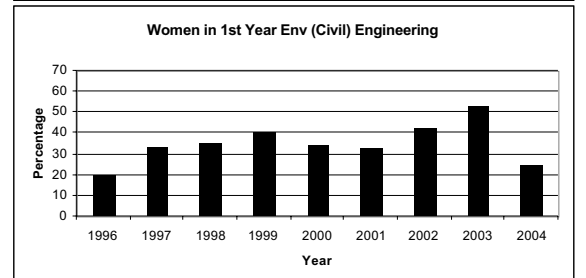
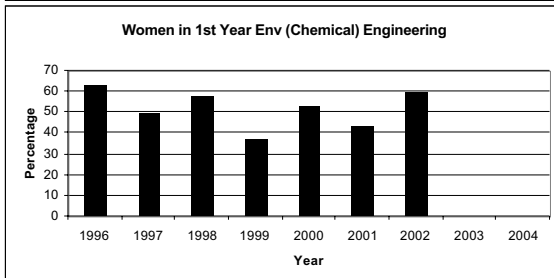
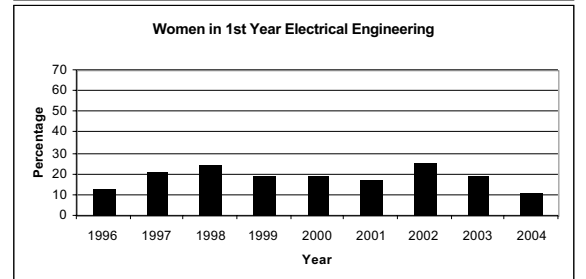
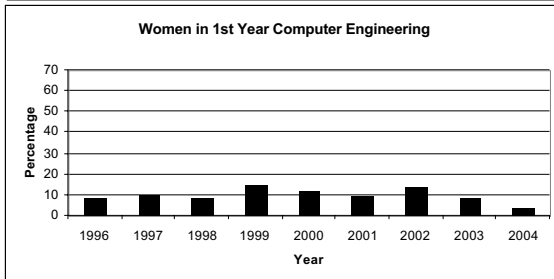
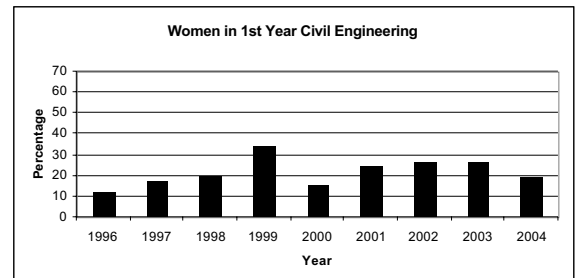
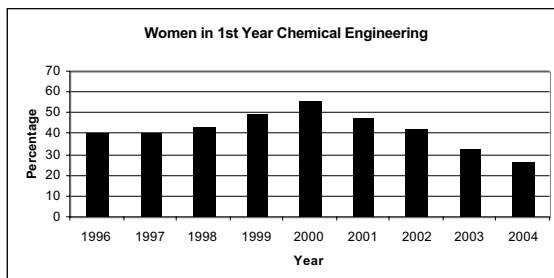
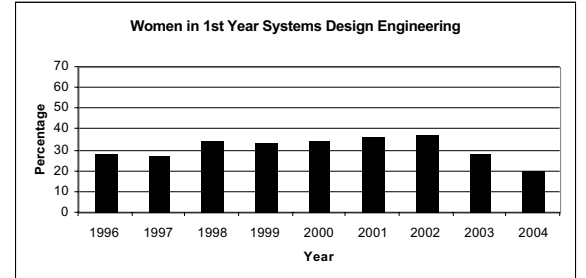
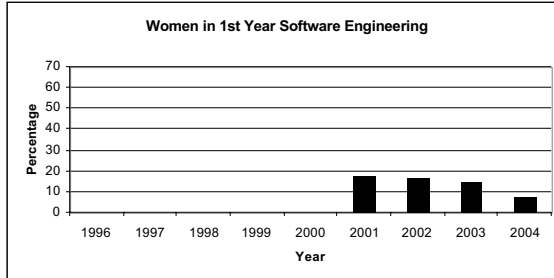
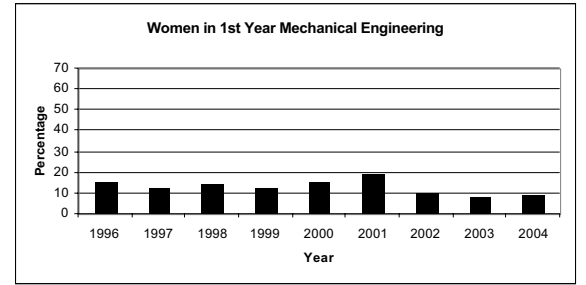
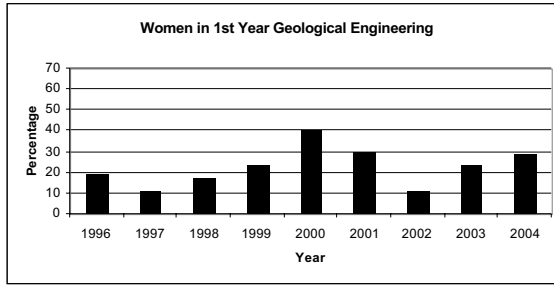
Many initiatives have been developed in recent years to focus on younger students, i.e., pre-high school students. There are a few reasons for this. Firstly,

...many girls do not see the relevance of engineering - they do not see how being an engineer can benefit society, like a teacher or a doctor."

students are required to meet math and science pre-requisites in order to be considered for admission in an engineering program. Therefore,

the students need to know ahead of time which courses they should be taking. Secondly, studies have shown that girls are subconsciously choosing careers early in their lives. They decide at an early age whether or not they like math and science. If they are not taught or shown the subjects in an appropriate manner, one that is fun and engaging, then they will never want to take any related courses again. Moreover, many girls also do not see the relevance of engineering - they do not see how being an engineer can benefit society, like a teacher or a doctor. This is mostly because they do not understand what engineers do. And this is a societal problem!

Here are some initiatives that have been taken by the Faculty of Engineering to resolve the problem. Within the last year and a half, the Women in Engineering Committee have partnered with IBM to run outreach programs for young girls. These outreach programs are intended to encourage young girls to explore math and science. Another



important initiative is ESQ, which is a camp run on campus in the summer for young kids interested in engineering and science. Another initiative co-organized by the Dean's Office and the Engineering Society is Explorations, which is an event run every winter term for grade school students who are interested in engineering. The Engineering Society also runs Shadow Days that allow high school students to "shadow" an engineering student for the day. However, despite all these initiatives, there is still a recent decline of females enrolled in 1st Year Engineering programs. The general consensus seems to be that there is a lack of money or funding. Kim Boucher, the Associate Director of Admissions, agrees "we have a very limited recruiting budget for high school students, so if we take some of that money away and focus on younger students, we may end up losing strong high school students and that will have a very serious effect on UW

Engineering!"

So, what are the solutions? Kim Boucher suggests asking government and industry to provide resources to help all universities to encourage girls to consider engineering. Students can do their part by volunteering for the number of outreach programs offered through the Engineering Society, the Women in Engineering Committee, and the Dean's Office. Professors can help out by encouraging their students to participate in such events and perhaps volunteering their time as well. We need to work together as a community to encourage the best and brightest students, regardless of gender, to consider engineering as a potential career field. Should you wish to know more about the outreach programs, please visit the Engineering Society web site www.engsoc.uwaterloo.ca/www and the Women in Engineering web site <http://www.eng.uwaterloo.ca/~w-in-eng/>.

Draftdodging statue causes consternation in United States

...continued from Page 4.

Bush to apply pressure to Canada. Some of the angry e-mails attacked Canada as cowardly for accepting the draft dodgers, and some e-mailed to tell the region about their vacation cancellations to that area. Nelson itself has a significant tourist industry, and this is worrying for them.

On the one hand, erecting this statue seems like an insult to all those that

fought in the Vietnam War, whether the war was justified or not. We as modern citizens have the benefit of hindsight to see that the Vietnam War was bad. On the other hand, most of these people remained Canadians and became an important part of the community. In addition, this action seems to represent the United States' overbearing attitude to anything it doesn't like - don't like it and it's not in your country? Pressure the other government using threat of force.

The threat of another draft, given the situation going on in the United States, seems very unlikely (a bill was introduced in the U.S. House and defeated by almost a unanimous vote). Military recruitment at this point is steady and fulfills the requirements needed, but if another military action is needed (and there are several targets that seem suspicious), there might be a need to draft again.

It seems that military service does

bolster reputation in the U.S. rather significantly. John Kerry was praised for his Purple Heart medals in Vietnam, while Bush was criticized for his attempt to "dodge" military action by serving in the Air National Guard. In fact, many politicians have been criticized by using their status to dodge military service. This reverence towards people that fight and the perception that the military influences government policy makes the U.S. a very scary country indeed.

HYDROGEN... Oil of the future?



Quoc Huy T. Le

4N Electrical



Late in October of this year Governor Arnold Schwarzenegger of California officially opened the West Coast's first Hydrogen refuelling station. Although there are only a handful of vehicles in California capable of running on Hydrogen fuel, this unveiling marks the first step towards the goal of making Hydrogen a viable alternative fuel source in the economy.

Most vehicles that currently use Hydrogen as fuel are public transit buses, which actually are a hybrid of natural gas and Hydrogen, and experimental vehicles produced by local universities. But for those driving regular cars, the conversion from using gasoline to hydrogen isn't so simple. The technologies involved in converting Hydrogen into mechanical energy are almost completely different than ones that use gasoline.

The principle behind the propulsion in a standard automobile has remained virtually unchanged since the invention of the assembly line. Gasoline is mixed with air, compressed, ignited and expands pushing on one of several pistons. The series of pistons turn a shaft moving the car forward.

Hydrogen, on the other hand, makes use of a fuel cell. A fuel cell is basically a device that produces electricity by means of a chemical reaction. It is sort of like battery, except that the energy is not stored, it is converted from fuel. The Hydrogen fuel cell, therefore, uses Hydrogen fuel to create electricity. The electricity can then be used with an electric motor to propel the vehicle.

What makes the conversion of Hydrogen into electricity possible is the *proton exchange membrane* (PEM). Basically, it is a thin layer in the fuel cell that separates the Oxygen (retrieved from the air) and Hydrogen (injected into the system from a fuel tank). The membrane allows positively charged ions (protons) to pass, but does not allow negatively charged ions (electrons) to pass. So, when the Hydrogen reacts with the Oxygen to form water, the proton parts of the Hydrogen can just zoom across and meet up with their Oxygen counterparts, but the electrons must take a different path around the PEM to complete the reaction. With several parallel chambers reacting in tandem and controlled paths where electrons can flow, the result is an electrical system that can be used to power a vehicle.

Technologically speaking, the biggest problem with Hydrogen fuel is the transportation and storage of the element. Hydrogen, in its gaseous form is not very

dense in energy (a unit volume of the gas has relatively little energy). In its liquid form the energy density is much better, but its storage and transport requires low temperatures as a result of high pressures which requires large amounts of energy to attain. In its pure form, Hydrogen is very difficult to deal with.

Currently, what many fuel cell manufacturers are resorting to is a compromise. That is, use compounds that are rich in Hydrogen such as natural gas and Methanol. Of course, because you're introducing an impure fuel source, a reformer is

required to extract as much Hydrogen as possible to inject into the fuel cell. The problem with such reformers is that they lower the overall efficiency of the system and they release pollutants, most notably Carbon Dioxide, an uncontrolled emission that contributes to global warming, and Carbon

Monoxide, a controlled emission that is toxic. However, it is important to note that even the worst of these reformers produces a miniscule fraction of what even the cleanest gasoline combustion engine expels. Even the most inefficient reformers are significantly more efficient than the best gas engines. As such, the reformer fuel cell is a very attractive alternative to the gasoline powered vehicle.

In light of all this, why doesn't North America cut its ties with the Middle East and start producing Hydrogen or Methanol powered cars? Other than the fact that we still need plastics and such, from a technological standpoint it's all well and good. From an economical standpoint it's a little different.

Though Hydrogen is the most abundant element in the universe by orders of magnitude, on Earth, it is very hard to come by in its pure form. The cheapest way so far is to refine hydrocarbons. Where do we get the hydrocarbons? Yep...oil.

Why don't we just get it from the oceans? Aren't two-thirds of the atoms in water Hydrogen? This is true. But from where do you get the electricity to separate water into its constituents? More than two-thirds of all the electricity in North America is still produced from non-renewable fuel sources. Electrolysis is an inefficient process (depending on the conditions it can be about 66% efficient) which means you're wasting half the electricity you're getting back.

Especially with all the conflict that is going on in the Middle East, the growing demand for energy, the growing concern of the world population over global warming and environmental issues and the increasing price of oil, the Hydrogen economy is in a

Continued on page 12. See Hydrogen Economy

Book Review: 'Circles' by James Burke

Adam Philip
3B Mechanical

James Burke, famous for his television series/books "The Day the Universe Changed" and "Connections" continues on in the same vein with his new book "Circles". The premise underlying "Circles" is that several famous inventions and ideas start and end in the same place. Burke takes an invention from its inception, draws a series of historical connections and ultimately returns to the inventions' origin. The final connection often takes the form of a connection based on location, though occasionally he will jump back in time to complete the chain.

This book is on the whole not quite as entertaining a read as "Connections". Unlike his earlier work where each essay crosses other essays only occasionally, this book will repeat facts frequently. A prime example of this is his use and re-use of the invention of gas-lighting and the various off-shoots to the chemical industry. While this may be an interesting and useful fact it doesn't need re-iteration every fifth essay. This book also fails to draw well established (if esoteric) connections between different areas. In Burke's other work there is a definite A to B to C type connection linking ideas. In "Circles" the connection is often of the form: guy A was

drinking buddies with B who lived in the same town as the guy who grew up to invent C. This form of connection may enable Burke to maintain his central premise of circular historical development, but is on the whole more in the factoid category rather than the useful idea category. In spite of these criticisms "Circles" is not without its merits. Were this the first James Burke book I had ever read it would probably have been more enjoyable a read as "Circles" re-touches on many topics covered in his other books. "Circles" also contains several essays that stand entirely on their own as

"If you are only going to read one James Burke book, this isn't it."

convincing examples of history repeating. Personally I feel that these gems (about a third of the book) should have been saved and used as essays in his future writing rather than trying to

work an entire book around a limited concept.

"Circles" is a good light read but not of the same level of quality as Burke's other books. If you are only going to read one James Burke book, this isn't it. The style is often ambiguous, so you are left unsure about the result of a particular event, and the essays are more convoluted than necessary in order to slavishly follow a weak premise. If you happen to be a fan of James Burke, "Circles" is worth a look, just don't pay full price for it. This book is definite loaner from the library rather than a book worth purchasing for your shelves.

Influenza Vaccine Shortage

Quoc Huy T. Le

4N Electrical



It's that time of year again, the time when people neglect to wash their hands and cover their mouths when they sneeze and you get infected with the dreaded influenza virus. So what do you do? You run out and get vaccinated for the flu. This year, though, things are a little different for the Americans.

One of the world's largest manufacturer of influenza vaccines, *Chiron*, based in California, announced that it cannot supply the flu vaccine for the rest of the 2004-2005 flu season. The reason you ask? British health officials suspended their license for three months due to problems at the plant where the vaccines are manufactured in Liverpool, England. Apparently, there was some concern about slight contamination causing their vaccine to not meet product sterility specifications.

The U.S. estimates that they're short approximately 40 million shots. Their government immediately asked that healthy adults skip the flu shot this year. They hope to save about 53 million shots that could be used for more vulnerable people including infants and the elderly.

The U.S. isn't the only country that will be hit by the halt of Fluvirin, one of Chiron's most popular flu vaccines. About 2.4 million doses will be missed in Great Britain. There are also a host of other countries that

rely on Chiron's production of Fluvirin.

It is unquestionably the Americans who are being hit the hardest with Chiron's inability to meet demand. As a result, the Bush administration has come knocking on our door for a solution to their problems. The trouble is that Americans may be expecting too much.

The number of people who still need to be immunized in the United States exceeds Canada's entire population by several million. This means that Canada would need a surplus of about 100% to make a difference at all. Relying on Canada to close the immunization gap is, by no means, a good plan. Several major Canadian manufacturers of flu vaccines including ID Biomedical and Aventis Pasteur were contacted. Even the largest company could only muster 1.2 million. Canadian clinics have been warned to lookout for desperate Americans trying to get a dose. The Ontario Ministry of Health has even asked people to start providing I.D.

It is not like Canadians to turn away a friend in need of help. Tending to our own first is a must. It is interesting how the FDA have temporarily allowed the import of flu vaccines. Especially since the Bush administration has fought so hard to prevent the cheaper Canadian drugs from crossing the border. For the longest time it was illegal for Americans to purchase certain Canadian drugs (including flu vaccines.)

So that's where it stands now. Canada will continue to immunize all Canadians who wish it. And it will send the surplus over to our American buddies down south. For those of you who usually don't get flu shots, I wouldn't go to the States for a few months.

Columns

New human species discovered

David Yip

2B Mechanical



So. Earlier this week scientists reported in the journal Nature that evidence of a new species of human had been discovered on a remote island off the coast of Indonesia.

The new species, called homo floresiensis, was discovered in a cathedral sized cave on the island of Flores. Anthropologists call this find the greatest and most surprising find of the last 50 years. The best specimen, an adult female, has been nicknamed "hobbit" by the research team. So that I can avoid typing Homo Floresiensis for the rest of the article, it will be henceforth referred to as "hobbit".

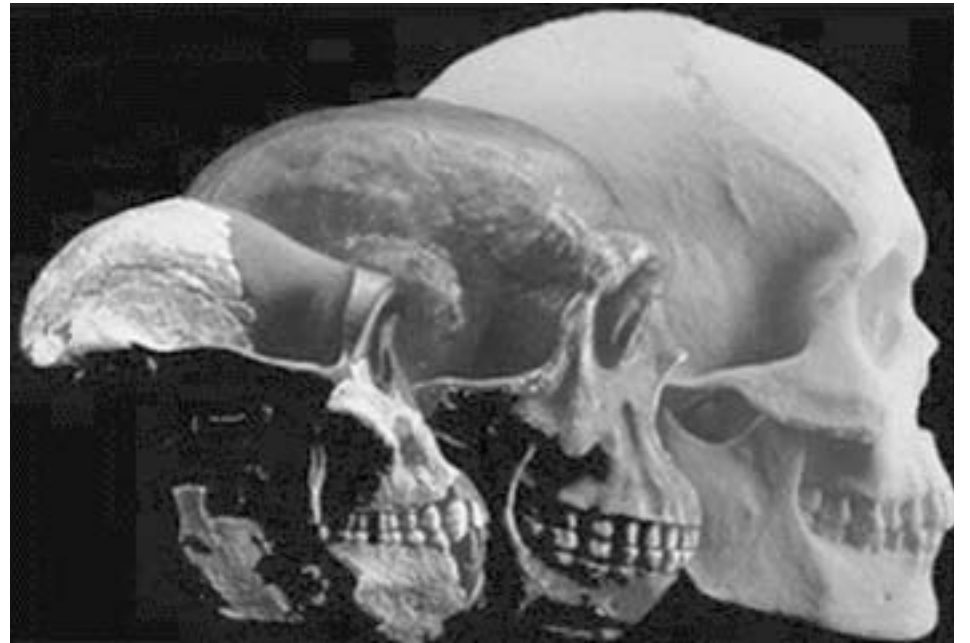
Hobbit likely grew no more than three feet tall, with a brain about the size of a grapefruit. This is smaller than most chimpanzees. However, the presence of hobbit size tools indicates that hobbit had superior intellect to that of modern apes. Charred bones by the site indicate evidence of cooking. It seems likely they hunted local animals, cooked them, and also had some form of language. The discovery of multiple remains of the same type excludes the possibility of a mere short anomaly, and worn teeth and a fused skull suggest an adult.

Why is everyone so excited about this? One reason: according to the researchers, this species co-existed with ours, for at least 30 000 years, up to around 18 000

years ago, when it is speculated that hobbit and its fellows were wiped out in volcanic eruption. This overturns existing theories that modern humans, Homo Sapiens Sapiens, have basically been the sole members of the Homo genus on the planet for at least 100 000 years, and that other members of the human family existed just as the earliest civilizations were starting to form.

More tantalizingly, villagers in Indonesia tell of the ebu gogo, a creature that very much matches the physical description of what hobbit likely looked like. The last reported sighting of an ebu gogo was about 1 800 years ago, so without reaching too far into fantasy, this does raise the possibility that other species of the genus homo may still exist among us. There are many caves in Indonesia and Southeast Asia that have not explored, and tales of human-like species are not confined to Indonesian tribes. The orang pendek (Little Man) of Malaysian folklore comes to mind. On a more practical level this means that anthropologists will begin to look for other unexpected humanlike remains in other areas of Southeast Asia and the world. To put this in context, new mammals have been discovered as recently as 1993.

Researchers are also excited as this discovery offers more evidence in support of evolutionary theory. Island dwarfing is common phenomenon observed among mammals on islands where resources are limited. In such a competitive environment, smaller body sizes are advantageous. The discovery of hobbit suggests that even we advanced humans are subject to evolutionary forces, instead of always changing our surroundings to suit us, as



"Skull Evolution" - Pictured are the various increases in cranial capacity leading to the present situation of Homo Sapiens Sapiens

Agent Smith suggested. (Though with recent technology I doubt the Greenlanders and Australians will be shrinking anytime soon.) In this theory, the human ancestors Homo Erectus built boats and became marooned on this island, and evolved into smaller humans to suit their environment. However, building boats is traditionally held to be outside the intellectual capacity of Homo Erectus. There is also the possibility that hobbit arrived on the island in its diminutive size.

Other questions that hobbit raise include anatomical ones: how did a creature with a third of brain size of homo erectus reach similar levels of intelligence?

However, other experts downplay the significance of this find. At least one anthropologist challenges its classifica-

tion into the Homo genus.

On a less scientific level, this find strikes a certain existential note with some. Relatively speaking, we were not alone so long ago. We had relatives in the genetic tree, just as house cats have jaguars and squirrels have mice. Perhaps there are groups of dwarf sized beings living elsewhere on the planet. Perhaps the tales of little people told by so many cultures have some, if minute, measure of credit to them. Or perhaps not, and we still are the sole living member of the Homo genus that remains. While the discovery of hobbit does serve to make us feel smaller (or taller - credit to my roommate for that one), or more humble on the planet, our fate and that of our planet still lies very much in our hands.

Hydrogen Economy

...continued from Page 11.

position to gain a lot of ground in the fight for a cleaner fuel supply. The only two sources of Hydrogen so far are from water through electrolysis or from the reformation of fossil fuels. The former is more desirable, but expensive. The latter only solves one of two problems.

The switch to Hydrogen, should it ever happen, will take decades. Experts estimate that at least thirty years need to pass before our dependency on oil starts declining at a significant rate. In the meantime, there is still a lot of work that we engineers must do to prepare the world for the day when fully renewable resources can be taken advantage of. If we can capitalize on hydroelectric and wind power, for example, or if we can increase the efficiency of solar cells to gain free electricity, it would bridge the energy gap needed to make the production of Hydrogen economical. More efficient electrolysis or even perhaps another method of efficiently separating Hydrogen from water must be developed.

Imagine a world where cars literally produce pure water as their only by-product. Think of how much better life will be in large cities where even the busiest industrial zones eject nothing but clouds of water vapour in the air. The incentives, drive and technologies that can make this a reality already exist. By necessity, though, this transition must be and will be a gradual one. As engineers sworn to act in the best interests of the society in which we live, it is our duty to educate the public and to open a few more Hydrogen refuelling stations of our own.

Canada's Light Source

Quoc Huy T. Le

4N Electrical



Canada's first synchrotron was opened on October 21 of this year. Over two years in the making the Canadian Light Source (CLS) Synchrotron is one of only a handful of synchrotrons in the world. Housed within the new Canadian Synchrotron Nanostructure Facility (CSNF) the new University of Saskatchewan addition cost approximately \$173.5 million in addition to investments in scholarship and research chairs.

So what's so special about a synchrotron as compared to, say, a cyclotron or a particle accelerator? Well, all three machines use magnetic fields to accelerate particles to incredible velocities. The main

Continued on page 15. See Canadian Synchrotron at U of S very illuminating

I just got a copy of Half Life 2! And it |20X0|2z!!!

Tsu Chiang Chuang

4N Computer



Actually no, but if you read the title and knew what I was talking about, and also knew that there is no way I can own a copy of HL2 and are still reading, then, this article is for you. In this section I will talk to you about game addiction.

Game addiction is real. Face it people, real life can suck sometimes, and games are a good escape medium. However, some people get tangled with it and take it to extremes. You might have heard of cases of Everquest addicts neglecting family and friends, or of that

Korean kid who spent 98 hours at a Net Cafe and died from dehydration. Even people who spend sleepless nights gaming at LAN parties or playing RPGs (ahem, not me) are guilty of overdosing on games. Gaming, like anything else, should be done in moderation. With that said, get out there and do something other than playing a video game. Read a book. Play a sport. Heck, do

your assignments! Oh yeah, and that shiny bright disc in the sky? That is the sun.

Top ten signs that you are addicted to gaming:

10. You don't go to class anymore, because you just need to level up, or frag someone.

9. You call your PS2 "precious?"

8. You don't leave the house anymore, since the outside world offers poor graphic resolution, poor gameplay, and a crappy NPC AI.

7. You don't eat anymore, you mainly drink Jolt, Pop or anything that gives you sugar.

6. After running out of sugar loaded drinks, you pass out from hunger and eat keyboard food. Meaning whatever crumbs are lodged in your keyboard.

5. You gave up crack for gaming.

4. J00 c4|| \$|>34|< 1337! (In other words, you don't know how to talk "normally" anymore.)

3. When you go for your daily checkup, you ask the doctor how many lives you've got left. When he tells you only have one, you ask him how you can level up, so that you can get more.

2. When shit hits the fan, you try to "restore" to a previous save point.

1. After reading this, you shrug and go back to your GBA.



"The Lamda Complex" - If you recognize this and immediately start thinking about Black Mesa, you need to read this article

Not your regular fart-gas planet. . .

Jason Verheyden
3B Mechanical

Sending out probes into the solar system has been like a bad news marathon. It's almost as if you're a Boston Red Sox fan perpetually waiting for a World Series win that never comes. Every time another probe gets sent out to explore another planet – it always turns out to be another dud. That sentiment was never higher than when the first pictures of Mars were transmitted back to earth thirty years ago. For all the hype of Martian canals and little green men, Mars turned out to be nothing more than a huge rock with some dry ice. It might have had flowing water at one point in its lifetime, but it's not even close today. Venus turned out to be a chemical cesspool. Looking for life on other planets has been quite frankly a depressing research mission. No matter where we look nothing looks the least bit hospitable or friendly.

NASA effectively stopped looking for life elsewhere in the solar system years ago. The two best prospects of an earth like planet would have been Venus or Mars and both turned out to be lame ducks. NASA has pretty much decided that the only life to find is life that is long dead. The Voyager series were the first probes to be sent out into the outer solar system - nothing really surprising there, either. However a few moons seemed a little weird. One in particular: Titan.

The satellites of Jupiter and Saturn are like little solar systems inside our solar system. Titan stands out because the thing is the only moon in the solar system that has an atmosphere so thick no one can see the surface. It has to be the last genuinely unexplored area of the solar system. This past week the Cassini spacecraft made a brief flyby at 1200 km. On Christmas Eve a small probe from Cassini will be released and with any luck will land on the surface

of Titan. No one knows for sure what it will find. It could land on rock hard ice, or fall into a lake of methane.

So when Cassini made that flyby this past week there was a fair amount of skepticism from people like me. I'll admit to being a little excited, but that's no confession. There are still too many blow-dried MIT brats at NASA – every once and a while they just do something cool. Then they do something stupid like using imperial units when the rest of the freaking world has moved on, and then they start crashing probes for ridiculous conversion errors. It's either that or its installing springs upside down on space capsule that are meant to close a circuit by the force of re-entry. All go into the annals of the NASA hall of stupid crap that defies stupidity.

So I waited for the images to come back from that fly-by expecting Titan to turn out to be some boring rock with some fart gas atmosphere.

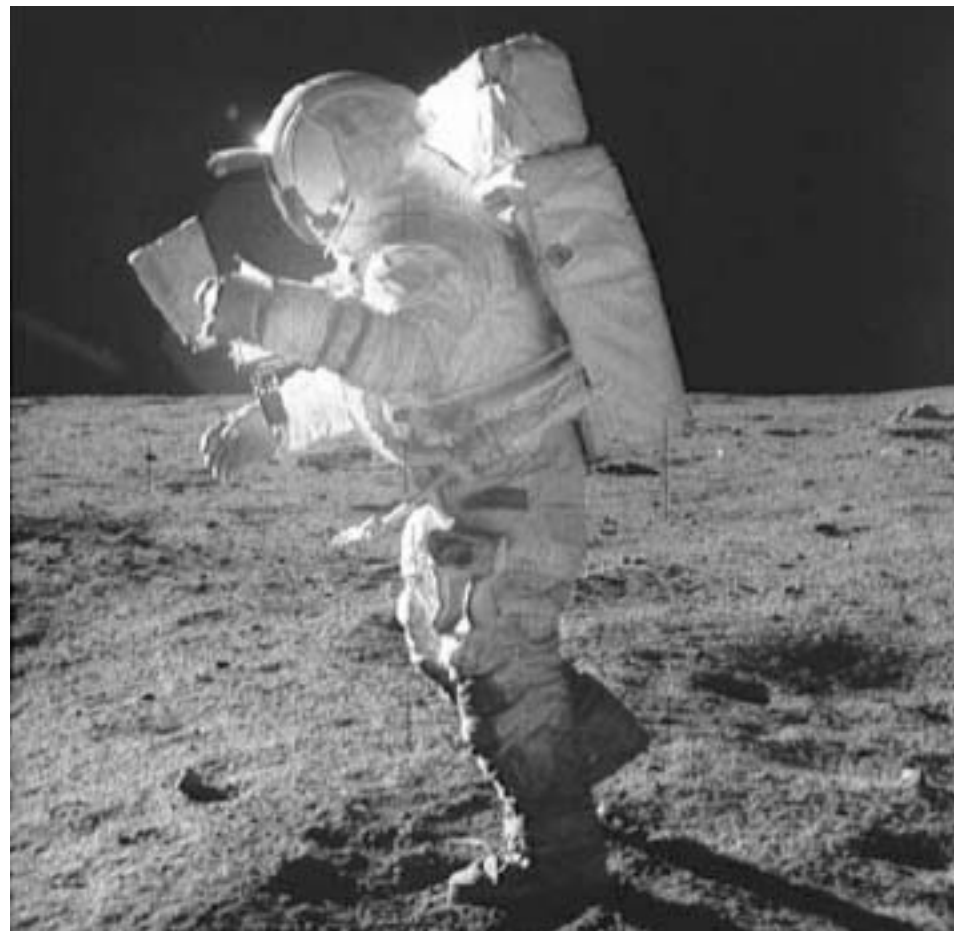
Instead people don't have a literal clue what to make of these images.

They can't see any appreciable craters anywhere from radar, and they know to that the atmosphere is definitely way too heavy to be methane. So it ain't a fart gas rock after all.

Most are figuring that Titan's atmosphere probably resembles Earth's early in its development before life sprang up. Of course that's a theory. What freaks me out the most about this is that all these gases seem like some sort of weird gas leak gone wrong. I have the image in head of someone lighting up a match and the thing will blow up. Kind of like Ron Hubbard's "Battlefield Earth" where heavy nuclear radiation ignites Earth's alien occupier's breathing atmosphere - which was the worst book I have ever read.

Most people will probably groan and complain that we haven't found life once again. I'm starting to think we have everything backwards. Why are we looking for space Indians anyway? What would we do if we found them? We'd probably screw

"Why are we looking for space Indians anyway? We'd probably screw them over and exploit their resources."



"Where did we park?" - This Apollo 14 astronaut illustrates the difficulty of exploring other planets as he consults a map.

them over and exploit their resources.

Mars, Titan, and even the Moon shouldn't be seen as depressing results of space exploration. They should be seen as opportunities for development. None of these planets have an environment we can destroy or a people we can exploit, these planets have nothing but minerals and especially in the case of Titan who knows what hydro-carbon materials we could find there in that plastic soup. We should stop looking for an Earth clone either. How do we know that other life in the universe will be found on another Earth-like planet? We might be unique - it's just a little arrogance on humanity's part that we believe that all life is found on warm water luscious planets with some Oxygen and Nitrogen to boot.

So back to Titan, we have an even greater opportunity here. You have a surface that by all accounts could be an organic soup on the surface. How can we use a

planet with plastics flowing around on its surface? I'm thinking a big freaking plastic depository. All those plastic water bottles you drink in class take some pretty big time to degrade, meanwhile Titan could gobble it up and it'd fit right in with the scenery. Besides that the entire planet could be a gold mine for undiscovered polymers.

Of course that would only happen if they found some way of making the cost of actually going there affordable. That's always a stickler. Robert Heinlein used to say that once you've gotten to orbit you've got half the energy you need to go anywhere in the solar system. That's the biggest hurdle. Until then planets like Titan are good for planning but will be short on reality. Give it 15 years and a few accidents later and we might make orbital flight affordable.

Until then at least Titan turned out to be more interesting than I thought it was going to be.

Game Review: Tank Mayhem - Gunbound!



Tsu Chiang Chuang

4N Computer

So, how many of you guys remember Scorched Earth? For you young'uns who don't know Scorched Earth, maybe Worms? What about Worms Armageddon? Still doesn't ring any bells? Oh boy, do I feel old now. Anyways, today I will like to talk about the next generation of Scorched Earth: Gunbound.

To starts things off, Gunbound is an online game from Softnyx that allows you to take control of little tanks. You use your little tanks to blast your enemies to kingdom come. This is a simple idea that has been done many times before, but now you get to do it online. Each team can be made up of four players, so you can have a game with eight players blasting away at each other.

Oh and did I remember to mention that it is FREE? Yes, FREE, as in no money required. Well, Gunbound does offer the purchase of upgrades if you want, but that

is lame. The download size is quite big, but it is well worth it. Go get it at <http://gunbound.net/>.

The graphics of this game are really cute. The characters are big-eyed chibi anime-like characters and the tanks are equally charming. For those who played Ragnarok online, the graphics will look familiar. The game interface is also very pleasing to the eye and easy to understand and, after a few minutes of fiddling around, a mere novice becomes a seasoned veteran ready to blast the next foolish enemy.

The game controls are fairly easy to use. By using the keyboard, you move left or right, adjust the angle and power and just shoot. Sounds simplistic right? Well, those are the basics.

Gunbound comes with extra twists. There are different tanks to choose from, each with their unique powers. Some tanks have advantages or disadvantages when battling other tanks. Basically, think of it like the rock, paper, and scissor concept.

Tank A can beat the crap out of tank B. Tank B kicks tank C's ass. But, tank C totally owns tank A. You can also buy additional weapon upgrades that will help you in epic battles. These upgrades are temporary and you need to purchase them again next time. However, as you win battles, you gain merit points that can be used to purchase permanent upgrades.

Battlefields also change as the battle progresses, mountains are destroyed due to the random blast or bomb, crevices are formed, winds shift. All these factors affect the way your battles are waged. Finally, there are four different types of battle games.

The four main game types in Gunbound: Jewel, Tag, Solo, and Score.

For Tag, Solo and Score, the goal is simple: destroy the enemy. However, there are some slight differences between these three modes. For Tag, you get to pick two different tanks. And if either of your tanks dies, you lose. In Solo, you get to pick one tank only, and you get only one shot at it.

This means as soon as that tank gets destroyed, you lose. For score, each team gets a number set of lives, and as long as your team has lives you can re-spawn and fight on. Finally, the Jewel mode is different and less confrontational, consisting of shooting at targets with specific scores. The first team to score 100 point wins.

As most other games, Gunbound has its shortcomings. The servers tend to lag at peak hours, making it impossible to connect sometimes. But what do you expect? It is free after all.

In addition, Gunbound is a turn-based game, meaning that each person takes turns performing actions, while the other players wait. Therefore, sometimes the games can take quite a bit of time. Also, like most online games, you meet rude and obnoxious people, who will just make the game less enjoyable. This last problem can be easily resolved if you just play with friends you know.

Overall, if you are looking for a good game to get addicted to or just want to kill some time, try Gunbound. Also, for any Scorched Earth and Worms fans, this game is a must. Rating: 8/10

***"Overall... a good game to get addicted to, or if you just want to kill some time...
Rating: 8 / 10"***

Columns

German exchange results in impressive learning. . .

A special report by a UW student returning from German exchange

Erik Wilhelm
4N Chemical

A wise rock and roll man once said, "you can't always get what you want, but if you try sometimes, you may find you get what you need." This echoes my sentiments about my year in Germany almost exactly. I found in that country many new and refreshing attitudes towards life. Writing of this will lead to generalizations, so I will start by saying that not every German person is the same. Sharing experience and maintaining tradition are two examples of how attitudes differ there from in Canada. Many small examples surround this conclusion, but I will give just two.

I got to know two members of my family there, an uncle and aunt I had only seen twice before in my life. Just the chance to get to know these excellent people would have made my exchange worthwhile, without all the other great moments that I had. They are German, and grew up in West Berlin. It is through the relationship that we fostered with regular visits that I have discovered one aspect of what makes the

German people special, in addition to finding lifelong friends.

Sharing experience is something that my Uncle and Aunt showed me is important to German people, especially when the experience relates to German culture. Although it is common for Germans to travel abroad during holidays, I was always astonished by how much Germans travel inside Germany to historic and cultural destinations. Sites such as the Industrial Culture district in the "Ruhrpott" area in Nordrhein-Westfalen, and the Reichstag in Berlin are filled by German tourists during all times of the year. My family explained to me that the German people are proud of the courage and strength that carried them through the dark days after the World Wars, and that is why these places are important. The shared experience that brings the people of Germany together can be felt in visits to such places, and shone as one of the special characteristics of the German folk.

Nothing demonstrates the way that Germans maintain German tradition better than the speed at which habit becomes tradition there. I watched again and again as small habits turned into tradition among my German friends: Frühstück on Sunday,

Reeperbahn on Saturday, Fussi then Kneipe on Tuesday, Mensa on Wednesday, and countless others in between.

This quality on a small scale expresses itself in larger scale I am sure. That would explain the plethora of clubs and groups that exist there, whose purpose it is to give people something that they can look forward to every week at the same time. Probably more such clubs exist per capita in Germany than any other country. If you like to do it, there is a good chance the club meets Thursday nights at 9pm, and this that this club is better organized than most major governments.

The differences between the German and Canadian higher education systems are too many to list. I struggled through the Winter semester and managed to pass all of the subjects that I took there, except for German. Well, easy come easy go, and German grammar is something that you really have to know. Working at the University and in the private sector during the second term rounded out my experience, and gave me a taste of what academic and industrial research means in Germany. It tastes like coffee and S-Bahn breakfasts.

In the end, what I brought back with me on the plane to Canada in August, was beer.



But what followed me back, and will stay with me for the rest of my life, are the life lessons taught to me by a people with different perspectives from mine. I am a person who has been fortunate enough to be provided a chance to live two completely different lives, and learn the same amount from both of them. Last year felt like it lasted 23 years. I arrived a newborn on the streets of Hamburg, and left an adult. And I know now with certainty that there is at least one more place in the world where the people feel truly happy and lead purposeful and fulfilling lives.

Larning to right and talk good.

Opportunities for options, minors, majors in Communication

Melissa Choong
Special to IW
Wandy Yu
4A Computer

Attention engineers! As someone who has been associating with engineers for my entire university career (and that's a long time folks – I have a B&W picture on my watcard), I have learned a lot about engineers and the engineering program. (In fact I was accepted to Waterloo for electrical engineering in High School). I know that you get more homework that you can possibly complete, and spend countless hours in the labs and DC. Now, here's what some of you engineers don't know. You can either have a joint-major, minor, or option in another program. I know that you have extremely limited electives, but I'm here to tell you about the benefits of combining your engineering degree with one from speech communication and to provide info on a special career night which occurred recently.

First of all – coop interviews. Ever really messed up an interview? Don't know what how to express your achievements without sounding cocky? Want to know what to expect from interviews? Well you can take SPCOM 225 – Interviewing.

Another good courses is Spcom 224 – Interpersonal Communication – This course can help you with talking to your lab partners when they're annoying you by doing perception checks, learning how to improve your listening skills (which might come in handy in a boring Calculus lecture) and how to deal with conflict.

Finally Spcom classes don't have midterms or final exams!! This is something that engineers can appreciate.

But don't take my word for it. Wanda Yu, a very busy 4th year Computer Engineering student has this to say about the Speech Comm program:

"Through my coop experience I've come to realize that in today's business market, having only technical skills is not enough. Every job posting demands some technical knowledge, but even more importantly, companies demand employees with strong communication skills. The interpersonal and communication skills that I have developed as a major in SPCOM have given me an edge and set me apart from the stereotypical view of a "techie". The SPCOM program has guided me to become a more effective communicator, leader and teammate. Whether it be at work or in our own homes, communication is the key to success. The SPCOM program helps us to refine these communication skills and apply them to our everyday lives. I believe that anyone, in any discipline, at any stage of life can benefit from the skills taught through the SPCOM program."

On Thursday October 28, a career night occurred, entitled "Fast Forward – Presenting the future to you!" The evening was a huge success highlighted by a number of speakers from communications, broadcasting, writing, theatre, education, and consulting. 15 corporate and educational booths and a business card draw (where prize packages worth over \$500 were given away, including a free 1 hour massage and a \$125 gift certificate to Josten's photography) helped to make the evening a success. There are a number of promotional materials still available if any engineer is interested in receiving more information or to be added to the mailing list for next year's event.

For more information, please email us at career.night@gmail.com.

Let us bring the future to you at Fast Forward – hope to see you there next year!

Guys and Dolls Rolled a Six on the Musical Dice

Stratford Festival Play Review



Living in Stratford, population 30000, hasn't exactly been my idea of fun for a work term. As a result, I decided to frequent the Festival. It all began with Guys and Dolls, a Stratford production of the 1950 Broadway musical, and it turned out to be the best choice I have ever made in live theatre performances.

As a successful, long running musical, Abe Burrows and Jo Swerling's script was packed with puns and threaded seamlessly by some unforgettable scores by Frank Loesser. However, the real treat was to see that the Festival cast and crew created the Big Apple in miniature and brought the story to life.

Designed to look both glamorous and retro, the stage was cast with lights in the shape of a pair of dice to contrast its slightly washed out background colors. The flashing neon lights, overhead railway and a mixed crowd on the busy streets captured the essence of Broadway during the mid twentieth century.

Among the New Yorkers was Nathan Detroit, a gambler busy looking for a venue to host his crap game away from the police's perimeter. He was able to secure a spot only with a thousand dollars of deposit. To obtain the required amount, he made a bet with the don of gamblers, Sky Masterson that the latter would not be able to take Salvation Army Sargent Sarah Brown to Havana for a night.

He did, only after Brown's mission branch was threatened to be closed due to a lack of neighborhood interests, and he promised a delivery of a dozen sinners for her next prayer meeting. Yet the two ended up falling for each other...

The chemistry between Cynthia Dale's Sarah and Scott Wentworth's Sky was wonderful, especially during their duos ("I'll Know" and "I've Never Been in Love Before"), which goes down smooth with a few perks from Dale's high octave.

Wentworth had the delicate balance between the charisma of a men's man and the sleekness of a ladies' man. He took perfect command of the stage and won me over from the beginning and followed through.

Not to be undermined, Dale's performance was equally strong. It was surprising to see that she was capable of physical comedy and delivered it with ease as the jealous and drunk Sarah got into a brawl in the Havana nightclub.

Also deserving an honorary mention was Sheila McCarthy, who portrayed Adelaide, Nathan Detroit's fiancée of fourteen years. She sparked more laughs in the evening than anyone else on the stage. Slightly dry and weary, her lines had the right timing without trying too hard at all.

However, the rest of the cast, besides Bruce Dow as Nicely-Nicely Johnson, fell slightly flat in the presence of their three co-stars above.

The real star, despite the fact you have never seen him on stage, was Michael Lichtefeld. Bold and vibrant, his choreography made the evening all worthwhile. The two highlights of the show, "Havana Night" and Nicely-Nicely Johnson's "Sit Down, You're Rocking The Boat", were comical but not overbearing, leaving you wanting for more.

Guys and Dolls was a winner in nearly all accounts and the finest the Festival has to offer among its musicals and comedies. I strongly encourage all musical lovers to come before the season closes November 21 and exams get on your nerves for an evening of good-natured, hearty laughs.

ARTS CORNER

PICTURE OF THE ISSUE



COURTESY OF SAMUEL CHENG

ARTS CONTEST

Yvonne Yip & David Yip
Arts Directors (No relation)

Your local artsy
Arts directors are holding
A big arts contest!

Yes that's right. We are accepting submissions for the arts contest all term long. Digital photographs, poems, stories, etc, can be emailed to asoc_arts@engmail.uwaterloo.ca

We welcome poems, stories, paintings, drawings, sculptures, sketches, etc. Drop off your submissions at the Orifice, don't worry you'll get them back. But put your name on them.

We are especially encouraging haiku poems because anyone (ie: you) can write one. It's a three line poem, with 5 syllables on the first line, 7 on the second, and 5 on the last. If we receive enough we might just start up a separate category.

Judging will take place at the end of term, so you've plenty of time to get your work in. Submissions will be exhibited in the display case by the Orifice.

ENGINEERING HAIKUS

Steve
1A Mechanical

Oh wondrous caffeine
Lifblood of all engineers
You are good like WEEF

Dark mother
Engineer's lifblood
Sweet Caffeine

Sixty hours of work
No time to sleep, eat or play
Engineering sucks

Want to show off your artistic side?

Have some poetry you'd like to share? Got any comics you doodled during calculus class? Submissions are always welcome at iwarrior@engmail.uwaterloo.ca, or in the Iron Warrior mailbox in the Orifice.



Canadian Synchrotron at U of S very illuminating

...continued from Page 12.

difference is with the path the particle takes. In a particle accelerator the accelerated particle travels in a straight line down a tube lined with electromagnets that propel the ion forward. Consequently, due to the nature of this design tracks often have to be as long as two or three kilometres to allow the particle to gain enough speed.

A cyclotron is basically a giant disc that is split in half across its diameter making two semicircles called *Dees*. As the particle spin around inside the disc it crosses the gap and is accelerated a bit more. In a cyclotron particles to be accelerated are injected into the *centre* of the disc and, as its speed increases, the diameter of its rotation increases as well. As a result, energized ions are accelerated in an outwardly spiral fashion. The advantage here is that the time it takes for

“Less than one second after being injected into the Booster Ring the electrons are at practically the speed of light”

the particle to complete one orbit is always the same, so it will always stay in phase with the RF. However, as particles approach relativistic energies its phase begins to change. This results in a maximum obtainable energy (for useful purposes) for the cyclotron.

A synchrotron combines the best of both worlds from the previous two types of accel-

erators. It is basically a circular linear accelerator. At CLS, Electrons are first accelerated down a mini linear accelerator which is approximately 37 metres long. They are then injected into the *Booster Ring* (which is approximately 103 metres in circumference) where they are accelerated even more. Less than one second after being injected into the *Booster Ring* the electrons are at full linear speed (practically at the speed of light) they are transferred to the *Storage Ring* which is about 171 metres in circumference.

In the *Storage Ring* the electrons can be maintained at almost any constant linear speed. Although there is no linear acceleration, the angular acceleration forces the high-energy electrons to emit photons of very high frequencies. So, in addition to the high-energy collisions for which particle and cyclotron accelerators are renowned, synchrotrons give scientists the opportunity to produce high-

intensity and high-frequency light (x-rays and gamma-rays). A very special feature of the synchrotron at U of S is that the light it produces can be aimed at a specific target or sample. The image created by the collision of high-energy photons and the small sample is imprinted on a detector and sent to a computer for analysis.



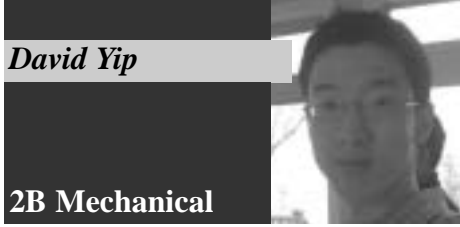
Of what practical use can this machine at CLS be? The new CSNF gives Canadian scientists a chance to fabricate micro-level devices that can be immediately used in industry today. Using a highly focused beam of x-rays as a “laser carving” tool, so to speak, could pave the way for a new generation of nano-technology. Furthermore, being one of only six synchrotrons in North America, CSNF has the potential to be a centre of commercial and private investment strengthening Saskatchewan and ultimately Canada's economy with the

inception of small start-up companies and spin-off businesses.

More impressive than its practical worth to Canada is its value as an educational and research tool for the scientific and engineering community. History has shown that it is with the invention of tools such as the synchrotron that theory and observation can be compared. With particles travelling at over 99% the speed of light giving us almost full control over the electromagnetic spectrum, the possibilities in research and technological advancements are endless.

Columns

Photographer Profile: James Nachtwey



David Yip

2B Mechanical

I have been a witness, and these pictures are my testimony. The events I have recorded should not be forgotten and must not be repeated."

- James Nachtwey

James Nachtwey is a war photographer. He has covered more wars than most photographers. Inspired by the images from Vietnam, America's first living room war, Nachtwey studied Art History and Political Science at Dartmouth, and decided to become a photographer. He has worked in almost every conflict ridden hole on Earth, from Northern Ireland, to South America, the Middle East, East Asia, Africa, and anywhere else you can find people doing what people do too often.

Many times has risked life and limb to get the picture. He was in New York on the day of the terrorist attacks:

"Fortunately for me, and unfortunately for people on the west side it [the building] listed to the west. But I was still underneath this avalanche of falling debris, of structural steel, the aluminum siding of the build-

ing, glass; tons of material were falling directly down on to me. I realized that I had a few seconds to find cover or else I'd be killed.

"I dashed into the lobby of the Millennium Hotel, which was directly across the street from the North Tower, and I realized instantly that this hotel lobby was going to be taken out. The debris would come flying straight through the plate glass and just destroy it. There was no protection at all.

There was no other place to turn, certainly no more time. It was about to happen any moment. I saw an open elevator and dashed inside. I Put my back against the wall, thinking that it would afford some protection, which it did, and about a second later the lobby was taken out. I had seen someone standing outside, and there was a construction worker who dashed inside the elevator with me just as the debris swept through the lobby and it instantly became pitch black, as if you were in a closet with the light out and a blindfold on."

Nachtwey has worked for Time Magazine on contract since 1984. He was a member of the celebrated agency Magnum until 2001, when he became a founding member of the VII photo agency. His work has been shown in exhibitions all over the world, and he has won many awards for his work. In 2001 he collaborated with Swiss director Christian Frei in the celebrated documentary War Photographer. Frei followed Nachtwey into two years' worth of wars in Indonesia, Kosovo, and the Middle East. Filmed with conventional techniques and also with special micro-cameras attached to Nachtwey's camera, this documentary was nominated for an Oscar, and has been featured in many film festivals.

A lot of the credit in his

work comes from his attitude and approach. Where some photographers may be satisfied with shooting from a relative distance with long lenses, Nachtwey prefers to use short lenses, bringing the viewer close to the subject, and giving the feeling of near-interaction with the situation. He describes his approach as: 'slow and gently, with respect and deference to situation and subject.' The images are taken with time and care, not quickly grabbed, as one would expect in a war zone.

The nature of war and conflict itself bears a lot of moral questions, and the photography is not excepted. There is always that feeling that you, as a war photographer, are benefiting from the horrible suffering of others. In these situations Nachtwey sticks to the hope, the philosophy that pictures will raise awareness of the suffering he sees. In his own words: "if I ever allow genuine compassion to be overtaken by personal ambition I will have sold my soul." In this aspect Nachtwey has distinguished himself on a number of occasions by taking action to save lives whenever possible in a crisis.

He is called a war photographer, but he would prefer to be termed an anti-war photographer.

"If war is an attempt to negate humanity, then photography can be perceived as the opposite of war and if it is used well it can be a powerful ingredient in the antidote to war.

"In a way, if an individual assumes the risk of placing himself in the middle of a war in order to communicate to the rest of the world what is happening, he is trying to negotiate for peace. Perhaps that is the reason why those in charge of



perpetuating a war do not like to have photographers around."

In that Remembrance Day is coming around, we will all take a minute of silence to remember the horrors of war and the men and women who endured them. When this minute is over the lot of us will go back to our equations, but photographers like Nachtwey will sadly have their work cut out for them every minute of the year, more than half a century after we resolved "to save succeeding generations from the scourge of war."

With files from photography.about.com, war-photographer.com, and jamesnachtwey.com See more of his work at jamesnachtwey.com, and Time Magazine photo essays at <http://www.time.com/time/photoessays/>



the Iron Inquisition

Richard Hui & Sarah Vandaiyar, 2A Chemical

What would you do to avoid midterms?



"Get hit by a fire truck." Keith Davidge - 2A Chemical



"Slept with the prof." Batman & Supergirl - 1N Electrical



"I wrote my name on the paper and told the prof I had spontaneous diarrhea." Marion - 2A Biotech Econ



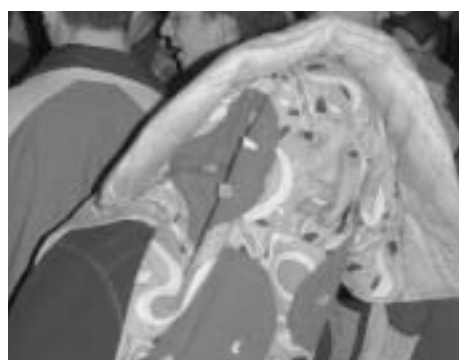
"I went to an interview." Eric Migicovsky - 1A Systems



"Got drunk at MOT!" Ally Chan & Superman & Sabrina Giovanazzo - 2A Chemical



"I got my ribs broken 1 year!" Ryan Consell - 3B Mechanical



"What? I love midterms? I don't even go to class!" Hiro - 2A Comp



"Pull the fire alarm - it's a common technique." Loi Vanleeuwen - 2B Mechanical