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RESEARCHERS DISCOVER
CHICKEN FROM HELL

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DINING BY THE GRAND RIVER

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Waterloo's Clean Snowmobile Team Makes History



Keweenaw Research Center/Michigan Tech University

The Team, from left to right, back: Dirk Friesen, Alec Espie, Thomas Forsythe, Chris Campbell, Vangie Rose; front: Casey Palermo, Kristen Sperduti.

KRISTEN SPERDUTI TEAM LEAD

Late nights, long days, and a rolling start can't stop the UW Clean Snowmobile Team

For one week in March of every year, engineering design teams from universities of all over North America travel to Michigan Tech's Keweenaw Research Center (KRC) in the northern city of Houghton, Michigan for the SAE Clean Snowmobile Challenge (CSC). For Waterloo, this was the opening year of their brand new snowmobile prototype: a 2012 Polaris RUSH Pro-R chassis and 750 cc turbo-charged four-stroke engine. Blood, sweat, and tears had been poured into this machine for the past year and hopes were high for team members Casey Palermo, Alec Espie, Vangie Rose, Chris Campbell, Thomas Forsythe, Dirk Friesen, and Kristen Sperduti as they set out to put their design to the test.

24 hours before departure required minor engine tuning and assembly, but unexpected problems with vacuum leaks, stale gas, drained batteries, and copious amounts of unburnt fuel being dumped into a very unhappy catalytic converter drove the team late into the night. At 4:15 a.m. on Sunday March 2, 2014, the Polaris was loaded into the trailer, run-

ning and ready to compete. The journey to Houghton later that morning was a quiet 16 hours, only to be disturbed by an eventful border crossing and multiple gas stops.

On Day 1 of the Clean Snowmobile Challenge, teams assemble at the KRC for technical inspection and unload their snowmobile and tools into the painted box area that will be their home for the rest of the week. After many hours in the frigid northern temperatures, the Waterloo snowmobile demanded thawing before firing up, but Waterloo passed technical inspection with minor modifications. Spirits were high for the week ahead!

Competition challenges begin on Day 2 with the Fuel Economy & Endurance Event, where each team's snowmobiles convoy 100 miles from the KRC to Copper Harbor on the Michigan trail system. Chris Campbell was suited up for Waterloo to compete in the Endurance event, but during fuel-up of bio-isobutanol, they discovered fuel severely leaking from the fuel pump assembly retaining nut. Countless efforts were made to re-seat the gasket and nut, but time ran out. Research revealed that the part number was not registered at any Polaris dealerships; it was a part from Sweden and incompatible with the rest of the snowmobile chassis! Puz-

zled but determined to compete, Waterloo decided that anything can be fixed with two tubes of Seal-All and a strap wrench.

Waterloo's Polaris snowmobile was outside and running by 8:00 a.m. on Day 3 to prepare for their 100 endurance make-up miles. Alec, Chris, and Thomas took the sled Out For a Rip on the designated handling track for pre-endurance testing, where a lesson was learned that the meaning of 'snow' cannot be fully understood until one visits northern Michigan in early March. Day 3 is also the Technical Design Presentations to judges and industry professionals.

Meanwhile back in Canada, remaining team members Casey, Dirk, and Kristen departed from Waterloo at 4:00 a.m. full of excitement in a race against time to be in Houghton by the late afternoon. Much to the surprise of their teammates, they showed up at the Copper Country Mall for the Static Display Event by 4:00 p.m.! The team finally fully assembled, they were ready to ride! Following the static event, more minor engine tuning was done to the Polaris at the KRC and it was tested and running smoothly by 12:00 a.m.

Waterloo entered the KRC on Day 4 to finally complete the endurance miles. They knew the sled was running great, so the team anticipated a smooth 100 miles would be under their belt in no time! Spir-

its were high until the key was turned in the ignition, and the sled remained silent; there was no electrical power whatsoever. Frustration set in as the sled was torn apart to diagnose the electrical system. It made no sense; the sled was running beautifully only hours ago! The discovery was made after an hour of analyzing – the positive battery terminal cable was completely split in half. With speed and precision, Alec Espie re-wired the cable and the sled roared to life!

Endurance miles were completed collectively by Chris, Casey, Dirk, and Kristen around KRC's vehicle handling test track. There was a minor setback when the muffler needed slight re-attachment, but the miles were adding up quickly and the riders were having fun! With 85 of 100 laps completed, Waterloo watched their sled round an icy corner, slide sideways, and topple over. Luckily the rider was safe, but the sled required medical attention. Back to the KRC, the team unbent the handle bars, re-attached the fire extinguisher, and re-secured the muffler. Northern Illinois University (NIU) graciously offered their kill switch and ignition switch, which required some wiring modifications, and had both been sacrificed in the crash.

Continued at 'SILVER' on Page 3

Socks for Down Syndrome, and Goodbye



SPENSER GOOD
EDITOR-IN-CHIEF

Before I begin on the main topic of this editorial, I want to take some time to thank those who helped me this term, and my thoughts on my own performance. First and foremost I have to thank Lucas Hudson. The former EIC who entrusted me with this position, I don't think I have met another student with a higher level of commitment to this newspaper. His passion, patience, and the amount that he truly cares about *The Iron Warrior* is unrivaled. Without him, this term would have been a different story.

I also want to thank my dutiful copy editors, with a special acknowledgement reserved for my roommates Michael Laanvere and Andrew McMahon, both of whom helped me greatly by often editing a good chunk of the newspaper. Also worth mentioning is Christy Rouault, and Supreet Kaur, who also helped with the editing work load throughout the semester.

I would be committing a grave error by not mentioning Krishna Iyer, who has been a layout editor with this newspaper since 2009 (I think) and is moving on to a graduate degree after this semester. His humour has always helped keep things in perspective, and besides Lucas, he is the best layout editor we have (just kidding, Krishna, you guys are about equal, not that you read the newspaper anyways). *The Iron Warrior* will miss him, and so will I, although he has assured me that he will continue to help the newspaper during his graduate studies which will take place at the University of Waterloo.

I must also admit I will greatly miss Wade Wilson and Edward Blake, the authors of TOPZ (with a Z), our long running satirical column that is actually funny (really, it is). I was lucky enough to observe their creative process last production weekend, and I was both surprised and impressed at the amount of thought these two guys put into their articles. *The Iron Warrior* will not be the same without TOPZ, or the two students who have written for so long. Farewell comrades, and may your humour continue to lighten the lives of others wherever you go.

As for my own evaluation of my performance this term as EIC, I will be brief. The term was a successful one, I believe, although some of my goals went unfulfilled. My main goal was to get more first years involved in the newspaper so that somebody can carry the torch when myself, Lucas, Leah, and the like move on. I think that has been a great success. We now have half a dozen first years actively writing, laying out, and editing the newspaper. Thanks to those of you who have joined our team, specifically the aforementioned Supreet (who is actually in her third term at UWaterloo but is in 1B Software because she switched disciplines), Allen Chen, Derek Kan, and Cameron Soltys. I especially want to thank Cameron, who has taken on

a much larger role, actively laying out large chunks of several issues and editing. He has also improved his writing greatly throughout the term. So thank you to those first years who have helped make my recruiting efforts a success.

As for more my unfulfilled goals, I would have liked to put some more effort into revitalizing the office, but it is in a much neater and welcoming state than it was before. Also, I would have liked to get some racks into the new engineering buildings, and put some work into a standardized editing guide, but to use the excuse that David Birnbaum so despises, it has been a busy term, and I refuse to beat myself up about missed opportunities. We have a new crop of students who will keep the newspaper running, a strong and happy core group of staff, we are making money and we had fun. I can live with that. I hope that people will remember my efforts as Editor-in-Chief, I had a lot of fun and memories of this term are all the better because of it.

I spent much more of my word count than I had hoped thanking people, which just goes to show the value of the support that I have had as Editor-in-Chief. My final comment as EIC will be on a topic that really strikes a chord with me: Down syndrome. As I write this article, on March 21, thousands of people globally are wearing crazy socks to promote the awareness of Down syndrome. Down syndrome, as most of you know, is a genetic disorder caused by a chromosome disorder. The reason World Down Syndrome Day is held on March 21 is twofold. The first reason is because the disorder is caused by a trisomy of a chromosome. In other words, there are three instances of a given chromosome, instead of two, hence the choice of March, the third month of the year. The second reason is that the chromosome affected in those with down syndrome is the 21st chromosome.

The goal of World Down Syndrome Day is simple: to promote the rights, inclusion, and well-being of people with Down syndrome. Although I am no expert, I was lucky enough to attend elementary school with a friend who had Down syndrome. My friend was always a source of humour and happiness despite the struggles she faced. Although happiness is often associated with Down syndrome (whether accurately or inaccurately, I am not sure), I think the happy nature of my friend can largely be attributed to her stubborn streak, which was one of her more notorious traits. Every moment I spent with this individual was an interesting one, and her ability to carry on deep conversations and to function independently completely changed my perspective on the disorder. Despite her occasional struggles, her tendency towards kindness, friendship, and a positive attitude remains an inspiration to me today.

The point I want to make is that my friend proved to me that a human's personality goes way beyond a disorder, even one that most of us tend to associate with a lower quality of life. Down syndrome does not have to be a sentence to a life of dependence. Many

individuals with the disorder, including my elementary school friend, are now currently pursuing lives of independence in which they work and contribute to society. My friend was very lucky as she was born into a caring family (her mother was my music teacher, and one of the best educators I ever had the pleasure to be taught by) who have gone to great lengths to ensure that she can live her own life. We need to push for programs to help those that are not as lucky. The least we can do is push politicians to talk about such issues by participating in events such as World Down Syndrome Day or by asking questions.

Above all, however, what we all must do is stand in the way of the ignorance, belittling, and ugliness directed towards not only Down syndrome, but all disorders. I am generally disgusted by people who degrade others, but I am especially sickened by those who poke fun at mental disorders. Unlike racial or sexual discrimination (which is still one of the worst evils), those that are discriminated because of their mental handicaps have a much harder time defending themselves because of the handicap they have to live with. Those that poke fun at the defenseless are the worst people. I still remember being disgusted in elementary school at a few of my classmates, who when appearances mattered around staff or parents, they treated my friend with the utmost respect. However, as soon as the importance of evading punishment was lessened, and the new priority was a cheap laugh, they would not hesitate to make fun of my classmate. We were young at the time, and I hope that they now realize how disgusting their behaviour was. If not, I can only pity their sad existence. All we can do, as good people, is stand in the way of such behaviour. I cannot perceive the difficulty of getting up every day and knowing that you are different than everybody around you, however many people faced with these burdens live happy lives anyways. The least we can do is make it easier for them to do so. So next March 21, wear your crazy socks and until then, continue to stand up for those that are not as lucky as us.

I have to finish off with a few more notes on *The Iron Warrior* before I say goodbye forever as EIC. Firstly, I want to thank all of those you who responded to my article on my Grandfather. He was a wonderful man who deserves to be remembered, I hope this article will help with that. I am going to truly miss writing these editorials. I find there are two things that help my constant battle with anxiety: running and writing. These editorials have truly been an outlet for me, and I hope that you have enjoyed reading them as much I have enjoyed writing them. Fortunately, my roommates and I have signed up to run 30 km in Around the Bay in Hamilton a year from now, so hopefully my increase in running will offset my losses in writing. Regardless, life goes on. I hope you, the reader, has enjoyed these five issues of *The Iron Warrior*, but now I must go. Hold fast, fellow engineer, I will miss you.

THE IRON WARRIOR

The Newspaper of the University of Waterloo Engineering Society

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The Iron Warrior encourages submissions from students, faculty and members of the university community. Submissions should reflect the concerns and intellectual standards of the university in general. The author's name and phone number should be included.

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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For those of you here for the Spring Term, keep an eye out for Issue #1

Send your submissions to iwarrior@uwaterloo.ca

Thank you for reading and supporting *The Iron Warrior*, good luck on final exams!

Farewell 2014 Nanos



LUCAS HUDSON
3B MECHATRONICS

I started getting involved in *The Iron Warrior* in the Fall of 2012. Farzi Yusufali was Editor-in-Chief and I was ignorant to the amount of awesome people I was about to meet over the next 20 months. It was thanks to Farzi that I had the privilege in Spring 2013 to be Editor-in-Chief myself and I really appreciate all the hard work everyone puts into this publication.

In 2009 the Nano-invasion started and thus started the Nano dependence the newspaper has relied on to not only write articles but to copy edit and layout the newspaper. Going through old issues really shows the overwhelming majority of 2014 Nanotechnology students that contributed to the newspaper. I would be remiss if I didn't mention the honorary 2014 Nano, Catherine Heymans, one who has committed so much to the newspaper she gets confused as a 2014 Nano on a daily basis. I also want to thank Elizabeth Celentano for being one of our Student at Large since Spring, 2010 and helping review the newspaper before it goes to print as well as providing feedback when needed.

I won't be able to mention all the 2014 Nano's that helped with the newspaper, to be honest I didn't know all of them, but I do want to mention those who helped me out during my time with *The Iron Warrior*. I am sorry if I've missed anyone, the admission of your name here does not lessen my appreciation for all your hard work!

First I want to thank Catherine Heymans and Ioana Craiciu for their endless support during Spring 2013. I don't think

I would have survived my stint as EIC if it weren't for you two checking up on me every once in a while, bring me fresh fruit and dragging me out on coffee breaks. I want to thank Farzi Yusufali for taking all my jokes with a smile and a friendly glare as well as asking the crucial question "are you stupid?" when it really mattered. Anjali Gopal, you've always provided a great insight into mental health for *The Iron Warrior* as well as bring awareness to many important services around campus. Krishna, *The Iron Warrior* would not be as beautiful as it is without your unorthodox way of laying out the newspaper. You always find a way to put a smile on the face of any EIC racking their brains during production weekends. I only have one question to ask, "you mad bro?" Stuart Linley provided *The Iron Crossword* for many terms, roping in much of our readership to pick up an issue and providing what was widely regarded as a superior crossword than the Imprint. Wade and Edwards, the elusive duo, have been providing *The Iron Warrior* satirical insight into the Waterloo culture since Spring, 2011. The newspaper will definitely feel a lot less sarcastic without the contribution of "TopZ with a Z." I understand that you two are enrolled in 4Z handsomeness now, but you will always be Nano's in my heart. I also want to thank Alison Lee, Dushanth Seevaratnam, Hans Tee, Kevin Joseph, and Ammar Masud for their contributions to the newspaper in the past, you have all put in so much effort into this newspaper. Your hard work will not be forgotten.

Thank you 2014 Nano's — and the honorary Nano's — the next 12 months will not be the same without you around. I will miss each and every one of you and *The Iron Warrior* will always be in your debt. Thank you.

'Silver' Survives Dyno Test

Continued from WATERLOO'S on Page 1

After long last, Waterloo completed their final victorious 15 endurance laps on the test track! And immediately after, they smoothly completed the In-Service Emissions Event right before the end of the day. That evening, as they recollected the events of the day, they couldn't help but laugh at the luck that was handed to them. Despite so many setbacks, they were excited for the next day and ready to take on whatever challenges awaited.

Day 5 is the day that all teams fear: the AVL Lab Emissions Event, in which each snowmobile engine is pushed to its limit on a dynamometer (dyno) that runs through a 5-mode emissions test, beginning with Mode 1 at full throttle and full load for 121 seconds. Waterloo watched nervously as the previous team's engine catastrophically failed, belonging to Michigan Technological University (MTU). Once Waterloo was hooked up, Mode 1 began. The engine was steadily roaring at 8000 RPM when suddenly it started making noises, described only by Alec Espie, "like popcorn on steroids." The engine held steady and Waterloo held their breath. After 121 long seconds, the test was over! They survived!! After cheering and hugging and high-fiving, inspection of the snowmobile revealed a pile of silver chards and what remained of the aluminum muffler. It was split apart right down the center, and severed in half next to the flex pipe connected to the catalytic converter. From these charred aluminum remains, emerged the well-deserved name 'Silver', given to the first Waterloo snowmobile in years, to have survived the Lab Emissions Event, and made CSC history in its miraculous muffler explosion. The Waterloo team was shocked, happy and couldn't stop smiling!


Following the dyno event, the snowmobile was re-assembled. With the help of the University at Buffalo's skilled welder, and some shopping at Autozone, a sufficient muffler was created.

Day 6 is the final day of CSC, and packed full of all the dynamic performance-related Events where the public is welcome to come watch! A weak and drained battery knocked Waterloo out of the running for the Cold Start Event, but they took the stage for the Acceleration Event where rider Kristen Sperduti put it to the bar and managed 71 mph in 500 feet, coming up just short to Idaho and Platteville (who tied with 73 mph) and finishing third place! Next was a race against time around the Objective Handling track where Waterloo placed a comfortable sixth.

At the Awards Banquet that evening, Waterloo was awarded the Aristo Intelligent Catalyst Technology Award for Most Improved Snowmobile, along with \$1000 to boot! Despite the many setbacks during the week, the team pulled it together and made Waterloo Clean Snowmobile Team history, leaving Michigan with a strong platform and ready to build upon their success for 2015.

The UW Clean Snowmobile Team would like to give a special thanks to new-found team member, Malcolm Williams, for his contributions in times of need! As well, special thanks to the team's faculty advisor, Professor Teertstra, the Dean of Engineering, the MME Department, the Sandford Fleming Foundation, WEEF, and EngSoc for their continued sponsorship, and thank you to all sponsors for their support. Thank you as well to the volunteers and organizers of the SAE Clean Snowmobile Challenge.

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Presidential Farewells



DAVID BIRNBAUM
PRESIDENT

Hello again, and for the last time, magnificent IW Reader.

It is the last IW issue of the term, and my last ever as an EngSoc Executive. I have very much enjoyed my time as VP Finance and then President over the past 32 months, and I hope that most of you have been pleased with what I have accomplished for the Society over that time.

Having already written an article about my shortcomings, and an article about what I believe the Society needs to do moving forward, this one will be a little bit more self-indulgent, so bear with me if you can. I want to start by thanking the

people that really pushed me forward and enabled me to get all that I did done. I would like to thank both of my executive teams; Leah Allen, Derek Thompson, Angela Stewart, Lisa Belbeck, Michael Seliske, Drew Dutton, Brendan O'Hanlon, Annamaria Reda, Kevin McNamara, and Leila Meema-Coleman. They were all a pleasure to work with (most of the time) and I definitely can't see my terms turning out as well without this group of fine people.

Of course, I need to also thank Mary Bland, the Engineering Society's amazing Business Manager. Without her, my terms very likely would have crashed and burned. She is a wonderful person, and very passionate about the students; the Engineering Society is extremely lucky and privileged to have her. I also need to thank Meghan Mitchell, the faculty's Student Relations Officer, and

our incredible Dean of Engineering, Pearl Sullivan, they have both done nothing but support EngSoc throughout my time here. We should all be proud to have Dean Sullivan at Waterloo, and I am excited to see what else happens during her tenure.

But alas, I will not be as involved in what is coming forward. My time as President is up, and it is time for the next set of executive to take the helm of the Society. I have nothing but faith in the new A-Society President, Leila Meema-Coleman, and her B-Society counterpart, Allyson Francis. I am very excited to see what they bring to the Society in the coming year.

For those of you hoping to be rid of me altogether, I am sorry to disappoint. Although I will obviously be less involved with the Society than I have over the past few years, I will still be involved in student life here at Waterloo. I am

very happy to have been ratified as the incoming WEEF Director for A-Stream. I am also looking forward to my positions as one of the EngFOC, and as a member of the Board of the CFES. I definitely plan to be around the Society still, but will need to figure out where I fit in now. As well, I am hoping to start writing for the IW a bit, so keep your eyes peeled for those articles, and let me know what you think of them.

As always, questions and concerns can be sent to me at president.a@engsoc.uwaterloo.ca, although you only have a few more weeks to get those to me!

Have fun for the rest of the term, good luck on exams, and good luck to Leila and her whole team for their upcoming term as executive, I know it will be a great one.

Signing off for the last time,
David Birnbaum
Engineering Society President

New Team, New Ideas!



LEILA MEEMA-COLEMAN
VP EXTERNAL

Why hello there engineering students! It's me again, Leila, but this time I am very excited to be writing to you as the incoming Engineering Society President! The results are in and I am happy to announce the new team for Fall 2014 of myself as President, Heather Smith (VP External), Kevin McNamara (VP Finance), Josh Kalpin (VP Education),

and Puneet Natt (VP Internal). With a new team comes new ideas and new motivation! Our team had our first vision meeting last week and the amount of improvements you will see in the fall is ridiculous! Some things coming down the pipeline are an EngSoc career fair (no, this time it will actually happen!), a student run first year conference, a new alumni networking social event, more involvement with the department to gather student feedback, programming competitions in WEC, more student deals, and so much more! The whole team is excited to start serving you, the

students, and to try and make your time here at Waterloo the best it can be!

The second part of this article is about you! Yes you! The past few weeks I have had some amazing discussions with students about what they would like to see in the Engineering Society and what they don't like about their undergraduate experience so far. These are the types of discussions that we need to start having and that will actually make changes. The exec can only guess so much what students want to see but we need you to tell us! Over coop and in the fall term we will be increasing

the amount of student input and feedback we seek out substantially and we want you to be ready. What don't you like about your educational experience? What about the student space? Comments on the level of activities offered? How about the culture of engineering? We want to hear what you think so we can better serve you! Look out for discussion groups, online polls, feedback boxes, and in person visits in the fall but if you want to chat, discuss, rant or anything else before then please e-mail me at lmeemacoleman@gmail.com to arrange something!

End of Term Farewells From Your WEEF Director



BEN PRATT
WEEF DIRECTOR

The Winter 2014 term is almost done, a relief for some but the impending doom of final exams lies ahead for others. For those graduating this year, the exams cannot come fast enough. The excitement of graduating after many years of hard work, the prospects of a new career, new city or even a well-deserved vacation provide the light at the end of the tunnel. Over the years of your undergraduate engineering experience at UW, there were many constants. I am sure you never slept in on a school day, you attended every lecture of every course, completed every assignment and lab with attention... Wait, let's be real. The process of going through engineering is a series of highs and lows, good weeks and bad weeks, and moments where you might just wonder 'what am I actually doing?'

Fortunately, there has been one constant to keep the experience beneficial to you and your classmates at the same time – WEEF. In every aspect of your education,

WEEF has been instrumental in providing that extra bit of funding that makes a difference for students. Do we explicitly see it every day? Maybe not... Many of the funded projects are hidden within advanced computers in our labs, embedded into nano-scale chips, under the hood of one of the new competition leading, all terrain, aerial or track based vehicles in the Sedra Student Design Centre, or might be a fancy gadget you have used several times in class and still have no idea what it is called or how to decipher the results.

This term, your class elected WEEF representative observed 46 presentations over two nights. In total, presenters from faculty and student groups and teams were looking for \$171 595 in funding but with only \$60 000 available. With the decision meeting lasting nearly three hours, it was up to WEEF council to go about the dirty business of deciding who gets full, partial, or no funding. In depth discussion regarding the validity of projects, and which projects possess the most notable causes for funding can get heated and at times, very in depth. This forum promotes understanding of not just individual department needs for their students, but the benefits to all of UW

undergrad engineering students.

This term we had representation for 25 of the 44 on-stream classes to decide the fate of 15 department, 20 student team and six student group proposals (weef.uwaterloo.ca/proposals.php). Official results of the meeting will be posted by April 4, 2014 after the Board of Directors approves the allocations. For all those seeking funding and especially the student reps that make the time during difficult weeks, thank you for attending and providing the insight and discussion that provides WEEF with the voice of student choice. For those that did not receive funding, or as much as they would have liked, please talk to your class WEEF representative or contact the on-stream WEEF Director to discuss methods of improving your success with future proposals.

This term, WEEF is proud to announce this term's participation rate is 87.2 percent! What's so special about this rate? Well, it is just over 11 percent higher than the previous winter term and showing an increasing trend each winter. Recent participation rates have catapulted the principal fund to over \$12 000 000!

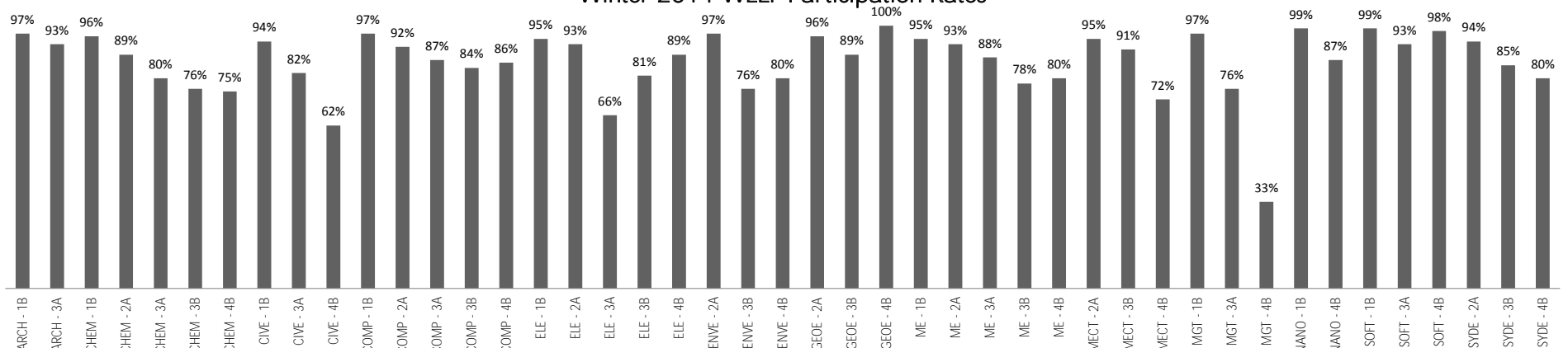
Congratulations to the Geological En-

gineering 4B class, who stands out as the only class this term with 100 percent participation. Classes showing high participation are from all across the faculty, each with vast improvements over previous years. Well done everyone!

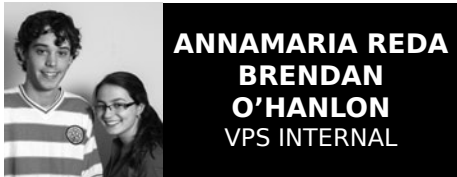
As this is my last term as A-stream WEEF Director, I would like to thank all the class representatives, student teams and groups, and members of faculty I have worked with over the last 12 months for providing me with this fantastic experience. The new WEEF Directors starting both this Spring and Fall term are Steven Buckley and David Birnbaum; two faces well known in the realm of WEEF, and two motivated gentlemen looking to ensure WEEF is continually improving.

As always, feel free to email us at any time throughout the term at weef@uwaterloo.ca with any questions you might have. For the graduating class of 2014, thank you for your contributions to WEEF over your years at UW. Your contributions have undoubtedly provided many improvements for those that follow in your footsteps. For all the students going on co-op and returning to class, best of luck and and remember, WEEF IS GOOD!

Winter 2014 WEEF Participation Rates



Goodbye Everybody, and Thank You So Much



**ANNAMARIA REDA
BRENDAN
O'HANLON**
VPS INTERNAL

Hello everyone!!! I can't believe this is my last *Iron Warrior* article as your A-Soc VP Internal! It feels like just yesterday that my term began. It's been a great run, and I want to send out a huge thank you to all the directors and commissioners I've had a chance to work with during the last 16 months. I also want to thank Brendan for being such a great partner throughout our term together!

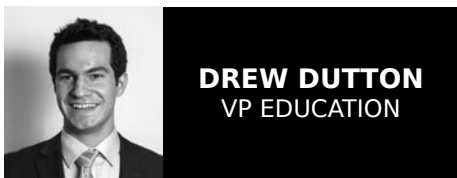
So some of you may be wondering what Brendan and I have accomplished over these last 16 months. One of the most successful workshops we have brought back to the Engineering Society was the Interview Skills workshop. This term, with the help of our lovely volunteers, we ran this

workshop for approximately 75 first year students! Along with our planning information and documents, and the feedback from our volunteers and the participants, we wrote up transition document to use for a director to run this event next term. Hopefully this continues to be a successful event which assists our first year students with interviews.

We also worked on updating all of our directorship handbooks, which are sent to all directors at the start of their directorship as a starting point. These handbooks will also become available online, so anyone interested in a specific directorship can look more into what's involved before applying.

I want to end off by wishing Puneet Natt, your new A-Soc VP Internal, the best of luck next term! I've already started talking to her about the role and giving her all the need to know. I'm really excited for her and all of the wonderful ideas she wants to implement.

Out with the Old, In with the New



DREW DUTTON
VP EDUCATION

Well A-Society, it's the last edition of the term! I hope you have all enjoyed the term, and hopefully you've managed to keep warm. There is just a short time until classes are done, and the joys of the examination period sink in... I would like to wish you all the best of luck, happy studying, a happy co-op term, and maybe most of all, a happy break between final exams and the start of a co-op term!

Over the past few weeks we have experienced our Engineering Society executive campaign and voting periods. If you aren't aware already, Josh Kalpin won his campaign for the position of Vice-President Education, A-Society. Beginning in May, he

will be your VP Ed for the next 16 months. I hope you can help me in congratulating him and wishing him all the best! He will be accompanying me to the various councils that VP Ed sits on over the next few weeks as we begin our transition. Saturday we will be sitting down for a long talk to hand things over, so he can hit the ground running.

I have enjoyed the past 16 months acting as your Vice-President Education. I have definitely learned a lot from this experience, and I hope that I can share some of this with Josh so that he can gain even more from his experience. I wanted to thank you all for your help, and once again, wish you all the success with your studies and where ever they may take you! That being said, I'll still be around so don't hesitate to say hello or stop me for a chat if you bump into me around campus!

Here I am, signing off one last time. Cheers everyone, Drew.

See You Next Term!



KEVIN MCNAMARA
VP FINANCE

Hello engineers! The term is winding down, and with that here is my last *Iron Warrior* article for winter 2014. I hope that you have enjoyed the information found in my articles this term, and have learned something more about EngSoc and its finances. This issue, I want to go over some things that I would like to improve during my next 16 months as VP-Finance. If you followed the election, you would have seen that the majority of my platform was centered on three main things: organization, efficiency, and information.

In terms of organization, I am hoping to standardize the way that our finances are organized, making it easier to transition from term to term. To do this, I am planning to implement a finance schedule, to make it better known when things happen throughout the term. I also hope to create a more professional document branding, and write termly transition documents that will be publically available and summarize everything that happened in the term.

I am planning to reassess our budgeting

process to see if we can make it more efficient. In doing this, I hope to make more use of past trends in spending to make our budgets more consistent from term to term, and ensuring that money is spent more on the things of value, such as services. I also plan to work on the Engineering Capital Improvements Fund process to seek more student input into the purchases each term. Additionally, I will be seeking feedback from student teams and clubs on the sponsorship process to see if there are things that can be improved.

I plan to work on making sure that people have better knowledge of where their money is being spent each term. This will include a more robust section of the EngSoc website dedicated to finances, as well as more general information in *The Iron Warrior*. I also plan to get feedback from students on what they would like to know about EngSoc's finances, and implement some plans to better get the information out there.

That's about all for this issue. Thank you to everyone who has read my articles over the past 16 months. I am looking forward to another 16 months as your VP-Finance, and hope that you are as well! As always, don't hesitate to ask me if you have any questions. Best of luck with final exams this term, and see everyone in the fall.

Engineering Co-op Student Debt-Load Survey

Winter 2014

1) Term Total

Total Responses	741
Number of Surveys sent	2290
Response %	32%
# of students in core classes	3837

2) Does your family support you financially? (709 responses)

Yes	75%
No	25%

3) Average Cost of Living for a 4 month School Term (718 responses)

\$11,638

4) Average Cost of Living for a 4 month Work Term (590 responses)

\$4,473

5) Have you applied for local aid or other bursaries to pay for school? (729 responses)

Yes	45%
No	43%
Not Yet	12%

6) Have you applied for OSAP? (731 responses)

Yes & Received	46%
Yes & Denied	11%
No	43%

7) Do you have a loan for academic purposes? (721 responses)

Yes	39%
No	53%
Not Yet	9%

7a) How much is the student loan? (383 responses)

\$1-\$999	12%
\$1000 - \$1999	7%
\$2000 - \$4999	8%
\$5000 - \$9999	28%
\$10000 - \$19999	32%
\$20000+	14%

8) Has the differential tuition increases caused you hardship? (728 responses)

Yes	4%
No	29%
Not Yet	30%

9) How much debt do you expect to be in by graduation? (703 responses)

No Debt	27%
<\$4999	12%
\$5000-\$9999	12%
\$10000-\$19999	16%
\$20000-\$39999	18%
\$40000+	15%

10) Do you live at home while at school? (729 responses)

Usually	8%
Used to	1%
No	90%

11) Have you lived at home while on work terms? (672 responses)

Always	11%
Sometimes	45%
Never	43%

12) Average of the weekly salary while on work term (465 responses)

\$710

Federal Government Raises Ire Over Fair Elections Act

Bill C-23 Aims to Cut Down on Electoral Fraud, but Critics are not Convinced



SHERWIN KWAN
3B MECHANICAL

Growing up in Canada, I was taught that democracy was one of our most cherished rights. And why not? There are so many people around the world who only wish they could choose who governed them. The way it works (or at least what they tell us ...) is that any citizen, no matter what gender or ethnic group or religion you identify with, can vote. However, if the current government gets its way, this could be changing. According to its critics, students might find themselves unable to vote at the next election.

Last month, the Conservative government in Ottawa introduced Bill C-23, the Fair Elections Act, which if passed by Parliament would make a number of significant changes to Canada's Elections Act. Some of these include stiffer penalties for election fraud, closing loopholes on political spending, and forcing all campaigns who want to directly call voters to inform the CRTC before doing so. However, there are also many controversial changes, including increasing the limit for political donations in one year from \$1000 to \$1500 and preventing the Chief Electoral Officer from doing anything other than telling people how and where they can vote. And one Conservative MP was accused of outright lying in Parliament.

However, the biggest beef critics of the bill have is that voter identification requirements would be stricter. Bill C-23 would end the vouching system where you can vote without ID, as long as some-

one else, such as a friend or family member, who does have valid ID vouches for you. Also, voter information cards (VICs) – the cards you get in the mail telling you where to vote – no longer count as valid ID. So even if you bring a VIC to the poll mailed to “Mr. XYZ, 123 Front Street,” that would not count as proof that you live at 123 Front St.

The end of vouching will have an impact on students, seniors, and the poor in particular. The new rules require everyone who wants to vote to bring photo ID proving their name and their current address. It's clear this might be problematic for students not from K-W who are at school on election day. Ditto for anyone who's on co-op in a city other than their hometown at the time. That's right: under the new rules, if you're in Waterloo in Fall 2015, and your ID has your home address, you will need to bring a lease agreement, utility bill, or residence contract to the polling booth just to prove that you live here.

The government claims that the new voter ID rules are necessary to prevent fraud. The Minister for Democratic Reform, Pierre Poilievre, cited an Elections Canada study showing that one-quarter of vouched-for voters had “irregularities.” However, the head of Elections Canada, Marc Mayrand, disputed that claim, saying that these turned out to be almost all book-keeping errors, and in the last two elections combined, only 18 out of the tens of millions of people that voted were later found to be ineligible.

Some supporters of the bill have gone to great lengths to justify it. Brad Butt, a Conservative MP representing Mississauga, claimed in Parliament that he had seen people grab used VICs from the garbage

can at the polling booth to use as fake IDs. The only problem? It wasn't true. Two weeks later, he announced that he had “misspoken” and issued a non-apology that Rob Ford would be proud of.

Let's not miss the bigger issue here. It isn't that a handful of ineligible people are voting, it's that millions of eligible voters aren't showing up at the polls. Let's be honest here – politics usually stinks, and a lot of people simply don't like any of the major parties. But isn't it worth at least showing up and exercising your right to choose? At a time when turnout is low among young voters (according to Elections Canada, 61 percent of eligible un-

der-25 voters in Ontario didn't vote), does it make sense to make it harder to vote?

Bill C-23 is now being studied by a multi-party committee. Perhaps the committee will remove some of the more controversial portions of the bill, and the Fair Elections Act might yet live up to its name. However, if it passes in its current form, all of us will need to keep up to date on the new ID rules, or else we might forfeit our cherished right to vote. It is worth wondering, however, if the Fair Elections Act is an act of self interest, rather than a motion to prevent electoral fraud. It may be something you want to ask yourself before you cast your next ballot.



Bill C-23 may make it more harder for students to vote in federal elections.

Gender Rights Still Relevant for Female Engineers

How My Undergraduate Experiences Have Enforced the Merits of Feminism



KATE HEYMANS
4B CHEMICAL

Most writers would issue a plea to the public at the end of a convincing article but, since this is an engineering student newspaper, I think I might be better off putting my request at the beginning; next time you interact with a person (and all the times after that), give yourself a moment to reflect on whether the way you are acting is dependent on your perception of their gender.

Why am I requesting this? Have I lost you yet? No, well in that case, keep reading!

On most days, organizations such as Women in Engineering seem overly feminist. As a woman in engineering, I often get tired of the number of times I'm singled out for choosing a career that is supposedly more difficult because of my gender. When, in my English electives, the topic turns to “the author's portrayal of women in yadayadayada,” I zone out. And when I get asked (yet again) about the ratio of men to women in my program, it's tempting to roll my eyes. And yet, on certain, defining days, suddenly all those posters, scholarships, and special conferences for women make sense.

Let's start with those jokes - the ones so insignificant and small that, most days, I don't notice them unless their authors decide to pack a real punch behind them. On most days, I don't even miss a beat and my

life goes on. It's the days where I'm already feeling the overwhelming stress of all those midterms, assignments, and projects and one of my classmates decides to throw a jibe. Imagine if, on top of feeling like you'd just been punched in the gut, your very logical brain decides to land an additional metaphorical upper-cut to your jaw by reminding you, that you just do not belong here because you will never succeed. Don't get me wrong, I love my classmates most of the time, and as a soon to be graduated student, I will miss their presence in my life but they are not always helpful when trying to remind myself that I do belong here. All those little jokes that take a stab at people for their gender, weight, sexual orientation, and political views need to stop. So start thinking before you speak, and remember that rule we were told in kindergarten, “if you don't have anything nice to say, just don't say it.” I'll make exceptions for anything that is positive or helpful criticism.

The jokes are mostly harmless and I understand the sentiment behind them is harmless so I'm willing to take them. Let's pull up another example: I was presenting in a group which, aside from myself, constituted entirely of male students. At the end of the presentation, the prof asked questions. Typical right? Yet over the course of the questioning period, not a single question was directed at me. Even when all the other group members were being given a stab at answering, I was being skipped. Most people would jump for joy at not coming under the scrutiny of the prof. In this case, I specifically knew the answer to some of these questions and instead had to

cringe while my group members answered them wrong. I had studied and worked hard for this presentation and yet it felt like my grade was plummeting because my prof was refusing to address any his questions to me. I shrugged it off. Maybe he thought that I'd already talked too much (not completely unlikely), or that I'd already shown enough of an understanding of the material.

My last example, is perhaps the most significant. Like almost everyone reading this paper, I applied to a co-op job on JobMine. I got an interview. The interview got moved, then cancelled. Why? Because I am a girl; the job was in Abu Dhabi, where they couldn't provide residence for female students. It's a reasonable explanation right? Would the job have changed my life? Probably not. Would it have been an awesome learning opportunity? Definitely. Most of the top positions in any large company require you to move. Senior management roles are only given to people who have been to multiple sites for the company. On a co-op level, this probably has not impeded my career path but how many other times am I going to be restricted from pursuing jobs just because of my gender?

Yes, it would have been a huge challenge (close to impossible) to find a place to live as a single female in Abu Dhabi but was that choice even offered to me? The biggest impediment to my career as an engineer has not necessarily been the open gender discrimination that was obvious in that last example; it has been the well-meaning advice of people who just want to look out for me. Advice guarding against working for small companies because of sexual

harassment, or avoiding certain locations because they are unsafe for women mean no harm. However comments like those prevent me from pursuing many engineering jobs in Canada. And don't even get me started on the “but you'll never be able to start a family if you take that job!” Based on the well known idiom, it takes TWO to tango so I'm sure all of the young men in my class are also thinking about passing on their brilliant genes. So stop it! Instead of limiting my opportunities, give me the resources I will need to pursue them. Show me how to report sexual discrimination and how to defend myself if that's what you think is necessary. Or if you're lazy, donate to organizations like Women in Engineering, WiSTEM or WISE because they will organize workshops to give me the tools and support I need, even in cases where you can't.

You (based on the fact that you are reading this), are probably part of the next generation of engineers. You are also my classmates, my future colleagues, my clients, the person who could be hiring me for my next job, and my potential future boss. So next time you interact with me, think about what you are doing. Would you judge my resume differently if my name was Kevin instead of Kate? Next time you are judging someone, stop and think for a moment, is the person's skin colour, gender, sexual orientation, mother tongue, affecting the way you assess their capabilities? Is it stopping you from letting him or her undertake a difficult project or a leadership role? And is it because of those irrelevant traits that you are giving them more restrictions?

A Deep Rooted Tradition of Mutilation



CHRISTY ROUALT
3B GEOLOGICAL

Every year, millions of women are stripped of fundamental human rights in the name of tradition and purification. According to the World Health Organization, there are over 125 million girls and women alive today who have been subject to female genital mutilation (FGM). FGM can be the partial to complete removal of the clitoris and labia, the partial closure of the vaginal opening, or harm to the genitalia such as scraping or cauterizing. This culturally rooted barbaric and sexist practice is one of the most widespread forms of gender discrimination in the world. Most of this practice is concentrated in 29 countries in the Middle East and Africa, where it is a common practice and social norm. In a 2013 UNICEF report, approximately 85 percent of girls were found to have been victims of FGM in nine countries including Djibouti, Egypt, Eritrea, Ethiopia, Guinea,

Mali, Sierra Leone, Somalia, and Sudan.

The problem is not restricted by borders, however. In North America and Europe FGM is becoming a massive issue. In Canada, many will send their young daughters abroad to have the procedure. In countries where the procedure has recently become illegal, it is often performed in an unsafe and unsanitary fashion. In Kenya, where FGM is illegal, as of 2011, the issues around unsafe procedures are rampant, suggesting that illegality alone cannot solve the issue. Similar to the illegality of drugs or prostitution, a black market for FGM has emerged. With no control or restrictions, unsanitary surgical instruments, unsafe locations, and untrained operators are the norm.

The procedure is most often performed on girls between infancy and puberty as a means of discouraging a woman in engaging in or enjoying pre-marital sex. FGM in some cultures is associated with preserving innocence and promoting femininity and modesty and keeping a woman pure. These values are deep rooted in many cultures and are often carried with them when migrat-

ing. FGM is considered a cultural tradition in many societies, which is its most common defense. This argument is difficult to use as a relevant defense when children's rights are being breached so severely. Additionally, there are many negative health consequences of FGM both short and long term as outlined by the World Health Organization. It interferes with natural body functions and causes irreparable damage. Short term effects include severe pain, shock, bleeding, and bacterial infection. Long term effects may include recurrent urinary tract infections, cysts, infertility, childbirth complications, psychological damage, and often reparative surgeries. In the case of vaginal sealing or narrowing, reopening and reclosing surgeries for childbirth are necessary.

It should be noted that FGM is in no way comparable to its male counterpart. While male genital mutilations are common practice around the world, they are performed, for the most part, for completely different reasons. Male genital mutilation, most commonly circumcision, has many health benefits and very few negative con-

sequences. That being said, unsafe and brutal genital mutilation is also being performed on men, but to a far lesser scale.

The UN and most individual nations condemn the practice of female genital mutilation but we are far from eradicating the tradition. France has leading legislation on the issue, and has had over 100 prosecutions in the past thirty years. There are many countries, such as the UK, who have created laws to protect against FGM, but very few have been prosecuted. On April 15, 2014, Dr. Dhanoun Dharmasena and Hassan Mohamed will stand before the court for allegedly performing FGM and encouraging FGM, respectively. They will be the UK's first ever prosecution of the issue. The prosecution both raises awareness of the issue that exists around the world and of the progress that has yet to be made.

Even though it seems customary that nations frown upon FGM, it is far from being completely condemned and stopped at an international scale. People of North America and the world must take a stance now to protect female rights and freedom of the body from such a gruesome process.

The Discovery of the Chicken from Hell



ANDREW MCMAHON
3B ENVIRONMENT

66 million year old fossils excavated from a North Dakota Ranch in 1999 have been classified as a new species of dinosaur. The dinosaur was identified from the partial remains of three skeletons collected in North and South Dakota, which together make an almost complete skeleton. The dinosaur has officially been named *Anzu wyliei*, and has been nicknamed the "Chicken from Hell" by scientists. The dinosaur is named after Anzu, a bird demon from Mesopotamian mythology, and *wyliei*, the grandson of a museum trustee. The nickname incorporates the rock layer in which the fossils were found – the Hell Creek Formation – combined with observations like this one from Emma Schachner, a paleontologist of the University of Utah "It would look like a really absurd, stretched out-chicken."

These dinosaurs weighed in at 500 pounds, measured 11 feet in length, and

stood seven feet tall with their head upright. To put things into perspective, that is 1 inch taller and more than twice as heavy as the largest living dinosaur in today's world (Jonas Valanciunas of the Toronto Raptors). The dinosaur had a rounded crest on its head and a strong tail. Its jaws were tipped by a toothless beak and it was probably covered in feathers. In addition to its long limbs, the species was found to sport a stubby tail which was likely framed by a fan of tail feathers. There was no direct evidence found that the ancient animal sported feathers, but because of the fact that the species is so closely related to birds, it was likely covered in feathers similar to those we see today on modern birds. The reason that they were feathered is not completely understood, as its environment was hot so they were not needed for insulation. Some scientists believe that using the aesthetic appeal of feathers for courtship could give reason for this flightless bird relative to sport this feature.

The Anzu bones are the first indication that Oviraptorosaurs also lived in North America in addition to Central and East Asia where most evidence of their exist-

ence comes from.

The Chicken from Hell is among the largest feathered dinosaurs found in North America, and is the largest member of the Oviraptorosaurs family of dinosaurs. Oviraptorosaurs literally translates to "egg thief lizards." This reputation arose when the first fossil of that kind was found on top of a nest of eggs, and paleontologists assumed it was eating them. The same type of fossil was later found in scenarios that suggested that their presence in the nests was in a parental role. It is still believed, however, that based on the shape of the dinosaur's jaws, eggs comprised a part of Anzu's diet, but not the whole thing because dinosaurs only laid eggs at certain times. The dinosaur's jaw shape also suggests it could shear off pieces of plants, and its large curved claws are usually found on animals that grab small prey. Such flexibility in diet could explain why the Oviraptorosaurs were so diverse and successful a species in their time.

These discoveries are important because the Hell Creek site was formed in the last two million years of the cretaceous period, right before dinosaurs were wiped out.

These discoveries dispute the arguments made by some researchers who believe that dinosaurs were already on the decline at this point due to climate change. Hans Sues on the Smithsonian Institute states that the discovery of Anzu further proves the idea that species were still evolving in diverse, flourishing communities during this period. "This is consistent with the idea that a mass extinction was caused by the great asteroid impact 66 million years ago. It's clear that dinosaurs were still quite diverse until the very end," says Dr. Sues.

The Hell Creek Formation is one of the most picked-over areas of the world for dinosaur fossils; Mathew Lamanna of the Carnegie Museum of Natural History commented on the discovery by saying, "The fact that this big, distinctive, very weird-looking animal remained effectively hidden in one of the best-explored set of rocks shows you how much more out there is left to be found."

The three Anzu skeletons currently reside at the Carnegie Museum of Natural History in Pittsburgh, which collaborated with the Smithsonian to identify the new species.



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Waves Detected on Titan's Hydrocarbon Sea

Discovery Marks the First Instance of Waves Detected on Another Celestial Body



CAMERON SOLTYS
1B MECHANICAL

A group of researchers led by planetary scientist Dr Jason Barnes have announced that they have found evidence of waves on Punga Mare, the third largest lake on Saturn's moon Titan. Titan is the second largest moon in the solar system, after Jupiter's moon Ganymede. It is even larger than Mercury, and has an orbit that takes 30 terrestrial years.

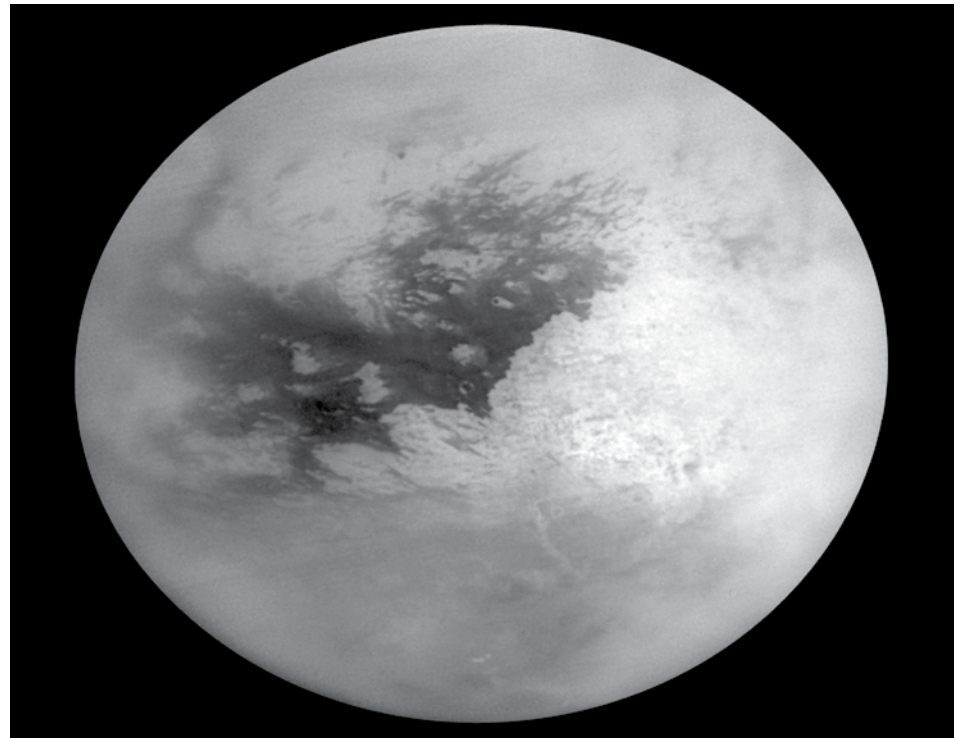
If this report is correct, it will be the first time that waves have been detected anywhere other than Earth. By closely studying images captured in 2012 by the spacecraft Cassini, which is in orbit around Saturn, the researchers identified regions of the lake that did not reflect like a perfect plane would. Further investigation revealed that the light being received by Cassini is similar to what would be expected from two centimeter high waves. Such waves would be produced by a wind of about 0.79 metres per second.

Dr Barnes is quick to point out that these results are not conclusive, but only

very good indicators that there is wave activity on Titan. He suggests, for instance, that mud flats covered by a layer of hydrocarbons could produce a similar observation. Nevertheless, the reported waves offer support to a popular hypothesis that winds in Titan's northern hemisphere undergo a seasonal cycle, and should be picking up as it moves from winter to spring.

Titan is a fascinating and surprisingly Earth-like world. There is no liquid water on its 93 K surface--although some mountains are made of frozen ice rather than rock or dust. But it has all of the rivers, lakes and precipitation of Earth; the only difference is that Titan's liquid is made up of hydrocarbons, primarily methane and ethane. All told, there are some 8 000 cubic kilometres of liquid hydrocarbons on Titan's surface, hundreds of times more than the proven reserves of Earth.

Scientists hope that they will be able to make even more discoveries about Titan in the coming years as its seasons shift. For instance, they are curious to see how much hydrocarbons migrate away from the warmer summer hemisphere, where more evaporation occurs, to the colder winter hemisphere, where more precipi-



NASA/JPL/Space Science Institute

Titan is similar to Earth in many ways, except with hydrocarbon lakes.

tation occurs. Currently, 29 of Titan's 32 major lakes are in the Northern Hemisphere, including Punga Mare. Only one--Ontario Lacus, so named because it is similar in size to Lake Ontario--is located

near the south pole. It is expected that as the northern hemisphere moves towards summer, the lakes of the south side will begin to grow and northern ones shrink as the liquid migrates southward.

Midnight Sun Aims For Solar Car You Can Drive to Work

The New Design, the MS XI, Aims to Look More Like a Common Car than its Predecessors

JONATHAN TANG
1B NANOTECHNOLOGY

Have you seen a solar car drive before? If your only experience with these vehicles comes from looking up at the one hanging in Davis Centre, you might not think they go very fast. In fact, most people are surprised when they're told that Midnight Sun VII, the same one dangling like a fish off a hook in DC, can race along at 120 km/hour. And that was made ten years ago! Solar cars have been capable of driving on the road for a long time now. They continue to improve year after year, and as new technology and techniques become fully developed, solar car designs will become practical for everyday use. It's a stretch to say that they'll become fully viable for the market in the next few decades, but unless the sun gets fed up with us and floats far away to another galaxy, it's very possible consumer solar vehicles will become a reality at some point in this century. Don't believe me? Then you should visit the Midnight Sun Solar Rayce Car Team in E5 and check out what they're doing.

For the past twenty-five years, Midnight Sun has been designing, building, and racing solar cars for competitions around the world. They are a student team comprised entirely of undergraduates in multiple faculties and departments, working together to push the limits of solar energy and show people how viable it can be. The team has since built ten solar race cars and won numerous awards along the way, including a Guinness World Record certificate for breaking the then world record of the longest journey travelled by a solar vehicle--over 15 000 km travelled in a month! You might be wondering how they're going to top that, if it's even possible. Fortunately, the team doesn't seem daunted by this challenge. In fact, they are very hard at work right now preparing for the next three years of races, parades, and elementary school visits. Why? Because Midnight Sun is releasing a new car!

Introducing MS XI, Midnight Sun's next generation solar car! The team designed it to be more practical and familiar than a traditional solar vehicle. Will it drive like the car you keep borrowing from your parents? Yep. It has

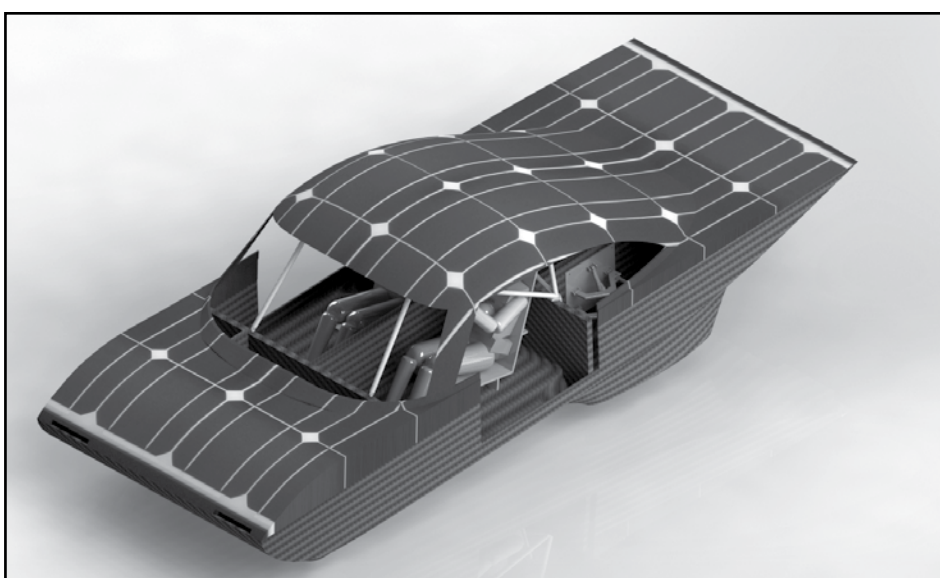
four wheels and you steer it sitting from the left. There's also a passenger seat so your friends can bug you to drive them everywhere. And if you're one of those people, you can lock yourself out of the car because MS XI has traditional car doors. As well, it is just as road worthy as their previous vehicles, cruising easily at 100 km/h. It also looks more similar to an average consumer car instead of the spaceship/skateboard hybrid they typically are. MS XI is a glimpse of the future, a demonstration that shows people how commercial solar vehicles might look and operate when they're finally available to consumers. To many on the team, it is the precursor for bigger and even more exciting things to come.

"The ultimate goal is to make a fully practical, marketable solar vehicle," says Aby Mahmoud, the Project Manager of Midnight Sun. "Performance-wise, solar cars have been ready for the road for a while now," she continues, "The next challenge is to package it all in a way that is familiar, pleasing to the eye, affordable, and practical. MS XI is our first step towards that." There's a long journey ahead of them. The team admits

that this is the first time they're undertaking such a challenging project, and that building the eleventh car is only the beginning. However, with over 200 members working together from almost every department and program on campus, Midnight Sun is confident that their solar car projects will revolutionize energy consumption and transportation in the world. This isn't just talk either; they're going to prove it next year in May as they tour Ontario and show how capable MS XI is.

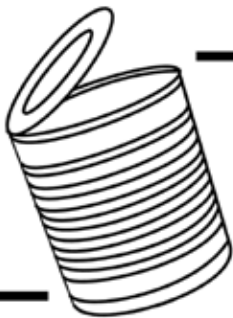
Starting from Ring Road, they will go on a one-week adventure through Ontario as a part of their Fundin' the Sun crowdfunding initiative (bit.ly/fundthesun). They will be visiting schools, malls, science centers, and of course, some of their Indiegogo backers. The team will also be giving rides in MS XI along the way.

If you would like to learn more about Midnight Sun, MS XI, or the tour, the team is more than happy to talk with visitors in E5 1002. You can also find them on Facebook at [uwmidsun](https://www.facebook.com/uwmidsun) and on Twitter @uwmidsun. And who knows, they might take you on a ride in their car!

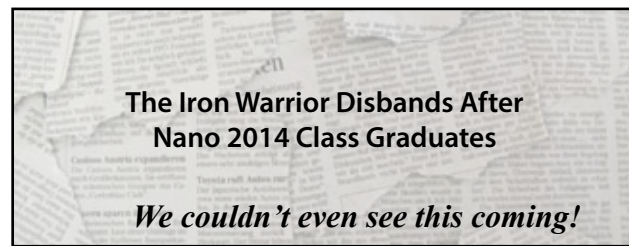


The Midnight Sun's new car, the MS XL, on the left, is modelled to look more like traditional, consumer made cars. On the right is the Midnight Sun Team.

THE TIN SOLDIER



THE ULIMATE GUIDE TO LIVING A HOMELESS LIFE



I used to work in Chicago, at the old Department Store... / A women came in for The Iron Warrior / Well though out opinions she wanted, disappointed she got!

BREAKING NEWS: Iron Warrior Editor-in-Chief Corrupt Dubbed "Loose Cannon" by Advisory Board, EIC Fails to Understand Rule of Law

HUNTER S. THOMPSON
STAFF INVESTIGATOR

After months of investigation, evidence has turned up confirming long standing suspicions that Editor-in-Chief (EIC) Spenser Good has been abusing the powers of his position.

It is no secret that the all-mighty advisory board (the oligarchs of *The Iron Warrior*) were reluctant to appoint Spenser as their figurehead. Spenser has been thought of as a sort of firebrand in the past; he has a penchant for writing controversial articles, even one requiring the newspaper to apologise numerous times. It seems at the time, in the position of a lowly writer, he did not understand that *The Iron Warrior* was a publication that did not promote freedom of speech and freedom of the press, and instead the oligarchs choose "political correctness" over freedom of expression.

Despite that early gaffe, Spenser was still appointed EIC. In the second issue he was going to publish an article that did not sit well with the advisory board and was subsequently pulled. This was what prompted the secret investigation. That investigation turned up numerous implications that corruption is running rampant throughout *The Iron Warrior*.

An initial investigation into the budget shows that \$20 a week is assigned to food during the meeting. But is this \$20 used in its entirety? The simple answer is no. Most meetings have some cookies and pop but definitely not \$20 worth. Last week's meeting didn't even have any snacks! A careful examination of the C&D expense book shows numerous expenses to an item costing 55 cents. This price doesn't correlate with pop or cookies so what could it be? Well, the investigation unit trailed Spenser for two weeks and lo and behold: Spenser Good has an addiction to Peppermint Tea. Every day he buys one or two cups of the stuff. And how much does tea cost at the C&D? 55 cents! Clearly Spenser has been using *The Iron Warrior* snack budget on himself. Who knows what else he has expensed for his personal consumption. It's fairly easy to hide a few extra cookies in the expenses that are indiscernible from cookies used in the meetings



Rufus, the Naked Mole-Rat

This is what a smooth criminal looks like

The investigation also turned up other signs of corruption. Last year *The Iron Warrior* ordered three monitors for use in the meeting room. Well if you were to walk into the meeting room right now, you would see only one new monitor. So where did the other three go? Well, who's one of the only people to have keys to the room? That's right, it's Mr. Good. Although the investigation never turned up any hard evidence he stole them, we think the implications are pretty clear.

When you walk into the room to check out the monitors, why don't you have a look around and see all the power tools and hardware lying around. It seems Spenser has been using the office as a personal work shop in what has been termed "a gross misuse of *Iron Warrior* resources." The room is for *Iron Warrior* purposes only, using it for anything else (including hooking up on the couches) is abusing EIC powers.

Also, it would be advisable to stay away from *The Iron Warrior* mailing list. Despite numerous requests by past staffers, some of who have graduated long ago, Spenser has refused to remove anyone from the over 500 recipient mailing list.

When asked to comment on these allegations Mr. Good had to say this: "These allegations are purely fantastical. I've done great things for the paper. Sure, I love peppermint tea more than life itself but that doesn't mean I've been charging *The Iron Warrior* for it. Usually I just borrow money from my friends and never pay it back. Ask any of them and they'll back me up." Upon further investigation this statement proved to be true.

When pressed about the mailing list he had this to say: "Hey, I'm a busy guy. If I responded to every one of the at least 15 emails a day asking to be removed from the list, I wouldn't have time to screw-up the crossword every week. They should

just mark me as spam and be done with it."

Upon the completion of the investigation, the advisory board have stated: "Mr. Good is a loose cannon. He has taken control of the paper and does what he wants with it. The paper seems to becoming more like the Metro with the amount of advertising in it. He also had a PCP where the point and counterpoint were written by the same person! That's pretty shady to me. We need to dispose of him and appoint a new EIC who will listen to us and do as commanded."

The future of *The Iron Warrior* seems uncertain for the moment. A tribunal is being setup that will examine and pass judgement on the charges against Spenser. So while this controversy runs its course I'd like to remind the readers that by choosing to read *The Tin Soldier* they are choosing an uncorrupt, honest, ethical and truthful newspaper. The same can't be said for that rag called *The Iron Warrior*.

The struggles of being a comic artist

KYLE POHL FAN CLUB
3B J'ADORE



Why You (Yes, You!) Should Hire Me



Only someone desperate would write a 1700 word plug begging for a job, right? Wrong. I am not desperate, I am just picky. At least, that's what I tell myself, and my friends, and my family... and anybody who is wondering how a highly qualified (for those of you wondering) 3B Mechanical Engineering student entering his final work term is still unemployed as we enter April. Never mind that most first years I know have a job already. They just have lower standards, and expect lower pay, and are not overqualified for all the jobs that I was turned down for. Plus, I really am not trying that hard, because it's my sixth work term and I have the five credits, so really this job is just for shits and gigs, right? Right. Also, if I was seriously desperate, then why would I miss two interviews? If I really cared, I would've showed up, right? It's not that I have terrible organizational skills or that I am overwhelmed with course work and being (the highly esteemed) Editor-in-Chief of this (highly esteemed) newspaper. I am in total control, and any employer would be damned foolish not to hire me. In fact, the only reason I am remotely trying to obtain employment this term is so that I can afford to travel the world after I graduate and become a more sophisticated person (thanks for the advice, Edward Blake and Wade Wilson). So, in the interest of obtaining the funds to become a better person (I know, it's hard to believe I could become better) I will convince you (yes, you) why you (yes, you) should hire me (yes, me, the (highly esteemed) Editor of this (highly esteemed) newspaper.

1. I rarely take bathroom breaks

For those of you who know me, I rarely need to waste time in the washroom. With the help of immodium, lots of fibre and a diet consisting largely of store-bought frozen dumplings, pierogies (which I can no longer eat thanks to a bout with food poisoning from expired bacon (which usually go very well with pierogies). Never, ever, ever say YOLO to expired bacon; you and your roommates will grow tired of the endless, deafening vomiting that you will endure all day long, (thanks Andrew McMahon, what a dick) and reheating food that my (wonderful) mother gives me, I only have to give in to bowel movements once or twice a week (thanks Michael Laanvere for teaching me so well), so when that ever-so-important project is approaching the deadline, I, your faithful employee, will not have to waste time pooping instead of working. And if you want me to poop less, I can improve!

2. I am always, always calm

Want a guy who is cool under pressure? Who never freaks out? Who is, as they say in Eastern cultures that I will surely learn about when I travel the world with the money that you pay me for being so calm and rarely pooping, always in a state of Zen? Well then,

look no further, my respected potential employer. My tendency towards calm and even-keeledness is notorious amongst all those who know me. I am the guy who learnt all of Statistics in one day, having only thrown one lamp at the wall all day (I did that on purpose so I could wake up my roommates and force them to also learn Statistics in one day, because there is no other way to learn that course, am I right? I hope Control Systems works the same way, or me and all of my classmates are screwed). I am infamous for my ability to maintain my calm, even when it is approaching 1 pm on a Sunday and I still have to write half of The Tin Soldier while my (second) best layout editor (I am talking about Krishna Iyer) spends the afternoon building a computer that I will never use (also for a guy who says he used to build computers for a job, he is pretty damned slow).

3. I never, ever forget anything (okay, except the occasional interview...or two)

If you want a man who never forgets anything, I am that man. I only forget about interviews because I don't really want a job that badly, okay? Then why hire me, you may ask? Well, you should hire me because I am so damned good that even my half-assed, uncommitted self is better than all of the other unemployed chumps you have to choose from (I am talking about you, my fellow classmates (specifically Paul Desjardins, if you hire him all he will do is play poker and talk about how much better Alberta is than British Columbia (see last issue) and honestly, he isn't even talking about Banff or Jasper, he is talking about Fort McMurray. The sun shines for like half an hour a day there for a whole month a year. Sorry Paul, but Vancouver wins this battle by a long shot, even if you did win article of the issue last week. Please don't kick my ass). But yes, I never forget anything...except when I don't care, and when I don't care, I am still better than everybody else.

4. I am humble

Except when I don't care, then you can go to hell.

5. I am really good at hands on work

We have to build a gravity powered car for our third year project based course, ME 380, and most of the time (like 40 percent) I can even tell which end of our car is the front, and which is end is the back. And the results show. We had a construction check the other day, and our car was only 50 percent overweight! And only some of the wood we used to build the car was split. Also, we managed to prove that 3D printed plastic and a drill press do not go well together. Not bad for four half-drunken (okay, one guy was sober) guys operating power tools the evening before the deliverable is due, right?

6. I never procrastinate

Except when it comes to things that I don't care about, like my design project, or my *Tin Soldier* editorial, or Statistics, or important

deadlines at work (I sure hope my copy editors catch that). Sometimes, I procrastinate when I have to poop, only occasionally resulting in disaster (no, don't worry, that hasn't happened for years). And when on that rare occasion when I do procrastinate, I am always calm when the time comes that I can no longer procrastinate (except when it comes to Statistics and lamps).

7. I am the (highly esteemed)Editor-in-Chief

'Nuff said

8. I am not a racist

You know that new category they added on the work term evaluations about promoting diversity in the workplace? I only once ever got less than Not Applicable on that category. And that time everyone was just being a little too sensitive, okay? I mean have you ever heard the one about the Jew and the Muslim that walk into a bar? And on to my next point.

9. I am hilarious

I mean come on, just read this article, I'm sure it has you in stitches. And if you don't think it's funny, well then f*** you.

10. I am open to constructive criticism

Unless you don't think this article is funny, then read above.

11. I am a Man's Man

Any man who coined the term 'Man's Man' has to be one himself, right? Yeah, I coined that term, or at the very least popularized it. If you need to be explained what it means, well then, you clearly are not one.

12. I never run out of reasons for why you should hire me

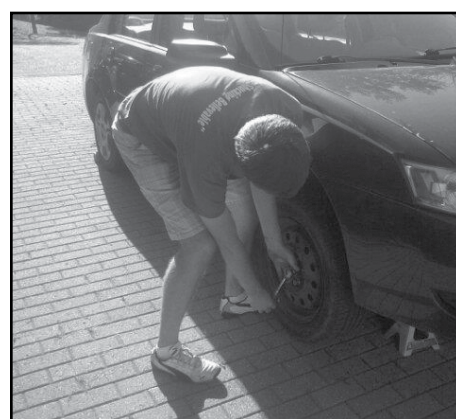
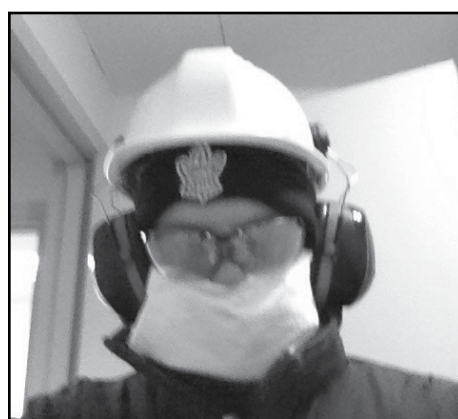
Except after we reach reason 11 and I still have another 400 words to write, I really hope I catch a second wind here.

13. My favorite video game is the original Super Smash Bros.

Honestly, this is the greatest video game of all time. If this game does not elicit emotions of rage, sheer happiness, and increase camaraderie amongst those playing, then read the last two words of reason 9. I play as Donkey Kong because he emulates me so well (he is strong, powerful, and I also bet he is the best of all the characters at building gravity powered cars). If this counts as a second wind, I really hope we don't get to a third.

14. I am going to run Around the Bay in a year, and I am going to be faster than all of my roommates (except the one who is actually in decent shape, he might beat me)

In conclusion, I seriously hope nobody who is looking for a coop student this summer ever reads this. If they do, for the record, I am not an arrogant asshole, and I actually do poop a lot. I hope this article got at least one cheap laugh, if not then go back to number 9 again.



From left to right: I can have fun, work hard and am good with tools. Why not hire me?

THE TIN SOLDIER

Android Fanboys Need Not Apply

The Loose Cannon
Need I Be Named?/The 'S' in SCAB

Former Assistant to the Editor
Jacob Terry

My Partner(s) in Crime
The Soulless Ginger
The Heartbreaking Future EIC

Lovely Layers Out
Future Nobel Winning Scientist
You Mad Bro?
Erino or Oroni?
Curly Haired One

Wordpress Wizardz
Horsecock
The Big Kahuna/The 'A' in SCAB
The 'C' in SCAB
Former Mgt Now a Softy
Our Drunken Correspondent

What Better Way to Take Up Space?

Donkey Kong
Pikachu
Captain Falcon
Yoshi
Ness
Mario
Luigi
Jigglypuff
Link
Samus
Kirby
Fox

Real Talker
Crossword Artist

The Many Nicknames of Jon Biskey

Biskers
Bisk
Lobster Bisque
Biskit
Limp Biskit
Flathead
Jon 'Stop Calling Me Flathead' Biskey
Jon 'Call Me Mr. Kool' Biskey
Mr. Kool
Jon 'I Miss Flathead' Biskey
Flathead

Other Contributors

The Helix Fossil
^ Praise it
^ Praise it more
Jay Leno
Bird Jesus
The Foz

The Tin Soldier is not a forum for thought-provoking and informative articles, and has no association whatsoever with the Society of the Travelling Pants. Views expressed in *The Tin Soldier* are not those of the authors and do not necessarily reflect the opinions of Chuck Norris.

The Tin Soldier encourages submissions from students, faculty and members of the Non-Existent Action Committee. Submissions should reflect the concerns and intellectual standards of the The Society of the Travelling Pants in general. The author's name and phone number should be included, except if they are non-existent. This information may or may not be posted on our website.

All submissions, unless otherwise stated, become the property of *The Tin Soldier*, which reserves the right to refuse publication of material which it deems too suitable. However we're so desperate for content that we'll likely take it (but we might just send it to *Imprint*). *The Tin Soldier* also reserves the right to edit grammar, spelling and text that do not meet university standards, but engineers suck at english so it's a low standard.

Mail should be addressed to PJ Katie, c/o YTV Canada, P.O.Box 7500, Paris, Ontario, N2L 3W7. We do not currently have a phone, however you may redirect all inquiries to Kickoff's, as we're likely there. We don't have a fax number as no one uses faxes anymore.

UW Alternative Fuels Team Finds a New Source of Power: Gravity



The University of Waterloo Alternative Fuels Team (UWAF) have shifted their focus from fuel cells to a new source of energy that is all around us: gravity.

“See, if we could utilize gravity, our fuel would be free of carbon impact, low technology, and always available.”, said a team spokesperson who wishes to remain anonymous, presumably too fearful of punishment by the team for revealing their newfound technology. He continued to say, “I cannot believe people have not thought of this before, gravity has been around for decades.”

Although confidential, *The Tin Soldier* Investigative Bureau managed to obtain leaked photos of UWAF’s new gravity

powered car. Sleek, efficient, and aesthetically pleasing, the new car is expected to reach top speeds close to that of an excited sloth, while being able to brake faster than a dog on skates. When asked about why the car only has three wheels, the unnamed spokesperson responded rhetorically with, “The better question is, why do most cars have four wheels?” Having had his mind blown, this Tin Soldier correspondent could only look upon this three-wheeled masterpiece in awe.

As for how the vehicle works, it was difficult for the spokesperson to respond as it had not yet been tested. “You see, we don’t plan to test our car until directly before competition because we fear the vehicle may not withstand a multitude of tests.”, said the UWAF rep. When asked how they expect their vehicle to stand up against full sized vehicles donated to competing teams the representative told me to “f*** off.” Upon further investigation, it

became clear that this new UWAF design greatly resembled vehicles being built by 3B Mechanicals for their project based course, ME 380, just of much higher quality.

When asked if UWAF envisioned a future of vehicles being powered purely by gravity, the team spokesperson answered with the response “Well, see we have the downhill part of travel pretty much figured out. It is the uphill part that is the challenge. If people ever want to travel against a slight grade, then this car becomes commercially unviable. If we can figure out this challenge, our vehicle will be the envy of the industry.”

Despite challenges in their way, *The Tin Soldier* is convinced that they have uncovered the future of the automotive industry in this ingenious gravity powered car. The University of Waterloo should be proud of yet another innovation. Behold the glory of the gravity powered car.



Behold, the future of alternatively fueled vehicles.

2014 Nobel Peace Prize awarded to Vladimir Putin



Yesterday, in a move that surprised no one, the Norwegian Nobel Committee announced the winner of the prestigious Nobel Peace Prize. The Committee faced a tough decision, as there were many strong contenders this year, including Ugandan President-for-Life Yoweri Museveni for his crusade against homosexuality, United States President Barack Obama for his tireless efforts in support of global surveillance, Malaysia Airlines chairman Tan Sri Md Nor Yusof for managing to lose an entire plane, and finally Silvio Berlusconi, for somehow managing to avoid staining headlines with his name last year.

All of these people put up strong showings in the name of fraternity, peace and understanding, yet at the end of the day, there was only one real choice for

the prize this year. The Nobel Committee awarded the prize to the Right Honourable Vladimir Putin this year for the progress he has made in promoting peace in Eastern Europe, particularly in the Ukraine. After all, how can two countries have conflicts if one of them no longer exists? Putin is probably a huge fan of comics from the imperialist capitalist west, as his geopolitical strategy of unifying the world by making the entire Western Hemisphere hate him is remarkably similar to Ozymandias’ alien invasion hoax from Watchmen. In fact, Alan Moore is already suing for copyright infringement.

In his acceptance speech, Putin thanked “the KGB for being there during [his] formative years, and Dmitriy Medvedev for holding down the fort while [he] was ‘gone.’” Putin formed his fingers into bunny ears on his head when he got to the word “gone.” The rest of the speech contained some mixture of the phrases “Russia stronk [sic],” “Soviet rise,” “Western imperialist/capitalist pigs/dogs,” and

“Glorious Russian victory in World War III.” He also thanked the Norwegian Nobel Committee for the complimentary tea and biscuits. I won’t lie; I fell asleep halfway through listening to the speech.

On the Nobel Prize website, there is a character bio for the laureates. On Putin’s, it lists his hobbies as “glorifying Mother Russia, doing manly things like jet flying and shirtless fishing, and long walks on the beach.” It also lists his stated age as 92.

Reaction to Putin’s award has been mixed. President Obama could not understand how the prize could be awarded to someone who was “literally Hitler,” while Chinese general secretary Xi Jinping’s only response was a mumble that sounded like the word money being repeated over and over again. Roger Ebert’s ghost wrote that the character of Putin was “well written, and very consistent in his beliefs and ideals. However that consistency is a double-edged sword, as this can also make Putin seem boring and repetitive at times, a little too similar



The Russian President Vladimir Putin at his cuddliest

to the old Soviet dictators that his character tries so successfully to emulate.”

Big-Ass Walls Gonna Stop Tornadoes For Sure



The residents of Tornado Alley in the Midwest United States could be seeing a lot less tornadoes if physicist Rongjia Tao from the University of Philadelphia Freedom has his way. His proposal suggests that the building of three absolutely massive as heck walls would stop air currents from doing the ‘woosh’ thing where they bump into each other and get all mad. As we all know, mad air currents quickly begin to vortex their anger into the massive twisters that we all love and fear. The walls would act like pseudo-mountains to keep the hormonal air currents away from each other, also playing soothing music every twenty minutes past the hour in a further attempt to create a calming environment.

At the moment, preliminary designs for the three walls have begun circulating the internet, including orientations resembling a rejected Tetris piece, the Triforce of Power, an emu, and Tao’s personal favourite, the three-circle-bullseye. When

asked about his preference for the design, Tao pointed out the most obvious benefit of only having to buy one type of rounded brick per wall, but also noted that since the walls were “totes gonna be seen from space” that he wanted to make sure that the aliens knew where they were supposed to land/attack.

The Department of Defence has already expressed concerns regarding the walls as a potential target for terrorist attacks and other bad mojo. As a result, they have recommended the creation of a military force tasked only with the constant guarding of the big-ass walls. The General Lord Commander Olivier Jean Snow Erwin Pentecost has recommended either fitting the guards with incredibly complicated gear that would allow them to “fly through the sky like Spiderman”, producing gigantic robots that could punch through the walls before anyone could destroy them, or just building the wall itself out of guns that would shoot anyone with non-patriotic thoughts. Tao has openly criticized the ideas, insisting that ten or twenty farmers with arrows or something would be plenty in terms of security.

With public approval for the new walls

rising (pun only minority intended), fanclubs and other legions of support have already begun forming across the nation. With no official names for the walls currently confirmed, the public have taken up a few terms to refer to the ambitious project, including “The Great Wall of America”, “Jericho Pt. II: The Reckoning”, “Mother Maria”, and “Berlin’s Sexy Other Half”.

Statistics Canada — who was bored enough to actually crunch and punch some numbers — said that big walls had an approximate 95 percent failure rate in pop culture and so advised heavily against any forms of written or filmed media regarding the wall. They also sent a bouquet of hyacinths and some cheap champagne to knock against the wall once it was finished.

However, there has already been some animosity towards the wall from rebellious factions. Despite the fact that construction on the walls has not yet begun, already three phallic drawings have appeared in the dirt and bean fields where the walls are expected to be built, although one could just be a weird crop circle. Other attempts at destroying the walls have all failed due to the fact that



Tornadoes be cray!

the walls have not been built yet. This reporter would love to tell you that this is entirely a work of satire, but unfortunately Rongjia Tao is a real physicist who really is wanting to build big walls to stop tornadoes. Don’t do drugs, kids.

2014 IW Awards



UW AWARDS COMMITTEE
1B JUDGEMENTAL

Welcome to the 2014 IW awards, the most anticipated event of the engineering season. Here, we highlight the key events.

In what is probably the most predictable award of the night Kate (4B Nano Chem) received the Editor's Choice award for the 14th semester in a row, this will be the final time she graciously accepts the award before graduating. All previous editors got together and unanimously agreed that they would like to thank Kate for her constant support at their darkest times, for being a pillar of support and a shoulder to cry on. They would also like to thank Ioana (4B Nano), Kate's partner in crime, for her assistance with endless shenanigans.

Most handsome newspaper correspondent is in great contention as both Edward Blake and Wade Wilson (4Z Handsomeness and 4Z Handsomer) seem to feel with utter conviction that the other one has made despicable clothing choices. A comparison of selfies from the last eight months was inconclusive. However the IW awards committee did comment that "There were enough selfies for the committee to learn

the rate of facial hair growth for each man."

One thing that is not in contention is that for life advice and stories of interesting (and probably more than a little dangerous) adventures Roy Lee (4B Chem Nano) takes the hat. If you want to compare getting into a mountain bike accident with a motorcycle accident he's your guy. If you want to know where to get cheap, if a little sketchy, meat he's your guy. If you want to know how Ontario weather compares to Calgary winters he has your back. (Is our weather still warmer Roy? IS IT?) He is a fountain of wisdom and we wish him the best!

The award for abstract musical taste goes to Krishna (4B Nano). Do you want some advice on eclectic, loud music? Yes, yes you do. Oh, you don't like that? You Mad Bro?!? Well you'll like this, let's turn it up; it can only make it better! Oh, okay... He'll be jamming over there with his head phones on. When you discover that listening to Krishna's music has caused you to develop serious issues Anjali (4B Nano) can give you advice. We would like to give her the award for best health and wellness column.

There was something weird with the final award, so we sent it back to be fixed. Dushanth has been voluntold to go get it, he'll be back soon-ish. On that note, we need him to write a couple articles.

Saint Patrick's Day

A First-hand Account



DRUNKEN FROSH
17B ALCOHOLISM

This article is supposed to be about yesterday's Saint Patrick's day festivities. As a diligent reporter, I grabbed my notepad and a pen, and went out to see what's what. I arrived at noon and got right down to business. Unfortunately, only the first page of my notes is fully legible. I suspect that the other pages wouldn't be readable even if they weren't saturated with beer. Regrettably, I also have no memories of last night.

My cellphone camera has several dozen new photos on it. Only one of them isn't either mostly obscured by my thumb or

simply black. It's a selfie. I don't know the person who took it. She and her boyfriend do look like a cute couple though. Thinking back on it now, I do remember lending my phone to someone who asked if they could borrow it to take a picture. I also remember that making perfect sense.

Got a text. "Hey you. Do'n smtin l8r?" Area code 907. Alaska. I got another one before I could respond; "Sry wrong psn." Based on how everyone is arranged in my contact list, the last person I texted was my mother. It was a grammatically correct, perfectly coherent message about how I was really sorry that I couldn't make it home for her birthday and I would be sure to make it up to her. Which was all true. But last I remember, I hadn't gotten around to telling her.

Here You Go, KYLE!



Why are computer screens so bright? It seems like such a waste of energy. This headache is killing me.

There's a number in my notepad. The handwriting isn't mine. I'm not sure how I got it; the elderly Indian woman who picked up didn't seem to have any sort of hangover at all. In any case, she confided in me that she thinks clubbing is more of a "young person's game." Very unfortunate.

I have resorted to scanning through my friends' Facebook pages for pictures of me. Its long, tiresome work, and has so far yielded only 3 images. None of them are of me, by the way. But they all feature my green "Kiss me I'm Irish" shirt. I recog-

nized it with the help of something I managed to decipher from my notepad: "There bots of glitter around. Some orlando and black and put on me. I'm Halloween."

It now seems clear to me that I will not be able to figure anything out before the deadline for this issue. Upon re-examining my assignment, I realized that it did not specifically say "Report on Saint Patrick's Day." Rather, it says to "report on your experiences." With only one hour until layout starts, the best adventure I have is trying to figure out this God-damned mess. It may not be what the editor wanted. But in my current state, he should be glad he got anything at all.

"Why you mad at me bro?"



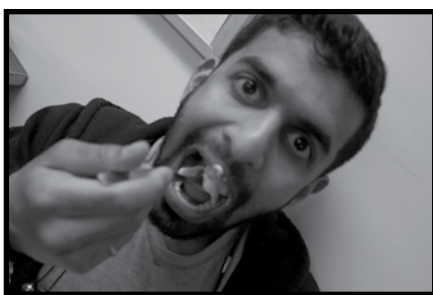
"Because they won't pave that damned path in the DC Green"
Spenserino "Give Me Peppermint Tea" Gooderoni



"Because you keep asking me about my personal life."
Learino "the Heartbreaker" Kristufekeroni



"Because I read Caz in Kazakhstan"
Alexerino "I Hate Caz" Leeeroni



*"Where the f*** are the monitors???"*
Krishnarino "Honourary EIC" Iyeroni



"Because you never listen(erino)."
Lucasarino "I Have No Soul" Hudsoneroni



"I have no disc drive, I feel so empty. Thanks Krishna"
1011100arino "10101011" 000eroni

Dining on the Grand River: A Review of Cambridge Mill

A Scenic Setting, Kind Service, and Good Food Makes Up for the Price at this Riverside Restaurant



SABRINA LI
3B ENVIRONMENTAL

THE WARRIOR FOOD REVIEW

After experiencing some crazy weather in the past few months, it's finally starting to look a little like Spring. It's still too early for picnics, however there are always opportunities to dine under a scenic setting. If you are willing to splurge and travel a little outside of Waterloo, you'll be in for a treat at Cambridge Mill. Located in Cam-

bridge, Cambridge Mill is a great place for brunches and dinners on the waterfront of the Grand River. First impressions: clean, modern, and attentive staff. There are two dining rooms; I was seated in the one with ceiling-tall glass windows. What's nice about this room is that you get to see a mini waterfall on the Grand River right next to where you are sitting. Most of the water in the river is still frozen but the water around the mill isn't.

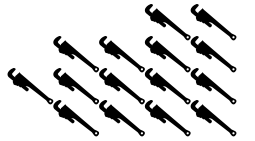
Upon seating, I was served complimentary bread with butter. For starters, I ordered Seared Digby Scallops and Steamed Mussels. The scallops were fresh and cooked tenderly. I enjoyed the almonds

and cannellini beans served to compliment the scallops; it was a great addition. The steamed mussels were served with garlic, tomatoes, and bacon. It was interesting how the bacon-mussel combination worked with diced tomatoes. Overall the starters were light and enjoyable. For my main course, I ordered the daily pasta; it was ricciutelli pasta with mushrooms, pinenuts, and a poached egg. The serving was well portioned and plated beautifully. The sauce was light and did not overpower the taste of the ricciutelli and veggies. I think a little more seasoning would have helped to bring out more of the flavour. My waitress was very polite and attentive al-

though it was a very busy evening. Since it was a special occasion, I was offered complimentary champagne at the end. Overall, a very enjoyable experience if you are willing to spend a bit more. Fortunately at Cambridge Mill, you get what you pay for.

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Scientists Find Further Evidence Supporting Big Bang

A Light Wave Discovered by Researchers Gives Further Support to the Origin of Our Existence



CAMERON SOLTYS
1B MECHANICAL

On March 17, 2014, scientists from a collaboration of several universities and organizations announced that they had found evidence supporting the Big Bang theory as the origin of our universe. This evidence was found in gravitational waves dating back to the beginning of the universe itself.

The premise of the Big Bang theory relies on one statement: our universe is expanding. There is observational evidence indicating that this is true, such as redshift, and the specific distribution of light sources such as gamma-ray bursts

and supernovae. Therefore if the universe is expanding, as we go back in time the universe must get smaller and smaller. If this is taken to its logical conclusion, then at the very beginning the universe must have taken up barely any space at all. However, if the laws of conservation of mass and conservation of energy are to be maintained, then this small space must have held the entire mass and energy of the universe.

The Big Bang theory at its core stipulates that the universe began as a singularity of infinite matter, density and temperature. Then, approximately 13.8 billion years ago, the universe suddenly began to expand at an extremely rapid pace. It has continued to expand ever since, until the present, thus accounting for the origins of our universe.

The Big Bang theory makes a lot of sense given the expansion of the universe, and as a result is widely accepted by the scientific community. However, a crucial piece of the theory remained unproven. Inflation refers to the period just after the beginning of time when the universe was expanding at an unimaginably fast rate. It is key to the Big Bang theory, but because it happened so long ago, and also because it happened in less than a trillionth of a second, there was no observational evidence supporting this, until now.

Researchers from the Harvard-Smithsonian Center for Astrophysics, the University of Minnesota, Stanford University, the California Institute of Technology, and NASA's Jet Propulsion Laboratory have discovered certain light wave patterns that would have been left behind

after the initial inflation period at the beginning of the universe. The researchers spent three years looking for these waves at the South Pole, which was chosen for its dry air and lack of light pollution, which helped in observations.

This is the first time that these waves have been observed by humanity, and also the first evidence we have of the inflation period. Though it's possible that these waves are an entirely different phenomenon, the research team is confident that these light waves do in fact come from the Big Bang. As other researchers come out with their reports on these light wave patterns, a clearer picture will emerge. If this truly is evidence of the inflation period, then it is a historic step forward in our understanding of the origins of our universe.



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Playoffs? We Talking Playoffs?



**RONAUQ
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3B ENVIRONMENTAL

HADFIELD'S HOOPS

It's an open secret. The Toronto Raptors are making the playoffs. Last time the Raptors made the playoffs, Katy Perry just kissed a girl and Bae was calling out all the single ladies. The magic number is five. It's been five years since the Raptors made the playoffs and they need a combination of five Raptor wins or New York Knicks losses in order to clinch a playoff spot. But we aren't just talking about playoffs, we are talking about potential home court advantage.

Sitting at 38-30, Raptors need to take care of business over the next 30 days. In order for the Raptors to secure the third seed, they need to fend off Chicago, Brooklyn and

Washington over the next three weeks. This means winning the Atlantic Division, securing a third seed in the East and maybe, just maybe, winning 12 out of the 14 remaining games to win 50 games for the first time in the history of the franchise. Achieving 50 wins is a tad unrealistic but the boy (Drake) can dream. With five of the remaining games against Atlantic Division foes, Raptors can seal the deal on the Atlantic Division by sweeping those games.

Looking at the remaining schedule, the Raptors have the winnable games against the Atlanta Hawks, the Cleveland Cavaliers, the Boston Celtics (x2), the Orlando Magic, the Milwaukee Bucks (x2), the Philadelphia 76ers, the Detroit Pistons and the New York Knicks (x2). That is 11 games against teams below 500 and in the Eastern Conference. The remaining three are against Houston, Miami, and Indiana. The strength of the remaining schedule is exceptionally weak

and Raptors should comfortably win 10-12 of the games. The Raptors are tied with the Charlotte Bobcats for the easiest schedule remaining in the Eastern Conference, with the average opponent winning 41 percent of their games.

If the Raptors clinch third place, they would be looking at facing an inexperienced Washington Wizards team, which would be an ideal match up for the first round for the similarly inexperienced Raptors. But if Brooklyn slips up and ends up in sixth, this could cause problems for the Raptors. Brooklyn owns the best record in the league since the calendar flipped to 2014 and is currently on a three game winning streak. They are firing on all cylinders and have come together at a perfect time. Facing Brooklyn in the first round could mean an early exit for the Raptors from the playoff dance. The other team Raptors (or any other) fans do not want to see in the first round of playoffs is

the Chicago Bulls. They are a well-oiled machine on defense and make you earn every single point for the whole 48 minutes. Tom Thibodeau expects perfection from his Bulls and they play their hearts out. How far the Raptors go depends on who their opponent is in the first round but the Raptors can go toe to toe with any one of the previously mentioned teams.

This is an exciting time for a Toronto Raptors fan. The playoffs are close and anything can happen. This team has pleasantly surprised everybody and played their hearts out. It is fun to watch them play and this is the type of team that the city can rally behind. Jonas Valanciunas, Amir Johnson, Kyle Lowry, DeMar DeRozan, Terrence Ross the Boss, Patrick Peterson, Chuck Hayes, and Greivis Vasquez have given this city new energy and vibe. Here's to hoping that this article didn't jinx them and that they continue to march on deep into May.

A Look Back on the 2014 Paralympic Games in Sochi



ALLEN CHEN
1B CIVIL

Often overshadowed by Olympic Games held only weeks prior, the Paralympic Games are not to be overlooked. This year, the Paralympics in Sochi were very interesting to follow. The Games debuted on March 7 and concluded on March 16. Like in the Olympic Games, Canada performed exceptionally, coming third in the gold medal count after Germany and Russia, with a total of seven from events such as alpine and cross-country skiing, as well as wheelchair curling. Unfortunately, Canada did not win the gold medal

in sledge hockey, but did successfully attain the bronze medal in a 3-0 game against Norway. This was an improvement from the Vancouver 2010 games, in which Canada did not finish in a medal position at fourth place. The Canadian team was undefeated in the preliminary round but lost to the United States 3-0 in the semifinals before falling to Norway in the bronze medal game.

Several Canadians finished with impressive results. Brian McKeever of Canmore, Alberta won three gold medals in Men's 20 km, 10 km, and 1 km sprint in visually impaired cross-country skiing. This continues an impressive trend of the past Paralympic events since the 2002 games in Salt Lake City, as a McKeever has won at least three medals on every occasion. He is the first Ca-

nadian Winter Paralympian to win 10 gold medals.

16 year old Mac Marcoux of Sault Ste. Marie, Ontario won three medals in the visually impaired alpine skiing events, a gold in the Giant Slalom event and two bronze medals in the Downhill and Super-G events. Marcoux, the youngest member of the Canadian Paralympic team, said after winning gold, "This is a dream come true. It is so surreal, I was nervous at the top. I tried to relax and forget about everything, listen to music, because when you think too much it can mess with your head. It is the best moment of my life. I can't even explain how amazing this is."

Visually impaired skiers have a guide to lead them on the track during the events. The guides win medals along with the athletes.

Brian McKeever's guides were Graham Nishikawa and Erik Carleton. Mac Marcoux's guide was Robin Fémy.

Josh Dueck of Cranbrook, British Columbia won a gold medal in the Men's - Downhill Sitting event and a silver medal in the Super-G Sitting Event. Josh Dueck was chosen to be the flag bearer in the closing ceremonies.

Chris Klebl of Canmore, Alberta won a gold medal in the 10km Cross Country Skiing Sitting event. The Canadian Wheelchair Curling team was victorious over the Russians in the gold medal game by a score of 8-3. The team members were Jim Armstrong, Ina Forrest, Dennis Thiessen, Sonja Gaudet, Mark Ideson, and the coach Joe Rea. The next Winter Paralympic Games are to be held in Pyeongchang, South Korea, in 2018.

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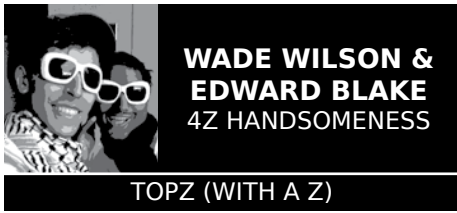
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Top Topz from Topz (With a Z)

We Say Goodbye With Everybody's Favorite Thing: A Best of List!



Dear friends, acquaintances, and people we will soon no longer have to tolerate, we are here today writing the last ever Topz (With a Z) column for *The Iron Warrior* "newspaper." Over the past four years we've had a lot of fun, and guided you through many difficult situations, scenarios, and tribulations. And so for our final endeavour, we will be presenting you with everyone's favourite thing: a best-of article! Yes, this week we will be delivering the tippy-topz of everything. You're probably thinking, "But Wade and Edward! Topz (With a Z) articles are like my children, you can't choose favourites!" To this, we say that's bullshit. Every parent has a favourite child, and if you think otherwise it isn't you. So without further ado, here are our top topz from Topz.

Top Articles of Clothing to Keep you Warm – Scarves

Scarves are pieces of fabric that you tie around your neck. There are different ways to tie a scarf. A scarf can be many different colours: black, grey, red, dark red, blue, green, yellow, orange, violet, purple, indigo, salmon, coral, hot pink, seafoam green, brown, shale, turquoise or mustard.

Top Countries in the World – Laos

In Laos, it is customary when a man is courting a woman, for him to make sexual advances. If the woman responds in kind, the man will put his wee-wee in her hoo-ha and move his hips in a thrusting motion until he releases his seminal fluids into her uterus or fallopian tube to fertilize her ovum.

Top Feelz that Only People Addicted to Garbage Linkbaiting Websites (and their Facebook Friends) Will Understand – That feel that only people desperate to feel like they're a part of a community will understand.

You like that massively popular TV show? I like that massively popular TV show!

Top Places to Study on Campus – B1 Bathroom

Mike, pay close attention to this point. There is a girls' bathroom in B1

with an interior waiting room. This room has nothing in it but a couch. This room has no windows. It locks from the inside. It was built for studying.

Top Ways to be a Gentleman – Use Anachronistic Language

Fact: how you speak will impact how people perceive you. Fact number two: people from generations-gone-by were objectively classier than modern twittering troglodytes. Therefore, we propose elucidating the proletariat to your refinement through the use of classy vernacular. As a general rule of thumb, if you aren't using your online thesaurus at least once per hour, then you are doing it erroneously, old sport! If you keep up with your class, you will thereby be fraught with an immeasurable passel of win. We tip our hats to you, good sirs. And m'ladies, save that ass for a man with class.

Top Ways to Handle Celebrity – Say NO to Drugs

When you're a bigshot bollystyle celebrity drugs become a constant temptation. Just this morning, someone in class offered us an acetaminophen pill, or a "tolly" as it's known on the streets. It's frankly astounding how casual people are about popping a tolly around you once you're famous. They assume you're just another coked out starlet like Meryl Streep or Helen Mirren. Now we're no stranger to wild nights. We've had enough Bacardi Breezers over the years that we have to take off our shoes to count them all. In fact, we even smoked a marijuana cigarette once. But now that we're role models, these days are behind us. Yes, all Wade and Edward need to have a good time are restful sleeps, a healthy diet, and a little morning pick-me-up with a big cup of fresh Colombian cocaine.

Top Ways to Write Right – Inspiration

Popular locations for inspiration in the KW area include the Starbucks at Uni and King., the Starbucks in Uptown, and if you're feeling like trying something new, the Starbucks in downtown Kitchener is the place for you. There you'll find a lot of other inspiring writers, the difference between you and them is that they are being inspired by other writers. Let them inspire you to get inspired by others, individuality is for losers.

Top Ways to Win Friends – Cast the Net

First thing's first: you have to meet people. But where the heck are they? This week, we tried going on safari

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

Top Ways to Succeed in University – Excel in Schoolwork

[This paragraph has been omitted in accordance with uWaterloo Policy 71]

Top Myths about uWaterloo Waterloo Wants to Plaster its Logo with Cheesy Lasers

Seriously, this happened four years ago, and admin unilaterally conceded to the student body. This battle was pretty much won before the oldest students currently on campus were even frosh, and they are the only ones left who were at all associated with effing "waterpew." Myth ... NOT EVEN RELEVANT ANYMORE.

Top Alternative Study Methods – Quantum Physics

As Dinesh D'Souza puts it, for centuries, scientists have slowly scaled the mountain of knowledge only to find the yogis and theologians on the peak that had been there all along. That last conquered ledge is what we know as "quantum physics." For you see, in quantum physics there is a principle known as the "uncertainty principle" which means that everything is uncertain and so really "deterministic sciencism" is a bunch of bunk. Oh sure, there are some Heisendorks who would lead you to believe that this refers only to the uncertainty of measurements, but then why isn't it called the "uncertainty of measurements principle?" Clearly, they should stick to meth. This principle means that at any given moment literally anything is possible, and we can shape that uncertainty using "the observer effect." Once again, we can understand this principle by just reading the name, as taught to us by Deepak Chopra. Yes, the observer effect refers to the effect that observation has

on physical systems at the quantum level. Make no mistake, this doesn't have to do with interference from instrumentation; observers sound like people therefore this has to do with The Secret that consciousness affects physical reality and you can will the universe by thought: kind of like magic or psychic powers ... but physics (which is an anagram of psychics, without the 'c' (because that's for you to see!) Coincidence? Not likely! Duh!). So let the Newtonians waste their time "reading" and "learning" the deterministic truths in textbooks. You can use the powers of quantum theory to will the world to the answers you quantum tunnel from your mind. Albert Einstein metaphysics superposition waveform entangled states Albert Einstein.

Top Future Technologies to Look Forward To – Fire

Destined to revolutionize every aspect of our way of life, the recently announced "fire" from the hacker consortium, Prometheus, is planned to be open source, making it free to use and reproduce. The fire will heat your home, cook your food, and provide light emitting torches (L.E.T.s) for your home even after the sun sets. Speculation exists over threats to release fire early due to a lawsuit filed by Olympus Co. that may delay the release indefinitely. Olympus Co. is not worried about the early release due to their position after surpassing previous industry titans. Furthermore, mention of a new "Pandora project" was hinted at by Olympus Co. CEO Z. Jupiter during a recent press interview. Only time will tell how this quarrel turns out.

Top Things – Batman

Batman is so cool, he could totally beat up your dad. Don't believe it? Batman drives the Batmobile; your dad drives standard. Batman is a billionaire playboy who has most likely slept with Catwoman; your dad slept with your mom (never forget). Batman avoids Joker's intoxicating gas; your dad voluntarily drinks poison and gets mean and calls you a sissy for losing your pee-wee soccer game. Batman beats up criminals; your dad never hit anyone ever! That was a doorknob. Shutup. This point is done.

So as our final goodbye, we'd like to thank all the EICS that censored us, made our jokes less funny, harassed us to submit earlier than three days late, and were in general poop heads. After four years of being handsome and lazy we found the laziest way possible to say goodbye: by plagiarizing ourselves. F*** you. We love you.

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Movies That Should be Adapted as Onstage Musicals



Generally speaking, musicals tend to be more freely expressive than movies. Musical numbers allow characters to break the fourth wall and confess their feelings to the audience, whereas in a movie, their emotional state is treated more delicately, perhaps through facial close-up shots, or lingering frames of expressive body posture. I must say, I definitely prefer the sung heartfelt confession, since it is way less ambiguous and allows the plot to be packed more densely.

Musicals also have the advantage of being more removed from reality than film. Movies strive for gritty reality, even if they're fantasy films. There is no place for song and dance, unless it's a musical movie, a dream sequence (500 Days of Summer), or a drug-fuelled hallucination (Dumbo). And a "serious" movie would never be caught dead using a song as anything other than a plot device or a montage.

Here are five movies that I'd like to see as musical adaptations.

Frozen (2013)

After a childhood accident, Princesses Elsa (Idina Menzel) and Anna (Kristen Bell) are confined to the castle until Elsa can control her emotionally-linked ice powers. But Elsa loses control of her cryomancy on her coronation day, freezing the entire kingdom of Arendelle, and flees into the mountains. Undeterred, Anna sets out to find her sister and thaw the land.

Idina Menzel's performance of show-stopper "Let it go" was sub-par at the Oscars: her voice cracked, she wasn't synced with the backing track, and she

was – dare I say – pitchy? Award-show fans should have a second chance to hear the most mind blowing Disney track in years sung by a diva in sequins during an awards show. We can make that happen by adapting Frozen onstage, and letting it win the Tony Award for Best Musical. Frozen is already a musical to start with, though "Let it go" may eclipse the memory of all other songs in viewer's minds.

The musical elements aside, Frozen is still the best canon Disney film since Atlantis: The Lost Empire. The characters are sympathetic, though the movie is refreshingly plot-driven rather than relying on the idiocies of the protagonists to generate excitement. Kristen Bell is a surprisingly good voice actor, and Idina Menzel is reliably expressive. Also notable is Josh Gad from The Book of Mormon as Olaf, a snowman who likes warm hugs. I am a little bit tired of seeing capital-L-Love as the deus ex machina, but it's a Disney film – that comes with the territory.

One Flew Over the Cuckoo's Nest (1975)

Randle Patrick "Mac" McMurphy (Jack Nicholson) is sentenced to a mental institution as part of his sentence for statutory rape. The ward is ruled by Nurse Ratched (Louise Fletcher) who has reduced the other patients to terrified husks. Pitting himself against Nurse Ratched's authoritarian regime, he becomes a rallying figure for the other inmates.

One Flew Over the Cuckoo's Nest was the second film to sweep the Big Five Oscar categories: Best Director, Best Adapted/Original Screenplay, Best Actor, Best Actress, and Best Picture. On the whole, I found it more depressing than uplifting. However, that doesn't mean that it wouldn't make a good musical. Cabaret, for instance, ends with the rise of the National Socialist Party and the end of free-spirited flapper fun

in Berlin.

McMurphy's introduction of absurdity into the order imposed by Nurse Ratched signals the beginning of Chief's rebirth: returning individualism and the ability of self-determination even as Nurse Ratched takes increasingly harsh measures to rein in the inmates. As such, this process should be accompanied by song and dance. The re-emergence of art to mark a return to individualism is a common visual device: for example, in We Will Rock You, classic rock is used to fight conformity as imposed by The Man. Also, I think that an asylum would be a fun place to set a musical: if one were to start breaking fourth walls and putting on songs-and-dance, might as well do it in a madhouse.

Forrest Gump (1994)

Forrest Gump (Tom Hanks) proves that IQ ain't nothin' but a number as he tours the second half of the 20th century armed with nothing but an open heart.

Forrest Gump naturally lends itself to the musical format by nature of having an episodic structure rooted in reality, and a globetrotting protagonist who can be alternately perceived as endearingly childlike, and meditatively travel weary. It's also essentially MODERN USA: GREATEST HITS. If Cirque du Soleil can develop a whole show about The Beatles, then Forrest Gump has more than enough material for a musical.

Lemony Snicket's A Series of Unfortunate Events (2004)

Based on the books of the same name by Lemony Snicket, the three Baudelaire orphans are entrusted to their first cousin: the noxious Count Olaf (Jim Carrey) who is a gold digger and wishes to inherit the Baudelaire fortune through marriage and possibly incest. Count Olaf loses custody, but continues harassing the siblings as they are paraded in and out of the custody of a series of relatives.

This is a really awful movie with the barest resemblance to its literary inspiration. It would be a lot better off as a musical, with libretto by Tim Minchin and the set design by Tim Burton, or their lower-budget equivalents. We could get the foster homes out of the way and establish Olaf's character through some witty musical numbers, before focusing on the underlying conspiracy. Unfortunately it seems that Lemony Snicket is an adherent of the Chris Carter (Lost) school of plot (obfuscate so that fans can't figure out you're improvising as you go) but it would be interesting to see how the revelations of later books are treated onstage.

American Pie (1999)

Four high school seniors make a pact to punch their v-cards before graduation.

American Pie is not particularly innovative in subject matter, but excellently executed, elevating itself to classic status, with extremely memorable scenes and predicaments (namely, the pie incident, the glue incident, and the pool table incident). The classic status of said predicaments, are, however, a disadvantage when considering a stage adaptation. How can American Pie be adapted while staying fresh yet true to source material?

I would suggest adding a Greek chorus to sing at moments when characters are caught in flagrant delicto and would be canonically too embarrassed to sing for themselves, whilst dressed in costumes appropriate to the setting. Oh, yes, I'd like to hear a serenade by unprofessionally-clad medical practitioners while Jim and his father are in the waiting room. Or some bakers, musically debating the pros and cons of fornication with various baked goods.

But really, American Pie is a classic, with or without the Greek chorus. I shan't spoil it for you if you haven't already watched it.

Jim Flaherty Leaves Behind a Legacy of Competence



Recently, long-standing finance minister Jim Flaherty announced that he is stepping down from his cabinet position in order to return to the private sector. Flaherty started in 2006 and has served the Harper administration for eight years, making him one of the longest serving finance ministers. Flaherty has been described as a "steady hand" through some of the toughest economic times since the depression.

When Flaherty started he had it pretty easy going. He inherited a long-standing surplus from the Liberals, courtesy of a Mr. Paul Martin who, in 1997, managed to create the first surplus in almost 30 years.

So when Flaherty stepped in as finance minister Canada was sitting on almost 10 years straight of surpluses, and with those surpluses came years of increasing spending. Instead of increasing spending as the liberals did, Flaherty used the financial security of the surplus to cut corporate taxes and reduce the GST. These tax cuts were probably the most drastic changes Flaherty was expecting to do when he took the post of finance minister. That all changed two years later.

Once the 2008 financial crisis hit, the

stress and difficulty of Flaherty's position drastically increased. His plan for combating the recession was implementing his Economic Action Plan. This stimulus package put Canada's budget deep into the red, but was well received by the International Monetary Fund who called it "timely and well-targeted." That's not to say the stimulus package was applauded by all. It received some harsh criticism and is thought by many to be a stain on his record. Going from a \$9.6 billion surplus in 2007 to a \$55.6 billion deficit in 2009 all in order to bail out the car companies and fund perhaps unnecessary infrastructure projects can definitely appear to some to be poor governance. But despite the criticism, Flaherty's actions combined with Canada's robust and stable financial system are the reasons that we have weathered the recession better than most countries.

Then when the G20 happened in Toronto in 2010 the leaders agreed to cut back the spending and reduce their deficits by fifty percent by 2013. Flaherty succeeded this agreement where many other countries failed, and now Canada is on the verge of having a balanced budget – a claim that only few G7 countries can make. It may have taken six years, but Flaherty will have taken a \$55 billion deficit and turned it into a surplus all while weathering one of the worst economic times in 80 years.

Along the way he has had his fair

share of missteps. Flaherty has meddled in the banking sector when banks have lowered mortgage rates. Personally phoning banks like Manulife and BMO and telling them to raise their rates is definitely a hands-on approach that shouldn't be seen in a free market economy and justifiably caused an outcry. The taxing of income trusts and changes to mortgage rules also drew their fair share of criticism from the financial sector.

With the faults also come the successes. The tax free savings accounts have universally been praised as a good decision. He also took a tough approach towards the provincial governments, who have historically milked the federal cash cow for all it was worth. Provincial responsibilities have been murky at best in the past. Many provincial and federal responsibilities overlap, causing conflict between the feds and provinces as to who has to pay for what. Flaherty changed this and set out exactly who was responsible for what, saving federal money and causing the provincial governments to increase efficiency.

As said before, Flaherty was the "steady hand" that brought us through the economic crisis. Sure he was dealt a pretty good hand in having one of the world's strongest banking cultures and having a good set of books, but he did carry us through. This leads me, and others, to wonder; what legacy did he leave behind? Will he simply be known

as the "steady hand" or the "caretaker"? Or will he be lauded as the man who saved us from the crisis?

I would probably say the former. His greatest accomplishment will be balancing the books. During his tenure there was no revolution or invention. Our finance system saw no great overhaul for the better. It was for the most part, status quo. Flaherty simply didn't really do anything remarkable. Sure he gave us TFSA's and tax breaks, but nothing so revolutionary that his name will be written in any history books.

All in all, though, he showed the world that Canada is a model for fiscal discipline. Our peers on the world stage have commended our economic strength and predict that soon we will be in the forefront of the G7 and G20 and remain there for decades.

With Mark Carney's departure from the Bank of Canada last year, Flaherty's resignation means that Canada has lost the two main figures that allowed us to avoid the worst of the financial crisis. But despite the big shoes to fill, their replacements have it pretty easy compared to their predecessors.

Despite his lack of invention and progress in the finance ministry, Jim Flaherty still carried us through. And though his name won't go down in history as one of Canada's greatest finance ministers (If that is even a thing) he still did a pretty good job. Not too shabby Mr. Flaherty, you did good.

A Cinematic Spring: Film Picks of April and May 2014



**ANJIDA
SRIPONGWORAKUL**
3A MANAGEMENT

Hold on there. We're almost at the end. I can see the finish line.

While we let these last few weeks run their course (and power through them ourselves!), how about a little journey through wonderfully crafted places—quirky, dark, explosive, and unexpected—coming to you soon, via the big screen?

The first stop is a step back in time, because who doesn't love a quaint, luxurious hotel, set against the backdrop of snowy mountains and Wes Anderson's latest color palette? It's a symmetrically intricate world, a Wes Anderson land, blending in characters yearning for their own realities, Futura fonts, awkward but endearing romantic scenes, and dancing to romanticized, 20th century French pop numbers. As a follow up to the summer camp romance of two 12-year-olds in the ever-charming *Moonrise Kingdom*, Anderson takes us to wartime Europe, in the period roughly muddled between the first and second world wars. There, we meet Gustave H. (Ralph Fiennes, *The English Patient*), the legendary concierge of the ostentatiously pink and lavishly designed Grand Budapest Hotel. Events unfold when a guest, Madame H. (Tilda Swinton, *Only Lovers Left Alive*) is murdered, and her will is read, upon which Gustave inherits a famous painting, to the anger of Madame H.'s son Dmitri (Adrien Brody, an Anderson alum from *The Darjeeling Limited*). Teamed up with his protégé, lobby boy Zero Mustafa (introducing newcomer Tony Revolori), Gustave goes on the run. An eccentric cast of characters, played by an impressive group of actors assembled for this film, become tangled in the events afterwards. There's Jude Law (*The Holiday*), Edward Norton (*Moonrise Kingdom's* Scout Master), Saoirse Ronan (one of the youngest Oscar-nominated actresses for her incredible work in Joe Wright's *Atonement*), and rising French star Lea Seydoux (Cannes' Palm d'or winner for her work as the philosophy-musing, blue-haired artist in the controversial *Blue is the Warmest Color*). With its setting, music, characters, and humor sprinkled throughout, *The Grand Budapest Hotel* is sure to be a delight to watch, just as it would be to taste the Hotel's signature dessert piece, Courtesan au Chocolat. Tip: Catch it at the Princess Twin, April 4-10!

Dim the lights a little, signal the bus to stop at a dark alley way, and we're in Richard Ayoade's (*The IT Crowd*) neighborhood for his second feature film, *The Double*, an

adaptation of Fyodor Dostoevsky's novel of the same name. In this bleak, soulless world, lives our protagonist, Simon James (Jesse Eisenberg, *The Social Network's* Mark Zuckerberg), the introverted, shy worker, overlooked by the girl he holds affections for, Hannah (Mia Wasikowska, *Alice in Wonderland*), his boss, and even his mother. Enter James Simon (Eisenberg), Simon's exact physical double. Confident, charismatic, and calculating, James Simon starts out befriending his doppelgänger but soon begins a relationship with Hannah behind Simon James' back. Using his cocky charm, James Simon takes over Simon James' spotlight at work and, eventually, his life. As Simon James screams, helpless and ignored by people around him, "Look at me! Look at him! He stole my face!" his world is turned upside down. The film's style, the trailer's teasing music rhythm and the suspenseful footsteps, lures you into the dimly lit, darkly comic world. Who is the fraud? Who is the 'real' Simon/James, and would the original Simon/James ever figure out how to return to his life, with James Simon in the picture? Hopefully we may find out the answers for ourselves on April 11.

Now we take a left turn out of the surrealist world, into modern day New York City, where our favorite web-slinger lives and protects its citizens. That's right, he's back. After a pretty successful reboot two summers ago, Peter Parker (Andrew Garfield, *The Social Network*) faces a whole new level of complications than concealing his identity and merely chasing a car thief. His long-time best friend, Harry Osborn (Dane DeHaan. Watch out before you say, "Who the heck is this guy?") Because he's an up and coming star. From his breakout role as troubled teen Jesse in HBO's *In Treatment* to the superhero box-office hit, *Chronicle*, and 2013's indie film on beat writers, *Kill Your Darlings*, DeHaan's more than proven he's got the talent that Hollywood would focus its eyes on.) has returned to New York City and to his father Norman's company Oscorp, which now proves to be the source of trouble for Peter. Peter's rescue of a seemingly innocent Oscorp worker, Max Dillon (Jamie Foxx, *Ray*), triggers a chain of events related to Oscorp that forces Peter to save the day, at the risk of compromising the ones most dear to him, including his girlfriend, Gwen Stacy (Emma Stone, *Easy A*). Villains, familiar and honest to the original comic storylines, emerge. With Marc Webb at the helm as the director, the film boasts an impressive mix of action-packed sequences and light-hearted humor in its final trailer. This is one blockbuster to definitely look forward to, coming this May 2.

Speaking of villains, we jet off to 1962

Athens, Greece, to meet a con artist and his wife, Chester (Viggo Mortensen, *Lord of the Rings*) and Colette MacFarland (Kirsten Dunst, *The Virgin Suicides*), on the run from their past. Under the guise of being tourists, the couple run into Rydal (Oscar Isaac, *Inside Llewyn Davis*), an American stranger who claims to be working as a tour guide. Mesmerized by Colette's beauty, Rydal accepts an invitation to join the couple for dinner. When a man from Chester's past appears and Rydal gets himself involved with the couple's troubles, events spiral out of control. As Chester says to Rydal in the trailer, "Now look at you, a real criminal," tables will be turned and secrets revealed and hidden in this tale of mystery. Filled with beautiful landscapes and scenery, fabulous costume designs, and guaranteed top-notch acting from its leads, *The Two Faces of January* promises to be an intriguing journey to take this summer. The film, an adaptation of Patricia Highsmith's novel of the same name, is the directorial debut of Hossein Amini, *Drive's* (the 2011 arthouse film by Nicholas Winding Refn) screenwriter. Catch it on May 16.

"Please, we need you to hope again," we hear Professor Charles Xavier (Patrick Stewart, X-Men series) plead to his younger self in this film's trailer. Past, present, and future blend together in the long-

awaited *X-Men: Days of the Future Past*. The older Professor Charles Xavier and his nemesis/old best friend Erik Lensherr/Magneto (Ian McKellen, *Lord of the Rings*) sends Wolverine (Hugh Jackman, *Prisoners*) into the past in an attempt to alter the course of history and prevent future events that would endanger the mutants and the human race. Dramatic, explosive, and nostalgic, the latest X-Men film in the franchise ties the reboot film with the preceding X-Men films through the time-traveling plot and brings back old, familiar faces to fight battles alongside their younger selves, not to mention having the older and younger versions of Professor X (Stewart and James McAvoy) and Magneto (McKellen and Michael Fassbender) share the screen. The 2011 team, from Raven/Mystique (Jennifer Lawrence) to Hank McCoy/Beast (Nicholas Hoult) are joined by the original X-Men franchise characters, from Shadow Cat/Kitty Pryde (Ellen Page) to Ororo Munroe/Storm (Halle Berry). Bryan Singer, the producer and the director of the previous X-Men films, takes over the role of director from X-Men: First Class's Matthew Vaughn. The team of mutants, past and future, take a stand on May 23.

So there it is—my pick of 2014's Spring films to watch. Take a break, immerse yourself in one of these stories and characters, and have fun! You won't be disappointed.



Flickr/Grant Brummett

Hugh Jackman makes his return in *X-Men: Days of the Future*.

Cherishing Our Addiction to Happiness



FARMIN ZAMAN
2T ENVIRONMENTAL

What does it mean to be addicted to a feeling? Are we constantly craving the sensation? Or are we convinced that we cannot exist without it? Maybe a bit of both and beyond, I can't provide a concrete answer unfortunately, but something I can share is the pursuit of my own happiness.

We are transfixed by the idea of happiness, we gain positive energy and are placed in a state where everything seems at ease when we experience it. This is a conscious state of our mind, and we want to experience it majority of the time. So I asked myself, how can something so fixed

in my mind be taken away so quickly? Why is it so simple for someone or some event to hurt us, cause us sadness – a negative state that our mind does not want to be in, if we are so beheld by the idea of happiness? We experience life in a much more mental state than a physical state. Our outlook on life is built in our mind, so the choices we make and how we react to situations are directly correlated to how you want to live. For instance, if a particular event (or series of events) is making you less than happy, consider whether it is worth living in despair or if you can choose to feel content instead. Of course, at the time of the event irrational decisions are often made, but don't lose sight of where you're headed. If you're truly addicted to happiness, train your mind to always crave the feeling.

The key to finding your happiness is just that – it's your happiness. Be your own source of happiness, and don't let others be the source of your happiness. Why are we in love with the concept of happiness anyway? We are in love with the idea because it stops time. Now reflect for a minute on how amazing it feels to be happy and how valiant you feel when time is stopped, even for a split second, when you experienced that laughter or joy. When you feel this, your mind is at ease because you are in control of your own mind. So don't let others or any situation infiltrate your mind and lose control of yourself. As clichéd as it is, happiness comes from within yourself. Once people or events cease to be the source of your happiness then you will truly be happy.

The pursuit of happiness is about being

strong and having power over yourself. For me, I train my mind and body to be strong. Whenever another person or a series of event, incites emotional distress in me, I question whether or not they deserve to have that type of influence over me. If the answer is no, then I revoke their power. Here's a tip: the answer is almost always no.

Happiness is therapy, treat yourself (whether you need healing or not) by finding joy in the small things that come across your path every day. There is always a reason to smile every day, even when it feels like your world is coming apart at the seams, remember the beauty of human interaction and the world and you will find a reason to achieve what you are inherently addicted to and cannot live without – happiness.

Leafs Desperately Need Spark to Secure Playoff Spot

Fans Hope that the Return of Bernier, Bolland Will Spark Struggling Club as Playoffs Approach



**ELIZABETH
SALSBERG**
2N NANOTECHNOLOGY

THE BENCHWARMER REPORT

Leafs fans—the Benchwarmer hates to be the bearer of bad news, but with less than 10 games remaining, the boys in the white and blue need to turn their game around to solidify their slippery grip on the first Eastern Conference wild card spot. With the regular season wrapping up and three teams right on their heels, the Leafs need to win the majority of their games in regulation to punch their ticket to the postseason.

As it stands, the Leafs are sitting at 80 points with 10 games to play. Detroit, currently at 79 points, has one additional game to play, while Columbus and Washington have 78 and 77 points respectively, each with 10 games left respectively. If any of these teams catch fire over the next couple of weeks, Toronto could be in trouble if they are not able to win at least as many games as their pursuers in the standings.

Looking at the Atlantic division, Toronto's historic nemesis, the Montreal Cana-

diens, are holding down third place with 83 points. The two teams are playing as I write this article (it's 2-0 Montreal with 10 minutes remaining in the first period). If the Leafs are able to win, they cash in a valuable two points putting them within one win of Montreal. On the other, if they lose, Montreal will have widened the gap to three games.

Besides Montreal, the Leafs will face several difficult teams in their final regular-season games. Among them are the Western Conference-leading St. Louis Blues, the Detroit Red Wings, and what is perhaps the most hated team in Toronto since last year, the Boston Bruins. However, there are a few games that represent relatively easy points in the Senators, the Jets, the Flames, and the Panthers. Unfortunately, the Leafs have consistently squandered these "easy-point" opportuni-

ties earlier in the season, appearing to reserve their best efforts for quality teams. Though of course this is not a bad thing, the Leafs need to make the most of every game and treat these easier opponents as if they were quality playoff teams.

Though the Leafs have lost each of their past three games, there is certainly opportunity for a turnaround. One could arguably blame the skid on the loss of their starting goaltender, Jonathan Bernier, to a groin injury. Bernier has taken shots in practice and is feeling better, but wants to make sure he is 100-percent before getting back in the net.

Carlyle had him down as a game-time decision for the game against Montreal, however struggling backup James Reimer wound up getting the start. In spite of this, Bernier should be ready to go this week if all goes well.

In other news from the injury front, cen-

tre Dave Bolland is finally back after suffering a severed tendon back in November. The Leafs are in dire need of a spark, and the return of the veteran centre to the lineup may be just that. Bolland is one of the Leafs' most defensively responsible forwards and has proven his ability to come through in the clutch, scoring the winning goal in last season's Stanley Cup final. He skated in practice with wingers David Clarkson and Mason Raymond; they are expected to form the third forward line to finish off the season. Who knows? Maybe Bolland's return will help Clarkson find his game in what has been a dismal season for the former Devils' winger following the signing of his enormously over-valued contract last off-season.

Bottom line: to secure a playoff spot, the Leafs are going to need all hands on deck and likely a little help from their pursuers' opponents. With two players coming back from injury, including their go-to goalie, on paper the Leafs should be able to hang on, but one can never be sure. We say that anything can happen in the playoffs—and let's be honest: In a lot of ways, the playoff race is just like the playoffs themselves. Every game matters. Watch carefully Leafs fans, it's going to be a close one!



The Case Method: Understanding Your Courses

Your Work Report Could Become an Engineering Case and Help Students Learn

LILLY ZHENG
4B ELECTRICAL

It's 3 a.m.; you stare at your computer screen. You stare at the words and equations scattered across your notes, barely registering. You struggle to recall seeing the material in the tutorials, or in the lectures. The exam is in 12 hours and you still have to get through 5 chapters. You've barely practiced any assignments. You're going to have to pull an all-nighter. Your eyes are blurry and your eyelids are fighting to stay open. The sentences stretch across your screen, unfamiliar and endless. You're not sure you covered this in class at all. You're not sure if coffee has any effect on your body anymore. After so much time, how could you know so little?

Sound familiar? Know that you're not alone. A number of academic literature indicates that many engineering students learn material more efficiently when they are able to apply concepts in a practical context. Even if students are able to understand the course concepts – after spending far too long trying to learn the material through purely theoretical analysis – they do not retain their knowledge, making it necessary to relearn when they encounter it in more advanced courses. This is a vicious cycle. Students who often have trouble understanding course material from a purely lecture-based instruction method are finally able to comprehend these concepts one or several semesters later, when they have been exposed to it through co-op, where they are able to apply theory to concrete, real world problems or situations. Too little, too late. If there was only a way to duplicate that experience while you were studying the course material...

Waterloo Cases in Design Engineering (WCDE) is a group that operates within the Faculty of Engineering at the University of Waterloo. WCDE works to reconcile the chasm between the theoretical knowledge taught in class, and the experience gained from real-life engineering.

Having worked as a WCDE last term, I can promise that we continuously strive to meet our goal of bridging the gap between the conceptual and practical. As an electrical engineering student, I can vouch for the usefulness of case studies in making theoretical, disconnected information from class understandable by tying it with practical situations. WCDE creates engineering design cases for courses throughout the engineering curriculum. The case method of teaching, a staple in business schools, has been cited as an effective method of instruction due to its basis on real-life situations. Used with great success by business schools, engineering programs at Waterloo have been integrating them into their own curriculums to enhance and engage engineering students.

How do we do this? WCDE creates en-

gineering cases from student work term reports and projects. These cases complement and enhance traditional lectures, allowing for students to demonstrate knowledge of course concepts in a practical context. WCDE's case studies tap into the large pool of student work term reports. And you can help!

WCDE is always on the lookout for interesting work term reports (WTRs). Writing is not your strength? No problem! Our team at WCDE takes WTRs that you have already completed, and converts them into case studies. Having your WTR turned into a case study benefits you by:

- Providing you with a chance to have your work be published
- Contributing to the enhancement of education at the University of Waterloo
- Giving you additional credits for

your resume

You'll be credited as an author for your contributions, and you barely have to lift a finger! If you're keen on participating more heavily in the case development process, you can participate in the case writing opportunities we have every semester (entry for our current opportunity ends on April 15). The winning entries each receive \$500, so watch out for these opportunities! Finally, if you want to improve your WTRs, WCDE offers a variety of services and assistance for WTR writing. Let WCDE show you that learning doesn't have to be painful!

WCDE can be reached by email at design@design.uwaterloo.ca. Visit our website at uwaterloo.ca/engineering-cases/students/case-writing-competition/ or come see us in E5 2112 for more information!

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FYDPs Showcased in Capstone Design Symposiums



LEAH KRISTUFEK
3A CHEMICAL

It's that time of year again when fourth year design projects (FYDP) go on display. Each faculty displays their students FYDP's in a one day symposium where the soon to be graduating students can present their projects to UW staff, fellow students and members of the media. While not all projects have a functioning prototype they all represent ideas that those students identified as a way to make the world better. Considerable amounts of time, energy and sacrificed sleep have been poured into FYDP's over the past year as fourth year students researched and built prototypes and came up with innovative solutions to their chosen design problems. Having seen all of these projects I feel it's safe to say that in the end you can all be proud of the final products presented at the Symposiums and the visions of a better designed world that they represent. Here is an overview of all the symposiums I was able to attend.

Chemical Engineering

The Chemical Engineering Symposium took place on March 11, 2014 in Engineering 6. Several projects focused on creating off-the-grid energy supplies or optimizing energy systems. These included a system to allow farmers to produce their own bio fuel to run farm vehicles and machinery, optimizing solar farms, and using wind power to create hydrogen reserves to fuel a fleet of hydrogen powered mining vehicles. Optimizing industrial processes was another big area. One group created a way to post process Styrofoam hardness without having to reset the entire process while another group modelled the use of steam to sanitize food processing equipment to ensure adequate sanitization.

Mechatronics Engineering

Yes, there were robots. But there were also projects that didn't include robots. On March 14 the Davis Centre (DC) was alive with all sorts of projects from sensors that could track your luggage to robots that could increase the efficiency of moving merchandise into and out of warehouses. My personal favourite was a Search and Rescue robot that was designed to preferentially pick up sound that originated in front of it. This would make it easier to detect calls for help over the calls of rescuers.

Systems Design Engineering

On Monday March 17, 2014 the 4B and 3B System Design Engineering students set up booths in DC for the Systems Design Symposium. The fourth years had the visible (but freezing) spots in the main corridors, while the third years had the slightly warmer spots down the side of the Fish Bowl. The Systems Design Engineering Symposium showcased a variety of projects; from ball collecting robots, to consumer products, to video games, the SYDE's showed their strengths in both hardware and software. The 3B SYDE's were not intimidated by the 3 short months they had to think of their problem, design a solution, and actually create a working prototype. They stood tall beside their fourth year counterparts, and many onlookers just assumed they were also eight month long projects. From the fourth year class the overall winner was named "Embedded EMG sensing for workout optimization" and the most entrepreneurial award went to "BoomBloes," a set of foldable furniture. The 3B class did not have specific awards but also supported strong projects such as; "Proxima," "embla," and "Solder Otter."

Electrical and Computer Engineering

The Electrical and Computer Engineering (ECE) symposium begs the question "What can't be made to relate to ECE?" Projects covered a diverse range of applications from codes to measure and store the precise length of a tape measure to a trash collecting outdoor robot and software to detect incorrect basketball throwing form. Projects improved on a vast array of technologies. The "Spartan Voting System" makes voting at polling stations less easily corrupted while the "Wearable Heart Rhythm Monitor" can detect dangerous heart rhythm deviations and send you a text for early intervention. "Park Sense," "Keyless Entry" and "3D Scanner" hit close to home as they make student life easier by allowing you to check on the school parking lot before leaving, unlock your house door with your cell phone and scan in a 3D object as a template for 3D printing. All told ECE FYDP projects were really relevant and there were many, many more amazing projects.

Management Engineering

How do you optimize the organizational structure of a company? How do you ensure that emergency room doctors get fairly distributed shifts? Is there an easier way to choose food in a grocery store? Management Engineering FYDPs focused on optimizing processes and bringing in a good dose of psychology to also improve quality of life for all the people involved. One project "NutriFact" involved the development of an app which allows you to scan the bar code of two products and look at a comparison of the nutritional data based on a normalized serving size.

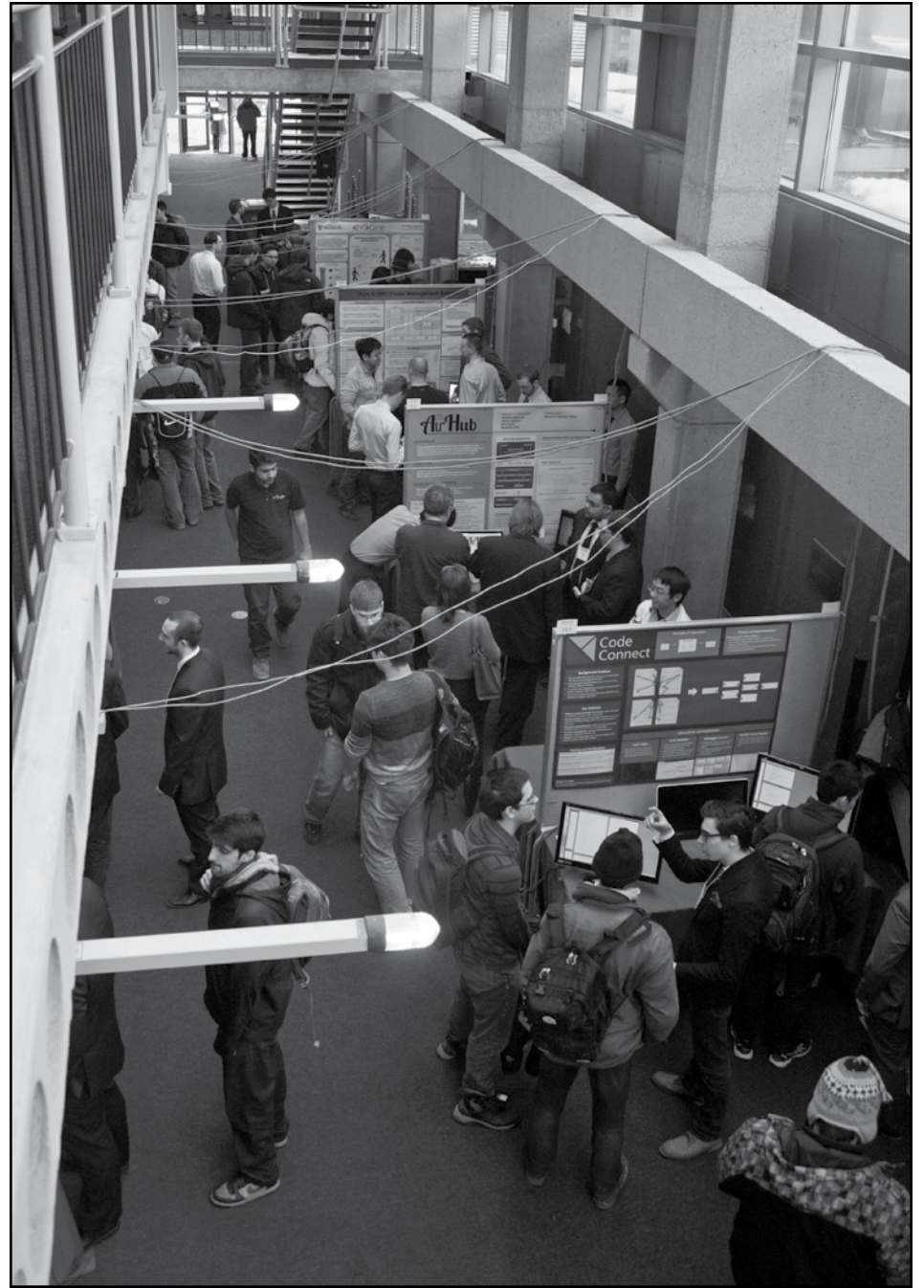
Software Engineering

Software optimization and calibration was a big theme in the Software Engineering Design Symposium on Friday March 21, 2014. Some projects were heavily academic with an eye to research applications. 'SPIKE: Parallel Brain Simulation' and "Visualizer for the Nengo Neural Simulator" built on leading edge technology developed at the University of Waterloo to simulate the complete neural networks in the human brain. Other projects were more aimed at the human-computer experience. "Local Search on the Go" was a program that made it easier to find local restaurants and other types of services in your direct vicinity with minimal human - phone interactions. Using GPS the app allows drivers to select the type of service and can then choose from those in their nearest vicinity with as few as two swipes.

Nanotechnology Engineering

Nanoparticles may be small, but they can do big things. A roof coating that will turn white in the summer and black in the winter to help with heating homes. Cheaper, more efficient speakers which use crystalline nanocellulose to improve cost. Lighter cold weather wear which uses silver to increase the heat trapped by the body. These were all projects displayed at the March 21, 2014 symposium. Other groups focused on detecting substances on the nano scale including a biosensor that inexpensively detects very low concentrations of chemicals.

At the time this article went to press there remain 3 symposiums. The Environmental and Geological Engineering symposium takes place Thursday March 27, 2014 from 12:30 to 5:00 p.m. in the Optometry building. The Mechanical Engineering Symposium will take place in on Wednesday April 2, 2014 from 3:00- 6:00 PM in the Sedra Student Design Center (E5). Last but not least, the Architecture Symposium will take place in July at the School of Architecture. Best of luck to all of the graduating students, keep being inspired!



Lucas Hudson

Onlookers take in the Electrical and Computer Engineering Symposium

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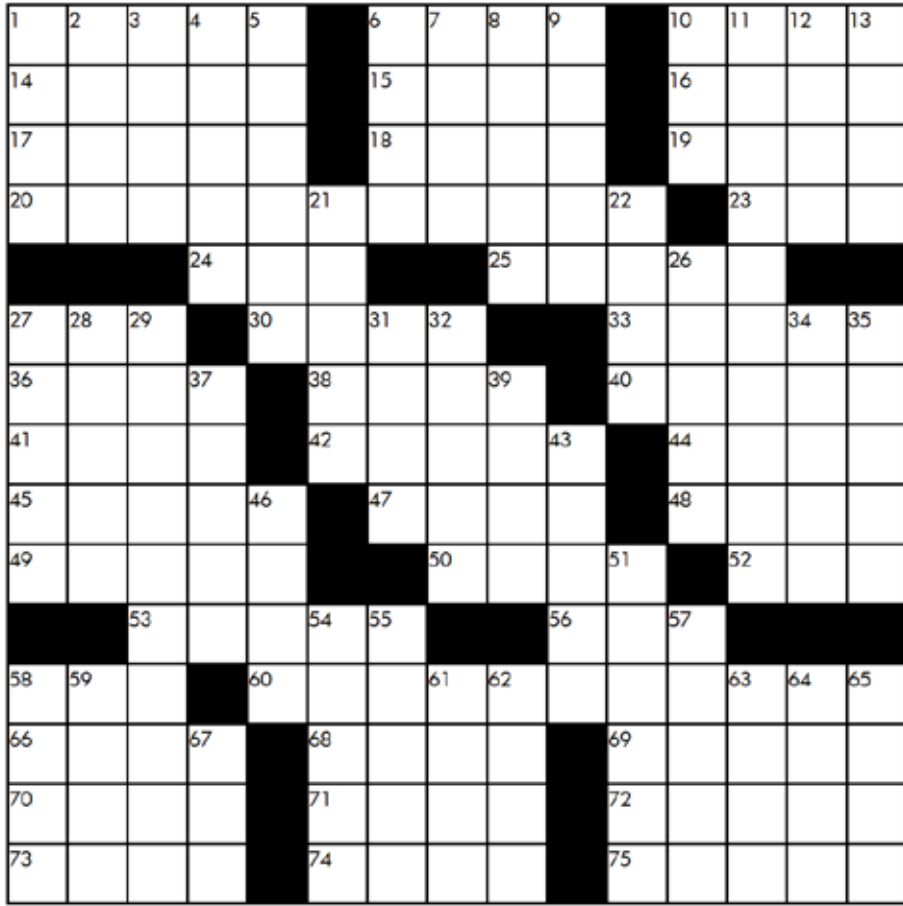
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The Iron Crossword

To Those of You About to Graduate, We Salute You

NANCY HUI
3T CIVIL



ACROSS

- 1 Chambers
- 6 Alpha Centauri or Keanu Reeves
- 10 Capital of Norway
- 14 Auditory
- 15 Keanu Reeve's reaction
- 16 Lover
- 17 Part of a film
- 18 American Assoc. of Retired Persons
- 19 I of MIT
- 20 Doing half-assedly, like the completion of final assignments or the composition of recent crosswords. Sorry.
- 23 A problem word for Grammar Nazis
- 24 It ain't nothin' but a number
- 25 Spanish marinade
- 27 Beaver house
- 30 Vegetarian dragon of children's cookbook series
- 33 Trimmed
- 36 Indy's MacGuffin
- 38 Spread

- 40 Top of class
- 41 Mindless memorization, as a learning method
- 42 What one might say regarding a 1% assignment: "___ it."
- 44 Phaser setting
- 45 Fairytale brothers
- 47 A bad place to take an arrow
- 48 Disease with crippling stigma
- 49 Ambassador
- 50 Admiral: "It's a ___!"
- 52 Observe
- 53 Blinds alternative
- 56 Scrutinize
- 58 A rich kind of set
- 60 Lacking in the desire to learn
- 66 Pirate queen of Omega
- 68 Social event
- 69 Prepared
- 70 Viola di gamba
- 71 Continually

- 72 CHERUB training instructor
- 73 Zits
- 74 What oboists carve
- 75 Take the wheel

Down

- 1 Hoarse voice
- 2 Cry of pain
- 3 Sandwich cookie
- 4 Food from the heavens
- 5 Kristoff's ice-delivery vehicle
- 6 What Bieber insists he has
- 7 Siamese
- 8 Major bloodline
- 9 Type of transit
- 10 ___-wan Kenobi
- 11 Disease afflicting those in their last years of schooling, marked by lack of 29-down
- 12 Final
- 13 Shoves from closet
- 21 Urges
- 22 Internet reaction to large hairy spider
- 26 Lightweight wood
- 27 Funereal tune
- 28 Decorate
- 29 The will to get up and do things
- 31 A pair of boobs
- 32 Like a lightbulb or overworked student: ___ out
- 34 Study in French
- 35 Stupid like a brick
- 37 If life gives you one of these, hurl it right back in its stinkin' face
- 39 Beverage endorsed by Engineering Frosh Book
- 43 Arachne could do this better than Athena
- 46 It's less believable than a legend
- 51 What social conservatives clutch at
- 54 Like a keener
- 55 "Possibility number one: 12 Years a ___ wins Best Picture. Possibility number two: You're all racists!"
- 57 Indulgence
- 58 Coffee island
- 59 Ariel's prince
- 61 Leg it
- 62 How to describe PHYS 115 midterm
- 63 Calibrate the scale
- 64 Push erotically to the brink
- 65 One who colours fabrics
- 67 Variety of 39-down

Sudoku

#2014-05

LUCAS HUDSON
3B MECHATRONICS

Easy

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

Medium

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

Hard

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

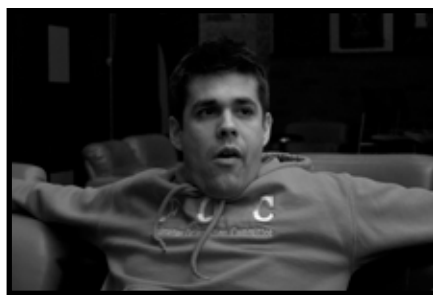
Good Luck on Final Exams!
Remember, Hold Fast!
Send your submissions to:
iwarrior@uwaterloo.ca

THE IRON INQUISITION
Lucas Hudson & Leah Kristufek, 3B Mechatronics & 3A Chemical

"What will you do after you graduate?"



"That's classified."
Peter *REDACTED*, 4B KGB-ring



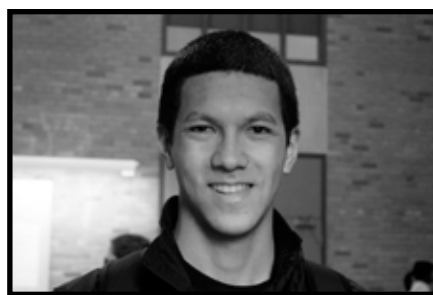
"Absolutely nothing productive."
Derek Thompson, F*CK it 4B



"We'll see if I get there first."
Scott Wood, 3B Forever Frosh



"Pretend to be a real person."
Elizabeth Foran, 3B Environment



"Go on vacation."
Josh Richardson, 1B Civil



"Go into Traffic Engineering"
Tommy Nowak, 1B Civil