

Over 100 years of being shaped
like a SWEET POTATO 

THE MARK IV

WWI BRITISH TANK

"WHAT IS THE MOST CREATIVE USE YOU CAN THINK OF FOR THE HUMBLE POTATO?"

THIS IS WHAT HAPPENS WHEN CRAPPY mathNEWS EDITOR TRAINING JOKES GO FAR TOO FAR.

Welcome back, everyone. It's 2018, and the usual blanket of Canadian snow has transformed our small slice of this planet into a frozen winter hell, the world just seems intent on running face-first into a future of wanton pain and destruction, and of course, classes (and mathNEWS) occur regularly once again.

That last point, of course, is why you're reading this, and I wrote this. Well, *wrote* it, I guess, since, as we've already established, you're reading it now. But anyways, mathNEWS is back, doing fine, and if everything works out, it's gonna be a great term. Which is good, because it'll likely be my last here.

Yeah, you read that right—after seven years, me graduating seems like an **actual possibility**. So, looking back on my mastHEAD in mathNEWS 133.1, I guess I was wrong: escape is possible after all—and when my chance comes, you can rest assured that I'm *taking* it.

And speaking of, for those who remember me from my tenure as editor last year, rest assured: I haven't given up on trying to obtain course credit for mathNEWS—not in the *slightest*. In fact, I'm on that harder than ever before, so you can expect plenty of unnecessary, forced references to/jokes about it from me in the near future.

But anyways, back to stuff you can at least pretend to care about. This issue's featured **PROF** is none other than the Associate Dean of Undergraduate Studies, Francis Poulin, known for teaching Applied Mathematics with a focus on oceanic studies. He's been a great sport answering mathASKS, and his article, *Elms Explorations: What and Why?* is a great read. Of course, you can expect more great **profTHOUGHTS** from other professors throughout the term, so I highly encourage that you check back in later issues as well, for even more insightful articles from the professors in our faculty.

Anyways, this column's nearly full now, so it seems that I need to wrap this up. Again, welcome back, I hope everyone has a great term, and yeah, keep checking in with your Bastion of Erudite Thought for cool stuff. See you in two weeks!

George Lambrou
Editor, mathNEWS

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Editor, mathNEWS

ME | Make them run the country

YOU | Bribe a prof to raise my grade

VICE MITT | Send into space as the SPUDnik

TEEMO | Break their heart

THEODORE BEAR | Get it elected as Pope

WALDO@<3.LE-GASP.CA | A tank ☺

FRANCIS POULIN | Potato bowling

SOVIET CANADIAN | Rig a potato-grenade, using the concept of potato-clock to overload a battery

ZETHAR | It's a simple 3 step process you can try yourself.
Ready? Go:

1. Arc-weld a dozen potatoes together
2. Gingerly place on stone dais
3. Use an athamé to drip blood on potatoes while chanting certain short phrases in Akkadian

YOU DON'T DESERVE TO KNOW | Filler on page 7.

EXTROVERTED | Turning a regular potato into a sweet potato

GEORGE LAMBROU | A mastHEAD question.

ARTICLE OF THE ISSUE

This week's article of the issue is .The Rare and Mythical UWaterloo Snow Day by Drowning in Cocoa, mostly because I miss snow days.

You remember those? Back when snow was fun, and winter wasn't just a yearly punishment made of cold and wet shoes that you got for living north of the tropics?

If you don't, I highly recommend that you take the next chance you get to go outside with some friends, build snow forts together, and then have a snowball war.

If Drowning in Cocoa is correct, you should have that chance soon enough.

To be fair, BBQ flavoured chips were pretty creative...

GEORGE LAMBROU, mathNEWS EDITOR FOR WINTER 2018
ALONG WITH ANGELA LE, ZISHEN QU

mathASKS 136.1

FEATURING FRANCIS POULIN

BOBBY BINGE WATCHER: WHAT ARE YOUR FAVOURITE SHOWS ON NETFLIX?

My answer depends on what I'm watching at the time but here are a few favourites. Generally, all the Marvel shows. Recently, I have started watching Black Mirror, which is very clever. I also have a special fondness for Wynonna Earp, not just because I have a friend who writes for the show (but maybe just a little).

SIMON Y. HUONG: I'M INTERESTED IN FLUID MECHANICS; CAN YOU RECOMMEND ME ANY BOOKS?

I learned it from a textbook called Fluid Mechancis by Kundu, First Edition, which is great. The text is not getting any better with each edition unfortunately. I also have a set of course notes if you wanted to email me and ask me for a copy.

A CONCERNED STUDENT: WHAT'S YOUR PLANNED HALLOWE'EN COSTUME THIS YEAR?

Easy. Arthur Dent.

ZETHAR: AS A PERSON WHO WORLDBUILDS (A HOBBY WHERE I TRY AND BUILD WORLDS FROM SCRATCH) WHAT INTERESTING TIDBITS ABOUT THE OCEAN MIGHT ONE OVERLOOK WHICH SIGNIFICANTLY INFLUENCE THE MAKEUP OF A PLANET?

Where did the water in the oceans come from? I read an article a few years ago that speculated that all the water on Earth came as ice from meteorites. This is not my area of expertise but it's something fun to think about.

VICE MITT: WHAT ARE YOUR FAVORITE PIZZA TOPPINGS?

Usually vegetarian, but if there is some good spicy pepperoni, I will always go for that.

THEODORE BEAR: HOW MUCH DO YOU LOVE THE OCEANS? DO YOU LOVE THEM SO MUCH THAT YOU STEP INTO THE OCEAN EVERY DAY AND WHISPER LOVING THINGS TO ALL THE FISHES?

4 metres worth. If you wanted to measure love in metres that is. I haven't thought of talking to the fishes but will take this under advisement.

ME: CAN YOU BOOST MY AVERAGE BY 2%?

If you are talking about boosting your average for how much you love your math courses, I hope so!

AZVONYGI: HAS STUDYING FLUID DYNAMICS YIELDED RESULTS USEFUL TO RECREATIONAL SAILORS? PRO SAILORS?

Not yet, that I know of, but I am hopeful.

HIGHER MILL: DO YOU NEED AN UNDERGRADUATE RESEARCH STUDENT? 😊😊

I have been very fortunate to have many students contact me to do research and at the moment, "my cup overfloweth", but maybe another time.

NARF DERT: HOW ARE YOU ENJOYING THE ASSOCIATE DEAN POSITION SO FAR? DID STEVEN FURINO GIVE YOU ADVICE?

I am enjoying it a great deal. I have met a lot of great people and learned a lot, part of which is I still have a lot to learn.

Yes, and lots of it.

A MEDIOCRE KITTY: WHAT ARE YOUR THOUGHTS ON A COMPLETELY ONLINE MATH DEGREE? DO YOU SEE UW HAVING SOMETHING LIKE THAT IN THE (MAYBE) NEAR FUTURE?

There seems to be a growing desire to have more courses online and we are trying to keep up with the demand. Maybe someday have an online degree. Steven Furino is the Assistant Dean, Online, and is the person to ask about this.

THE EUROBEAT-'EM UP: WHAT'S THE MOST BEAUTIFUL EXAMPLE OF UNDERWATER/OCEANIC MATH THAT YOU KNOW OF?

"Weather in a Tank" experiments from MIT have some beautiful movies. I have tried to do some in classes but the videos usually come out better than my attempts to do them in person.

GEORGE LAMBROU: CAN US mathNEWS EDITORS GET ELECTIVE COURSE CREDIT FOR mathNEWS? I'M GONNA KEEP ASKING UNTIL SOMEONE SAYS YES.

Sounds like this would be a writing credit. Maybe Arts can help with that? But please don't tell them I sent you.

Francis J. Poulin
Associate Dean, Mathematics Faculty

We crowdsource articles
in exchange for pizza.

It's a damn good deal,
until they make you
Editor.

A DISILLUSIONED mathNEWS EDITOR

ELMS EXPLORATIONS: WHAT AND WHY?

profTHOUGHTS 136.1

This semester I am teaching AMATH 353, an introductory course on Partial Differential Equations (PDEs). In this course, we spend two weeks learning how to describe a variety of different processes in the language of mathematics. Examples include waves on a string and drum, diffusion of dye in water, dynamics of ecosystems and breaking waves on the beach. Subsequently, the majority of the course is dedicated to finding analytical (exact) solutions to some of these models.

AMATH 353 is a course I have taught half a dozen times and I greatly enjoy. I even wrote a set of course notes that we use as a reference. This course is a great introduction for students to the field of PDEs but there is a wide gap between what we do in the course and what people typically do with these equations in research, which is mainly to solve them approximately on a computer. Learning how to solve PDEs numerically is very interesting and useful, something that students can learn in AMATH 342 and 442, but takes a lot of time to learn how to do this well.

My idea last year was to skip the stage of how to program the numerical methods and instead give students the code to find numerical solutions to some of the PDEs from lecture and ask them to use that. Running the code, or doing model simulations, allows us to see the solution, even though we don't necessarily know all the details of how to generate the solution. These simulations can be seen as analogous to doing scientific experiments, but they are done on a computer. Some people have called "experiments in silica".

Learning the analytical techniques for solving PDEs, or other equations for that matter, can be very useful, but the ability to analyze the solutions to see what we can learn from these models is a very different set of skills entirely. It is by doing experiments, whether they be in the real world or on a computer, that we can learn about the different types of behaviours that can be observed and understand the nature of the different equations. This is learning by experience and often called experimental learning and thus why I have decided to call the tutorials Experiential Learning through Model Simulations, or ELMS for short.

Doing the ELMS is a great way to learn about the nature of PDEs but also allows us to solve much more complicated equations than we are able to do if we insist on solving these equations analytically. However, just looking at a solution does not allow us to learn as much as we can. It is upon analysis of the solutions and reflecting on the different solutions that we can get a deeper understanding of what is going on. This is why I want the students to write a report explaining what they saw and learned in the ELMS. I could have called them ELMS labs, which would have been simpler. Instead, I wanted to pick a name for this course component that did not have the same emotional baggage as lab, something that I expect students are not always keen to

do. This is why I call the documents that the students submit as ELMS Explorations, since they use the ELMS to explore both mathematical and scientific questions. Explorations signifies that the ELMS are an opportunity to try things out and learn more, if they are willing to put in the effort. In the end it might not change the experience a great deal, but I do hope that students will appreciate this is new opportunity that will allow them to learn more than what we cover in lectures, and even have a lot of fun doing it. If this also helps them get better prepared for solving more complicated problems, albeit for research or work, then all the better. After the course is done I plan to do a serious debrief to see what I can learn from this experience to make my next offering even better.

Francis J. Poulin,
Associate Dean

N IMPORTANT THINGS YOU SHOULD CONSIDER FOR YOURSELF

DECISIONS AREN'T EASY EH?

- When to ask for help, and accept it
- When is the right time to speak up and out
- When to clean your living space, and whether it is in fact "clean enough"
- When to do more for your physical health (i.e. sleep, exercise, managing eating habits, etc.)
- When to listen to others' advice, vs listening to your "gut"

Narf Dert

**mathNEWS is on
Facebook, so if you want,
you can send us a friend
request.**

**Fair warning, though:
we'll probably just
accept it, and then
ignore you intensely.**

A mathNEWS EDITOR RECLUSE

THE RARE AND MYTHICAL UWATERLOO SNOW DAY

THEY SEEM TO HAPPEN ONLY EVERY 5 YEARS NOW... MAYBE... NOT REALLY...

With the winter season in full swing, and the weather certainly feeling like it on certain days, many of you might feel that it might not be worth coming to campus and braving the elements and hope that classes will be cancelled in what's colloquially referred to as a "snow day". On such a day in the winter, the weather is considered too dangerous for a majority of the university's staff and students to make it to campus to conduct regular university business. This article is here to tell you that a "snow day" at UWaterloo is incredibly unlikely to happen.

Prior to 2008, UWaterloo had most often declared itself closed when the regional district school boards declared themselves to be closed first. The university then changed its policy in 2009 and decided to make their own decision regarding whether or not to close. Since then, "snow days" are a rare sight to behold. For a long time, the only "snow day" in recent memory was February 1st, 2008 (almost 10 years ago).

Things changed in more recent memory when UWaterloo declared itself closed due to the weather was on February 8th, 2013 (almost 5 years ago) and the circumstances surrounding it became something of legend. The story goes that on early in the morning on this day, staff and other administrators were trying to get a hold of the one person who single-handedly decides whether or not the university will close. When it became apparent that this person was unlikely to be reached from their home in a pertinent time manner, a decision was made to close the university without that person. After announcements on the university's website and other media outlets became widely circulated that person, who was apparently not able to be reached earlier, called those who had made the decision from their office on campus. To sum it up, that person was incredibly infuriated that the call to close the university had been made without them as they had been in their office since apparently 4 am that morning to prepare for a full day of regular university business...so of course they were unreachable at their home.

WHELP...

No matter the circumstances, students and staff rejoiced at the rare chance and savored it as much as they could. Since then however, the city of Waterloo's weather has been more and more extreme in comparison to the weather on February 8th, 2013 and no closures have been held, garnering much criticism and disdain from the university community and beyond.

In the Winter 2014 term, temperatures in Waterloo reached towards -40 degrees C with the wind chill, and frostbite warnings were given. The Federation of Students itself closed all of their businesses for the safety of their staff, but the university itself did not close. In the days that followed, one doctor from Health Services reported seeing their first cases of severe frostbite as a result.

In the Winter 2015 term, conditions were considered extreme enough such that the university's satellite campus in Cambridge was closed, as well as the on-campus childcare centres. The main university campus did not close, and many were both outraged and inconvenienced. Some parents who used the childcare services were also left scrambling to take care of their children while still being able to meet their obligations on campus for a regular university business day. Many students filed a mass grievance under Policy 70 declaring that conditions were unsafe and unfair, citing uncleared pathways unfit for wheelchair access. The grievances were mostly dismissed however, and only those who had particularly experienced said conditions were permitted to file their grievance.

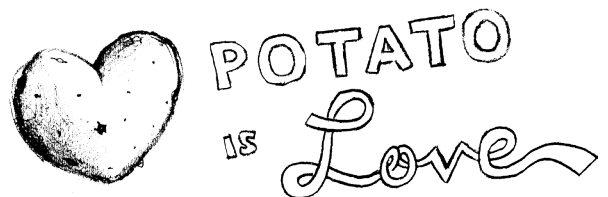
In wake of these events, the university's Weather Closing Guidelines were updated and currently state, "The University of Waterloo (UW) (and the Affiliated and Federated Institutions of Waterloo [AFIW]) will 'close' because of severe weather when normal operation would pose a significant danger to students and employees, or would prevent large numbers of them from coming to campus or returning safely to their homes." As of the writing of this article, it is very unclear what conditions actually constitute such a danger as a university closure has not happened in nearly 5 years despite there being certainly some instances where conditions for those who needed to make it to campus were considered dangerous and/or unsafe.

By the timing of the most recent "snow days", having 5 years pass between the last two, a few might expect to experience the next university closure sometime next month. Regardless of the circumstances of if/when we will experience another "snow day", it will still fall to Plant Operations and their snow and grounds clearing masters to deal with it. They will no doubt work tirelessly and for that, this **mathNEWS** writer salutes them. They deserve all the praise and even more resources to do their job effectively.

In the meantime, stay safe in your commute to campus and use common sense. If the weather creates unsafe conditions for YOU personally, no one in the university should hold that against you and there are policies in place (Policy 70 for students, Policy 56 for employees) that should help you when you are unable to meet your university obligations due to circumstances beyond your own control.

Stay warm everyone.

Drowning in Cocoa



profQUOTES 136.1

CS 360: RICHARD TREFLER

- “ [Prof goes through a long proof]
Student: Couldn't we just [do this simpler proof]?
Prof: Well...yes...but here's all the glory!

CS 450: ANDREW MORTON

- “ I'm going to start 30 seconds early.
- “ It's 50% CS and 49% engineering, if you care.
- “ People like programming, usually.
- “ I haven't figured out how to manage the grace days for this course. I'll just hand it to the TA and tell him it's his problem.
- “ [Going over plagiarism, grievances, etc. in syllabus] Don't cheat...don't cheat...if I'm treating you badly, you can do something about it...don't cheat...
- “ There was a great blog called "Real World Tech", but the guy left and got a real job.
- “ How do you turn this into a design? The real answer is that you feed this into a tool that will do it for you.
- “ [In a classroom with a blackboard] I brought whiteboard markers. It's RCH and it was built fairly recently, so they'll for sure have whiteboards.
- “ Usually when I have an hour-and-a-half lecture, I let people take a five-minute break in the middle and I get a drink. And by "drink", I mean water.
- “ [Trying to say "synthesizable"] Syn—Synthe—Am I missing a letter?...You can translate it into real hardware.
- “ We have a TA. I'll have to remember his name.
- “ It feels like I'm rushing this. I think I'm just going to, like, give up now

CS 488: GLADMIR BARANOSKI

- “ Instead of going to the Caribbean or whatever, you will work on assignment 4.

CS 492: ROBIN COHEN

- “ A technician will come in and show us a video. I think this is actually a video.
- “ I think it's still on VHS.

HIST 216: IAN MILLIGAN

- “ I don't think I've been on campus past 8:30. I researched my coffee options.
- “ The full name of this course is "The Long History of the Internet: From Gutenberg to Zuckerberg". I regretted it after I submitted it.
- “ This is a three-hour class, so I can't just give you the syllabus and let you go because the Dean will get me in trouble.
- “ Student: [Letting us go early] wouldn't kill you.
Prof: You're right, I'm tenured.
- “ All of you have your data backed up, right?
- “ And then we'll talk about TCP/IP, but I won't scare you today.
- “ I think of the Web as the "killer app" for the Internet.
- “ We can read 200 letters of Mary Shelley's life. I could read 10000 emails of your life—I don't want to do that.
- “ I don't care what you call me, in general.
- “ It was only a few years ago that I lost all of [my shyness] and I can flail around like an idiot.
- “ Sometimes all of us profs subconsciously communicate and make all of your assignments due at the same time.
- “ My website on Counter-Strike that I made in high school is on the Internet Archive and you're never going to find it.

STV 210: SCOTT CAMPBELL

- “ I hesitate to ask this, but why did you take this course?
- “ I paid an extra \$30 to get a fancy cover on my book.
- “ You don't get to see your professor put on white gloves very often, do you?
- “ Did you think of any questions, before I kick you out?

MATH 245: DAVID MCKINNON

- “ This maybe enough to compute the eigenvalues if you are an engineer, or something equally embarrassing.

PMATH 450/650: LAURENT MARCOUX

- “ Wunderbar.

“ We've got several options. One of them is to take out our frustration on our younger siblings, but I don't like that option because I'm the younger sibling.

“ I pity the fool who doesn't know the definition of a Lebesgue measurable set.

PMATH 370: EDWARD VRSCAY

“ This is the second theorem we proved in this course. Gosh, we should stop while we're still ahead.

CHINA 101R: YAN LI

“ No sex in here! Just a horse!

I'VE TURNED INTO A SOUND SNOB

High quality audio reproduction has been my main hobby for many years. The Beats bandwagon was massive in my schools and I never understood why people thought they were good. The bass is boosted significantly but the mids and highs are piss poor.

Many people fall for their marketing efforts but don't realize what is under the hood of the product. You could pick up a pair of Beats and feel the heavy weight, but you would not know there are cast metal components in there to make it feel heavy. Quality was placebo as most of the plastic components are made with injection molded plastic which is basically free at high volume. I used dollar store potato headphones until I worked my first job. I then used my McDonald's savings to buy Sennheiser Momentums. Recently my significantly other gifted me Sennheiser HD650 for Christmas.

This got me into way deeper into the audiophile world. I now needed an amplifier and DAC (digital-to-analog-converter). The purpose of a DAC is to isolate static noises from other electronics and the amplifier increases the strength of audio signals. All phones, computers, etc already have these but they are only suitable for normal headphones. Most headphones are 32 ohms while the Sennheiser HD 650 is 300 ohms.

I'm too poor to buy a legit amplifier and DAC so I'm using a Harmon Kardon receiver until I save up for a Schiit stack. Without an amplifier or DAC the headphones are basically a paper weight cause of the high impedance of the drivers.

After closely examining music with this setup, I realize these headphones don't emphasize or remove any sound. I recall Beats marketing the fact that they believe their product is the exact sound from the recording. In conclusion, if all you want is bass and nothing else, get a pair of Beats.

Teemo

A BITTERSWEET¹ FAREWELL

[AN UNNAMED EDITOR-IN-TRAINING: THIS ARTICLE MISSED THE DEADLINE FOR 135.6, SO HERE IT IS NOW. HOPE GRADUATION IS TREATING YOU WELL JESS!]

Five and a half years. Fifty-five classes. Three universities.

I've officially finished my last day of classes². I've been looking forward to this day since I began my quest³ for two degrees⁴ in September 2012 (realistically, closer to June 2014). Not to sound cliché, but my time here has given me many of my best⁵ memories. I spent a study term abroad in England⁶, a work term in Ireland⁷, played two varsity sports, and have been taught by highly respected professors in their respective fields of mathematics. But, I've also struggled to maintain a healthy school-life balance, sustained a severe concussion, fought for 50's⁸, and continually sacrificed sleep to complete assignments⁹. Hence, bittersweet.

For years, I've wanted to write an article for **mathNEWS**, but as you can probably guess, assignments and exams got in the way¹⁰. I considered making this article about the things I've learned throughout my undergrad, but you've all heard it all before. Go to office hours—your profs don't bite. If you have a question, talk to an advisor. Eat fruits and vegetables¹¹. Don't forget to sleep. So, instead, I'll leave you with a single piece of motivation¹².

Remember why you chose Waterloo.

There will be tough times but it will be worth it. And if not, you can always become a stripper¹³.

Byeeeeeeee!

Jess

1. Mostly sweet
2. Probably ever
3. Pun intended
4. Q: How do you know if someone is a Double Degree? A: Don't worry, they'll tell you.
5. And certainly, at times, the worst
6. aka backpacked Europe
7. See 6
8. Cough, cough STAT 441
9. But hey, I made it
10. Even this article was submitted days late...fingers crossed the editors include it
11. I knew this before my undergrad but sometimes students need a reminder
12. I know we all frequently question this
13. I once complained that I was "too dumb for math but too ugly to be a stripper" and my friend's dad replied "Anyone is hot enough to be a stripper if the club is dark enough".

INVESTIGATIVE JOURNALISM: TIDE POD MEME - INTERNET FAD OR CIA MIND CONTROL PROGRAM GONE OUT OF HAND?

Having only one investigative journalist on the mathNEWS team is a surefire way to lead to corruption and scandal, as they could be coerced and taken hostage by the Men In Black™ who wish to silence the truth. Due to this unfortunate reality, I have chosen to take the brave task of stepping into the forefront of investigative journalism by looking in depth into the latest troubling "trend"—the Tide Pod meme. For those who are unaware, the tide pod meme is one of the latest in many quickly passing internet trends, where the whole joke is that the soft laundry detergent pods (supposedly) manufactured by Tide are so-called "forbidden fruits" and that you should attempt to eat them. However, do you notice something here? The phrase "Forbidden fruit"? I sure did, which triggered a full on solo investigation into the truth of the origins of this supposed "meme".

Biblical phrases like Forbidden Fruit have been known to be associated with declassified CIA mind control programs, as found in WikiLeaks with programs such as MKUltra, Soviet programs during the Cold War, and other unspeakable programs. I'll let you read up on them if you so desire and spare the readers sanity.

Thanks to the Spectre and Meltdown vulnerabilities not being patched, I was able to obtain shell access to Tide's servers (Behind seven proxies of course) and gained access to their confidential email servers. Parsing through their emails, I came across some exchanges with a US federal government email address and my worst fears were confirmed. The tide pod was actually a planned mind control operation on the United States to rig the US presidential election by the CIA. Unfortunately, due to some 4chan posts and smuggling of Tide products across international borders, the craze for these pods went global and Tide has had to frantically attempt to shut down the injection of the mind control agent into the cleaning solutions.

If you have any Tide pods in your home, I urge you to immediately dispose of them by placing them in a fully sealed glass container and storing it in concrete to avoid further spread of any potential mind control agents. Do it for democracy. Do it for Canada.

I'm Vice Mitt, signing off until next issue. Stay safe. Stay vigilant.

Vice Mitt

N REASONS TO BECOME AN ORIENTATION LEADER

JOIN THE FAMILY OF MATH ORIENTATION 2018!!!

- You are a smart, nice and slightly awkward person
- Math Orientation is filled with smart, nice and slightly awkward people
- 2452 is a lucky number for you (Link to apply: <https://leads.uwaterloo.ca/Advertisement/Details/2452>)
- You get to build a strong, trusting and mutually empowering relationship with your first years and fellow team leaders <3
- A legit and noble reason to tell your parents why you dyed your hair pink
- Leadership opportunity! Interpersonal skill! Team work experience!
- No matter who you are, we will help you find a suitable role from our wide variety of positions
- **WE NEED YOU!!!**

FOC 2018 PhD

NEW YEAR RESOLUTIONS

2018 will be the year that marks the 100th year since the end of WWI. Warriors who fought in the war are most likely down in the earth, or returned to their roots by now. It's really mind boggling that a hundred years ago people were lying the holes in the ground, worrying about shells and gas. Now people are lying on the comfort of their bed, worrying about their shitpost get removed by corrupt mods.

Anyways, this should mark a special year for many people, I wish it to be a special, fulfilling year. I wish to do something I have never done. Which is to make a new year's resolution. In the west people tend make goals like lose weight, get better marks, get more fit by the end of year; daydream about relationships and financial breakthroughs before new year's day. Most end up giving up by the end of February and forget about it by Easter. (link of interest: reddit.com/r/dataisbeautiful/comments/7qdx4y/new_years_resolutions_source_google_trends_oc/_or_goo.gl/ADs4A8)

Wait it's 2018 already?? Well. Get in Gold league as Terran.

Me @ copyright by Me

Send more profQUOTES.

THE ENTIRE mathNEWS READERSHIP

INVESTIGATIVE JOURNALISM: ARE THE ENGINEERS PLANNING TO ANNEX THE NEW RESIDENCE AND TURN IT INTO ENGINEERING 8?

OR WHICHEVER ONE WE'RE UP TO NOW?

Greetings my dear readers, it is I, Theodore Bear. I know many of you greatly missed my bi-weekly doses of investigative journalism last semester. My work for the University of Waterloo Department of Mysteries took up a lot of my time last semester, as FEDs Council, among their endless resolutions, ended up also voting to join with the Dark Hegemony in the subjugation of all mankind. In order to stop their dastardly plot, I ended having to erase the month of December from existence... twice. I also had to examine the meme economy, which is why you'll also find a report on the economy in this issue. My work also kept me from doing one of the things I love: journalism, specifically of the investigative variety. And now, I am here to shed light on another evil plan.

Many of you are probably aware of Claudette Millar Hall, the new residence building on the south side of campus. Some of you readers may even be living there now. But what you may not know about it is that the Engineers at our school may be planning to annex it and turn it into a new Engineering building.

Now, I know the first thing on everybody's mind is asking why the Engineers would need a new building. After all, E7 is being built right now. Why would they need another so soon? The answer is that no number of buildings will ever be enough for the Engineers. They aren't like us principled Math Students who are able to get by with only 3 buildings (4 if you count DC). Instead, they are an all-consuming force that would invade the other faculties and steal their women and children as sacrifices to their great Iron God. They already did it in ECH; they're still washing the blood off the walls there.

For that reason, one must always be on alert when Engineers start to suddenly appear in large numbers in your building. They are the vanguards of their annexation force. You let one Engineer in, and soon, they multiply to 5, and then before you know, they've set up barricades in the halls and are holding the Dean of your faculty hostage in order to negotiate the transfer of ownership of the building to them. Then when they get what they want, they feast on the remains of their enemies and participate in massive orgies to celebrate another successful conquest.

The first thing that got me on the tail of this hot scoop was noticing how many Engineers were living in this new residence. To put it in purely scientific terms, it's a heck of a lot. The fact that they were Engineers made me suspicious, but also, if a group of people in the same faculty and with similar interests all come together in the same place, it's usually the sign of an evil plan. In unrelated news, if you're a Math Student who's interested in writing, come to MC 3038 on Jan. 29th for the next **mathNEWS** production night.

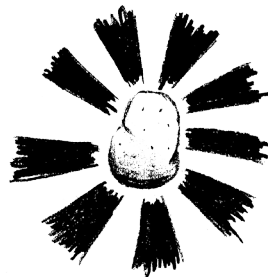
So I did the only thing I could do in order to get to the truth: I disguised myself as one of them and attending an EngSoc meeting. Under my long black robe, I could only watch as they began the meeting with the ritual virgin sacrifice of an Arts Student. The young man in glasses had his arms and legs tied to The Great Iron Ring, and he screamed as they cut out his heart with The Tool. Blood went everywhere, and when they placed it on the ritual altar, a dark voice began speaking out of nowhere in a language that took me a few seconds to recognize. It was speaking Physics equations, giving orders to its faithful acolytes. Then they moved on to the next items on the agenda, which were about their recent truce with The Society of the Cleaver and also their plan to annex CMH.

Unfortunately, I was found out before I could leave, and the Engineers swarmed me. They grabbed me and began dragging me to towards The Great Iron Ring, intending to kill me for my trespass. I managed to kick one of the Engineers in front of me. He fell backwards onto the ritual altar and was consumed by The All-Devouring Flame. I somehow managed to fight off the rest of the Engineers, killing at least three more, and escape from them. I stumbled out of the Great Doors into the cold snow, knowing a truth that I had.

What could the Engineers want with the new residence building? Likely, they plan to turn several floors into labs for them to use. The fourth floor would make a nice ~~meth~~ chemistry lab, and the sixth would do well for robotics. They can build a miniature Large Hadron Collider in the cafeteria to stay on the forefront of new science, and the top floor can be repurposed into a new Temple to The Iron God.

That's this week's helping of investigative journalism. I am currently writing this as I bleed out from multiple stab wounds. Sustained during my infiltration of EngSoc, of course. I might not make it, so if this is the last you hear of me, know this: I died (or ascended to a higher plan of existence, or whatever happens) doing what I love and that is investigative journalism. This is Theodore Bear, signing out for what might be the last time...

Theodore Bear



POTATO
IS
LIFE

MEME REPORT: PREQUEL MEMES VS. SEQUEL MEMES (THE MEME WARS)

Over the course of the past several quarters, several meme wars have had immense effects on the Meme Economy, resulting in the creation of new memes have been the driving force behind the economy. The most impactful of these meme wars have been between two different industry leaders that trade in the memes of Star Wars (STWM). These two industry leaders are r/PrequelMemes, an industry mainstay that mainly trades in the memes of the Star Wars prequels (PRQM), and industry upstart r/SequelMemes, which trades in the memes of the new trilogy (SQLM).

This report examines the current state of these two groups in the economy, and makes portfolio recommendations based on the trajectory these stocks will likely take in the coming quarters.

Prequel Memes, while technically starting in 2005 with Darth Vader's "NOOOOOO!!!" from *Revenge of the Sith* (NOOO), have been a steady investment after their sudden, unexpected rise in Q4 2016 and followed by exponential growth in value in Q1 2017. They have since entered the global meme economy and have attracted the attention of mainstream investors. Since then, they have created many memes that have achieved high returns for their investors, such as "The Tragedy of Darth Plagueis The Wise" (DPTW) and "What About The Droid Attack on the Wookies?" (DAOW). Their stock has also been an unexpectedly enduring investment, despite the fears of many early forecasters that it would be a short-lived bubble. Prequel Memes have managed to stay as an industry leader through the legendary meme-ability of the Star Wars prequels and also their later acquisition of *Rogue One* Memes (RGOM), which while contested by r/AnthologyMemes, was ultimately successful.

Sequel Memes are a much newer force on the market. While their stock managed a short spike in Q2 2017 due to their "Red Arm" memes (YPRA), the release of *The Last Jedi* in Q4 2017 led to economists to begin considering them to be a potential large force on the economy. It was in that quarter that the popular "Ben Swolo" meme (BSWL) emerged. Considering it has been a month at this report's time of writing since *The Last Jedi*'s release, it is unknown whether this newfound popularity will result in a surge of meme creation that will secure Sequel Memes as a driving force of the economy, or whether it will end up being a flash-in-the-pan rise in the same vein as Red Arm memes.

The two sides have had several meme wars, the most recent occurring in late Q4 of last year. While Prequel Memes were able to win against their sequel counterparts in all those cases, the last victory was more hard-won than their previous efforts, due to the strength of the "Ben Swolo" meme, which might be a sign of a long-term shift in market trends. However, this

close win did end up stimulating growth in Prequel Memes with the creation of "I Think You'll Be Needing This" (IYNT).

While investing in Sequel Memes may seem an enticing prospect, this report recommends refraining from that. The market is very volatile due to the recent release of *The Last Jedi* and investment should only occur after things have settled down and it is clear whether Sequel Memes are a new lasting force in the economy. Continued investment in Prequel Memes is encouraged. With the release of the *Han Solo* Standalone film in Q2 2018, there will likely be a large influx of new meme material as Prequel Memes claim it as they did *Rogue One*. With the troubled production of the film, with the original directors being fired and an acting coach being hired to help the lead actors, it is shaping up to be a trainwreck, which would increase the memeability of the movie the same way the Star Wars Prequels' quality did for those films. Even if the movie turns out to be dull, it is likely that r/PrequelMemes will create some memes from it. This prediction is based on their ability to take seemingly any line from the prequels and turn it into a meme that gains market traction, a past example of this behaviour being the creation of the "Boba Fett Yep" meme (BYEP).

Theodore Bear

Read more mathNEWS.

THE ENTIRE mathNEWS EDITORSHIP

LEASING AGENTS ARE REVOLTING

Waterloo leasing agents are taking a stand! They are tired of student's unreasonable demands. These leasing agents, who lay the foundation of life in Waterloo, will no longer be tormented by the masses. They have been nothing but kind to the people: letting them into their homes, giving them shelter, and stimulating friendships by fitting as many as possible into close quarters, and in return have been repaid in only complaints, incessant emails, and a monthly cheque.

These leasing agents—who are a measly few in comparison to the loads of students harassing them daily—have said things have gotten out of hand. They can now longer give in to the loud majority. One agent said, "This month alone I've been emailed asking for running water, heating, and working door locks; what's next? Electricity? I'm not a god!" In the past, they've tried dealing with things using the silent treatment and avoiding confrontation, but ignoring a bully will only get you so far. The leasing agents have declared it time to fight back!

MUCH OF WATERLOO TECHNOLOGY INFRASTRUCTURE COMING OF LEGAL AGE AND APPLYING TO WATERLOO FOR FALL 2018

IST OFFICES, WATERLOO ON— Reports are coming in that many of the Linux kernels running critical Waterloo servers and routers have recently celebrated their 14th birthdays, and due to backports and advances in machine learning are planning on continuing their machine learning at the University of Waterloo to stay at home and to avoid moving out of their motherboard's basements.

"I'm hoping to get into the fine arts program", says Redhat 2.4.9-e3 from lib.uwaterloo.ca. "I see all these students here accessing all these arts resources on my server and I've gotten quite jealous, so I'm really hoping to be able to take a break from crunching numbers for once and explore the creative side of machine learning." Other devices share similar ambitions to 2.4.9-e3. The main network switch that runs Eduroam in the B1 basement, a Cisco Catalyst 1200, is hoping to get into recreation and leisure studies, in order to learn how to load balance properly.

One kernel complained that they wanted to pay for tuition via Bitcoin, but due to QUEST processing the transaction slowly, the value of the bitcoin transferred had already fluctuated by \$200 and the transaction was not successful to the monetary change in value.

Vice Mitt

IT'S INTERN SEASON!

Wishing everyone who is applying for summer internships the best of luck! This is my first time using waterloo works and I don't know what to think of it tbh. Lets hope to get hired in the first round!

bae

I read mathNEWS
devoutly.

PROF. STEVE FURINO

N REASONS I LOVED MY UNDERGRAD AT UW (AND LAURIER)

- My friends¹
- Laurier Lacrosse
- UW Rugby
- Work Terms abroad
- Eccentric professors
- Eggy²
- My Study Abroad term
- MLSB and intramurals
- QNC whiteboards
- mathNEWS³ [editor's note: <3]
- Bomber trivia
- Professors and advisors that answered my many, many questions⁴
- Acapella concerts
- All-nighters⁵
- Interesting and challenging math courses

Jess

1. Cliché, but true
2. The egg fountain outside MC (aka Break)
3. I'm not just saying this so they'll print my article
4. Honourable mentions: Sean Speziale, Riley Metzger, Keith Freeland, Marcia Taylor
5. Intentional ones, with my friends
6. Here's lookin at you, ACTSC 462

ISSN 0705-0410

UW'S BASTION OF ERUDITE THOUGHT SINCE 1973

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gridCOMMENT 136.1

A CRAZY QUIXOTIC JUMBLE OF LETTERS WHICH EDUCATES SOLVERS AND PREVENTS MENTAL BREAKAGE

With the bleak Winter 2018 term just starting, I, your ever-present host, Zethar, is here with you all for another quite exciting term here of me writing crosswords at **mathNEWS**. Whether you are distracting yourself from a particularly mind-numbing lecture of STAT 231, huddled up under maximally many duvets in a pillow-fort of solitude, or enjoying the sun in some far-flung destination looking for a quick distraction, this **mathNEWS** staple is bound to bring you joy—at least, a zany diversion from whatever is to be done.

With this being the first issue of the term, I am obliged to explain to everyone yet again, lest some jejune reader ask quizED and he berate me for my carelessness. In every issue but the final one, I exert an inordinate amount of effort alone in a bleak squarish office to create both a crossword which gets named the "**gridWORD**" as well as a zany jocular piece to accompany it. Aspiring solvers joust amongst themselves to try and fill the grid without errors, and to qualify for a prize,

submit their solution to the **mathNEWS BLACK BOX**¹ (or on online, via e-mail²) before the deadline. Because there is only one prize per issue and thus I am forced to pick exactly one submission to win, in the event of a tie for the most correct solution, I shall adjudicate based on my favorite answer to the issue's **gridQUESTION**. Solutions and prize winners are published in the next issue; individuals with other questions should just ask the generous editors of **mathNEWS** directly.

The **gridQUESTION** for this issue is: "What key ritual shall be done with a vase of junipers during the spring equinox for amazing effect?"

Happy solving,
ZETHAR

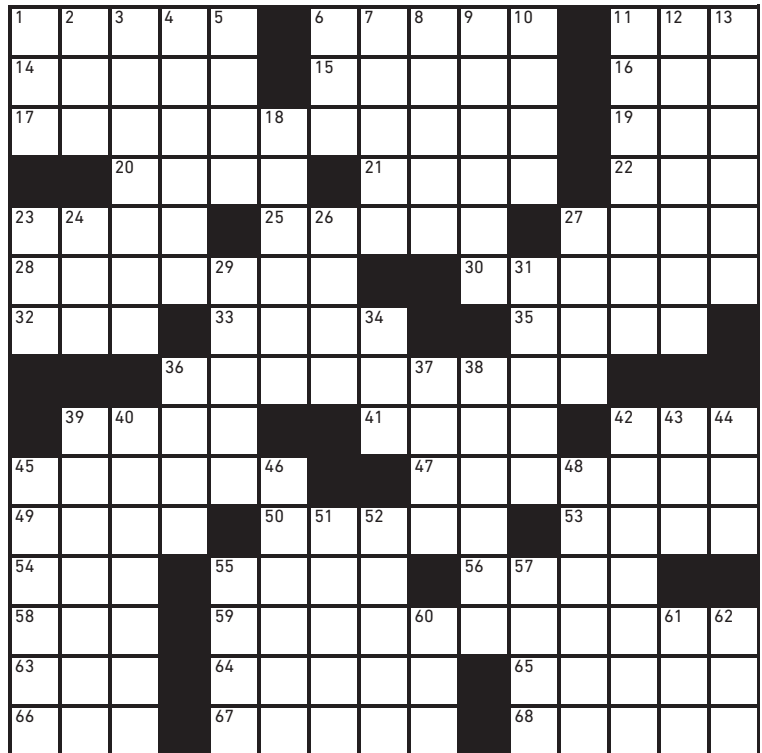
1. Found outside the Math C&D on the 3rd floor of the MC
2. mathNEWS@gmail.com

ACROSS

1. One of Africa's busiest ports
6. Razor handle?
11. School tie?
14. Smart one
15. Cut off
16. Sounds like it might go with 12D?
17. Character assassination
19. Quotation qualification
20. Infuse
21. Ancient mariner
22. A complete dinosaur
23. Historical Muse
25. "Enigma Variations" composer
27. Freebie
28. An astronomer
30. Sudden
32. 'tis
33. Peruvian royal
35. Compassion
36. Fruit bat
39. Roll call misser
41. Emanation
42. Dogma
45. Originally means "where the river narrows"
47. Cocktail for a biker?
49. Functions
50. Pontificate
53. Seals' meals
54. A common contraction
55. SE Asian maidservant
56. 42D happens when it's under this
58. Flying geese formation
59. Ebullience
63. Lapse
64. Fragrant oil
65. Jejunum neighbour
66. E.g. REV
67. Prepared
68. Zither cousins

DOWN

1. Youth
2. Son-in-law of Muhammad
3. Rodents
4. Entry tax
5. Misty Isle
6. It fits in a lock
7. Stick
8. Winter warmer
9. Turkish capital
10. Screen
11. Faint
12. Great success
13. Honour
18. Targeted at children
23. Cinematic FX
24. Usually comes before long.
26. Points
27. Heart
29. Charles de Gaulle's birthplace
31. Wide
34. Carrier to Tokyo
36. Key substitute
37. Pokémon move that hits double if the target is flying
38. Decorative band
39. Abstemious
40. Gardeners, often
42. Get slippery
43. ___ ammoniac
44. One of a couple
45. Shake
46. Professional border-crosser
48. Ghostly
51. Indian yogurt cold side dish
52. On top
55. Cracked somewhat
57. Topic of PSYCH 232
60. Plain
61. Wish undone
62. Type widths



Solutions go in the **BLACK BOX** on the 3rd floor of MC.

THE **mathNEWS** gridMASTER

haltingPROBLEMS

								3			2	1		1	1							
				6				2			4	4		2	3							
	1		2	2	3	2	1		3	2	1	5	1	3								
	1	6	8	5	4	2	2	5	9	4	1	5	6	4	1	10						
	10	8	6	3	2	1	4	3	7	10	2	1	1	1	2	4	15	15	12	0		
1	3																				×	
	8																					×
6	1																					×
	2	2	2																			×
6	1	3	3																			×
	3	9	4																			×
2	1	12																				×
	3	11																				×
4	2	4																				×
4	1	1	5																			×
1	3	4	6																			×
1	2	3	1	5																		×
2	1	4	1	4																		×
2	1	3	2	5																		×
3	1	3	3	3																		×
3	1	3	3	4																		×
4	1	2	3	4																		×
5	2	1	1	1	4																	×
5	2	2	1	4																		×
3	3	3	2																			×

NO ONE PICKED UP mathNEWS 133.7, RIGHT?

This week's haltingPROBLEM, since I forgot to find a fresh one for this issue, has been ripped shamelessly from last year's mathNEWS 133.7; all credit to its creation goes to itorED.

This type of puzzle is called a nonogram. It's a sort of picture puzzle where you fill in each column and row in blocks indicated by the numbers above and to the left of each. So for instance, if a row has the numbers 1, 10, and 3 next to

it, the solution for that row contains a single filled block, a contiguous block of ten, and then another contiguous block of three, in that order, and all separated by at least one unfilled block. More instructions are available online if you need them. Anyways, that's all for mathNEWS 136.1. See you next time!

George Lambrou
Editor, mathNEWS

LOOKAHEAD

SUN JAN 21

MON JAN 22

TUE JAN 23

WED JAN 24

THU JAN 25

FRI JAN 26

SAT JAN 27

WaterlooWorks first round applications close at 9 AM
Last day to drop winter 2018 courses with no penalty

mathNEWS Information Session
Drop Penalty 1 begins (WD)

All WaterlooWorks second round jobs posted
Deadline to be removed from WaterlooWorks interviews at 12 PM

SUN JAN 28

MON JAN 29

TUE JAN 30

WED JAN 31

THU FEB 1

FRI FEB 2

SAT FEB 3

mathNEWS 136.2 Production Night
Co-op interviews begin

International Bring Food to the mathNEWS Editors Day

mathNEWS 136.2 released

VPO SEZ....

...Touch your head!
VPO says stick your hand up!
Now jump!
Oops, VPO didn't say jump!

Also!

If you want to represent your math faculty degree in council, nominate yourself as a Class Representative! Forms can be found outside the MathSoc office, room 3038. The nomination period lasts until 5:00pm on January 23rd, and the campaigning period starts on January 22nd!

Good luck to all those participating in the election!

Victorious Protector of Octopi

potatoneWS

OR N WAYS TO ~~FILL THIS COLUMN~~ ENJOY THE THEME VEGETABLE OF THIS ISSUE

In the interest of giving some context to the other-wise-unspoken potato theme of this issue, I offer this explanation: basically, while I was teaching our new editor-in-training how to do layout, I made a fake article that was just the word "potato" over and over and over, and after that, we couldn't get the word out of my heads before laying out the issue. Anyways, here are some ways that you too can enjoy the potato:

- Baked!
- Mashed!
- Fried!
- As Vodka!
- In Soup!
- In pancakes! (Latkes, anyone?)
- As a flute! (Seriously, look up "potato ocarina"—you won't be disappointed.)

George Lambrou
Editor, mathNEWS

otherNEWS is made technically possible by club executives of the Math Faculty.
I say "technically" because if they had sent us more news this week, this box wouldn't be here.

THE mathNEWS EDITOR WHO PUTS THE "NEWS" IN mathNEWS