

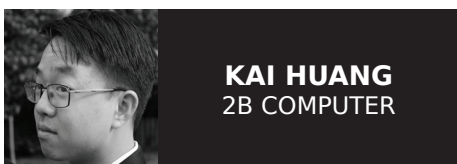
Canadian Astronaut Returns to Earth

Saint-Jacques Touches Down after 204 Days in Space



Canadian Astronaut David Saint-Jacques

Source- Canadian Space Agency



At 22:47 EDT on 24 June, David Saint-Jacques touched down in Kazakhstan alongside NASA astronaut Anne McClain and Russian cosmonaut Oleg Kononenko. For Saint-Jacques, it was the conclusion of a long deployment, having first left Earth for the International Space Station (ISS) on 3 December of 2018. His stay in the ISS for 204 days marks a new record for the Canadian Space Agency (CSA) as the longest single spaceflight by a Canadian.

The mission marks a series of landmark moments for the CSA. Saint-Jacques was the fourth CSA astronaut to partake in a spacewalk and the first in 12 years, working alongside McClain for more than six hours outside the station in early

April. He became the first CSA astronaut to utilize the Canadarm2 to perform a “cosmic catch”, in this case capturing a Dragon cargo vehicle on 6 May 2019. He and the crew aboard the ISS during their stay were involved with maintenance of many aspects of the station including the oxygen generation system and a CO2 scrubbing system. They also monitored the arrival and docking of SpaceX’s Crew Dragon on its first test flight.

During his stay, he participated in a variety of scientific activities, including 9 Canadian health science activities. 7 of these were various experiments, from studies on the effect of microgravity on bone marrow to research into spatial orientation aboard the station and even psychological examinations pertaining to the long-duration missions. He also commissioned 2 Canadian health science technology demonstrators: a smart shirt that

monitors and records astronauts’ vital signs and a real-time analyzer of blood, urine, and saliva that will provide data for research purposes.

As the only Canadian astronaut deployed during this time period, Saint-Jacques also took part in numerous public outreach events. He made an appearance during the CSA’s official announcement regarding its participation alongside NASA’s return to the moon. He communicated with students from across Canada and around the world, through the Amateur Radio on the ISS program. He also participated in the ISS Experience, a VR film in which the daily life aboard the station is captured by the astronauts with a 360 degree camera.

Saint-Jacques will be facing many challenges as he adapts to life back on Earth, something that he has already discussed during an interview in his last week aboard the ISS. Blood circulation problems, an elongated spine, and muscle pains

are all issues that he may have to face. As of recently, Saint-Jacques has mentioned he isn’t feeling any pain, though his sense of balance is still not quite back. The CSA has made it very clear that their focus now is his rehabilitation and physical reconditioning.

With Saint-Jacques back on the Earth, no CSA astronaut is currently deployed on a mission to the ISS or even assigned to an upcoming one. However, the CSA has mentioned that they are already in negotiations to have another Canadian astronaut serve aboard the ISS prior to 2024.

Letter From the Editor

French Revolution, Best Revolution

JANNY WANG
EDITOR-IN-CHIEF

I could not pass on the editorship in peace if, having been granted this platform by the grace of God and Rafiq, I did not use it to editorialize about the French Revolution at least once.

The French Revolution is one of those periods of history that are paradoxically common knowledge and completely unknown. The phrase most commonly associated with it is “Let them eat cake.”

The phrase actually comes from a story initially related by Rousseau. It is often misattributed to Marie Antoinette, who did not say it but did embody it. More than anyone else, she was the white bosomed representative of a regime which decked itself in soiled opulence while the country around it died of cold and hunger.

Her husband meanwhile, Louis the umpteenth, was a fat and fatuous non entity.

And so the curtains open: the queen is hated, the king is useless, the treasury bankrupt.

To raise the taxes needed to pay off the mountainous debt, Louis was obliged to summon the Estates General, a meeting of the three traditional ‘estates’ of the French realm; the nobility, the clergy, and everybody else. The estates voted as a class, so that the clergy and nobility, despite comprising a miniscule percentage of the French people, had two thirds of the vote.

Unfortunately, the middle classes had been reading philosophy and, by 1789, autocratic feudalism was no longer in fashion. The delegates of the Third Estate demanded that the delegates should vote as individuals, which would effectively give the commoners a permanent majority in government. When locking the delegates out of their meeting room proved insufficient to stop the march of democracy, the government of Louis the umpteenth rolled over and the Estates General was rechristened as the National Assembly.

This was something of a feint; while pretending defeat, the government shuffled troops around, with the final goal of maneuvering the nascent National Assembly into a fait accompli. In preparation, the king sacked Necker, a popular liberal finance minister and in the Palais Royal in Paris, a broke young radical leapt onto a table, screaming that this was all a prelude to a Saint Bartholomew’s Massacre.

The working people of Paris, the sans-culottes, were hungry, paranoid, and riotous, barrels of gunpowder itching for a spark. Camille Desmoulins helpfully provided that spark and, in due time, windows were smashed, guns seized, and tricolor cockades conjured from the abyss, all in good order. Unfortunately, there was not quite enough literal gunpowder lying around to match the metaphorical powder of the political scene. Thus, the attention of the rioters was duly directed towards the Bastille, a moldering medieval fortress laden with symbolic significance and- more importantly- gunpowder. This was duly stormed, with the help of a few mutinous soldiers, and the King once more tripped over himself to backtrack as graciously as possible.

The respectable delegates of the National Assembly, meanwhile,

congratulated themselves on their heroic endeavours and on the evident benevolence of the King. A decidedly limited constitution was declared, and all the enlightened fops settled down to have a nice glass of Bourbon and admire the fruits of their labour.

This attitude pleased neither those on the left, who wanted universal suffrage and a healthy serving of bread, nor the right, who wanted to zip back into the twelfth century with all due speed. The former rioted often and with great alacrity, most notably when a crowd of angry fishwives forcibly relocated the royal family to Paris, where the good citizens could keep a better eye on them. The royal family, meanwhile, bided their time before trying to hightail it to Austria.

This incident, immortalized as the Flight to Varennes did very little to improve the standing of the royals in the eyes of their people. The word ‘republic’, previously anathema, sidled its way into the political lingo of the day. This, alone, however, was not enough to ruin them.

What did eventually ruin them was a collective act of stupidity by the left and right. France, imbued with revolutionary pride and suicidal reaction, declared war on everybody.

The left- or more particularly, a segment of the left called the Girondins- thought that a war would unify France and liberate Europe. The royals- in particular, Marie Antoinette- thought that a war would result in a French defeat and a tidy Austrian purge of all the radicals. Against this tide, only one voice stood for peace; a young country lawyer from Arras, a former delegate to the National Assembly, Maximilien Robespierre.

Initially, the latter prediction hit truer to the mark, not least because most of the French officers pre- Revolution who had defected at the first breath of populism and now fought for the other side. After a series of stunning defeats, the good citizens of Paris concluded that they were being sold out from above (a not entirely inaccurate assessment given Marie Antoinette was eagerly sharing military secrets with her Austrian cousins). A cadre of revolutionaries- led by one Georges Danton- mobilized the Parisian militia and a handful of provincial troops on their way to the front.

On August 10th 1792, the revolutionaries stormed the Tuileries Palace and brought an end to two hundred years of Bourbon rule. The actuality of it was a little less tidy, since the royal family surrendered before the storming, but neglected to tell their guards to stand out, whereupon a wholly pointless shoot out ensued. A month later, rumors that the prisoners of Paris were planning to throw open the gates to the incoming Austrian army sparked a wholesale massacre of the prisoners by the Parisian sans-culottes.

This marked the beginning of the truly radical stage of the French Revolution- the phase which granted universal suffrage for all men, which eventually abolished slavery, drew up plans for universal education and redistributed land to itinerant peasants. It was altogether a glorious period, except for the war, famine, and guillotining.

A new government, called the National Convention, was called. Along with the Girondins, it was dominated by the even more radical Mountain, the party of Robespierre, Danton, and Desmoulins. Anchored awkwardly between the two poles were a mass of undecided

delegates, derisively dubbed ‘the Plain’.

The Girondins had by now pretty thoroughly worn out their welcome with the radical Parisians, who duly stormed the Convention and got the lot placed under house arrest on suspicion of being ‘counter revolutionaries’. The Girondins, it must be said, did not do much to allay these suspicions when they escaped, fled into the countryside, and promptly began mongering an insurrection.

Meanwhile, another revolt broke out in the countryside when radical anti clericalism and conscription alienated the local peasantry, who massacred a few republican militias and took up arms in the name of their King (who, by the by, was now decapitated).

It was in this peaceable atmosphere that the guillotine was trotted out. Its favourite target was not the stiff little aristocrat in filthy lace- although it did have its fair share of those- but the working and middle classes.

Both revolts were eventually put down with exceptional brutality; there are lurid records detailing mass executions by drowning, by cannon and bayonet, and speeches in the official records promising to reduce those insurgent areas to ashes and dust. It ought to be noted, however, that the worst atrocities tended to be perpetuated by ‘representatives on mission’, delegates of the National Convention sent to the countryside and equipped with exceptional emergency powers.

On the Austrian front, the situation had improved drastically or at least ceased to be an unmitigated disaster; notwithstanding the high profile defection of the chief commander and a few instances of mutiny, lynching, and execution, the situation stabilized, and Paris lived for sometime without the imminent fear of an Austrian sack.

Meanwhile, three factions had by now crystallized within the Convention. The Hebertists, the extreme leftists who wanted an ever more studious application of Madame la Guillotine; the Dantonists, who called for clemency and perhaps a little money laundering; and Robespierre’s faction, who generally stood aloof.

After a sketchy bit of political maneuvering, Danton and Robespierre teamed up to execute Hebert, whereupon promptly Danton found himself in likewise situation, and Robespierre breathed a sigh of relief and then went off and had a nervous breakdown.

When Robespierre returned from this adventure, he delivered a panoply of speeches on virtue and terror and helped draft a law which- whatever it was actually intended to do- ended up causing a decided uptick in guillotining. At this point, his colleagues- including the authors of the aforementioned provincial atrocities- conspired to arrest and execute Robespierre before he could execute them.

Aside from their principled opposition to being executed, the aforementioned colleagues did not have very much going for them, and under their slack and incompetent gaze, France retreated into reaction, corruption, and scandal- at least until a little artillery officer from Corsica went and had himself a nice coup.

This is a woefully incomplete retelling of events, lacking even a whiff of the brilliant odour of Marat- and so, for a more complete and nuanced retelling, I redirect you once more to Mike Duncan’s Revolutions podcast. He should pay me, so often have I shilled for him.

THE IRON WARRIOR

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Trump Crosses the Korean Border

STONE HE
2B MECHANICAL

On June 30, Donald Trump became the first sitting US president to visit North Korea, after stepping across the border block in the Demilitarized Zone (DMZ) between the North and South Korea, to meet with Kim Jong-Un, the leader of North Korea.

The historic meeting between the two was a last-minute and haphazard in arrangement. After the G20 summit in Japan, Trump requested a visit through Twitter to shake hands and say hello. Soon afterwards, Trump showed up in the DMZ on the South Korean side. He crossed over the border to meet Kim, followed by a large photo op as the two shook hands.

After the crossing over to North Korea, he and Kim went back across

the border and resumed talks about the nuclear missiles in the Peace House.

Originally, the meeting between those two was supposed to be just a greeting and a handshake, but it turned out into an hour-long meeting. This was the third time that the two leaders had met in person. The last meeting in Vietnam left some unresolved talks with regards to North Korea's nuclear program.

Both countries will also send

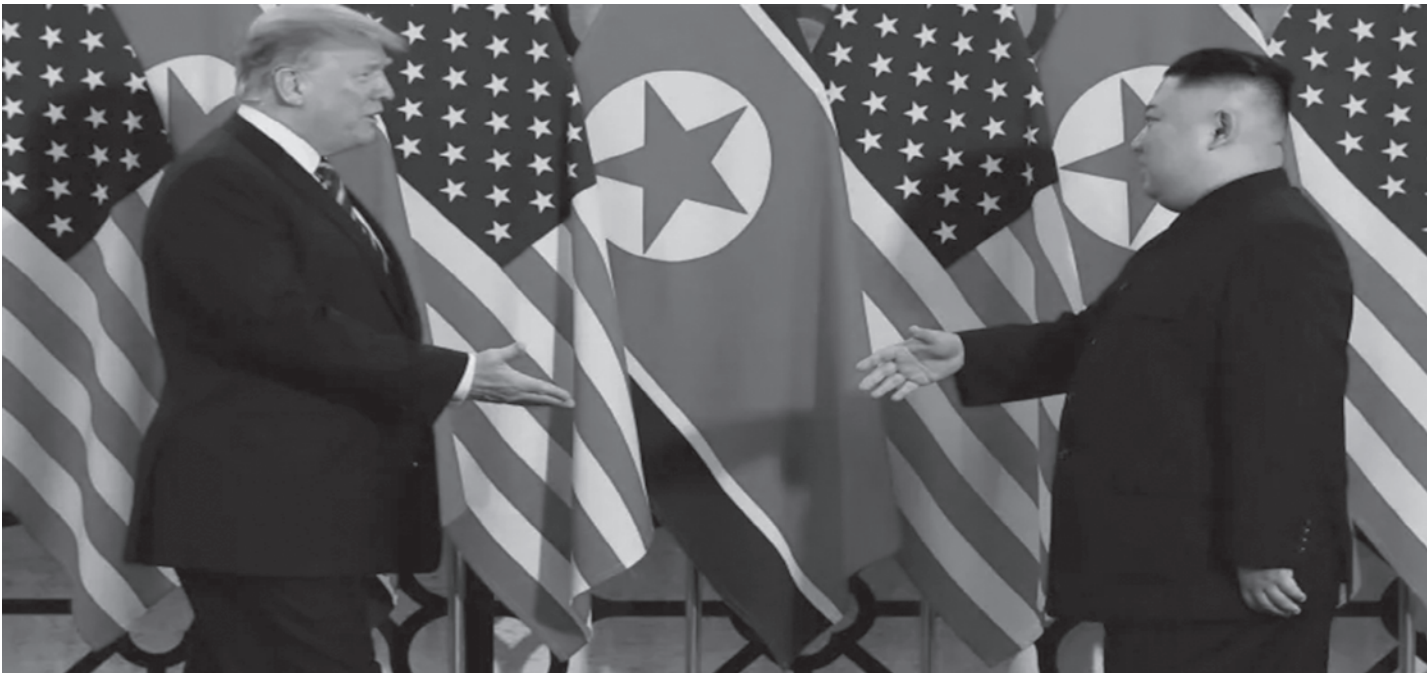
a delegation to start on new negotiations in the next few weeks after the meeting as well to resume the talks.

There has even been plans for Trump to visit Pyongyang, North Korea's capital, and for Kim to visit Washington D.C. That will come when everything simmers down between the two.

Despite the well publicized exchange of insults over Twitter that took place early into Trump's term, the meeting in the DMZ was generally positive and cordial, but the North Korean mission became hostile towards the policies of the United States almost immediately after the historic meeting.

The North Korean mission responded coolly towards a letter sent by the USA on the same day when Trump and Kim had their little meeting. The letter was about the topics of banning exports and imports from and to Korea and about North Korean workers being used in foreign countries.

However, both sides have stated that they hope that they could work together to ease tensions and head towards a brighter future.



Trump Meets Kim Jong Un

Source- CBC

Two Jets Collide over Germany

STONE HE
2B MECHANICAL

During a military exercise in Germany, two Eurofighter Typhoon jets collided in Northeastern Germany causing the death of one of the pilots' early afternoon on June 24.

When the collision occurred, a third pilot from another fighter jet witnessed both parachutes from the collided fighter jets ejecting. One of the pilots survived the collision, and neither aircrafts was carrying any weapons, according to the Luftwaffe (of the Bundeswehr, the German defense force). The body of the other pilot was found eventually by

the local authorities. The pilot that survived was more experienced, with more flight hours than the pilot that died.

Following the crash, there has been calls to end the military exercise, due to the low altitude that the fighter jets flew on. Questions were raised on whether such low-level flying exercises were necessary, especially near a popular camping destination, as the crash happened near a national park. The exercises simulated dogfights which involved many risky manoeuvres that the pilots conducted.

The two jets that collided were part of the Tactical Air Force Wing 73 of the Luftwaffe and is a fighter defense wing that flies the Typhoon. The base is located at the Rostock-Laage Airport, in northeastern state

of Mecklenburg-Western-Pomerania. The wing was named after a WWII fighter ace and a general in the Bundeswehr, Johannes Steinhoff.

This was one of the few military units named after a member of the Wehrmacht; Nazi Germany's main military arm during WW. Rommel and Stauffenberg had barracks named after them, but even their resistance against Hitler was mixed in with half truths and myths. Rommel was a supporter of the Nazi ideology and had a very loose connection with the July 20 bomb plot. Stauffenberg on the other hand, was a supporter of Polish slave labour to keep the German war machine going, despite being outspoken against the crimes against humanity that were conducted.

There has not been any detail about

the investigation of the mid-air collision at the time the article was published. There could be multiple factors in how the collision could have happened. However, it was known that the Bundeswehr had troubles with combat vehicles, with less than half being operational. This could have impacted the amount of training each pilot had.

The Eurofighter Typhoon is a multirole fighter introduced in 2003 and has been used in various air forces across Western Europe. It was a joint project from different European aerospace companies, such as Airbus and BAE systems.

Recently the jet has been a subject of controversy within the Luftwaffe. In 2015, there was a manufacturing fault from improper hole drillings with the Typhoon fighter jets, which prompted the Bundeswehr paused the delivery of the jets. In addition, the flight hours of the individual fighter jets have been halved due to the manufacturing error.

There could be multiple factors that come into play in the collision, but lessons from this can be used to improve the state of the Bundeswehr and prevent accidents like this from happening again.

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Democratic Primaries

Who Won and Who Lost?

JANNY WANG
2B NANOTECHNOLOGY

When Benjamin Franklin invented democracy after a particularly frisky night at the brothel, he probably did not anticipate that it would all culminate in a very evidently stoned spiritual advisor promising eternal love, while a short Asian businessman struggled to make angry libertarian noises in the background- yet so it was.

The election of Trump in 2016 sparked off an era of increasingly outlandish scandals, and for three and a half years, American liberals clutched their pearls and their snazzy protest signs to absolutely no effect. In this fertile atmosphere of rot and dismay, presidential candidates sprung up like flies.

There are the two major contenders; Sanders, the self-proclaimed socialist, and Biden, establishment politician extraordinaire, followed by a gaggle of semi-known politicians, all more or less trying to be Bernie Sanders- and after them a panoply of one note nothings whose mothers might consider voting for them. So crowded was the field that the candidates had to be split into two separate debate nights.

Night one consisted of Elizabeth Warren, the progressive senator perhaps best known for not being Native American, and some other people. The evening began on a high

note, when failed Senate candidate Beto O'Rourke was asked a decidedly straightforward question about whether or not he supported a 70% marginal tax rate and responded by spouting platitudes and speaking Spanish. This pretty much set the trend for the rest of the night; candidates displayed their mental acuity and presidential wit by dodging questions and fleeing facts with such ductility as would make a gymnast blush.

The major winner in night one was probably Julian Castro, a relatively obscure candidate who distinguished himself from the crowd by having concrete solutions instead of interminable stories about grandmothers dying of cancer. In one particular refreshing moment, he challenged Beto O'Rourke to provide a substantial response to the border crisis, whereupon the latter stuttered something about hope and love.

Happily, the first debate was prevented from floundering into indecency by the lack of any real stakes present; except for Warren, none of the candidates were consistently polling above five percent. It was, in effect, a bit of a masturbatory exercise.

Most of the substantive candidates were packed into the second debate. Alongside Sanders and Biden, the debate feature Senator Kamala Harris, a former California Attorney General widely reviled by the left flank of her party for enacting an anti-truancy law which put parents in jail if their children played hooky, and Pete Buttigieg, mayor of South Bend and apparent paragon of progressive

American masculinity.

The effect was, as Harris graciously put it, "a food fight". The moderators, never particularly distinguished to start off with, absolutely disgraced themselves by ineffectually pleading with the candidates for a modicum of order. Senator Kirsten Gillibrand made herself particularly obnoxious by inserting herself into every single exchange to shill for Bernie on his behalf, while Representative Eric Swalwell screamed at all and sundry to 'pass the torch'. Amidst all this din, Pete Buttigieg distinguished himself by possessing the countenance of a relatively decent human being, lack of substantial policies notwithstanding.

Biden, undoubtedly the frontrunner going into the debate, spent the entire night reminding everyone he was Obama's vice president and subsequently getting attacked from all sides. In one particularly noteworthy moment, Kamala Harris criticized him for his dubious civil rights record, whereupon he decided to boldly buck the leftward trend by resurrecting the state's rights argument from the 70s.

The second night had its own breakout star, of an entirely different character from the first. Marianne Williamson, a self-help author and self-proclaimed spiritual advisor, was, by some evident flaw in the democratic process, allowed to wander onto the stage and ponder at length on the aura of the American people. The viewers were treated to a singularly surreal moment, when Mrs. Williamson declared that her first act as President would be to call the Prime Minister of New Zealand. While

other candidates attempted to flash a semblance of an actionable plan, Mrs. Williamson promised to harness the political power of love to transform the souls of the American people.

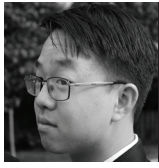
The substantive winner of the second debate, however, was Kamala Harris, who won points for dunking on Vice President Biden and projecting a general aura of calm competence. Biden, on the other hand, tumbled nearly ten points to a tenuous lead, when it transpired that being Obama's vice president was not commendation enough for most voters. Sanders' polling numbers were relatively unchanged, probably because he conducted himself with the demeanour, and the eloquence, of a slab of socialist stone for most of the debate, and said nothing remarkable for good or ill.

The debates have wrought some remarkable changes over the political scene, particularly with regards to the unexpected rise of Julian Castro and the unnecessary name recognition now possessed by Marianne Williamson. However, the primaries are still months away and it is, to ape the favoured phrase of political commentators everywhere, 'still too early to tell'.



Democratic Primaries: Night One

End of an Era for Bombardier



KAI HUANG
2B COMPUTER

On 25 June 2019, Bombardier Inc. finalized a deal with Mitsubishi Heavy Industries Ltd. to sell off the Canadian Regional Jet (CRJ) program for \$550 million USD, ending Bombardier's foray into the commercial aviation market after three decades.

Under the terms of the deal, Mitsubishi would assume about \$220 million USD in liabilities and take on the maintenance, support, refurbishment, marketing, and sales. However, all manufacturing activities remain with Bombardier for the time being as they finish production of the backlogged orders on behalf of

Mitsubishi. Though Bombardier is left with almost \$400 million USD in liabilities representing part of credit and residual-value guarantees, it gives the company some breathing room to focus operations on their more profitable departments.

The CRJ program from Bombardier had its fair share of controversy in the news over the past couple of years but initially made up the bulk of Bombardier's revenue. However, Embraer's recent partnerships with Boeing have made their E175 narrow-body regional jets dominate the US market where the majority of sales are made. Bombardier realized last year that their commercial jet program simply wasn't viable anymore, with \$755 million USD in losses in the segment, compared to \$1.2 billion USD in earnings for their rail and business

jet divisions. The sale to Mitsubishi comes with little surprise after Airbus's acquisition of a majority stake in the program last year, indicating Bombardier was preparing to get rid of the program.

On the other hand, the deal is a welcomed opportunity for Mitsubishi. The company is hoping to break into the elite group of jetmakers internationally. With already \$2 billion USD into their regional jet program (known as the MRJ) and setbacks related to aborted test runs and cost overruns, they benefit greatly from Bombardier's experienced engineers as well as a global sales and support system. While a US carrier last year cancelled an order for 40 MRJ's, All Nippon Airways still has an open order, set to take deliveries starting in 2020.

The deal includes Bombardier's

service and support network based on Montreal and Toronto as well as service centers across the United States. Mitsubishi has stated that the 1200 to 1600 workers in these positions will be joining Mitsubishi once all regulatory approval has passed, though not providing any guarantees into potential future layoffs. However, the factory in Mirabel, QC will likely be closed after the final production of the CRJ completes, putting into question the futures for the 400 production workers.

Bombardier has remarked that assembly-line workers and engineers could likely keep their jobs by working on various other projects including those being jointly run with Airbus.



Bombardier CRJ900

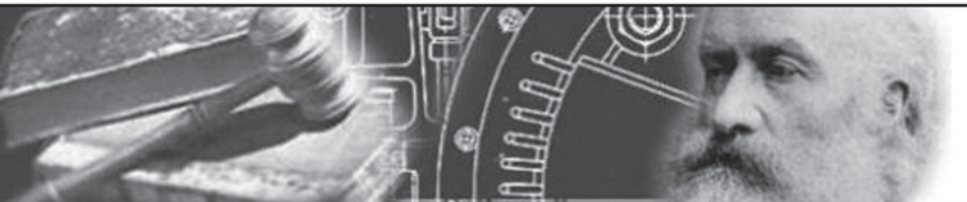
Source- Set Jet



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The SFF Memorial Leadership Award Nominations

In recognition of the late Professors Saip Alpay and Wm. C. Nichol, and Sam Ceccerallo, Robert Elligsen, late former students of the Faculty of Engineering

The Leadership Award is granted to an intermediate-level undergraduate student in the Faculty of Engineering who has demonstrated outstanding contributions to the Faculty in the promotion of extra-curricular activities, including, but not limited to: Intramural Athletics, promotion of Engineering Society and Sandford Fleming Foundation events, competitions, etc., and for the support of associations, both on and off campus.

Nominations for the Memorial Leadership Award can originate from student groups, faculty members, or other individuals. A Letter of Nomination and Letters of Support from colleagues, faculty, and others familiar with the nominee's accomplishments are extremely important and form the major basis upon which the Executive Committee of the Sandford Fleming Foundation will form its decision. Nominations must be submitted to the Foundation by April 30, 2019 and/or before the last day of the student's 3A term.

The Memorial Leadership Award consists of a Certificate plus a citation, and an honorarium of \$1,000.

Nominations Must be Submitted to SFF Office Manager by August 31, 2019

**E2-3336, Extension 84008, sff@engmail.uwaterlo.ca
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Eng Soc in the Age of Ford

How Eng Soc can weather the introduction of Opt Out

I like EngSoc. While I don't have much interest in running anything, people can benefit from EngSoc in a litany of ways, from services such as the exam bank, and events like Engplay, or simply from the opportunity to meet more people. Since the society provides so much utility, it's inevitable that they run up some fees.

The fees for EngSoc spring 2019 are sixteen dollars and forty cents a person. Since between tuition, fees and rent students can expect to spend upwards of ten thousand dollars per term, in the grand scheme of things it isn't likely to break the bank. However, it's still a significant fee for students. For the price of an EngSoc fee, a student can get a meal in the plaza – a large shawarma platter for example. While individually, the fee is trivial, it's anticipated to raise \$50,000 in the summer term alone.

However, with Doug Ford's upcoming changes to education funding, it will soon be significantly easier to opt out of paying the fee. Currently, one needs to refund the fee in the first few weeks of the term and come back in one of the last few weeks to get it back. If you miss the deadlines, you're out of luck. It wouldn't be unreasonable to anticipate that there'll be more refunds, even if I personally have benefit from some EngSoc services.

From VP Student Life Emma

Swarney's data analysis, it seems that only 70% of engineering students use any EngSoc service whatsoever. She also remarked that this result might be skewed high towards those who use EngSoc services. If 30% of engineering students withdrew their EngSoc fees, they'd very likely cripple the society's funding for the term. Even if half the students who didn't use the society's services refunded their fees, \$7500 would be a shocking adjustment. EngSoc is resilient, but they'll have to adapt to the new policy changes.

The way I see it, EngSoc will need to find a way to keep the uninvolved students from withdrawing their fees one way or another. While obviously they can't keep everyone, the two most effective ways seem clear: being more transparent with finances and demonstrating utility to students.

Historically, EngSoc budget's have been opaque – to find the budget one needed to either ask the VP finance (which was no guarantee of seeing the budget) or to attend meetings (where those who attend are highly unlikely to withdraw their fees in the first place). However, as of this term, the budgets (current and historical) are now available on the website. While this budget left some questions (with \$1,650 budgeted for "discretionary" spending and \$2,100 budgeted for "appreciation"), it was relatively well maintained, but

the "actuals", or final values have not been updated for the previous term (as of July 6, 2019).

One big detail I couldn't find in the budget were the C&Ds. These stores are arguably one of the most publicly known components of EngSoc (alongside POETs). Luckily for me, VP Finance Michelle Teplitski was helpful enough to provide the details.

"The C&D has lost 3K since the start of the term due to food purchases and POS maintenance. Mary [the EngSoc manager] budgeted a 9K loss total for the term."

This makes sense because the CND is such a large project – just the spaces and food are very expensive to maintain. 44% of students also reported using the exam bank – with a budgeted cost of one hundred twenty-five dollars being a wonderful investment that serves over half the people who use EngSoc Services. Unfortunately, for new courses and upper year courses, the exam banks tend to be rather meager. Beyond that, the final general utility used by students would likely be the discount sticker. For those unaware, at the EngSoc office (CPH 1327) you can get a discount card offering 10% off at the DōShack, among other services of comparable utility. While there's many events EngSoc offers, a lot of them are time and event specific, whereas the benefits listed above are more

generally applicable. Moreover, it's difficult to figure out which events are interesting for each person

The second component of ensuring that as few people withdraw their fees as possible is increasing engagement. There's not a massive lack of services – in fact there's dozens of events, socials and directorships from the budget, but as Emma Swarney in her post noted, lack of knowledge of these events is a key issue. In fact, they've already taken to addressing this by having an EngSoc calendar on their website, having reddit posts from /u/UWEngSoc, and having Facebook posts. Evidently this isn't enough, and it'd behoove the society to promote their flagship events more visibly than posts on a Facebook group.

Ultimately, even if one doesn't actively participate in a student society, many people could see the benefit of them. While it might not be the obligation of EngSoc to demonstrate their worth, they'd be well advised to engage with the 30% who don't see the value.



Doug Ford Recently Cut Mandatory Student Fees

Source- The Globe and Mail

Coming Soon to a Classroom Near You...

This is a letter from Ashley Clarke, A-Soc Course Critiques Director, Thomas Dedinsky, A-Soc VP Academic, and Ajal Opal, Associate Dean.

Hello there everyone! It's that time of the term: Course Critiques are almost here! Once again, they will be taking place on <https://evaluate.uwaterloo.ca> for the majority of the population. Electronic submission

of Course Critiques will save over 17,000 sheets of paper this term! Saving the environment, hooray!

Beyond that, electronic critiques are excellent because they also give us an easy way to extract meaningful student feedback, filter out offensive responses, and help improve the quality of classes for everyone.

However, in order for this system to work, we need YOU to fill out your Course Critiques. Response

rates have been gradually declining over the past several years, and low response rates mean that faculty members might not have the same confidence in the responses they get. Student feedback is critical to helping professors make improvements to their teaching & courses and guiding departments in making improvements to programs, so please complete all your Course Critiques this term!

Between July 8 and 19, your

professors & instructors should give you class time to complete Course Critiques electronically. Make sure you find out from them when you'll be given class time so that you can bring your web-enabled phone, tablet or laptop to class and complete your Course Critiques.

Class Ranks in Assignment Grading

THOMAS DEDINSKY
VP ACADEMIC

Hey readers! In wake of the recent investigation I've been doing regarding class ranks in assignment grading, I thought I'd give you readers a brief overview of what my findings have been. The full report can be seen on the EngSoc website under Documents -> Internal Documents, or at <https://eng-soc.app.box.com/s/jjdbej2s045zz7xo-2q51sz30q2skozct>.

Note that this class ranking is NOT directly tied to a student's ranking that they receive at the end of the term. Rather, this is a part of an assignment or other assessment which you can only receive full marks if you perform better than a certain percentage of your classmates. One example might be a coding assignment in a course where you would get 80% for making an algorithm that worked accurately, but the remaining 20% was determined based on how fast your algorithm

was compared to your classmates.

The main point of motivation behind this investigation was the stance at JAGM 2018, where Engineering students voted to add a stance to our Document of Stances advocating the Faculty of Engineering and University to discourage unnecessary competition. This was originally changed from being just targeted at class rankings at the end of term due to examples brought up with other uses of unnecessary competition in classes, like this.

The report aims to investigate the relationship with class ranks in assignment grading with both departments, to see if this is allowed by professors, and students of each department, to see if this practice does happen and if it's liked by these classes. From there, engineering students are able to give recommendations on how I, as VP Academic, should act on this.

All departments were contacted regarding this assessment. None responded saying that they prohibit this practice with instructors, although some said that it wasn't encouraged. Only Mechatronics,

Computer, Electrical and Software were reported to use this.

All academic reps were contacted regarding this and had mainly negative reactions to this idea. Many felt it is a toxic practice which would discourage classroom collaboration, fostering stress and over-competitiveness. There was also worry regarding this practice reinforcing the bad stigmatism surrounding engineers and their work ethic/mental health. Finally, some people weren't even aware or convinced this is a currently used practice in courses.

There were some points to be made for this practice. A few people felt that competition was a great motivator, encouraging people to go beyond the bare minimum. There was more acceptance of it only being used for a small portion of a grade. Some alternatives were suggested, such as having a small portion of the top performers receive a bonus mark, so it wasn't a penalty for everyone but moreso a pat on the back for some.

Overall, 80% of academic reps were against while 13.3% were for it. The only department with positive responses was

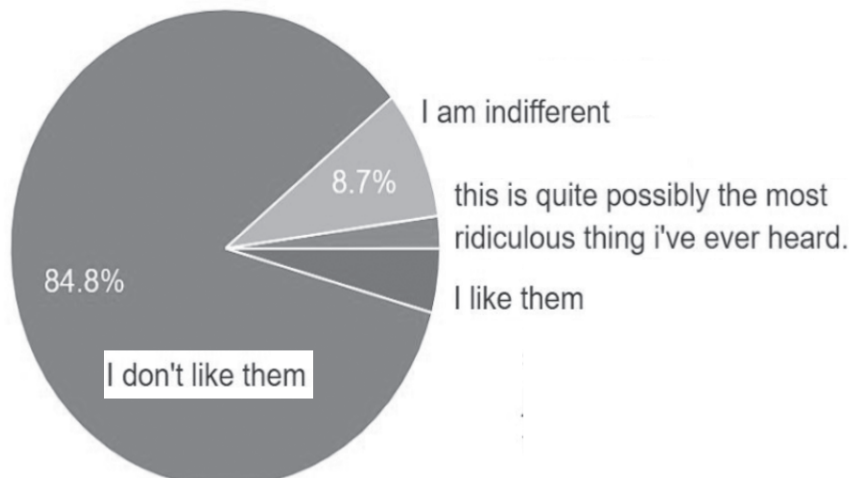
ECE, with the most negative response in the MME department. Additionally, the TRON 2022 class was polled, with 40/46 (87.0%) of the students disliking this practice, the MGMT 2022 class had a unanimous 20 votes against, and both ECE 2021 and the ECE Society Exec were against this.

Again, check out the report for more detail! It includes a lot of student quotes, individual testimonials, and more thorough breakdowns of statistics cited here. Please note that all of the students contacted and in discussions surrounding this report were on-term for Spring 2019 and thus represent A-Society views.

Check back next issue for a double feature of the Teaching Excellence Award and Friend of the Society Award interviews!

How do you feel about assignments marked by class rank?

46 responses



Appendix A: Department Checklist

| Department | Allowed? | Used? | Liked? |
|----------------|------------------|------------------|--------|
| Architectural | Yes | | |
| Biomedical | Yes | No | |
| Chemical | Yes | No | |
| Civil | Yes ³ | No | No |
| Computer | Yes | Yes ¹ | Yes |
| Electrical | Yes | Yes ¹ | Mixed |
| Environmental | Yes ³ | | |
| Geological | Yes ³ | No | No |
| Management | Yes | No | No |
| Mechanical | Yes | No | No |
| Mechatronics | Yes | Yes ² | No |
| Nanotechnology | Yes | No | No |
| Software | Yes | Yes | Mixed |
| Systems Design | Yes | No | No |

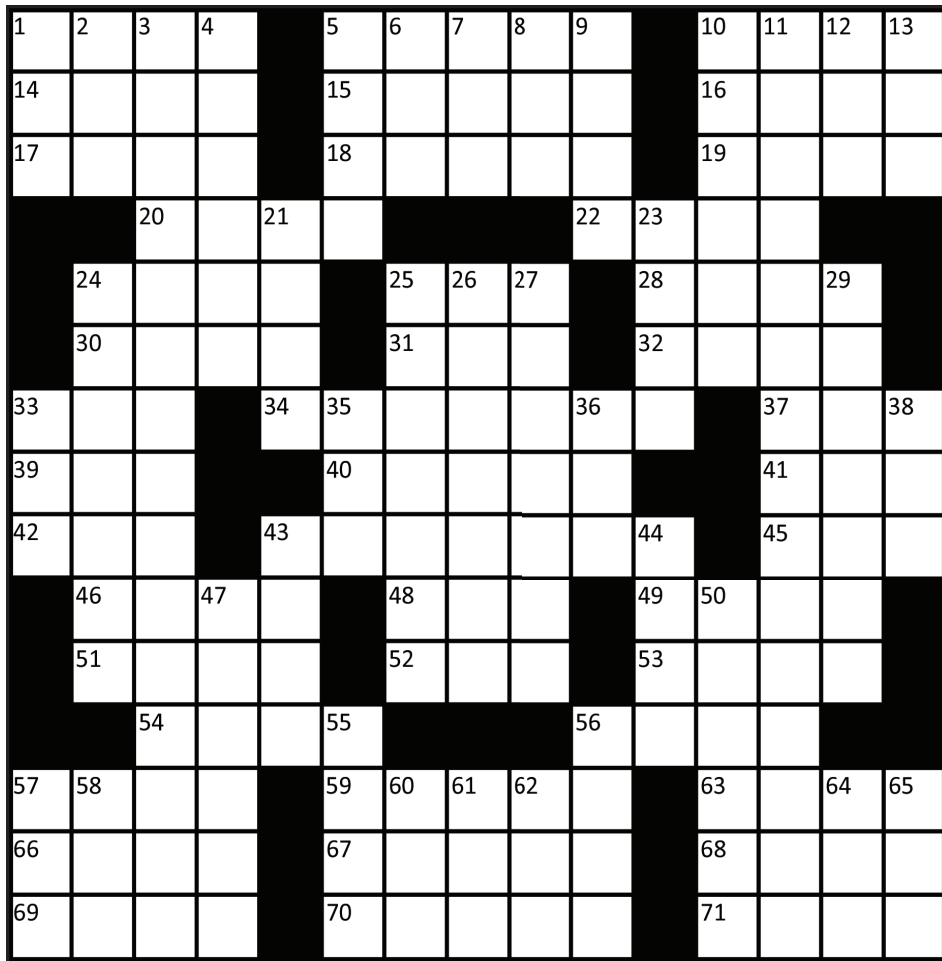
Upcoming Events Calendar

| Wednesday July 10 | Thursday July 11 | Friday July 12 | Saturday July 13 | Sunday July 14 | Monday July 15 | Tuesday July 16 | Check out up-to-the-day event postings on the EngSoc website at engsoc.uwaterloo.ca/event-calendar/ |
|--|---|---|---|---|--|--------------------|---|
| Council Meeting 5:30 - 7:30 PM E7 3353 | Let's Talk Mental Health 6- 9 PM Poets Maker Space Build Night 5- 10 PM Ideas Clinic | Eng Play 7:30- 9:00 PM Hagey Hall | Eng Play 7:30- 9:00 PM Hagey Hall EngSoc Goes to the Mueseum 10 AM The Mueseum | Beach Day 9:30 AM- 5:00 PM Meet at DC | Community Meals 7- 8:30 PM E7 Atrium | | |
| Wednesday July 17 | Thursday July 18 | Friday July 19 | Saturday July 20 | Sunday July 21 | Monday July 22 | Tuesday July 23 | |
| | Bitch n Stitch 7-9 PM POETS Genius Bowl 7-9 PM POETS | | | | | | |

The Iron Crossword

Special Units

CAMERON SOLTYS
FORMER EIC



ACROSS

- 1: As opposed to an opinion
- 5: Mice, rats, or locusts for instance
- 10: Prefix relating to memory
- 14: Sound of apathetic agreement
- 15: Move slowly and silently
- 16: Alternative name for the Aikana tribe of Brazil
- 17: Identifier usually assigned at birth
- 18: Female equivalent to "Bravo"
- 19: A male deer
- 20: Used to navigate between webpages
- 22: NATO phonetic alphabet word for "Z"
- 24: Reed of a loom
- 25: Game system of "Super Mario Bros." (Abbr)
- 28: Past currency of Italy
- 30: Den or cave, often containing mythical creatures
- 31: Established (abbr)
- 32: Desktop Apple computer
- 33: Largest art museum in the US
- 34: A person who relies solely on data
- 37: Lord's Resistance Army cult (abbr)

DOWN

- 39: French for "Yes"
- 40: Required to get personal information
- 41: ___ Chemical, manufacturer of napalm and agent orange
- 42: Small four-wheeled off-road vehicle (abbr)
- 43: Short sleep
- 45: Used by travellers for lodging and food
- 46: "I need a ___" Bonnie Tyler lyric
- 48: The Institute of Engineering and Technology (abbr)
- 49: ___ Bity Spider
- 51: Used to prevent covert tampering with a letter
- 52: After AB
- 53: Double a radi
- 54: Electromagnetic wave used by doctors
- 56: Movie following the adventures of Lightning McQueen
- 57: Scottish for "those"
- 59: Head of the Assyrian pantheon
- 63: ___ boy!
- 66: Sigmas

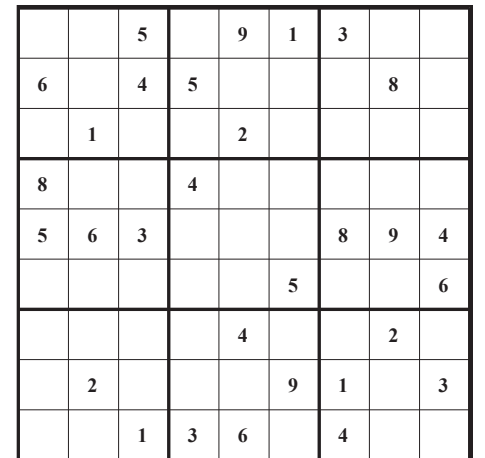
- 67: Incorrect pluralization of "Moose"
 - 68: Money that is owed
 - 69: Undesirable animal
 - 70: Used to suck up liquid for consumption
 - 71: German word for "Earth"
- DOWN**
- 1: You have it till your daddy takes the T-Bird away
 - 2: Exclamation of understanding
 - 3: Test involving material from before and after the midterm
 - 4: "___ was, with only a spoon as a weapon" epic story starter
 - 5: Plates onto which electrical components are mounted (abbr)
 - 6: To ___ is human
 - 7: Large body of salt water
 - 8: 10602*10e-7 Joules
 - 9: Lose physical control
 - 10: Member of the Islamic faith
 - 11: Volcano, earthquake, or hurricane, for instance
 - 12: Period of geologic history
 - 13: Welding with an expendable electrode and inert gas
 - 21: Classic Greek equivalent to a harp
 - 23: ___ Qel-Droma, a Jedi from Alderaan
 - 24: Detectives or investigators
 - 25: Relating to power given to family members
 - 26: Personally marked electronically, for instance an email
 - 27: Separate into streaks
 - 29: Abbreviation pronounced as a word
 - 33: Large flightless Australian bird
 - 35: Citation style of most arts and humanities papers
 - 36: Indium Phosphide
 - 38: Bristle-like appendage on grass
 - 43: "Rock and roller ___ wars" Billy Joel lyric
 - 44: Swedish International Development Cooperation Agency (abbr)
 - 47: Most hard to find
 - 50: Angry lecture
 - 55: Sweet potato-like root vegetable
 - 56: Team, especially of sailors
 - 57: Larger than a teaspoon (abbr)
 - 58: Colour
 - 60: Place
 - 61: ___ Royal Highness
 - 62: Country to the south of Canada
 - 64: Not yet determined (abbr)
 - 65: Consumed

Sudoku

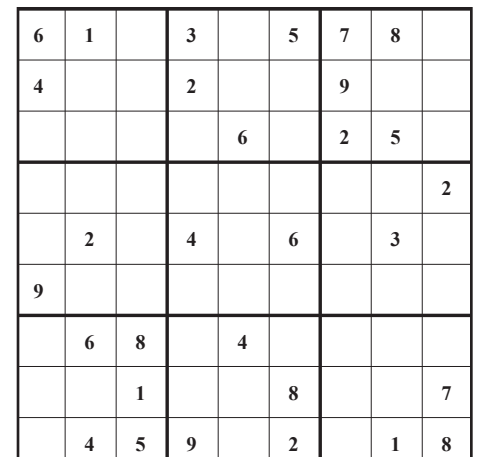
#2019-07

JANNY WANG
2B NANOTECHNOLOGY

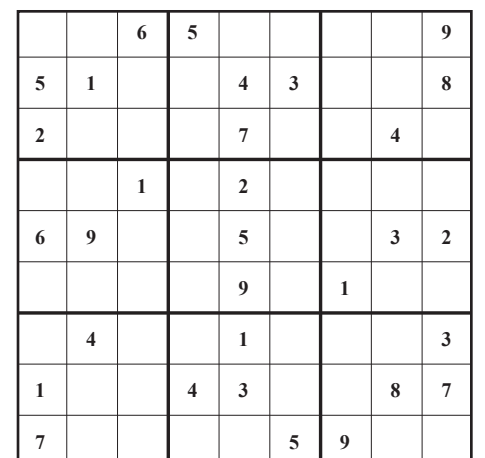
Easy



Medium



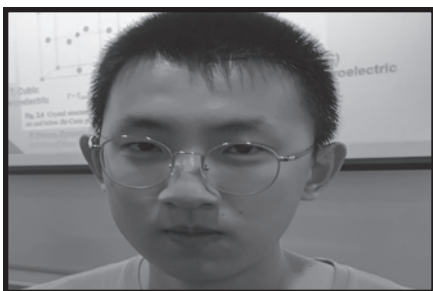
Hard



Solutions for previous crosswords can be found on *The Iron Warrior's* website at iwarrior.uwaterloo.ca/distractions.

THE IRON INQUISITION
Stone He, 2B Mechanical

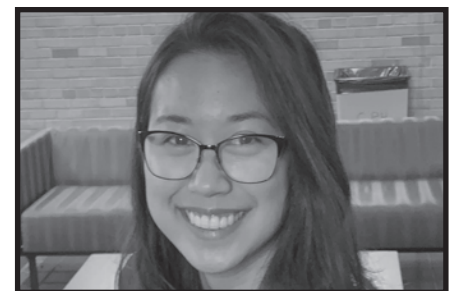
"What do you think are the best ways to procrastinate?"



"I don't."
Paul Liu, 2B Nanotechnology



"Ordering a pizza and watching Netflix in bed."
Spencer Lester, 4A Chemical



"Fighting racism and sexism on campus."
Mariko Shimoda, 4A Mechanical



"Work on something else."
Jessie Christie, 2B Nanotechnology



"Being in or going to EngPlay."
Amanda Morin, 2B Software



"Watch all of Game of Thrones in five days."
Emily He, 3A Environmental