

#### THE CARLETON STUDENT ENGINEERING NEWSPAPER

## **HIR@NTIMES**

#### THE IRON LOVE OF YOUR LIFE

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FEBRUARY 2019



READ ON, I DARE YOU

C-ENG SPEAKS PAGES 4-7





you see, this year, that's the day of midterms. Hell, I only have two classes and even I somehow ended up with midterms on the 14th AND 15th (what kind of BS is this??). Anyway, I know some of you are probably thinking "Hey Dr. Profo, why you do this?", and of course that's a very fair point. Some of you were probably hoping to spend that day with your.... bae? Is that a word the kids still use? Aaaanyway.... since it is a day of love, you

could look at it another way. Instead of seeing it as a big ol' middle finger to the face, you could say "Hey, Dr. Profo put my midterm before Reading Week, that gives me more break! Thanks Dr. Profo!". Isn't that what the Christmas spirit is all about? Aw shit, wrong holiday..... whatever, they're all pretty much the same thing anyway. This message has been brought to you by your friendly, neighbourhood me.

CSCE MONTHLY UPDATE PAGE 8

> Coffee with two Profs Page 9

Daniel Shifman - MATH III -

Aight kiddos. So it's February. We all know what that means: Valentine's Day is coming up. But alas

Photoshop job by Daniel Shifman



#### AND MUCH MORE!



#### WARNING:

This publication may contain offensive material. It should not be read by anyone who is easily offended. All opinions expressed within are solely those of the contributors; they do not reflect the views of the Carleton Student Engineering Society. This paper is purely satirical in nature and is not intended to be malicious in any matter.

If you wish to express your views on the content within, please email us at irontimes@cses.carleton.ca.

## EDITORIALS

A SERIOUS ARTICLE JUXTAPOSED WITH A DELIGHTFUL PUPPER

## From the Desk of the^Editor

PASSIONS say about me?



Caroline Lenarcic - AERO C III -

I remember wandering around Minto building one night in early December of first year, on my way to the Elsie MacGill Centre, because I really didn't have much place else to go.

I had just been hanging out with a friend in residence, absentmindedly examining some math homework while he toiled away at something on his desktop. Peering above my binder, I could see that he had SolidWorks open and was working on a design of a rocket. We had both joined Carleton's rocketry team earlier that year, and he had been captivated by it ever since, using his spare time to putter around with the 3D modelling software and brainstorm concepts in relation to whatever his design team was working on. Pretty cool stuff, I thought. And that's when I packed up my stuff and left.

As embarrassing as it is, all it took was that small display of extra-curricular interest on his part

who all had colourful backstories full of success in their respective hobbies. But screw success... I was more impressed by their devotion to any particular activity. It's one thing to be enrolled in a sport or club during high school because your parents wanted you to be more well-rounded; it's another story entirely to have so much energy and zeal that you actively pursue opportunities to participate in. I met high-school athletes who continued to train on Carleton's varsity teams, robotics champions who were eager to find new projects in university, coding enthusiasts who sought out online resources to expand their knowledge far past what an introductory engineering course can teach you (although that isn't very hard... shade intended).

What do my

And me, meanwhile, what did I have?

• 9 years of playing hockey, including on competitive teams, with no real plan for continuining after high dent council. What a sham that was. I can say now that the only reason I joined was because I thought it would "look good," and I thought it would mesh with the goody two-shoes A+ student persona I had helplessly fallen into during my grade school years. All the while I was too shy to participate and went through every year having effectively contributed nothing.

I guess that last point really nails down my problem: there was a disconnect between the person I thought I wanted to be and the person I actually was. I had only really involved myself in activities and pursuits that aligned with the "Good Girl at the Top of the Class" archetype. In reality, I had no clue what would actually make me feel happy or fulfilled.

Fast forward to that December night and I was in the same situation. I had joined CU InSpace because, as an up-and-coming aerospace engineer, I thought it was the ideal type of club to align myself with. I wanted to obtain the coveted design experience that would get me a good job, and I wanted it to relate to the degree I had chosen solely because it sounded cool and prestigious (sidenote: if you're an aero and claim you chose this program for any other reason besides the fact it sounded cool and presitigious, you're probably lying). But it had been a few months and I had no idea what I was doing and was too shy to ask. It was student council all over again... I sat at the periphery of most meetings, contributed nothing, and felt awful about it. By the time the semester ended, I had stopped attending meetings altogether.

However, when one door closes, another one opens. While I was still participating in CU InSpace, the need for a sponsorship package had arisen, and I volunteered to design it. I had taken Yearbook as an elective in high school because it was taught by my favourite teacher, and I had learned a lot about layout design and quite enjoyed it. I designed a sponsorship package from scratch and received great feedback. I was happy to help, but I was also happy that I was contibuting in a way that felt so natural to me.

I guess if I want to get all sentimenal and "big picture" about it, you could qualify that as my first step to where I am today, as the Editor-in-Chief of this paper. Since then, I've also gotten involved in a host of other activities not because I thought they would be good for me, but because they made me feel inspired.

Is it a tad pathetic that I didn't know myself well enough to discern my likes from my dislikes? Perhaps. But getting to know yourself is a process, just like perservering through your insecurities is a process.

I didn't grow up with the same passions my peers did. I never played with Lego as a kid, open-ended problems gave me headaches, and I couldn't build anything to save my life (RIP the scale model of a molecule I made in Grade 12, which didn't survive more than two days without falling apart). My lack of passion in certain areas had me convinced that I wouldn't be able to hack it as an engineer. But there's a lot more to be passionate about than those stereotypical examples, and, as I'm still discovering, there's a lot more to me than I originally thought.

to send me spiralling into a slurry of self-doubt and perceived inadequacy. It made me feel small and worthless and sad, so I just took a walk. Because that passion that he had in his work, however casual, was unlike any zeal that I felt for anything I was doing... or so I thought at the time. But we'll get to my current situation later.

Since beginning in post-secondary, the fear that "maybe I just don't have enough passion for this" has haunted me. I met so many people in my first week of school school. It was my dad who got me started in it when I was young, he was the one who put value in it.

- 7 years of classical training on the cello. This one was my idea; my elementary school had a great instrumental music program and I was hooked. Over the years, though, the practicing became a chore. When my lease on the instrument was up, I called it quits.
- 6 years on my school's stu-

#### 2

#### LEGEND HAS IT THE MOLECULE IS STILL DECAYING THIS DAY

#### \*SNAP SNAP SNAP\*



Dayna Goldfarb - Child Studies IV -



Rafe Osborne - COMP SYS IV -

## Engineering Streams Plus MORE ENGINEERING LIMERICKS

They ran out of streams!



SREE

There once was a stream called SREE Going to class requires lots of energy Reduce reuse recycle, my guys With a crazed look in their eyes They're only good at making grilled cheese



#### LEO'S LOUNGE

Leo's Lounge is a pretty cool spot The samosas they sell are hot They have muffins and ramen as well And they're all pretty swell As long as the microwaves aren't shot

> Being a Leo's volunteer is a dream All we do during our shifts is meme We help make the lounge run And we have so much fun But it's sad without the old coffee machine

> > "In Leo's selling patches!" someone posts "This one's the best," they boast Sew it on using needle and thread And help them get that bread If they don't sell them all they'll be toast





#### TIME TO GET PASSIONATE



"If you had unlimited resources, what passion project would you create?"





Kareem El Assad ELEC I

Rescue all of the dogs.



Auto-Tagging for photos using Deep Learning.





Denise Mayo COMP SYS III



UNLIMITED POWER!

#### BIG BOI ANSWERS TO BIG BOI QUESTIONS

I'm not a passionate person. Maybe I'd find a way to replay video games from my childhood which no longer work on modern computers, but perhaps it is better to leave the past in the past and move forward for once.



Francis Baccin-Smith ELEC III



Ahmed Abdalla ENG PHYS III

Holographic Yu-Gi-Oh Monsters, it's the only reason why I chose engineering.



Alex Stevens CIVE III



I would probably make a computer from scratch out integrated components I designed and then the operating system.



Daniel Haycocks-Tulli ELEC III A Dyson swarm. If you have unlimited resources, make something that requires big boi resources.



Daniel Shifman MATH III

Notes, the coffee shop/bar that allows customers to rent/borrow vinyl and listen to them at the nearby record player tables while sipping their beverage.







Nicholas Butler MECH I

#### IS THAT JUST LIKE A NORMAL RADIO STATION BUT WITH SCURVY



#### ANIMAL FIGHTS ARE NOT ROMANTIC, APPARENTLY

#### "Where is the worst place to take someone on a first date?"











There is no worst place. Take a chance and find out if the two of you like the same food, the same hobbies, the same types of weather. No need to change who you are to fit someone else's ideal partner. Sure, getting rejected feels like hitting rock bottom, but trust me on this. Do not be scared about the bottom. Don't worry.





6



#### ALL DANIELS DESERVE LOVE

#### "What do you love most about C-Eng?"









The small group of people I take the initiative to hang out with. Y'all folks are wonderful human beings, and I respect the hell out of you even if I don't say it.









# CLUBS AND

#### WOOD YOU LOOK AT THAT

#### CSCE CARLETON CHAPTER UPDATE - FEBRUARY

CSCE is officially offering a discounted membership of \$5 for the remainder of the semester. This membership includes a 100-page print card, access to our textbook library, access to old course notes and exam library, and so much more. Stop by ME 3379 to pickup a membership and use the equipment and resources that will help you succeed this semester!

In January, CSCE hosted their very first Gingerbread House Building Competition. Stu-

dents were provided ginger- pects. Head over to the CSCE bread houses, icing, and candy to build the most aesthetically pleasing gingerbread house, with the winners receiving a prize. On February 7th, CSCE has the rare opportunity to tour the inner-workings of the Canadian Tire Centre, as well as attend an Ottawa Senators hockey game. The tour involves a walk-through of the CTC showing the Zamboni, rink, suites, press box, etc., and touching

Facebook page to get the link to purchase your ticket, and secure your spot on the tour. Over winter semester's reading week, we are sending 18 people to the annual Ottawa Wood Conference that is being held at the Shaw Centre. This event is an opportunity to learn about wood uses in commercial, institutional, industrial, and residential construction through educational seminars and an on some of the engineering as- interactive industry trade show.



#### SUSTAINABLE BUILDING PROFILE: MEC HEADQUARTERS



Jaedon McColl - CIVE III -

Hey everyone, it's Jaedon Mc-Coll bringing you a throwback to when I was in CIVE 2700. We were required to briefly research an iconic structure and describe how different civil engineering materials were used to suit the building's green objectives. I chose the Mountain Equipment Cooperative (MEC) Head Office, which is located in Great Northern Way, Vanenvironment that encourages sustainability, the MEC Head Office has a roof garden containing native plants and encourages car-free commuting by having a room for 128 bikes to be parked [1].

To demonstrate how the Mountain Equipment Cooperative Head Office is successful in meeting its green objectives, the following are points about the structure. It was designed to the Leadership in Energy and Environmental Design (LEED) standards and received the Platinum status [1]; this is a great accomplishment as LEED is one of the most popular green building certification programs used worldwide [2]. It is "65% more energy efficient against national energy code" [1] and the potable water use in the building was "reduced by 55%" [1] due to its water collection system. Another interesting fact about this structure is that it is "BC's first salmon-safe urban site" [1] not only making the building itself sustainable but, also more environmentally friendly in the area in which it is in.

For example, as previously mentioned, the MEC Head Office is a timber structure. For starters, timber is a renewable energy source which helps the environment. Also, since "most of the wood materials were sourced from within the region" [1], this not only helps lower transportation costs, but also the CO2 emissions when transporting the material because of the decreased distance. The application of timber was with glue-laminated timber for structural purposes and composite wood for applications such as floors and walls.

A unique part of the structure is that one, yes, it can be put to-

gether to create the green structure, but it is also designed to be taken apart if necessary. Therefore, if this structure is required to be removed, it can be done with less energy than if it was strictly demolished. This is just one interesting fact to acknowledge in my opinion because the green design of the structure was so well thought out that the designer even thought about the energy that was required to remove it. Mind blown tbh.

Hopefully this summary about the MEC Head Office sparked your interest and you'll look into other iconic structures and green buildings.



couver, British Columbia. It is not your usual head office.

The MEC Head Office is a timber structure with a combination of multiple green features. Some green objectives that the MEC Head Office met are obtaining natural light, fresh air circulation, rainwater collection. stormwater bioswales and heat recovery. To create an

Different civil engineering materials were used to suit the building's green objectives.

#### Sources:

[1] Mountain Equipment Co-operative, "MEC Head Office (headquarter)," 2017. [Online]. Available:

https://www.mec.ca/en/explore/head-office#. [Accessed 22 November 2017].

[2] Green Building Council, 2017. [Online]. Available: https://www.usgbc.org/articles/about-leed. [Accessed 22 November 2017].



#### THIS IS WHAT LIVING IN THE FUTURE IS ALL ABOUT

# SOCIETIES

#### CEPS HAS MADE ITS RETURN

#### CARLETON ENGINEERING PHYSICS SOCIETY

CEPS hosts a monthly informal chat with a different professor every last Monday of the month at Oliver's Pub, 6-7pm. Here's the lowdown from Professor Niall Tait on October 29th, 2018 and Professor Mohamed Atia on November 26th, 2018.

#### **PROF. NIALL TAIT**



#### ON CURRENT POSITION & RESPONSIBILITIES

#### What do you do at Carleton?

I'm the Chair of the Dept. of Electronics, and I also teach a 4th year course on integrated sensors. My research is optical sensors and their multiple applications, like in gas sensing, building occupancy efficiency, and IR sensors.

What is a typical day like in your job? It's a mix of lecturing, advising students, meetings with research students, administrative meetings, and recruiting.

What do you enjoy the most and the

#### *least about your job?*

I most enjoy the flexibility, doing research work, and interacting with students. I least enjoy dealing with people's problems.

*What are the most challenging aspects of your job?* 

Finding a balance between what I want to do and what I have to do. Time management is key.

What has been your most rewarding accomplishment?

My first research student. ON CAREER PATH & TRAINING

*What kind of education and training do you have?* 

B.Engineering Physics —> MSc. Plasma Physics —> PhD. Electrical Engineering.

How did you get into your field of research?

I found a niche in physics and started in labs, then became a contract researcher before getting a faculty position.

*How did you choose where to do your graduate studies?* 

I chose a location first, then the research area of interest.

Was there a time you messed up and felt like you'd failed? How did you bounce back?

No regrets! But maybe a few regrets on turning down a job... it's just a matter of moving on with the decision you make.

What's the most important leadership lesson you've learned?

#### Be decisive!

Are you a member of any professional orders or associations? Which ones do you feelare the most important to belong to?

In my field a P.Eng is required, but it may not be very useful for specialty degrees. IEEE has a lot of value; it's international, a source of information, hosts events. Specialized groups are great, as they expose you to specific areas of practice (e.g. the American Vacuum Society).

#### ON FUTURE PROSPECTS

What are future prospects in your field? What trends do you see developing over the next few years?

Digital systems and software will touch all fields, but the limitations of software is hardware — so that's where development is still needed.

What resources do you regard as essential for those considering work or study in optical sensors?

Get exposure and engaged in an area of research by taking on summer internships or jobs. Get as much handson experience as possible (it's not all glamorous).

EngPhys has 2 primary focuses: integrated semiconductor devices and optical devices. Any advice on choosing between the two?

Optical is the next great thing since forever, and it's still developing. Solid state electronics still runs the world. So the challenge is the interface between the optics and the device; that's where all the potential lies.

Are you accepting undergrad students for 4th year projects or summer internships?

Yes I'm taking on summer NSERC-funded students, as well as 4th year project students (as assigned from the DOE based on preference).

Any final words of wisdom?

Do something that you find interesting, and be good at it.

#### PROF. MOHAMED ATIA



What do you enjoy the most and the least about your job?

I most enjoy explaining concepts! It's why I became an academic. I least enjoy marking. It's so time consuming.

#### *What are the most challenging aspects of your job?*

Keeping up with advances in the field. Finding balance between teaching, service, and research. The secret to time-management is setting self-imposed deadlines, because otherwise it's easy to get stuck refining whatever you're working on, forever. very helpful when teaching.

*Was there a time you messed up and felt like you'd failed? How did you bounce back?* 

I applied for over 130 academic positions to no avail, and went many interviews with no responses. So I figured I needed to do more and took mini-courses/workshops on how to be an effective teacher (i.e. I worked on my soft skills). I didn't give up an eventually got a faculty

#### position at Carleton.

#### study in optical sensors?

Understanding the hardware design of computer systems and the ability to write effective software. Learn how to be an embedded systems engineer! It's useful for anything that needs a smart chip.

EngPhys has 2 primary focuses: integrated semiconductor devices and optical devices. Any advice on choosing between the two?

I have no idea! Try to do coop placements and engage with industry, learn about practical applications, and shape your direction based on this. Discuss it with profs.

#### ON CURRENT POSITION & RESPONSIBILITIES

#### What do you do at Carleton?

I'm an assistant professor in the Dept. of Electronics. My research is on the fusion between microprocessor systems and sensors. Specifically, how can we interpret and transform signals/information into something useful? How can we apply that to autonomous vehicles, biomedical sensors, navigation, etc...

*What is a typical day like in your job?* It's a mix of lecturing, reading trade papers, peer-reviewing IEEE papers, and creating course material that is effective.

What has been your most rewarding accomplishment?

Seeing a student that "gets it" from what I've taught.

#### ON CAREER PATH & TRAINING

How did you get into your field of research?

I always liked explaining things to others and liked learning. So I started in software but it wasn't enough to fill my curiosity so after working in industry for about 6 years, I went back to complete my Master's and my PhD part-time (both while working), and then I got a faculty position. Having a background in industry is *What's the most important leadership lesson you've learned?* 

Have a clear vision: where are we going? Why are we doing it? And listen more than speak. Really listen and reflect on the feedback.

#### **ON FUTURE PROSPECTS**

What are future prospects in your field? What trends do you see developing over the next few years?

There are still a lot of unused ideas, applications, and technologies for example autonomous systems and machine learning. The future is in the convergence of fields, like systems on a chip.

What resources do you regard as essential for those considering work or Are you accepting undergrad students for 4th year projects or summer internships?

Yes! The EMS lab is currently looking for programmers at the hardware level (C++ assembly). This is a paid internship position available right now. I also accept 4th year students for projects on positioning and navigation without GPS. Come see me!

Any final words of wisdom?

Work on your soft-skills! Being an effective communicator is very important. Also talk to senior students and professors! Don't be shy!

#### WHY DO ALL THESE PROFS SOUND SO WHOLESOME?





#### IT'S DANGEROUS TO GO ALONE



## HOROSCOPES



You can expect a sudden surge of passion motivating you this month... to make leo's memes, not to do anything productive.

### TAURUS

The stars are wondering... uh, are you doing anything later? That's cool, they totally understand if you have plans. They're just asking



IF YOU HAVE A ~FUN~ VALENTINE'S NIGHT PLANNED, REMEMBER TO USE PROTECTION! AND IF NOT, DONATE THOSE UNUSED CON-DOMS TO THE C-ENG MUSICAL! GOTTA FILL THOSE VIP BAGS SOMEHOW.

Look at your man, now at Glenn McRae, now back at your man, now back to McRae. Sadly, he is not McRae, but if he started car-



SAGITTARIUS

TRY MAKING YOUR PROF A VALENTINE'S DAY CARD, SEE IF IT GETS YOU A BOOST ON YOUR MIDTERM. WHAT'S THE WORST THAT CAN HAPPEN?



on February 15th. Get yourself that 50% off box. Thank us later.

FOR A FRIEND, THEY SWEAR.



PERSONALITY MAKES UP FOR IT! OR MAYBE THEY'RE JUST SAYING THAT SO YOU DON'T FEEL SELF-CONSCIOUS...



I WISH I HAD AIRPODS SO I COULD DROWN OUT ALL THE OTHER BULL-SHIT. RYING A GREEN CLOCK, HE COULD TELL YOU YOU'RE LATE TO SUBMIT YOUR WORKSMART CAMPUS.



Show that special someone that they are the light of your life by setting off a bunch of discount firecrackers in their front yard.



STICK YOUR DICK IN... IT WOULD BE STRAWBERRY RHUBARB, RIGHT?



Don't be a selfish lover... check in on what your partner wants to do for V-Day. It's Aquari-US, not Aquari-ME.



PISCES THERE'S NO BETTER WAY TO GET OVER AN EX THAN TO RUSH HEADLONG INTO A NEW RELATIONSHIP! OR AT LEAST THAT'S WHAT MY EX SAID...



#### HEY STARS CAN YOU SPEAK UP? IT'S HARD TO UNDERSTAND YOU

## DISTRACTIONS

#### NOW THAT'S WHAT I CALL NEGA-INSPIRATION



I DON'T KNOW HOW TO PROPAGATE ERROR CORRECTLY, SO I JUST PUT ERROR BARS ON ALL MY ERROR BARS.









THESE REMINDERS MAKE ME UNCOMFORTABLE, NOT BECAUSE COMPUTERS ARE GETTING TOO SMART, BUT BECAUSE IT REMINDS ME HOW OFTEN I FALL SHORT OF EVEN BASELINE LEVELS OF CONSCIENTIOUSNESS.



When it's the night before an exam you're not prepared for and you need a doctor's note



poorlydrawnlines.com



#### THAT CO-OP MONEY... IT CHANGES PEOPLE



#### THE CARLETON STUDENT ENGINEERING NEWSPAPER

## LAST CALL

If you weren't in engineering, what would you be pursuing?

#### REAL CLEVER STORY, LOGAN

Hailing from: Sydenham, Ontario Song that is the anthem of your life:

**Weirdest thing you've ever purchased:** Leopard print thong, for a birthday gift.

Memory that you never want to forget:

The Climb, Miley Cyrus

Visual Arts.

#### THE IRON MAN LOGAN "SHITHAWK" MCFADDEN – AERO A III –



Playing with my dog, and seeing her wag her tail when she is excited.
Most private thing you're willing to admit:
I'm always kind of late with things, but hey at least it's here.
Most useless talent:
I can touch my nose with my tongue.
If you could have any super power, what would it be and why?
The ability to refill things (my motivation, my fridge, my pitcher, etc).
Gimme your smoothest pick-up line:
Are you October 10th? Because you're 10/10.
If there is a god/creator of the universe and you could ask it one question, what would it be?
Is the colour orange named after the fruit? Or is the fruit named after the colour?
Hit me with your best six-word horror story:
your best six-word horror story



**OEC** Volunteer



Hailing from: London, Ontario (the second most popular London in the world)

**Song that is the anthem of your life:** Something Just Like This by Coldplay and The Chainsmokers

If you weren't in engineering, what would you be pursuing?

Technical Theater (I like to sew).

Weirdest thing you've ever purchased: A mannequin (I like to sew a lot).

**Memory that you never want to forget:** Getting lost for three hours on the canal.

Most private thing you're willing to admit: I love dancing, even though I am bad at it.

#### Most useless talent:

I can get my arms from being handcuffed behind my back to in front of my back. Before you ask, this was for an escape room, get your mind out of the gutter.

If you could have any super power, what would it be and why? Time control. Never miss an assignment again.

Gimme your smoothest pick-up line: I'm pretty sure I can pick you up. Wanna try?

If there is a god/creator of the universe and you could ask it one question, what would it be? Do you have any regrets? Hit me with your best six-word horror story: I'm sorry, she didn't make it.



## USES FOR THE CHARLATAN

> Send prank Valentines to your enemies.

> Make a scale model of your AERO 3002 concept design.

> Create an haute couture ensemble entirely out of paper... it's called ~fashion~ sweaty, look it up.

 > Use it as a folder to keep your resumes safe when you go to networking events.

> Hand them out to CUSA campaigners when they try to hand you their pamphlets.

 > Throw them in a woodchipper for instant fake snow! Just in case you wanted some more snow.

> Tear off pieces for spitballs when you need to get your friend's attention from across

Electoral Committee x2 Freng President x2 CMAS 4th year Rep CMAS Office Coordinator

the room.

> You could read it

#### Editor-in-Chief

Caroline Lenarcic

#### **VP** Publications

Elizabeth Wilson

#### Special Thanks To:

Dirac, for taking the square root of the Hamiltonian and discovering anti-matter.

- Footnotes -

#### Issue Made Possible By:

Fun fact:

**69** homies keeping the groupchat lit at all hours

**2** hours of Youtube autoplay supplying a large dose of Panic! At The Disco Footnotes have not been known to contain any feet... yet.



#### AND WE MARCH FORWARD TO NEXT MONTH