

THE gateway

THE UNIVERSITY OF ALBERTA'S OFFICIAL STUDENT MAGAZINE



Smith Speech
4:30 Thurs. A143

THE GATEWAY

Revival Of Mock Parliament Mooted

Gov. Gen. Massey To Visit Varsity

Froth On Engineers' Beer Mug

Poly. Science Club Supports Movement

Australia, Arts Discussion Topic By Brian Elliott

SCM Discusses Christian Student Responsibilities

From Law Bound to Broker of Boards

 4 YEARS

 4 YEARS

 1 YEAR

 2 YEARS

 The Future



2 YEARS LONGER



.....
Complete my BCom and get accepted into the law program a few years later. Spend every free moment skate/snowboarding throughout university.



.....
Move to Calgary to article. Work part time at a skate/snow shop and fall for getting people into the sports I love.

UNKNOWN OUTCOME



.....
Realize Edmonton is home. Move back and resume working in a skate/snow shop. Dream about turning my passion for boarding into a business ... Worried about market saturation in YEG.



.....
Celebrate Rumor's 10th birthday and all of the amazing opportunities to strengthen the Edmonton and Area board scene that have come along with it.



.....
Leduc breaks ground on its skate park. Realize it's now or never ... Open Rumor Skate & Snow in Leduc and turn the dream into reality.

4 YEARS LONGER



START



Dean Piquette, '00 BCom, '04 LLB, Owner of Rumor Skate & Snow

"It's easier to find the confidence and take the risk to become an entrepreneur when you know you've got great career prospects afforded by your UAlberta degrees to fall back on."

[@RUMORBOARDSHOP](https://www.instagram.com/rumorboardshop) | [UALBERTA.CA/ALUMNI/](http://ualberta.ca/alumni/)

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ALUMNI | DO GREAT THINGS

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THE SYLLABUS

NOTES

02

U of A Collections

Check out this early hominid skull named Zinj, from the Fossil Hominid Cast Collection.

03

Campus Clips

A Halloween party got a little too lit in 1978, when a fire broke out in Pembina Hall.

04

Five Things For...

Scaring yourself shitless is now a possibility with creepy books, films and of course, finals.

05

Beyond the Bachelor

What does someone do with a Master's in Public History? Lauren Markewicz can tell you.

06

Point / Counterpoint

Should you flaunt your Halloween spirit or not?

07

Worth It or Not Worth It

Two writers weigh in on the worth of four fall staples.

THE QUAD

08

Q&A with Jonah Dunch

A second-year drama and philosophy student talks about his play about myths and demons.

10

Finding Fellowship with The Last Alliance

A campus club that practices Elvish, so they're automatically cooler than you.

DIVERSIONS

26

Illustration Strip

A visual depiction of October campus feels.

28

Find the...

Take a sweet photo of this creepy desk to win something even sweeter. Take a seat, if you dare.

28

Anecdotes

Have you ever been locked in a bathroom with the smell of shit and a possible ghost? We know a guy who has.



THE NEW INTELLIGENCE **12**
AI research at the U of A spans from
Roombas to bionic limbs.



EDMONTON VOTES **19**
Your municipality needs you — find out
how to vote on October 16.



FROM THE FOSSIL HOMINID CAST COLLECTION

Early Hominid Skull (*Paranthropus boisei*)

BY MATT GWOZD | PHOTO BY MATT GWOZD

Meet Zinj, a replica of a 1.75 million-year old *Paranthropus boisei* skull, an early hominid species. The original was first discovered by Mary and Louis Leakey in Tanzania in 1959. Since then, a number of casts of the skull have been made for universities around the world, one of which now resides in the University of Alberta's fossil hominid cast collection.

The collection features replicas of fossilized skulls and bones from ancient primates and early human ancestors. While the collection is especially useful for anthropology students, anyone can access the collection, including members of the public.

Zinj was the first fossil discovered of its species and also the first

"It makes a real difference to actually be able to pick up something, hold on to it, and see it, rather than just look at a picture."

— PAMELA WILLOUGHBY,
CHAIR OF THE DEPARTMENT OF ANTHROPOLOGY

of a hominid to be found in East Africa, which is now an important region for researching early hominid evolution. This hominid may even have been the first to use tools. **g**

CAMPUS CLIPS: OCTOBER 31, 1978

BY NATHAN FUNG

Running from 1910 to 2016, The Gateway newspaper has been covering residence, and other student issues, for a long time. Read this section to learn about Gateway and U of A history, and laugh at how people used to talk back in the good old days.

Context: The last three months of 1978 were tense times for students living in Pembina Hall. Prior to becoming office space for faculties in 2005, Pembina was the main residence for mature students. In 1978, a string of bizarre incidents began in October when a fire put an end to a Halloween party. This was followed by another fire in November, and a bomb threat in December.

PEMBINA PARTY TOO HOT TO HANDLE

BY LOREEN LENNON | VOLUME 69 ISSUE 15 TUESDAY OCTOBER 31, 1978

A fire in Pembina Hall early Saturday morning forced residents in all manner of costume and undress into the cold, abruptly ending their Halloween party. Fortunately no one was injured and damage was minimal.

However, the origin of the fire which broke out about 1:15 am in the south wing of the fourth floor is still unknown.

The fire was first detected by John Stadnyk, who was sleeping at the time. He described the incident yesterday.

"I heard a crackling, noise outside my door and saw a flickering light. I rushed to open the door and found the curtains in the hall in flames."

Stadnyk grabbed his pants and alerted the residents of the surrounding rooms. While the others sounded the alarm and evacuated the floor, Stadnyk doused the fire with an emergency extinguisher.

The building was cleared quickly and without incident. "When I left," Stadnyk explained, "the fire was still smouldering."

Arson is suspected and the cause of the fire is currently under investigation by the university with the help of Edmonton Fire Department and the RCMP.

All that is definitely known, said University Fire Marshall Sid

Smith, is that the fire started around the drapes in the corridor and spread to the wooden door and window frames. After the smoke cleared, the carpet and walls were badly charred.

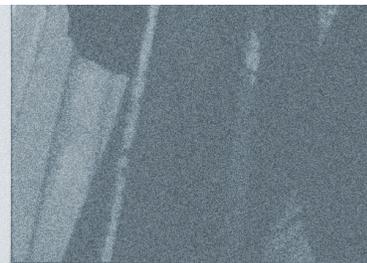
Pembina Hall Chairman Gordon Burns also noted that there seems to be little evidence that the fire was an accident. "There's nothing combustible in the area — no electrical outlet heaters or garbage — and the curtains are not easily ignited," he said.

The damage, mostly caused by the thick, smelly smoke and soot, has been roughly estimated at \$500-\$700. This includes damage to personal belongings and the residence's emergency fire hose.

Burns does not dismiss the possibility of a link between the fire and the party, but neither does he emphasize it.

"There were reports of rowdy non-residents running through the halls shortly before the fire alarm was sounded, said Burns, "but it really could have been anyone who actually cause the trouble."

No extra security measures are planned for the building. It is already restricted to residents and guests, and as many have since observed, there is ultimately no protection against a determined individual. **g**



FIVE THINGS FOR: Scaring Yourself Shitless

BY ENRIQUE MARROQUIN | ILLUSTRATION BY ALEX PATTERSON

It Comes At Night

FILM SELF-IMPOSED FEAR

This film does a great job at giving viewers a perpetual uneasiness which quickly turns into a looming fear. The main premise centers around a deadly plague that bloodies and kills its victims — and that’s really all the detail you hear. By omitting all background information, the most intense fear from watching comes from your own head

The Prestige Soundtrack

SOUNDTRACK AURAL FRIGHT

Never listen to this while walking home at night in the river valley — it’s a bad idea. A terrible idea. It’s the kind of soundtrack which permeates the air with the feeling of dying alone in the woods. While the soundtrack was fairly unnoticeable in the film, there’s an overwhelmingly creepy quality in the simple chords and sparse electronic landscapes of its tracks.

The Troop by Nick Cutter

BOOK CANADIAN CREEPINESS

The Troop, written by a Canadian author who goes by the pen name Nick Cutter, takes place on an island off Charlottetown, P.E.I., where a troop of boy scouts are visited by a voraciously hungry and eerily thin intruder. It’s perfect for an outdoor summer read, and an even better promoter of having uncomfortably creepy dreams.

Night Shift by Stephen King

ANTHOLOGY SCARY SHORT STORIES

Stephen King is the master of horror writing, never failing to instill eeriness into his short stories. King’s first collection, *Night Shift*, contains 20 that are best read alone in a dark apartment to get the full experience. Notable pieces include “Graveyard Shift,” “Jerusalem’s Lot,” and the craziest of the bunch, “The Boogeyman.” The stories are quick, gritty, and make great nightmare fodder.

Final Exams

IRL FEAR STUDENT NIGHTMARES

It’s (probably) good to acknowledge everyday fears. And it’s not easy to reach the level of the white-hot horror of being unprepared and opening a final exam. The dreadfulness of sitting in some god-awful, fluorescent-lit, and crowded room of dorks is unparalleled, and it lasts hours. **g**

BEYOND THE BACHELOR: LAUREN MARKEWICZ IS UNEARTHING THE STORIES OF THE PAST

BY VICTORIA CHIU | PHOTOS SUPPLIED BY LAUREN MARKEWICZ

Lauren Markewicz:

BACHELOR OF ARTS IN HISTORY AND FRENCH MASTER'S IN PUBLIC HISTORY

If you've ever wondered what kinds of amazing stories Edmonton has to offer, look no further than University of Alberta alumnus Lauren Markewicz.

Markewicz completed her Bachelor of Arts in History and French at the U of A before obtaining a Master's in Public History at Carleton University, focused on the representations of Indigenous people on early Western Canadian postcards. She now works as a bilingual public interpretation coordinator for Parks Canada. Her career path has taken her to some unexpected places — Fort Edmonton Park and Elk Island National Park — for a graduate degree in history.

"People sometimes tell me that I'm a naturalist (instead of a historian) and wonder if I'm doing something related to my degree," Markewicz says. "But what I'm doing is actually directly related to my degree: bringing cultural history to park visitors."

The work has led her to some amazing discoveries. Through her conversations with Indigenous elders and independent archival documentary research, Markewicz has encountered a wealth of verbal knowledge and legends that are largely unknown to much of the general public. From stories about elaborate funerals to supernatural cannibalistic wendigos — evil spirits of many indigenous legends — to hidden buffalo hunting grounds in now-urbanized areas, Markewicz has found that there are always stories to be heard if you're willing to listen. **g**



POINT / COUNTERPOINT

SHOULD YOU WEAR YOUR HALLOWEEN COSTUME TO CAMPUS?

A discussion on whether to embrace the Halloween spirit or not.

Point: Express Yourself with Spandex

BY AIDAN HERRON

Self-expression is not something you see candidly on campus very often. Not that I blame anyone for that — it's terrifying to put yourself out there. But there is one time of the year where you're allowed to strut around campus looking like a zombie with no fear of persecution—and I'm not talking about finals week.

Halloween is a license for self-expression, and you should bring that self-expression to campus. At best it will be a social catalyst, and at worst you'll freeze to death because you're walking from Tory to SUB in a spandex Spider-Man costume.

The possibility of death notwithstanding, you have two ways to see Halloween: as a holiday where you can justify eating loads of candy and dressing up as someone or something that makes you feel awesome, or as a Tuesday. Which perspective you choose to bring to campus is up to you, but personally, I have had more than enough Tuesdays already.

If it is ostracization that you're afraid of, there's an answer to that too: wear a mask! Then you can go from being a figurative faceless husk of a student to a literal one. And if things do go poorly, you can always gossip with your friends the week after about that one audacious freak who dressed up for Halloween when nobody else did, and they will have no way of knowing that it was you the whole time.

You should take Halloween as an opportunity to get yourself out there. I won't lie to you and say there'll be zero judgement (I never heard the end of it after I came as a sexy giraffe one year), but who cares? It's Halloween. Dress up, have fun, and bring that fun to campus.

Counterpoint: Eat Some Candy Instead

BY SHAY LEWIS

There are many ways to express yourself: your hair colour, hair style, and clothing being chief among them. Wearing a costume to campus on Halloween, however, is not one of those ways.

When you wear a costume you literally cover yourself and pretend to be someone else. Worse, you blend into the (sometimes faceless) mass of people who wore the same costume as you.

Yes, it says something about you if you are willing to wear nothing but spandex in below-zero weather, but under your Hulk mask I won't be able to tell who "you" is anyway.

Often, the class is too large for it to matter. There is a time and a place for asking people about their costumes and, unlike halloween costume parties, massive lecture classes are neither.

If you do decide to wear a costume, you are faced with a choice between stacking your costume over enough clothes to be warm outside, or not. If you opt for the former you will likely be melting in class, and if you opt for the latter you could literally get frostbite outside. Neither of these two scenarios are fun, and there are better ways to start a conversation than praying someone is empathetic enough to notice your suffering.

Of course this doesn't mean you need to ignore Halloween altogether. You can still have fun with candy, decorations, parties, and other shenanigans. Halloween can be lots of fun, and there's no need to define it as just wearing a costume to class. Use this Halloween to put yourself out there and try talking to those classmates you generally ignore, or go to events you otherwise skip, rather than just hiding yourself away under a costume. **g**

WORTH IT -OR- NOT WORTH IT

AUTUMN EDITION

Two writers weigh in on whether it's worth it to invest time, money, and emotion into the following.

Pumpkin Spice Lattes

BY PIA MAXINE-CO

The taste of the latte is worth it. The pain that comes with a PSL simply isn't. If you admit that you like PSLs, you will lose friends. You'll be accused of poor taste and having too much money on your hands. If you say you don't like them, you'll be called judgmental and closed-minded. It's safer to avoid having an opinion at all. Say you like the white chocolate mocha instead.

NOT WORTH IT.

Studying for Midterms

BY EMMA JONES

It's easy to have zero motivation in October. Netflix releases new series, walking to the library gets chilly, and a layer of germs generally settles over campus as the leaves change colours. Not studying for midterms might seem like the right call if it means you can avoid leaving your bed, but you'll live to regret it in December, when you really don't want to leave your bed.

WORTH IT.

Buying Candy for Yourself

BY PIA MAXINE-CO

You are an adult who has to work to earn things. You deserve nice things. But let's be real, you can't afford that shit. What you can afford comes in the form of sugar-induced dopamine rushes. Fistfuls of cheap, chocolate bars and Halloween-themed Smarties (Scaries!) are the closest thing to salvation from university-induced poverty. Kids don't know real pain. They don't deserve real joy. Let's give candy to people who deserve it.

WORTH IT.

Horror Movies in Public

BY EMMA JONES

There are two kinds of people who watch horror movies in public: those who choose to do so willingly and those who are dragged there by someone else. Regardless of which one you are, it's a bad time. Either you're listening to the high-pitched screams of strangers, completely interrupting your ability to understand the plot, or you're embarrassing yourself by by ruining someone else's movie experience with your high-pitched screaming.

NOT WORTH IT. g



Adapting Myths for the Stage

Q&A with Jonah Dunch

BY SOFIA OSBORNE | PHOTO BY ROSTY SOROKA

Second-year drama and philosophy student Jonah Dunch's play *Ahunwar: The Devil's Long Nap*, has been selected for a reading in the New Works Festival, an upcoming drama festival on campus. Every year, the U of A drama department puts on the New Works Festival to stage new plays by students and recent alumni. Dunch's play, to be read on Oct. 22, will be one of four appearing in the festival's In Development series, where

playwrights will hold readings of their work and have opportunities to gather feedback.

The Gateway: Tell me about your play.

Jonah Dunch: It's based on a Zoroastrian myth from the medieval Persian empire. It tells the story of Ahriman, the king of demons, who, after a 3,000-year slumber, is awoken by a female demon named Jeh. In my version of the story they discover

over the course of the play who Ahriman was, since he's lost his memory, and what's going on and what sort of relationship he, as the devil, has to Ohrmazd, the God, who's an unseen presence throughout the play. It deals with problems of predestination and omniscience and fate and powerlessness, even if you're literally the devil.

How did you become interested in this myth?

I actually discovered it through my Religious Studies 102 class which was Introduction to Western Religious Traditions. We went over some ancient religious movements including Zoroastrianism, which is actually arguably the oldest monotheistic religion. We read this myth in class in the Zoroastrian text the Bundahishn and I was really struck by this bizarre, really strangely-characterized story in the middle of it about Ahriman, the devil, getting shaken awake by Jeh, this demon, and him being all like, “No, I don’t want to get up, I don’t want to get up.” So he’s all grumpy about it and juvenile, which is a really interesting characterization of the devil.

What was the process of writing this play like?

I began writing it in winter reading week last year because I hadn’t been writing as much as I wanted to that year. I wanted to actually

write something, and something that I knew I could achieve in a short period of time. I wrote it in two weeks and then brought it to the U of A playwright’s forum with the playwright in residence last year, Colleen Murphy. We didn’t even finish reading it

“There needs to be drama, there needs to be conflict between the characters; it’s very much the characters pushing against each other that pushes a play forward...”

— JONAH DUNCH

because she made it a teaching moment and said that even in a play like this where it’s a quest and the two characters are figuring things out together: there needs to be drama, there needs to be conflict between

the characters; it’s very much the characters pushing against each other that pushes a play forward.

And your play has been chosen for the New Works in progress event, tell me about that.

On October 22, whatever draft of the play I have at that point will be taken up by the director, they’ll get some actors together that morning. In the evening, it will be presented as a reading to an audience and there will be a talk back where I can get some feedback. It’s an opportunity for the playwrights to see what their play actually looks like on its feet but in an incomplete version still. It’s a stepping stone part of a playwriting process and it’s something that’s useful to have but not every playwright could get something like that so I’m really grateful to the New Works festival for facilitating this. **g**

Finding Fellowship with The Last Alliance

BY PIA MAXINE-CO | ILLUSTRATION BY LAURA LUCAS

There's only one club on campus where students can practice their Lord of the Rings Elvish (more accurately, Quenya): The Last Alliance of the University of Alberta.

Once a small group of friends that started meeting in the Chaplain's Office in HUB Mall, the J.R.R. Tolkien-centred squad suddenly found the entire office packed during one of their meetings. Now they meet in the Heritage Lounge in Athabasca Hall, discussing lore as old and intricate as the walls that surround them.

The club is made up of diverse folks, including comparative literature, computing science, physics, and math majors.

"I think it's a bit of a creative outlet," past president Alex Thompson said. "Some of these people have such specific degrees that the club is the only place where they can do something like read a book that they actually enjoy, not just math."

The club strives to create a space where students can talk about Tolkien's works, like *The Hobbit* and *The Lord of the Rings* trilogy. By creating a community, the club aims to reflect Tolkien's own philosophy of fellowship.

The members of the club are intensely loyal past president Cara Luken has the insignia of the Last Alliance emblazoned on her upper arm in black ink encircled with Quenya words.



ráin kutóm íi pi tui

Literary analysis of Tolkien's work is the foundation of the Last Alliance. *The Silmarilion*, Tolkien's poetic encyclopedia of his entire mythological universe, is admittedly complex, however, there's humor and wit that laces the entirety of his mythos.

"*The Silmarilion's* first chapter is basically a rap battle," club president Sofia Parrila explained. "Basically, one guy tells another guy to stop complaining and being a little bitch."

As it turns out, that might not be too obvious to someone trying to read Tolkien by themselves. The group book studies are helpful to people trying to comprehend the text.

The club members have overlapping interests beyond Tolkien, including Game of Thrones and Star Wars.

"I'd like people to know, whatever kind of nerd you are - reading, speaking Elvish, or anything else... you'll find other people who are equally obsessed with these things," Parrila said. "If you haven't even read (*The Lord of the Rings*), and you want to find fun nerds to hang out with, this is the place to be." **g**

UPCOMING CLUB EVENTS:

Murder Mystery Night

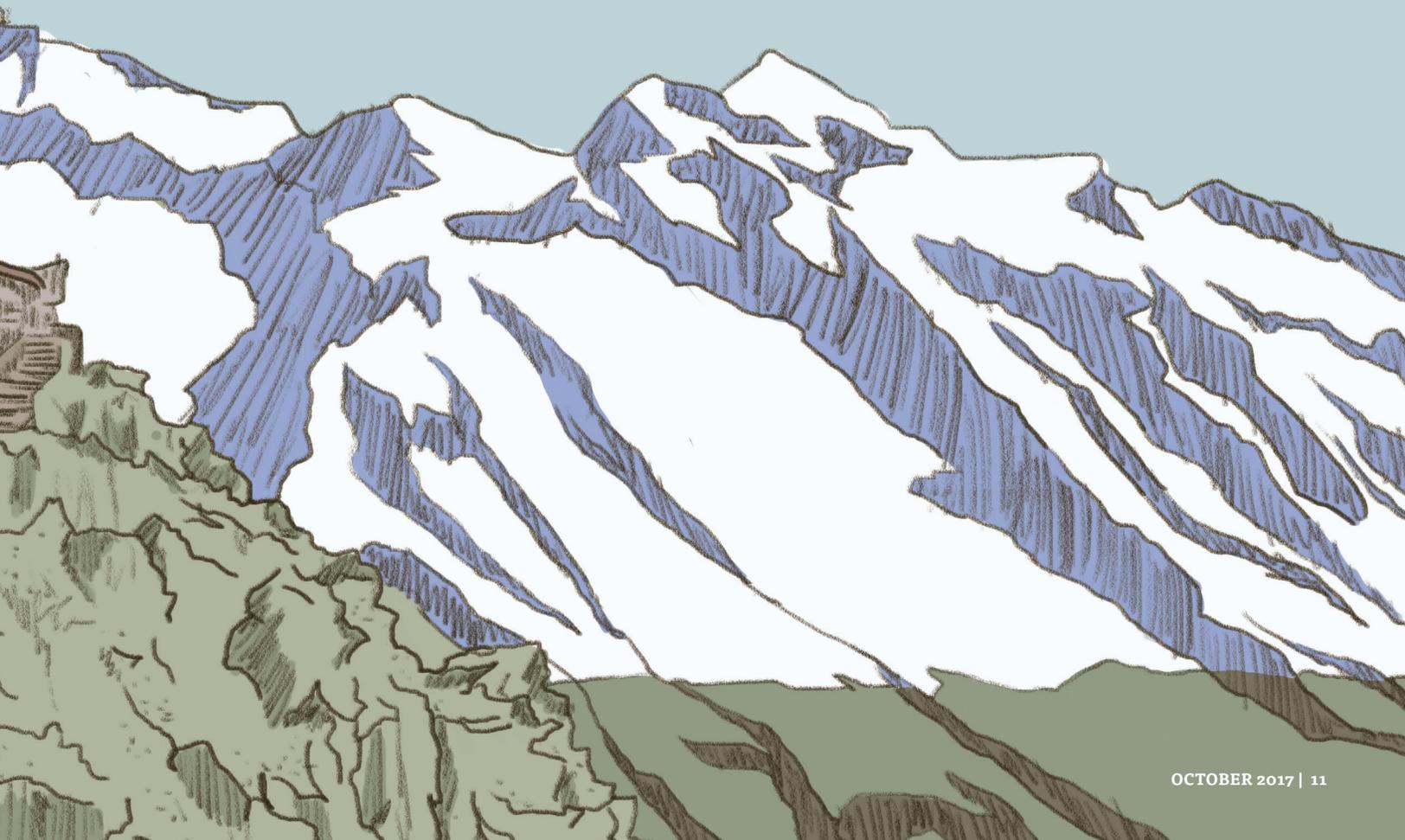
FRIDAY OCTOBER 13

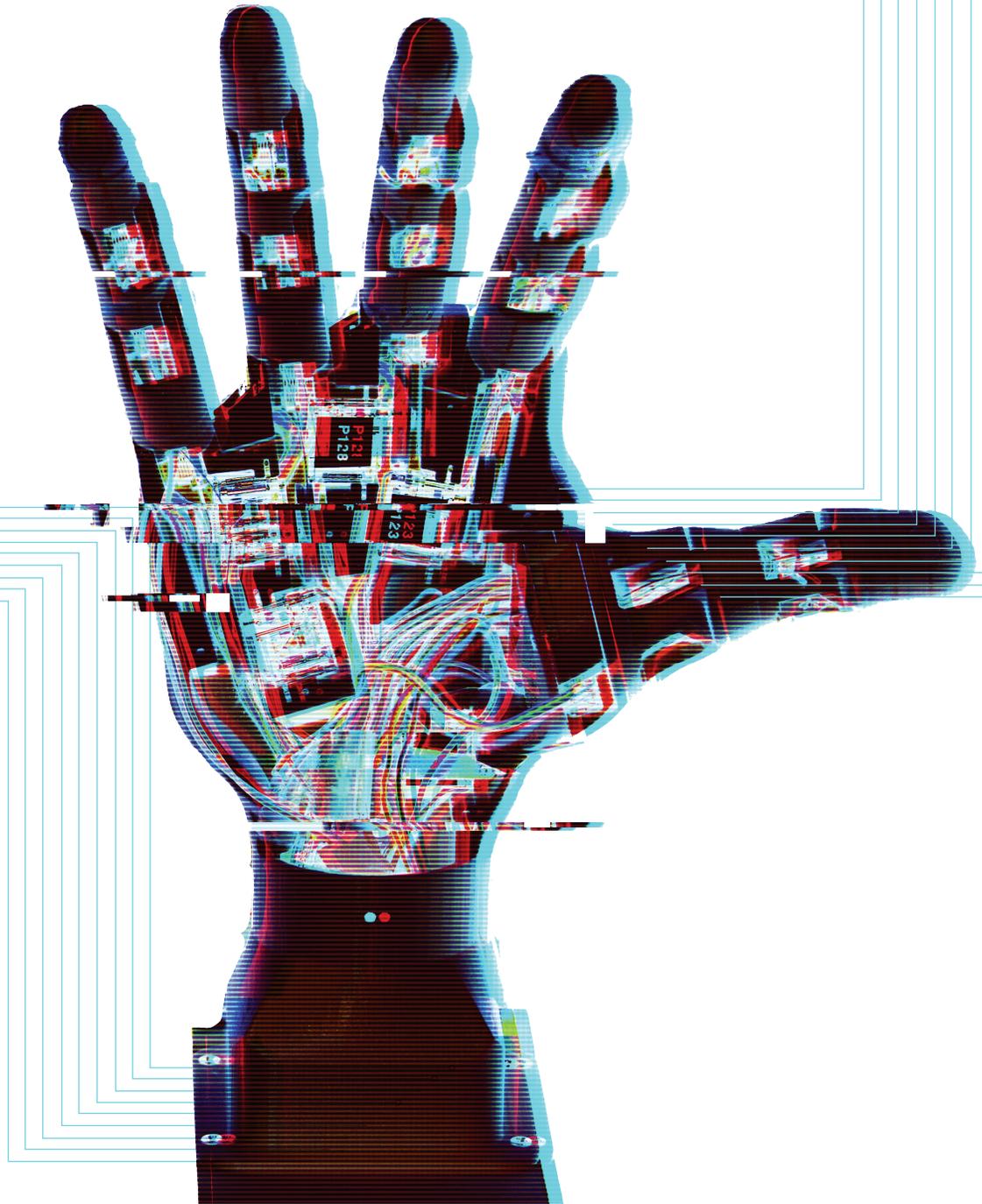
Riddles in the Dark Trivia Night

FRIDAY NOVEMBER 10

For more information on club events and how to get involved check out:

[FACEBOOK.COM/LASTALLIANCEUOFA](https://www.facebook.com/lastallianceuofa)





THE NEW INTELLIGENCE

AI RESEARCH AT THE U OF A

BY SOFIA OSBORNE

ANNA KOOP STANDS INSIDE A MAKESHIFT WOODEN PEN WHILE A ROOMBA RACES TOWARDS HER, TURNING AT THE LAST MINUTE AND ZOOMING AWAY.

With a laptop running an artificial intelligence program mounted to its back with green masking tape, and a camera on its front, the Roomba went from slamming into the walls of the pen to turning jerkily to avoid them.

Koop is a PhD student working at the Alberta Machine Intelligence Institute, an umbrella organization for U of A researchers studying AI with a \$2 million per annual budget for research and commercialization. Her PhD supervisor is Michael Bowling, a computing science professor and head of the university's Computer Poker Research Institute, which has built some of the best poker-playing AI systems on the planet.

Koop explains that the Roomba doesn't really have a purpose; it's a robot that researchers in the Reinforcement Learning and Artificial Intelligence lab, a subset of the institute, can use to explore learning. Whether they want the Roomba to avoid walls, follow a person around a pen, or crash into the boards is up to them.

The research Roomba, referred to as the Robot Learning Project, is an example of reinforcement learning: a subfield of AI where computers aren't told the right thing to do, but are given positive reinforcements when they do something right. Koop compared it to giving a dog a cookie. By first slamming into the wall, the robot learns through experience to predict when it's approaching the wall so it can turn away. The hope is that the robot won't have to

fake being intelligent, unlike the chat bot on a phone.

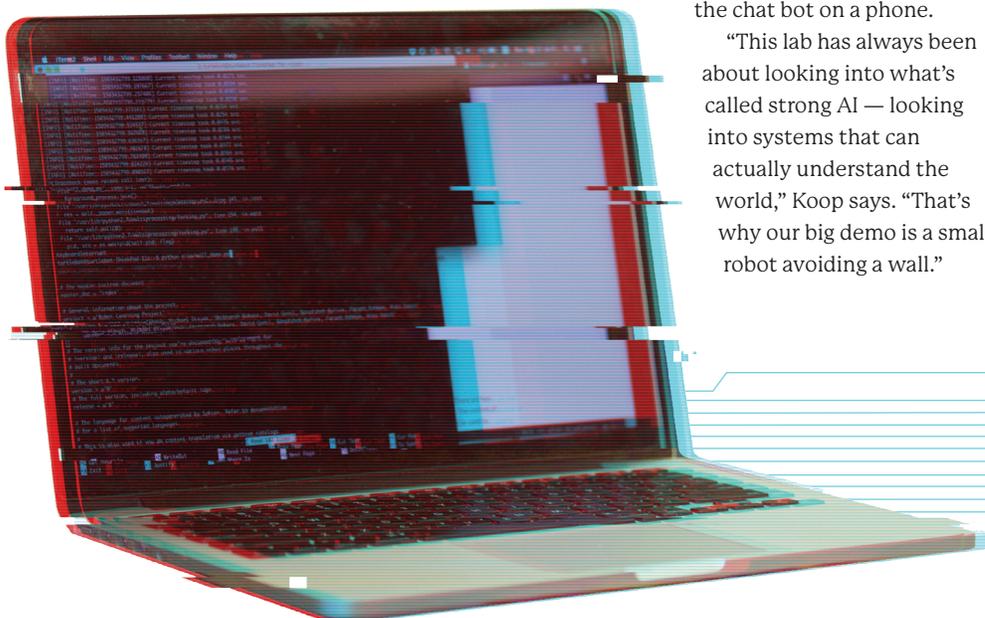
"This lab has always been about looking into what's called strong AI — looking into systems that can actually understand the world," Koop says. "That's why our big demo is a small robot avoiding a wall."

Parash Rahman, a fifth-year computing science student, works on the Robot Learning Project as an intern. With other interns and graduate students, he's been setting up the project to be accessible to researchers who don't know as much about robotics. He has helped create the wooden pen environment and the tutorial experiment of having the Roomba learn to avoid walls based on what it sees.

"IF YOU MAKE A ROBOT THAT HAS A ROBOT FRIEND, MAYBE THEY CAN UNDERSTAND EACH OTHER AND MAYBE THAT UNDERSTANDING CAN BE CLASSIFIED AS HUMAN. I THINK ALL THESE THINGS ARE POSSIBLE BECAUSE WE EXIST." — PARASH RAHMAN, COMPUTING SCIENCE STUDENT

Rahman works with computers, but like other people who are drawn to the lab, he's interested in ideas of learning, thinking, and human nature. He explains that they could have added sensors to the Roomba so it could tell when it's close to a wall and avoid it, but instead they want to see the computer build knowledge on its own from seemingly random inputs.

"I think the reason we seem so warm is because we understand how other humans sense the world," Rahman says. "If you make a robot that has a robot friend, maybe they can understand each other and maybe that understanding can be classified as human. I think all these things are possible because we exist."



“IT WOULD BE NICE TO SAY THAT WE HAD THIS PLAN TO BECOME A WORLD POWERHOUSE IN ARTIFICIAL INTELLIGENCE RESEARCH.”

— JONATHON SCHAEFFER,
DEAN OF SCIENCE

While the research being done at the RLAI lab is closer to the realm of “pure” science, and the scientists aren’t really trying to apply it to the real world, the technology running the Roomba around the pen can be found in applied settings like medicine. The tech is used to move the arms, wrists, and fingers of prosthetics for amputees, who face the difficulty of controlling their new bionic limb in the way they would have controlled a real arm.

Alexandra Kearney worked on limbs that mold to a person in real time over a lifetime, learning, supporting, and sometimes executing actions the user is likely to take. Now a PhD student, Kearney worked on AI-powered prosthetics as an undergraduate intern in the Bionic Limbs for Natural Control lab in the Faculty of Medicine, assessing how researchers could use AI and reinforcement learning to adapt to the user.

Kearney also worked on reading electrical signals from the surface of a person’s skin using electrodes to translate them into controls for a prosthetic. That way, muscles flexing become similar to a joystick controlling a video game. Typically,

these bionic limbs can only be controlled one joint at a time. The user has to move the elbow to a certain position, then the wrist, and finally a finger. The lab’s goal is to unite those individual movements by creating an artificially intelligent arm that can switch between joints to perform actions that it thinks the user wants to do.

Dylan Brenneis, a mechanical engineering Master’s student who works with Kearney in the BLINC lab, is creating bionic limbs for testing AI algorithms. As an undergraduate student, he worked a co-op term at the lab, and tried to figure out what kind of sensors were needed to get the machine and human on the same page. The hand he built has four position sensors and a camera in the palm.

Now for his Master’s project, he’s creating a wrist.

Amputees sometimes come into the BLINC lab to try out the technology and participate in studies.

“When you lose a limb, it’s a very life-changing thing,” Brenneis says. “To be building the technology that’s going to be replacing that is also very personal.”

All the files for the robot arm and hand

have now been shared online so that any research group can 3D print one. The BLINC lab’s technology is used by companies to improve bionic limbs for patients.

The U of A is ranked second in the world for artificial intelligence research after Carnegie Mellon University, according to csrankings.org. Jonathon Schaeffer, U of A’s Dean of Science and an artificial intelligence researcher, says the program’s world-domination wasn’t planned.

“It would be nice to say that we had this plan to become a world powerhouse in artificial intelligence research,” he says. “But there really wasn’t any plan, it was just happenstance that good people arrived here.”



Kobuki

In the late 1970's, the U of A had a couple artificial intelligence researchers. In the 1980's, Schaeffer and a few more professors came onboard. He attributes the success of the program to good people acting as magnets to attract even more good people.

Back in 2002, four computing science professors applied for money from Alberta Ingenuity, a large provincial endowment aiming to diversify the economy. With the provincial funding, they created the Alberta Machine Intelligence Institute (previously called the Alberta Innovates Centre for Machine Learning). The funding drew Michael Bowling, who did his PhD at Carnegie Mellon University, from the United States to Edmonton.

Bowling said that for a long time, he

and other machine learning professors were frustrated that the students graduating out of the program had to leave to find jobs in

“THE AI SYSTEMS TEND TO GET AFRAID OF ALL THE WAYS THEY COULD DIE SO THEY DON'T TRY TO REACH OUT AND GET THE SKILLS THEY NEED TO GET A HIGHER SCORE.” –MICHAEL BOWLING, COMPUTING SCIENCE PROFESSOR

AI. They went to the Bay Area to work for social media companies, Seattle to work for Amazon, or London to work for DeepMind.

“The obvious thing was for one of the large tech companies to realize the opportunity,” he said. “That there was a large talent pool here that sat almost entirely untapped.”

Besides creating some of the world's best poker-playing AI programs, Bowling and his team have been using Atari video games to test AI systems for over five years with the RLAI lab. Testing requires the AI system, which knows nothing about the game it's about to play, to fiddle with the joystick, press the buttons, and figure out what it can and can't control in its 1980's-video-game environment.

Bowling is interested in AI systems that can learn and act intelligently in any environment. To test such a system, many

“I REALIZED
THAT I FOUND
MYSELF
PLAYING GAMES
WITH THE GUY
WHOSE TEXTBOOK
I USED TO READ
WHEN I WAS IN
BRAZIL.”

— MARLOS MACHADO,
COMPUTING SCIENCE
MASTER'S STUDENT

different problems are needed. The idea to use Atari as a testing platform has now been picked up by more than 50 research groups, including DeepMind, who have shown for the first time that AI systems can perform better than amateur humans on over half of the Atari games.

In the game *Yari's Revenge*, players have to retrieve a key by climbing ladders, running across moving platforms, and jumping over a boulder. The set of tasks to complete is hyper-specific, and any other behaviour ends in death. Games like this highlight the limits of current AI capabilities. AI systems don't do well on games where getting points means putting together a long series of actions.



KIDS AT A DISCOVER-E CAMP WERE TAUGHT INTRODUCTORY CODING TO CONTROL THE SERVOS OF THE BIONIC HAND. THIS LITTLE HIGH-FIVE MACHINE WAS USED TO TEST THOSE CODES.

“It’s a very hard problem to figure out how you can explore that space to discover that there is a sequence of behaviour that can get you some points,” Bowling says.

It’s even more challenging for AI agents to

“NOW IF YOU WANT TO STAY IN EDMONTON, THERE’S AN AMAZING COMPANY WITH SO MANY AMAZING PEOPLE THAT YOU CAN WORK WITH.” – MARLOS MACHADO, COMPUTING SCIENCE MASTER’S STUDENT

learn games where the player gets negative points if they do anything but the sequence that will give them a high reward.

“The AI systems tend to get afraid of all the ways they could die so they don’t try to reach out and get the skills they need to get a higher score,” he says.

These are problems Bowling’s team are trying to tackle.

“One of the things humans do so well is they can bring in all their experience from the

past, whether it’s playing other video games or just from life, they can bring into various problems and I think that’s why they’re able to learn so quickly,” he says.

Another one of the PhD students Bowling supervises is Marlos Machado, who grew up in Brazil and met Bowling at a conference. He immediately knew he wanted Bowling to be his supervisor because he found his talk on the Atari system fascinating.

Before Machado started his PhD, Bowling invited him to a board game night with the AI team. It highlighted to him how friendly and approachable the world-renowned professors in the department are.

“You look around and Rich Sutton, the celebrity who created reinforcement learning, is playing a game,” he says. “I realized that I found myself playing games with the guy whose textbook I used to read when I was in Brazil.”

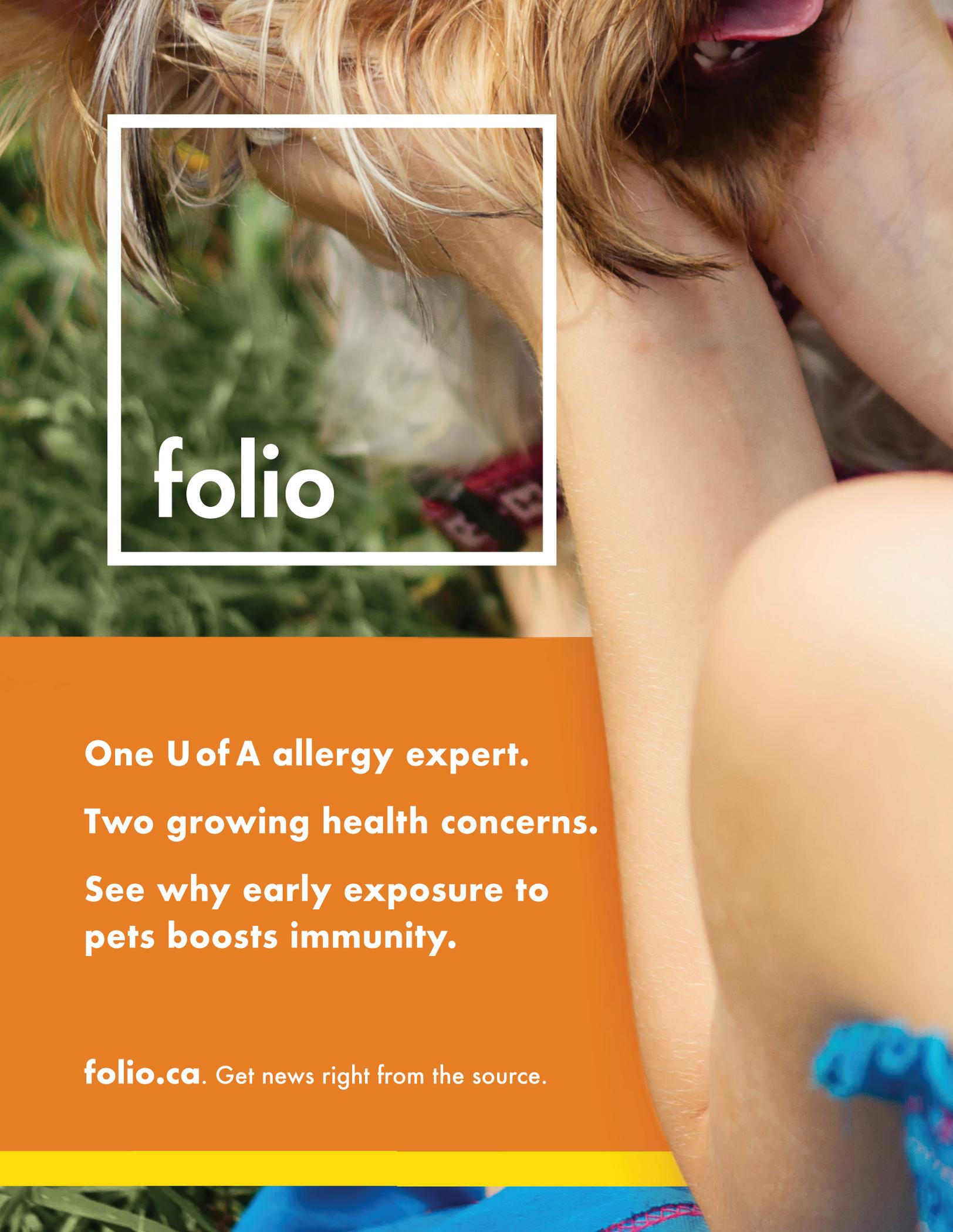
This summer it was announced that DeepMind, an artificial intelligence research group that was bought by Google in 2014 for almost \$650,000, would open its first

office outside the United Kingdom here in Edmonton. Working with the U of A, the new office will be headed by Bowling, as well as Richard Sutton and Patrick Pilarski, who are all U of A computing science professors. Schaeffer says he wasn’t surprised to hear DeepMind was coming to Edmonton. Their work uses a lot of reinforcement learning, which is the U of A’s area of expertise. Sutton is world-renowned as the father of reinforcement learning and has written the definitive textbook on the subject. Other tech companies are following DeepMind’s lead, Schaeffer says, with the Royal Bank of Canada’s first research office outside of Toronto also coming to campus.

Bowling says that many of his students don’t want to leave Edmonton when they graduate because they enjoy the city and the research they’re doing. He’s excited to have an opportunity to have these strong AI researchers stay in Edmonton, and maybe bring back some people who have left the city.

Machado isn’t sure if he’ll end up staying in Edmonton and working at Deepmind with Bowling, but he says he’s happy to have it as an option.

“I remember talking to my wife two or three years ago about this and telling her that I would have to leave Edmonton because there were no jobs for me here,” he said. “And that’s changed. Now if you want to stay in Edmonton, there’s an amazing company with so many amazing people that you can work with.” **g**



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EDMONTON VOTES

BY EMMA JONES | ILLUSTRATION BY ALEX PATTERSON



On October 16th, Edmontonians will head to the polls to vote in the 2017 municipal election. Voters will be able to cast their ballots for school trustees and city councillors, as well as deciding whether or not to re-elect the mayoral incumbent, Don Iveson, for a second term, or to elect one of his ten declared opponents.

If voter turnout rates are anything like they have been in previous years, however, most people will stay home.

34.5%
VOTER TURNOUT
2013 Edmonton Municipal Election

405,553
EDMONTONIANS DIDN'T VOTE
2013 Edmonton Municipal Election

City Council is composed of the mayor and twelve city councillors, each representing a ward of Edmonton. Those thirteen people make decisions about everything from major infrastructure projects like bridges and stadiums, to local services like police and the fire department, to transit services like the proposed LRT expansion.

Edmonton's 2013 municipal election saw an abysmal turnout of only 34.5 per cent. For the last ten years, the city's election turnout has hovered around 30 per cent, meaning that about 70 per cent of Edmontonians have consistently chosen to avoid municipal polling stations. In 2013, a total of 405,553 eligible voters neglected to cast a ballot in the municipal election.

Professor James Lightbody of the University of Alberta, a specialist in local

government, believes that the advantage given to incumbents in municipal elections reduces the motivation for voters unhappy with the status quo.

"What would motivate you to go to a polling station knowing that the incumbent has an 86 per cent chance of being returned?" asks Professor Lightbody. "In a non-partisan ward election in big cities in Canada, the incumbents are re-elected at a rate of 86 per cent. We have more turnover in a coffee pot at Tim Horton's."

In Edmonton, as in most other major North American cities, municipal politics are non-partisan, meaning that candidates run as individuals, not officially affiliated with any political party. This means voters have no choice but to research candidates individually, and often have to re-examine the candidates every single election.

"You can't just vote for who mom and dad always voted for, by political party," says Mayor Iveson. "You actually have to do a bit of research, you have to learn a little bit about the candidates, and that does take a little bit more work. Not everybody does it. But it's incredibly important."

Researching individual candidates is a little more work, but the City of Edmonton's website includes an Elections page with all the information a new voter could need about how to register, where to vote, and when candidate forums are being held. The website also includes a ward map for voters who are unsure which district they are living in, a list of candidates, and an intro video titled "Your Guide to the Edmonton Election" that can be viewed in seven different languages.

People who vote in the very first election they are eligible for are statistically more likely to become lifetime voters, regardless of what level of government that first election pertains to. A study published in the American Journal of Political Science showed that subjects who were reminded to vote in

2017 CANDIDATES FOR MAYOR

Taz Bouchier

According to Bouchier, she is the first Indigenous woman to run for mayor of Edmonton. A long-time resident of the city, Bouchier has assisted organizations like Victims of Crime Support Services and the City of Edmonton in bi-cultural competency training. "Increased representation of diversity on city council" is a key element of her platform.

Mike Butler

Formerly the Liberal candidate for Edmonton-Mill Creek, Butler is a MacEwan alumni who owns a printing company and is also a custom home builder in rural Alberta. His campaign is centered on "responsible building", "tax freezes", and "hard work".

Carla Frost

Frost is a general contractor, business owner, and ESL teacher. Formerly a Ward 6 candidate, she has 27 years of "community service work" under her belt. "Hard work and honesty" underpin her campaign.

Don Iveson

A U of A Political Science grad, Iveson was first elected Mayor in 2013 after serving two terms as city councillor. His platform goals include building an "uplifting", "green", and "prosperous" city.

Don Koziak

Formerly a Wildrose candidate in Edmonton-Glenora, Koziak is a U of A Engineering grad and the general manager of Chateau Louis Hotel and Conference Centre. He has experience as director of various associations, including the Kingsway Business Association.

Bob Ligertwood

Ligertwood is a business owner, music venue operator, and political analyst. Ligertwood is also a lifetime resident of Edmonton, and his campaign centers around wanting to improve the city's "services and social commitment".

"We have more turnover in a coffee pot at Tim Horton's."

— PROFESSOR JAMES LIGHTBODY



the 1998 general election were more likely to do so than the control group, but they were also more likely to vote in the 1999 local elections, and in other subsequent elections afterwards.

“It’s really important to form the habit of voting now,” says Mayor Iveson. “I also encourage people to get involved, volunteer, go ask questions at forums, engage on social media, and then make informed decisions. Ask tough questions, and make informed decisions.”

“Students are citizens too, and have a huge stake in the city-building that’s going on in Edmonton.”

Navneet Chand is a first-year student at

the U of A who was recently appointed to the General Assembly of the City of Edmonton Youth Council. The CEYC is an advisory body to City Council, made up of students aged 13 to 23, and part of their mandate is to increase the involvement of youth in government.

Chand agrees that the lack of youth engagement is partly due to a lack of party politics. “People, especially youth, find it very interesting to see different parties going at each other, in provincial and national politics, where a certain party holds a specific view,” says Chand. Chand also believes that a lack of media attention on local issues contributes to a lack of engagement.

“We see more international and

Fahad Mughal

Mughal is a business analyst with four years of experience working at the City of Edmonton. He has experience mentoring professionals through the Edmonton Region Immigrant Employment Council, and as a member of the Inter-Racial Alliance team of Edmonton. “Accountability”, “transparency”, and “fairness” underpin his campaign.

Gordon Nikolic

Nikolic’s platform promotes support for local businesses, public transit expansion, and helping make it easier for citizens to access municipal facilities.

Steven Shewchuk

Shewchuk is a small business owner whose campaign centres around promoting “efficiency, transparency, and accountability” on City Council, ensuring that “tax money is spent wisely and effectively”.

“And assuming that Kim Jong-Un doesn’t make us glow in the dark, we still need water, we still need roads and parking.”

— PROFESSOR JAMES LIGHTBODY

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Neil Stephens

Stephens is a small business owner who says he has proposed various ideas and projects to City Council in the past. Stephens' central platform point is improving council's fiscal practices.

Justin Thomas

After working as a registered nurse for several years in India, Thomas immigrated to Canada and began work in law enforcement. His platform includes improvements to infrastructure, increased safety measures, and a cap on municipal spending.

Platforms for Ron Cousineau and Henry Mak were not available online at the time of publication

national politics taking the spotlight," he says. "(Municipal government) is just not something that youth in Edmonton see readily, it's not something that I see readily."

Though they may often go unnoticed, there are many decisions made at the municipal level that impact the lives of Edmontonians, and particularly students at the U of A — such as the implementation, and the continued renewal, of the U-Pass.

The University of Alberta first launched the U-Pass program in 2007, after five years of negotiations with the City of Edmonton. By the time it was implemented, the U-Pass had "almost become a joke on campus" after dozens of U of A Students' Union representatives had promised, and failed, to get the program going. Samantha Power, the SU president for the 2007-08 academic year, finally oversaw the change, with 84 per cent of students voting in favour of the U-Pass.

The continued existence of the U-Pass depends on whether the City of Edmonton continues to support the program. Currently, the city is subsidizing the cost of transit

for students.

In every election cycle, the city has a chance to impact students' lives in ways that range from the accessibility of recreation services, to affordable housing, to ensuring that the garbage gets picked up every week. Chand's work with the CYEC even includes hosting yoga sessions in Churchill square, as a way to promote both mental and physical health.

Lightbody believes that the importance of local government is often overlooked.

"The British call (municipal politics) the low politics, as opposed to the high politics of war and peace and currency exchanges, but it's the local decisions that affect basically everything about how we lead our normal, daily lives," says Lightbody. "And assuming that Kim Jong-Un doesn't make us glow in the dark, we still need water, we still need roads and parking. Virtually everything you do in life is some way or another the product of city politics."

The 7.8km expanse of the Downtown Bike Network was recently completed.

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Councillor Ben Henderson, the councillor running for re-election in Ward 8, which includes the University of Alberta north campus, says he is eager to bring a similar project to the university area. The century-old Walterdale Bridge is in the midst of being replaced. The City of Edmonton is currently in discussion with Northlands and the Edmonton Economic Development Corporation about the possibility of a merger, bringing the three groups together to develop the area surrounding Coliseum Station, in addition to other development proposals for the station itself.

Notable infrastructure projects include the city's \$1.8 billion investment in the Valley Line transit expansion. The new transit line will be the single largest infrastructure project in the city's history, connecting Mill Woods to Lewis Farms after crossing through downtown Edmonton, and bringing accessible public transit to many communities that used to only rely on outdated bus routes.

"It was a real struggle for a number of

years to get the city to commit to actually expanding the LRT," Henderson says. "This is a city that for a good chunk of the 50's, 60's, 70's, and 80's thought that the car was the answer to everything. (Transit development has) really tangible benefits for people, both in their everyday lives but also in terms of the kind of city we want to have in the future."

Steve Shewchuk, another candidate for mayor, echoes Henderson's sentiment that voters need to be invested in the city's development.

"There's nothing in life that's free. There's a cost to the taxpayer, and in the end you have a say in what's good for the future of Edmonton."

Data collected in the 2017 census showed that Edmonton's population growth rate has exceeded the national average over the past five years, and is likely to continue that way. Since 2011, Edmonton's population has increased by 13.9 per cent, marking an influx of over 100,000 people. This rapid expansion

means that the next few years of Edmonton's growth will have a dramatic impact on the city's future. The city council that is elected this October will play a large role in shaping that growth. Mayor Iveson says that this is what makes the upcoming election so exciting,

"We haven't always thought like a big city, and we haven't always built like a big city, but we'll be a million before you know it, and in the next generation this region will reach two million. So we've got to start making decisions around things like the aggressive growth of our rapid transit system, as well as building a denser and more vibrant inner core of the city."

One way to be a part of major city decisions shaping the next quarter-century is to vote in the October municipal election.

"If you want to send a message that politicians don't have to care about the stuff you care about, then don't vote," Councillor Henderson says. "It's much harder to fight for people you know aren't going to be there for you at the ballot box." **g**



NOTICE OF ADVANCE VOTE AND VOTER IDENTIFICATION REQUIREMENTS

FORM 4A

Local Authorities Election Act (Sections 35, 46, 53)

LOCAL JURISDICTION:

The City of Edmonton
Edmonton School District No. 7
Edmonton Catholic Separate School District No. 7
PROVINCE OF ALBERTA

Notice is hereby given that an election will be held for the filling of the following offices:

OFFICE(S)	NUMBER OF VACANCIES	WARD
Chief Elected Official (Mayor), City of Edmonton	1	City of Edmonton
Councillor, City of Edmonton	12	1,2,3,4,5,6,7,8,9,10,11,12
Trustee, Edmonton Catholic Separate School District No. 7	7	71,72,73,74,75,76,77
*Trustee, Edmonton School District No. 7	8	A,C,D,E,F,G,H,I

*The Trustee position for Edmonton School District No. 7, Ward B has been filled by acclamation.

Advance Voting will be available on:

DATE: Thursday, October 12, 2017
TIME: 11 am - 4 pm
University of Alberta Alumni Lounge, Main Floor Student's Union Building

To vote, you must present ONE piece of authorized identification that establishes BOTH your name and current residential address. For a complete list of authorized identification, visit:

edmonton.ca/election

DATED at the City of Edmonton, in the Province of Alberta, this 20th day of September, 2017.

Linda Sahli
Returning Officer

MAKE IT HAPPEN VOTE! ELECTION DAY: Monday, October 16, 2017



VOTING 101

ELIGIBILITY CHECKLIST:

IN ORDER TO BE ELIGIBLE TO VOTE YOU MUST MEET THE FOLLOWING CRITERIA:

- 18 years old or older
- Canadian citizen
- Alberta resident of at least 6 months

BRING VALID ID!

You must bring valid identification to the voting station, proving that you are who you say you are, and that you live in Edmonton.

VALID ID INCLUDES:

- Driver's License
- Utility Bill
- Bank Statement
- Insurance Pink Slip

THE FOLLOWING DOES NOT COUNT AS VALID ID:

- Passport
- Student ID
- Employment ID

Your address determines your voting station on **October 16**, so you should get a "Where to Vote" information card in the mail. If you haven't received one, you can also enter your address on the Edmonton Elections website to be directed to the correct voting station.

If you aren't available to vote on October 16, there are also advance voting stations open across the city from **October 4 to October 13**.

Additional information about valid ID, where to vote, and how to vote is available on the Edmonton Elections website.

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The Mummy (2017)

Series: Turkey Shoot

Oct 9 @ 7PM (18+ licensed, no minors)

Join the Turkey Shoot Team for Thanksgiving Turkey, stuffed with live comedy & commentary from Dave Clarke & co, trivia and prizes! An ancient princess is awakened from her crypt beneath the desert, bringing with her vengeance, and terrors that defy human comprehension.

**Zombie Godfather: Films of George A. Romero
Oct 22, 27, & 28**

George A. Romero is considered an influential pioneer of the horror film genre, and the godfather of the zombie film. Best known for his series of gruesome and satirical horror films about an imagined zombie apocalypse, this Halloween we present *Night of the Living Dead* (1968), *Dawn of the Dead* (1978), and *Day of the Dead* (1985).



4th Annual Halloween Mash

Oct 31 @ 7PM & 9PM (Two films, one price!)

Join Metro's monster mob for a devilish double feature treat this Halloween. Are you ready to meet the very special guest that dwells in the depths of *The House on Haunted Hill*? If that doesn't thrill you how about a madman murdering with all the plagues of Egypt at his fingertips in *The Abominable Dr. Phibes*? Features live gimmicks and classic cartoons.

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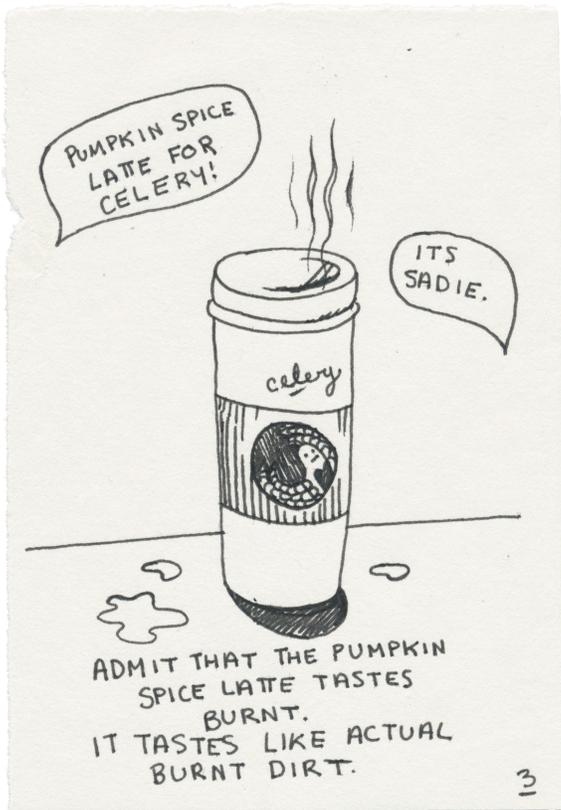
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PHOTO BY ROSTY SOROKA

Enter our contest to win free stuff! Simply take a photo with or of this desk, to show us that you were there. We'll be accepting submissions via Twitter (@The_Gateway) and Instagram (@thegateway) — @ us in your post and you'll be entered into a draw. The winner will receive an awesome prize at the end of the month. Take a seat, make it sweet.

THE HAUNTING OF MEN'S WASHROOM 221

I was taking a shit in Men's Washroom 221 (the one on the humanities-HUB pedway) after class when I heard a creepy humming sound outside the stall. The sound only lasted a second, and I didn't think much of it. It occurred to me that these were the bathrooms that were closed after 9PM "for my safety", and that the door had automatically locked itself. I washed my hands and tried to push the door open, and as I feared, it wouldn't budge.

I sat down and resigned myself to my fate of being trapped inside a bathroom outside the least-funded and coldest building on campus. It was going to be a smelly and chilly few hours — possibly more.

But then someone nonchalantly entered the bathroom and marched over to the urinal. I then realized that the door that I had failed to push open was in fact a pull door.

I still can't explain that creepy humming sound though...

BY AIDAN HERRON

Healthy in a Jar

Rainbow Salad Jar



SERVES:
4 - 2 cup
(500 mL) jars



PREP TIME:
20-25 minutes including
pulse cooking time

INGREDIENTS

Salad

- 1 cup (250 mL)dried split yellow peas, rinsed
- 1 - 14 oz (398 mL)can lentils, drained and rinsed
- 1 cup (250 mL)sliced green or red seedless grapes
- 1 cup (250 mL)grated carrot
- 1 cup (250 mL)diced sweet yellow or red pepper

Topping

- 1-2green onions, finely sliced
- ¼ cup (60 mL)dried cranberries, optional
- ¼ cup (60 mL)pecan pieces, toasted, optional

Dressing

- ¼ cup (60 mL)apple cider vinegar
- ¼ cup (60 mL)canola oil, cold pressed if available
- 2 Tbsp (30 mL)liquid honey
- 2 tsp (10 mL)Dijon mustard
- 2 clovesgarlic, finely minced

Nutrients per serving (1 jar)
431 Calories, 15 g Fat, 1 g Saturated Fat, 0 mg Cholesterol,
60 g Carbohydrate, 7 g Fibre, 23 g Sugar, 17 g Protein,
201 mg Sodium, 938 mg Potassium, 239 mcg Folate, 4 mg Iron.



PULSES are the dry, edible seeds of legumes. This includes beans, lentils, chickpeas, and peas like split yellows - all grown in Alberta.



Directions

In a covered saucepan, simmer split peas in 2 cups (500 mL) water until moisture is absorbed and peas are tender, but not mushy, about 20-25 minutes. Rinse and cool. Yields 2 cups (500 mL) cooked.

Meanwhile, whisk together dressing.

Evenly divide salad ingredients and layer in each of the four jars. Top with green onion and sprinkle pecans and cranberries, if desired. Pour an equal amount of dressing over each jar, seal and refrigerate until ready to go.

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