

# 150

## BRAGGING RIGHTS

### PEOPLE, THINGS AND IDEAS THAT MAKE US PROUD

**Editors Note:** *We've all read at least one book that leaves you clasping it to your chest, closing your eyes and inhaling deeply — like a mom in a fabric-softener commercial. That's how I felt at the end of reading our compilation of 150 bragging rights — a combined salute to Canada's 150th birthday and UCalgary's unique victories. Now that was some read.*

We all love articles about big ideas and big wins. But, in this article, we wanted to take our readers on a tour of another place — a place where newly created poems and student-penned plays can still stun an audience. It might be the same place where researchers spark scientific breakthroughs and where those who toil at field stations in the Arctic stagger the world with their findings. We wanted to show a university of big and small, where, right now, entrepreneurial thinking is sweeping through 14 faculties and where our alumni are reconnecting in bigger numbers than ever. Alive and thriving, the University of Calgary is a habitual work in progress. That's what writers **Mike Fisher**, **Mark Witten** and **Elizabeth Chorney-Booth** set out to find. To show. To share.

May you find the following roundup of extraordinary experiences, programs, ideas, inventions and people — all unique to UCalgary — illuminating.

This is UCalgary's story, told by way of 150 bragging rights. — *Deb Cummings*



**3-D-RIFFIC:** Watch how the 3D printer at TFDL was used to create this headline: [alumnimag.ucalgary.ca](http://alumnimag.ucalgary.ca)



1

## BEYOND THE SURF AND THE SWELL

Hawaii Art Photography is a unique 18-day group study course, led by award-winning photographer Denis Gadbois. Here, students focus on art photography and 360-degree (VR) photography to capture the jaw-dropping beauty of Hawaii. This photo depicts where lava hits the ocean. The group woke at 3:30 a.m., drove for one hour and then biked for 40 minutes to reach the location.

**5 LITERARY LIONS** Since its inception with Michael Ondaatje in 1993, the University of Calgary's Distinguished Writers Program has brought more than 50 visiting writers to the city. The stellar cast includes luminaries such as Zadie Smith, Oliver Sacks, Timothy Findley, Thomas King, Ursula K. Le Guin, Margaret Atwood, Alberto Manguel, Emma Donoghue, Paul Quarrington, D.M. Thomas and Tony Kushner.



**2 METHANE-SNIFFING DRONES** Geography professor Chris Hugenholtz is leading a New Earth-Space Technologies (NEST)-funded project to develop North America's first commercial methane-sensing drone system. The autonomous drones will use artificial intelligence to seek out fugitive methane emissions from natural gas leaks and other natural and industrial sources, and then quantify the rate of emission into the atmosphere. The lightweight drones will be equipped with tiny, highly sensitive gas sensors to detect and measure emissions. "If you can teach a dog to track a scent, we can teach a drone to find a gas leak," Hugenholtz says.

## DID YOU KNOW?

**6** Geography Prof. Brian Moorman, MSc'90, discovered an ancient plant virus cryogenically preserved in 700-year-old caribou dung taken from ice in the Selwyn Mountains of the NWT.

**7** In his Philosophy of Money class, Prof. David Dick explains why Aristotle thought banking was evil and Adam Smith thought ambition was a curse.

**8** The School of Creative and Performing Arts offers an inter-arts program that produces 200-plus performances each year.

**9** The Ronald B. Bond Bach Organ in Eckhardt-Gramatté Hall is the only instrument of its kind in Canada. The tonal design and specifications of the organ are consistent with 17th-century North German organs, providing a musical window into the world of Baroque organ music heard in the time of Bach.

**10** The Department of Art's Visiting Artists series will feature guest talks by five talented Indigenous artists in 2017-18 as part of the Art Now class.



## 3 NOT TOO COOL FOR SCHOOL

Prof. Darin Flynn's rap linguistics course was named by the *Huffington Post* as one of the coolest classes in Canada.



## 4 DANCE AS ART AND THERAPY

Prof. Anne Flynn, who played a key role in establishing the program before retiring in 2015, has done innovative research on using dance as an effective therapy for people living with Parkinson's disease.

11

### THE ONE AND ONLY DINOS

Alumni's fondness for North America's only dinosaur-related varsity team name has never faded. From the Dinnies to the Dinosaurs — our 19 varsity teams became known as the Dinos in 1998.



### BEST IN THE BUSINESS

13 High-performance Haskayne alumnae include Chandra Crawford, MBA'16, a three-time cross-country ski racing Olympian, and Kirsti Lay, BComm'14, team pursuit cycling bronze medalist in the 2016 Summer Olympics.

14 The Haskayne Undergraduate Leadership Expedition is a spectacular, five-day backpacking trek that offers commerce undergrads experiential leadership training in the Rockies.

15 The Energy New Venture Competition, hosted by the Hunter Centre for Entrepreneurship, is Canada's leading early stage pitch competition that advances innovations for the energy sector.

16 Haskayne's Global Energy Executive MBA program is the first of its kind, bringing in top talent from major energy organizations across the globe.

17 Haskayne alumnus and Calgary Mayor Naheed Nenshi, BComm'93, was named the No. 1 mayor in the world for 2014 by the City Mayors Foundation.

18 Haskayne's annual RBC Fast Pitch Competition is the largest competition of its kind in Canada.

19 The Haskayne Hour — a regularly sold-out Calgary breakfast event — pairs university researchers with executives to talk about timely business issues.

12

### HASKAYNE STUDENTS BRING HOME THE GOLD WITH A LITTLE HELP FROM DR. BOB

Haskayne students have won 90 gold medals in the past 39 years at the Inter-Collegiate Business Competition (ICBC), the world's longest-running undergraduate business case competition. Legendary UCalgary business professor and team coach Bob Schulz (a.k.a. Dr. Bob) shares his coaching secrets on their phenomenal track record:

**What distinguishes your approach as a coach in preparing students to be successful at the ICBC?** In the 1980s, I spent more than 100 hours asking questions and listening to outstanding university sports coaches — some of whom were highly motivated Canadian Olympic coaches.

**Does stellar performance at the ICBC help UCalgary business students get a leg up in competing for jobs?** Yes! Recruiters from investment banks and management consulting firms definitely seek the top students, who are usually the ICBC team members.

**Are there UCalgary gold medal-winners who have gone on to do great things?** Mayor Naheed Nenshi, BComm'93, won four team ICBC gold medals (two in debate with partner Ezra Levant, BComm'93, one in Labour Arbitration and one in Business Strategy). Dean Prevost, BComm'90, won a three-person ICBC medal in Simulation and became CEO of MTS Allstream, which was sold to Bell for \$3.9 billion in 2016. Amanda Provost, BComm'98, won ICBC Accounting Gold and became the Global Marketing Manager for Boston Consulting Group in Washington, D.C.



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### UCALGARY GRADS RULE IN OIL AND GAS

More CEOs in North America's oil and gas industry are UCalgary graduates than from any other post-secondary institution. Among 277 global companies, UCalgary was the school of choice with seven per cent of oil and gas CEOs being alumni. For Canadian companies, 22 per cent of CEOs had undergrad degrees from UCalgary, mostly in business, engineering and geoscience.





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## BUILDING GREENER PASTURES

Go big or go home. In the case of the new 200-acre University District community, UCalgary achieves both aims.

The new University District community now underway is the largest LEED-ND (Leadership in Energy and Environmental Design for Neighbourhood Development) Platinum-certified development in Canada. It is the only project of its kind in Alberta.

A LEED-ND certification considers markers such as walkability, greenhouse gas emissions, recycling, and energy and water consumption.

The planned mixed-use community expects some 6,000 homes to be built over the next 15 to 20 years, including town houses and apartment-style condos, with respect for the environment and healthy living spaces as prime concerns.

A unique trust fund revenue and investment model helps to drive the ambitious project. The province gifted endowment land to the university, which is managed on the university's behalf by the West Campus Development Trust. The independent and self-funded trust is the first of its kind in Alberta.

22



## A NEWER BIG BANG THEORY

UCalgary's Explosive and High-Pressure Research Laboratory was established in the late 1960s and began operation in southeast Calgary. It was used for studying the behaviour of high explosives and was believed to be the only university facility of its type in the country.

## LITTLE-KNOWN FACTS

**23** The Faculty of Kinesiology's Sport Injury Prevention Research Centre is one of only 10 International Olympic Committee Centres of Excellence in Injury and Illness Prevention in Sport in the world. Researchers at the faculty have played an integral role in shaping an international consensus on recognizing and treating concussion in sport.

**24** It's the only tower in Canada dedicated to higher learning where squash balls have been used as hand- and toe-holds. Students pressed squash balls into the side of the Social Science Tower in the 1980s as part of a prank to scale the tower, but they ran out of places to insert the balls and had to be rescued by the fire department. A few handholds remain to this day.

**25** The Olympic Oval was the first covered 400-metre ice surface in North America and was the first covered speed skating track for an Olympic Games.

**26** It was a Canada-wide problem that prompted made-in-Alberta solutions. Alberta's first Faculty of Veterinary Medicine opened in 2005 at UCalgary in response to the Bovine Spongiform Encephalopathy (BSE) crisis, offering innovative programs and community care.



27

## KEEPING IT GREEN

There are 11 LEED-certified projects at UCalgary that comprise 1.7 million square feet, one of the largest concentrations of green buildings on a Canadian post-secondary campus. UCalgary ranks among notable green post-secondary institutions in North America, and is listed in the *Princeton Review's Guide to 353 Green Colleges in 2015*.

**28 RAISE A RACQUET** Here's one place you can have a ball in supersized splendour. The Racquet Centre is the largest public racquetball facility in Canada. There are 13 squash and four racquetball/handball courts, all international size.



**29 AGING IN PLACE** The Age-in-Place Laneway Housing Project at the Faculty of Environmental Design considers health systems research, along with advances in aging research and biomedical engineering, to create innovations in how seniors live. The laneway housing project is a portable unit that allows the elderly and frail to remain in a home environment for as long as possible.

**30 HISTORIC CHANGE** UCalgary's numismatic collection of 23,000 objects houses one of Canada's most important collections of ancient coins, specifically ancient Greek, Roman and Byzantine money.

**31 DISCOVER A-MAZE-ING UNDERGROUND** UCalgary's main campus is crisscrossed by a unique 8.5-kilometre underground maze of hot water tunnels that supply more than 100 buildings with heating, chilled water, electricity, natural gas, drinking water and compressed air.

HEAD OF THE CLASS



**32** UCalgary's Werklund School of Education (WSE) is considered a leader in ADHD and autism research, largely thanks to the work of Emma Climie, MSc'08, PhD'12, and Adam McCrimmon, BA'00, PhD'10, who focus on children's resiliency, rather than their challenges.

**33** There was once a dragon in UCalgary's midst: businessman, philanthropist and former *Dragon's Den* star W. Brett Wilson, MBA'85, is a Haskayne alumnus.

**34** UCalgary has a prime minister among its alumni: the Honourable Stephen Harper, BA'85, MA'91, who studied economics here. His ties to the university are strong — fellow alumnus Ian Brodie, MA'92, PhD'97, became Harper's first chief of staff and is now an associate professor in the Department of Sociology.

**35** WSE's unique Bridge to Teaching program (BTT) gives international immigrants with education backgrounds the opportunity to combine their existing skills with the knowledge needed to deliver the Alberta curriculum. Since its launch in 2012, 70 students from 22 different countries have graduated from BTT.

**36** WSE's new Professorship of Masculinities Studies — a program aimed at busting stereotypes about boys in schools to create a more equitable society for boys and girls — is one of the first such designated research positions of its kind in North America.



37

RRRRR REX!

On umpteen campuses, you'll find mascots that are bears, pandas, huskies and thunderbirds — but there's only one T-Rex, and he's ours!



38

LEARNING TO LISTEN

WSE has developed numerous strategies to honour the Truth and Reconciliation process with Canada's Indigenous communities. This includes a 2014 symposium called "Kindling Conversations, Weaving Indigenous Perspectives into the Werklund School of Education," which brought together students, educators and community leaders, both Indigenous and non-Indigenous.

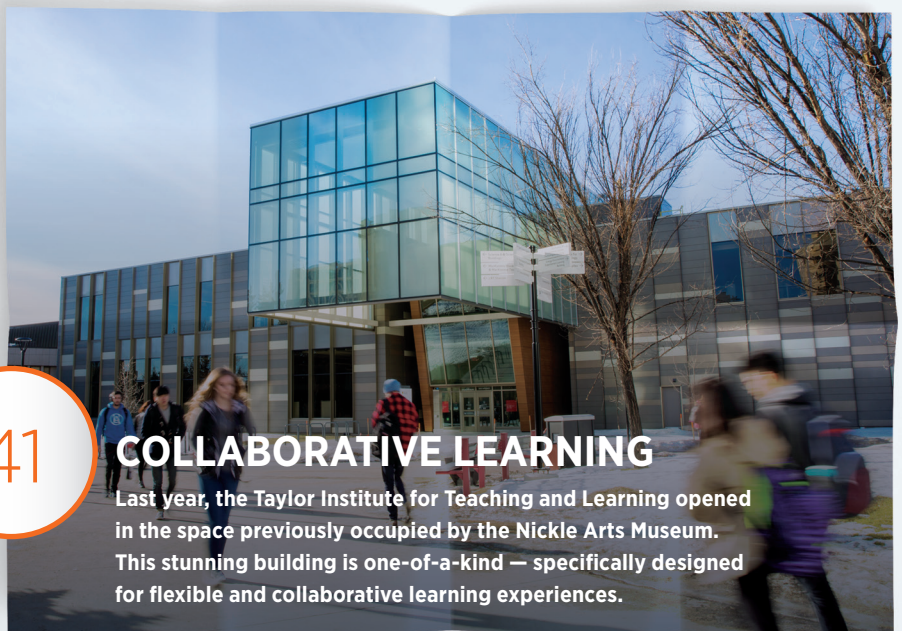
**39** **IMPORTANCE OF LANGUAGE** Honouring Indigenous culture means honouring Indigenous language. This year, the Faculty of Arts launched a university-level Stoney Nakoda language course, taught by WSE grad student Trent Fox.

**40** **PAY IT FORWARD** WSE's namesake, David Werklund, grew up on a farm, but, thanks to the encouragement of a teacher, he worked hard to become a leader in the oilfields. In 2013, he donated \$25 million to UCalgary's Faculty of Education, the largest single gift to an education faculty in Canadian history.

41

COLLABORATIVE LEARNING

Last year, the Taylor Institute for Teaching and Learning opened in the space previously occupied by the Nickle Arts Museum. This stunning building is one-of-a-kind — specifically designed for flexible and collaborative learning experiences.



CLEAN AND GREEN



42

**GREEN THUMBS UP!**

The University of Calgary Community Garden aims to seed sustainable agriculture. It offers a gardening space to university students, faculty, staff, alumni and community members. The Students' Union made operational aspects of the garden possible.



43

**SPARKING SOLUTIONS FOR ENERGY AND THE ENVIRONMENT**

To solve problems and find solutions related to energy and the environment, you need innovation — and UCalgary is taking the lead while encouraging an entrepreneurial mindset.

Solar Biocells is a bioengineering startup that has worked with Innovate Calgary (the university's business incubator) toward creating clean energy sources. The company focuses on the capture and conversion of carbon dioxide (CO<sub>2</sub>) into biomass that could be used for production of clean and renewable energy for industry and the home.

Solar Biocells team member and geoscience professor Marc Strous co-founded the startup with Christine Sharp, PhD '14, a postdoctoral fellow and environmental microbiologist.



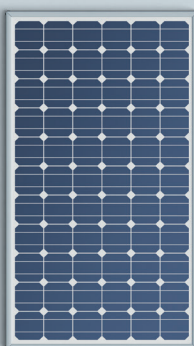
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**INNOVATING HEAVY OIL RECOVERY**

Schulich School of Engineering professor Brij Maini, the NSERC/Nexen and CNOOC Industrial Research Chair in Advanced In-situ Recovery Processes for Oil Sands, has a mandate to study additives that will reduce the financial and environmental costs of steam injection for heavy oil recovery.

**45 KLUANE LAKE RESEARCH STATION**

**THRIVES** For more than 50 years, the Kluane Lake Research Station in the Yukon has provided opportunities for research on energy solutions for sustainability, including investigations into renewable energy sources such as wind and solar.



**46** Geography students contribute to climate research by examining the economic, political and cultural changes that affect the globe. The Environmental Management and Governance research group aims to provide solutions for the sustainable use of natural resources.

**47** UCalgary researchers are working with Canada's energy regulator, the National Energy Board, on a unique three-year project that aims to make the board's wide range of energy data more accessible by using interactive visualization tools.

**48** UCalgary's Certificate in Sustainability Studies is the only program of its kind in Canada. Students who earn the certificate can graduate with the skills to become sustainability leaders in their careers and communities.

**49 CREATING A SAFER PIPELINE**

A leak-proof pipeline that combines real-time monitoring with an outer layer around the pipeline? UCalgary engineering researchers have created a fully functioning prototype to illustrate the feasibility of the technology, which may be licensed by companies or driven by a startup to produce the equipment.

**50 THE AFTERMATH OF FRACKING**

A UCalgary geophysics breakthrough explains how hydraulic fracturing can induce tremors in the earth. The study examined two distinct processes of seismic activity and considered data from stations around Fox Creek, Alta.

**51 UNCONVENTIONAL OIL TECHNOLOGIES**

Steven Bryant, the Canada Excellence Research Chair in Materials Engineering for Unconventional Oil Reservoirs, is leading a \$10-million effort to develop a new era of unconventional oil technologies.

52



## S'MORES, ANYONE?

UCalgary isn't just for grown-up students. The Outdoor Centre and Active Living run the largest kids summer camp program of any academic institution in Canada, hosting more than 10,000 campers every summer. From Dinos sports and science camps to canoeing expeditions and LEGO camps, more than 70 programs are offered by 14 different faculties and departments.



## RESEARCH EXTREMES

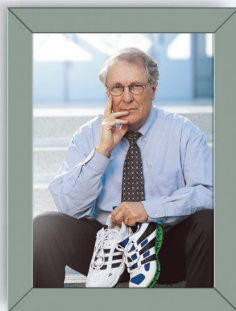
- 56 Canada's first and longest-lived Arctic research body, the Arctic Institute of North America (AINA), has been part of UCalgary since 1976 (the institute itself dates back to 1945).
- 57 The AINA is also home to one of the largest digital collections of Arctic data, with 83,000-plus records of publications and Arctic-related research projects.

## BIOMECHANICAL ALL-STARS

53 The Cumming School of Medicine's Mobility and Joint Health (MoJo) at the McCaig Institute for Bone and Joint Health is a cutting-edge research facility working on a number of new innovations including new stem cell treatments to combat arthritis.

54 The Faculty of Kinesiology's Human Performance Lab is a leading centre for the study of biomechanics. Its founder, Benno Nigg, received the International Society of Biomechanics' Muybridge Award in 2012 and 2013, as well as the Prince Faisal Bin Fahad International Prize for Arab Sport Development Research in 2014.

55 Walter Herzog is another leader in the field of biomechanics. The director of the Human Performance Lab is not only a world-renowned expert in the molecular mechanisms of muscle contraction and joint biomechanics, but is also a symbol of UCalgary's interdisciplinary approach to research. He's a full professor in the Faculty of Kinesiology, with adjunct appointments in the Schulich School of Engineering, Cumming School of Medicine and Veterinary Medicine.



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## NEVER BUY GEAR AGAIN

The university's Outdoor Centre boasts the largest equipment-rental program of all Canada's universities and is one of the few places where you can rent gear for a wide array of sports and outdoor adventures out of a single location.

59 **STAIRWAY TO HEAVENS**  
UCalgary sparks minds, but it also sparks fit bodies. After a stint as a world-class synchronized swimmer, alumna Helen Vanderburg, BPE'80, went on to found Heavens Fitness.



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## WHAT'S IN THE ICE?

The Olympic Oval is home of the fastest ice in the world. The ice is made with demineralized water, which reduces the amount of mineral buildup, giving speed skaters less friction between their skates and the ice.

**61 WHERE THERE'S WILL, THERE'S A WAY**

The Hon. Justice Patricia Rowbotham, BEd'75, LLB'81, was named the 2017 Lifetime Achievement Award Winner at the 2017 Women In Law Leadership (WILL) Awards, which are presented annually to female members of the Alberta legal profession. Law professor Jennifer Koshan was one of the eight winners of the 2016 WILL Awards.



**COOLEST COLLECTIONS**

**66** UCalgary Library's Canadian Architectural Archives houses the world's largest collection dedicated to Canadian architecture, with a million drawings, a million photos and half a million boxes of other records from Douglas Cardinal, Arthur Erickson and other influential architects.

**67** A collection of Mordecai Richler's work — from book drafts and radio productions to essays — makes us a magnet for Richler scholars, graduate students, journalists and biographers.

**68** UCalgary houses the earliest writings of Canada's most celebrated author, Alice Munro. In 1980, the first very large shipment arrived in a truck and a suitcase, containing letters and different drafts of manuscripts starting from the 1950s.

**69** The Bob Gibson Collection of Speculative Fiction contains about 40,000 hardcover and paperback books, pulp magazines and other materials amassed by the late Calgary sci-fi fan. It includes an astounding 888 anthologies with covers hand-illustrated by Gibson, and with stories culled from rare popular periodicals published from the mid-1880s to the 1990s.

**70** The TFDL manages the archives of the Naval Museum of Alberta, the largest Canadian naval museum in the country.

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**LONG ARM OF THE LAW EXTENDS HANDSHAKE**

In the International Energy Lawyers Program, law students can apply for admission to the bars in both Canada and the U.S. The innovative joint degree with the University of Houston Law Center supports the energy industry in both countries while facilitating internships and providing inroads into the environmental and energy sectors.



**63 REMARKABLE NEGOTIATIONS FOR REPARATIONS**

UCalgary law professor Kathleen Mahoney was chief negotiator for the Assembly of First Nations when it reached its historic settlement with the federal government seeking reparations for Indigenous residential school survivors as part of the Truth and Reconciliation process.

**LAW FACULTY ACCENTUATES THE PAWSITIVE**

It's a remarkable achievement to attain a law degree as a visually impaired student, as international athlete and now lawyer Tiana Knight, JD'17, has done at UCalgary. When your dog is also awarded a degree and graduates with you, though, that's a conversation-stopper.

When Knight graduated last spring from the Faculty of Law, not only did she receive her Juris Doctor degree, her guide dog, Cashmere, fetched a Juris *Dogtor* degree. The Labrador cross is actually the second guide dog to receive the honour from UCalgary's law school.

"Cashmere tells me where there are obstacles," says Knight — but she clearly hasn't let anything stand in her way on the road to athletic and academic success.

Knight has been a celebrated goalball player while at UCalgary, training hard and attending the 2015 Parapan American Games in Toronto. Goalball is played by athletes with visual impairments, using a ball with bells inside. Knight is weighing the possibility of competing at the 2020 Summer Paralympics in Tokyo.

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**SUPER COMICS**

The George Morley Cartoon Collection is an idiosyncratic array of comic books, strips, reference books and original artwork, gathered by Morley, an amateur comic artist and aviation history buff.



**71 WHY THE MAPLE LEAF?**

The George F.B. Stanley Collection contains the archives of the eminent Calgary-born historian who proposed the design of the Canadian flag. It includes Stanley's fascinating account of how the flag evolved from the Union Jack through various renditions of the Red Ensign to the Maple Leaf, followed by a Royal Proclamation that made the Maple Leaf the official flag of Canada.







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### MOMENTS THAT SHAPE MUSIC

The John Peter Lee Roberts Collection contains a matchless mélange of archival material that documents 40 years of Canadian music history.

### LEGAL SHORTS

**76** The Canadian Institute of Resources Law, created by the Faculty of Law in 1979, has become a leading natural resources law research institute in Canada. The registered charitable organization has an international reputation for excellence in resources, energy and environmental law.

**77** The Ceremonial Sitting of the Court of Appeal of Alberta at UCalgary in 2017 marked the first time the body has held its inaugural sitting outside Edmonton or Calgary court-houses. The sitting was conducted in honour of Faculty of Law's 40th anniversary.

**78** A Faculty of Law business venture clinic in partnership with Innovate Calgary is offering startup businesses in the city access to pro bono legal services.

**79** A Family Law Incubator project prepares graduates for a changing legal market while helping people who need assistance in the courts. Some 60 per cent of self-represented litigants go to family court but cannot access or afford legal advice or representation.

**80** ABLawg, the University of Calgary Faculty of Law blog, has won the Clawbie for best law school blog three times.

**81** Low-income Calgarians have been able to navigate the complexities of tax laws and courts with the help of professors, tax lawyers and UCalgary students. An innovative Faculty of Law program, the Tax Court Assistance Project, has given students experience in tax court while increasing access to justice.



**73** **REPOSITORY OF BRITISH MILITARY MEMORABILIA**  
The Chicksands Collection, named after a British military base and Cold War listening post, near London, brags of more than 50,000 books and historical writings ranging from the 1700s to the 1970s. Chicksands was acquired from the British Ministry of Defence in 2011 and is possibly the most important acquisition of military monographs in Canadian history.



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### DANCING TO A DIFFERENT BEAT

UCalgary's combined Bachelor of Arts in Dance and Bachelor of Kinesiology program, launched in the fall of 2014, is the first of its kind in Canada. The combined degree program teaches students how to organize and plan dance classes for people of all ages and abilities, and gives them knowledge in fields such as anatomy, physiology and motor learning.



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### MOST DIGITALLY PROGRESSIVE ACADEMIC LIBRARY ON THE PRAIRIES

UCalgary's Taylor Family Digital Library (TFDL) is a one-of-a-kind 21st-century hub for cultural resources. The six-storey edifice is the same size as three Canadian football fields, housing 3.4 million digital images, 3.7 million microform units, 1.5 million maps and air photos, 850,000 architectural drawings, more than 400,000 new electronic monographs purchased each year, and a wealth of film/video and audio materials.

TFDL boasts an automated return system that separates books into seven different bins according to their radio frequency identification (RFID) number, so books are back on the shelves in a flash. Vending machines offer not just gum and chips, but USB flash drives, laptop master locks, AA batteries and calculators.



**82 FOOD SMARTS** In 2016, Charlene Elliott, BA'94, of the Department of Communication, Media and Film, was inducted into the Royal Society of Canada's College of New Scholars thanks to her work in food marketing, media and food literacy.

**83 THE THEATRE OF FOOD** Surprisingly, renowned local food writer and alumnus John Gilchrist, BA'77, studied drama, not food or writing. Before becoming a restaurant authority, Gilchrist performed in a number of UCalgary theatre productions and was an original Loose Mooseer.

**84 YOU'RE INVITED** Unique to UCalgary is the partnership we have with the Siksika First Nation, evident at the Blackfoot Crossing National Historical Park, where Cluny Fortified Village is located. This archeological dig is open to students and, occasionally, the public. The artifacts on the site date back to the 1700s and include arrowheads, pottery beads and other pre-colonial items.

**LESSER-KNOWN FACTS**

**85** Only at UCalgary will you find filmmaker-in-residence Gary Burns, the director behind *Radiant City*, who came aboard to mentor film studies students.

**86** Senior instructor and former associate dean of student affairs Marjan Eggermont, BA'91, BFA'96, MFA'98, is not only making waves with her work at the Schulich School of Engineering, she's also the co-founder of *Zygote Quarterly*, an award-winning digital magazine that showcases the nexus of science and design in the field of biomimicry.

**87** Not only did UCalgary provide evacuees with housing, food and other essentials in the aftermath of the 2016 Fort McMurray wildfire, but also shelter and care for animals.



**IMPROV ARTISTS ON CAMPUS**

John Gilchrist isn't the only Loose Moose alumnus who put in time at UCalgary. Improv phenom Rebecca Northan, BFA'96, and Canadian Screen Award-winning *Kim's Convenience* star Andrew Phung, BA'06, (pictured right) both honed their chops on campus.



**89 NO DRIPS HERE!** Local coffee empire Phil & Sebastian Coffee Roasters wouldn't exist without UCalgary: Phil Robertson and Sebastian Sztabyz met at the Schulich School of Engineering, both graduating in 2000. They abandoned engineering in 2007 to open their first café.

**90 UNLIKELY PAIRINGS** The duo behind Calgary's Sidewalk Citizen Bakery also graduated with unlikely degrees: Michal Lavi in 2004 with a BSc in geology, and Aviv Fried in 2004 with a BSc in physics and then, in 2008, with an MEng in mechanical engineering.

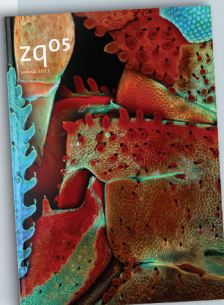


**LEAPIN' LEGACY**

If you've slogged up the 13 flights of stairs in the Social Sciences tower, you've likely noticed a poem progressively scrawled on the front of each step. *Leon the Frog* is a whimsical verse, originally written in marker in the mid-1970s, with various additions mysteriously appearing over the years.

"The poem is exceptionally notable," says Ian Kinney, BA'10, MA'12, who has helped maintain the poem over the years. "If you take the time to walk up the stairs."

The poem has long been a point of pride for campus-dwellers — until it was accidentally mistaken for graffiti and painted over this past March. Thankfully, Kinney and other frog-lovers carefully restored it, and Leon's legacy leaps on.





**92 RICH MUSIC RECORDS** CJSW 90.9 FM is not only a campus radio station, it's a community institution beloved all over the city. It also brags of raising more capital during its annual fundraising drive than any other campus station in the country — almost double that of the second most successful.

**93 EARNING MAGAZINE CHOPS** You've likely heard Shelley Youngblut, BA'85, on CBC Radio's *The Unconventional Panel*, but did you know that the current CEO of Calgary's Wordfest is also a CJSW alumna? Youngblut founded the radio station's now-defunct magazine, *Vox*, a move that she credits with changing her career and life's path.

**94 RIGHT PLACE, RIGHT TIME** A UCalgary alumna at the heart of the United States' latest political scandal? *New York Times* investigative journalist Susanne Craig, BA'91, got her start at UCalgary, but made headlines last year when an anonymous party mailed her now-President Donald Trump's tax returns in the middle of the election campaign.

95

**SWEET CAREER SHIFT** Crave Bakery Calgary's co-owner, Jodi Willoughby, graduated with a Bachelor of Community Rehabilitation and Disability Studies degree in 2001.



WHO KNEW?

**96** UCalgary is home to the largest social work faculty in Canada, as measured by faculty, students, campuses and geographical reach.

**97** Dating back to the 1990s, the Faculty of Social Work was an early leader in distance learning, using the Learning Circles program, which emphasizes Indigenous teaching, ceremony and cultural practice. This program allows students to work on their degrees while practising social work in areas where they live.

**98** UCalgary bridged the gap between academia and real-world social work earlier this year with the appointment of Angelique Jenney as the inaugural Wood's Homes Research Chair in Children's Mental Health. Jenney works with both front-line workers and researchers to ensure the latest research has an impact on kids' lives.

**99** UCalgary's Department of Anthropology and Archaeology is a leader in primatology research, largely thanks to Prof. Linda Fedigan, who was appointed to the Order of Canada in 2016.

**100** Working for UCalgary isn't just stimulating, it's also safe. In 2015, the university was named one of Canada's safest employers by Thomson Reuters.



101

ROCK ON!

The Rock is an icon on campus and offers a folksy way to promote university goings-on. Legend has it that The Rock, plopped in front of the MacEwan Student Centre, was unearthed when one of the campus buildings was being built. For decades, students have used it to paint messages advertising campus events or proclaiming political beliefs. There's only one written rule when it comes to The Rock: any painted message must be allowed to stand for at least 24 hours (though most students respect a 48-hour rule and also refrain from profanity and other offensive content).



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### IMPROVING CHILD HEALTH IN AFRICA

UCalgary physicians have helped African communities improve child health with education and health promotion. Unique partnerships with universities in East Africa positively impact the lives of women, babies and children in rural Tanzania and Uganda. Approximately 5,500 community-based health-care volunteers are trained.

**104 PATIENTS BENEFIT**  
Spearheading a revolutionary major stroke trial — known as endovascular treatment (ET) that can significantly improve patient outcomes after an acute ischemic stroke — were three Cumming School of Medicine researchers and Alberta Health Services clinicians.

**105 GENE THERAPY FOR RARE CONDITION: A WORLD FIRST**  
A team of Canadian physicians and researchers including medical geneticist Dr. Aneal Khan (and a member of the Cumming School of Medicine) is believed to be the first in the world to have used gene therapy to treat a patient with Fabry disease. People with the disease have a gene called GLA that can lead to problems in the kidneys, heart and brain. About 420 Canadians have Fabry disease.



103

### MAKING HISTORY WITH THE NEUROARM

When neurosurgeon and UCalgary professor Dr. Garnette Sutherland and his team created an image-guided neurosurgical robot called neuroArm, they were reaching into the future.

They made history when using it to operate on a human patient for the first time, a 21-year-old woman suffering from multiple brain tumors in 2008. The new surgical robotic system has revolutionized neurosurgery and other branches of operative medicine.

The Space Foundation's Space Technology Hall of Fame honoured Dr. Sutherland three years ago, along with four organizations including UCalgary's Cumming School of Medicine, for developing the neuroArm. Dr. Sutherland has also received the Order of Canada.



**106 ZZZZZZZZZZ...**  
Technology developed at UCalgary by sleep researcher Dr. John Remmers aims to improve the lives of the estimated 100 million people in North America who suffer from obstructive sleep apnea. He was the first to demonstrate that sleep apnea is due to anatomical narrowing of the pharynx.

### FACTS YOU NEVER KNEW

**107** Parvus Therapeutics, a company founded by UCalgary professor Dr. Pere Santamaria, signed a partnership deal with Novartis this year to advance the commercialization of nanomedicines to treat Type 1 diabetes.

**108** The most widely used scale around the world for diagnosing depression in people suffering from schizophrenia was developed at UCalgary by Drs. Jean, PhD'87, and Don Addington. It is now available in 41 languages.

**109** A new fly species was named after Jeffrey Goldberg, PhD'83, former head of the Department of Biological Sciences. This new species was identified with the help of 160-plus volunteers during BioBlitz, a 24-hour survey aimed at identifying and recording as many local species as possible in Kananskis Country.

**110** UCalgary's Hotchkiss Brain Institute spearheads advancements that have far-reaching results. In 1992, neurobiologist Samuel Weiss discovered neural stem cells in the brains of adult mammals. The professor's groundbreaking discovery led to new approaches for brain cell replacement and repair.

**111** The non-profit Western Canadian Microbiome Centre in the Cumming School of Medicine opened earlier this year, aiming to drive discoveries in fields such as chronic disease- and obesity-prevention, antibiotic resistance, food production, and the search for alternative energy sources.

**112** Studying immune mechanisms relevant to human disease, the research of Paul Kubers and his team has led to important discoveries. In 2011, they discovered how the injured brain suppresses the immune system, helping doctors fight potentially deadly bacterial invasions in people with brain injuries.



113

## DINO MONSTER MYSTERY SOLVED

Geoscience assistant professor Darla Zelenitsky, MSc'95, PhD'04, and colleagues discovered the dinosaur fossil "Baby Louie" was the embryo of a new species of oviraptorosaur, a giant bird-like dinosaur that lived in China 90 million years ago. The clutch of very large eggs (45 centimetres long) found with Baby Louie means his parents were far larger than any known oviraptorosaur species, with nests bigger than a monster truck tire.

### 114 HOW GECKOS GOT STICKY FEET

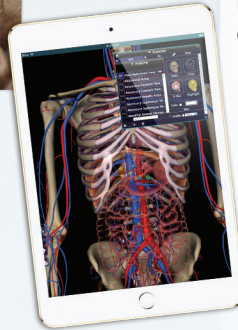
Zoology professor Tony Russell and colleagues discovered how geckos developed sticky feet by observing the ostensibly non-adhesive, bridled forest gecko in Trinidad and French Guiana. They determined the gecko's feet have microscopic hairs, called setae, on their toes that help them stick to smooth surfaces.



115

## DONOVAN PROBES NEW NORTHERN LIGHTS PHENOMENON

Sightings of a mysterious atmospheric phenomenon dubbed "Steve" by the Alberta Aurora Chasers Facebook group triggered the curiosity of physics and astronomy professor Eric Donovan. With data gathered from citizen astronomers and electric-field measurements from a European Space Agency *Swarm* satellite, Donovan was able to identify Steve as a 25-kilometre-wide ribbon of moving gas, hurtling at a speed of about six kilometres per second in a westward direction.



## SENSATIONAL SCIENCE

**116** A team of quantum physicists led by physics and astronomy professor Alexander Lvovsky is the first to breed Schrödinger's cats that grow ever larger and more energetic.

**117** In 2000, an international team led by UCalgary archaeology prof. Bill Glanzman uncovered a 3,000-year-old temple in Yemen, linked to the legendary Queen of Sheba.

**118** UCalgary computer science professor Christian Jacob and colleagues developed the Lindsay Atlas, a virtual human being that brings anatomy to life. The app is named after Lindsay Kimmett, a bright, promising student in undergraduate medical education who died in a car crash.

**119** A summer course on Hawaiian Shield Volcanoes offers a unique learning experience for students looking to study volcanic processes firsthand. Fieldwork includes visits to the largest active volcano on Earth.

**120** Each year, more than 2,000 Alberta junior and high school students learn about physics through Rollercoasterology, an outreach event at Calaway Park hosted by the Department of Physics and Astronomy.



### 121 AVOIDING FRACKING QUAKES IN ALBERTA

Geophysics professor David W. Eaton, MSc'88, PhD'91, and postdoctoral researcher Xuewei Bao discovered the cause of fracking-related earthquakes is different in Alberta than in parts of the U.S. After analyzing seismic data from Alberta's Fox Creek area, the researchers found that most of the quakes in the region were related to the fracking process itself, rather than burial of wastewater from oil and gas wells. Eaton says their findings could help regulators take steps to avoid fracking-induced earthquakes.

122

## THE ROCKET SCIENTIST WHO ROCKS FOR WOMEN

Rocket scientist and explorer Natalie Panek, BSc'07, has been blazing trails toward space for years as a leading light for other women and students.

She is a mentor with Cybermentor, a program that helps link Alberta girls in Grades 6 to 12 with women in science and engineering. The students are matched with carefully screened mentors and connect online on a secure site about opportunities in science and engineering.

The former Schulich mechanical engineering student and winner of the 2013 UCalgary GOLD award works in Mission Systems with Toronto's MDA Robotics and Automation.

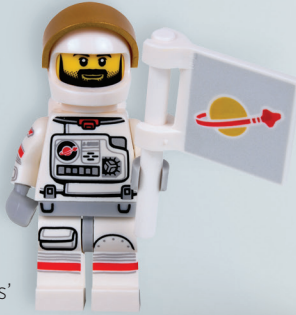
Panek did failure analysis for space electronics during a stint at NASA and is working on building the chassis and locomotion system for the European Space Agency's 2020 ExoMars Rover, among other projects.



123

## EXAMINING IMPACTS OF LOW GRAVITY ON ASTRONAUTS

A new study by UCalgary and the Canadian Space Agency looks at what impact prolonged exposure to low gravity may have on astronauts' brains. Canadian astronaut David Saint-Jacques is participating in the study during his six-month mission to the *International Space Station* beginning in late 2018.



131

## DIS-CERN-ING RESEARCHERS MATTER

A UCalgary research team, using a laser, helped measure the optical spectrum of an antihydrogen atom in an experiment done at the CERN particle physics laboratory in Geneva. The measurement will help scientists understand how the universe was formed.

## WHERE THERE'S SMOKE, THERE'S FIRE

UCalgary engineer Quazi Hassan's uses NASA satellite data to forecast forest fires, highlighting danger zones in remote areas. The geomatics engineering associate professor in the Schulich School of Engineering and his team are studying how wildfire behaves, as well as examining smoke migration patterns.



## AWESOME SPACE FACTS

**126** UCalgary space physicist Emma Spanswick and geomatics engineer Susan Skone are examining how auroras might interfere with GPS signals on Earth. They are looking at the potential impact on applications that include surveying, mapping, hydrology, aviation and military operations.

**127** Department of Geoscience associate professor Alan Hildebrand was part of the science team that guided development of the OSIRIS-REx Laser Altimeter (OLA), an advanced light-detection and ranging system that will map the surface of the near-earth asteroid Bennu.

**128** Students are designing livable colonies for Mars in a Master of Architecture program titled The Mars Studio that examines differences in gravity, radiation, air and water.

**129** No Canadian has spent more time in space than UCalgary Chancellor Robert Thirsk, BSc'76, LL.D.'09. The former astronaut logged 187 days in orbit.

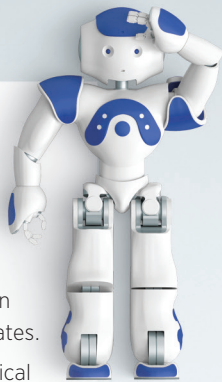
**130** UCalgary grad Laura Lucier, BSc (Eng)'99, operates the *International Space Station's* Canadarm2 and other robotics for NASA remotely from Mission Control in Houston.

## NEW EARTH-SPACE STRATEGY REACHES THE HEAVENS

The New Earth-Space Technologies Research Strategy includes researchers in space sciences, geomatics, and communications and satellite systems and has attracted more than \$100 million in funding. Projects range from global navigation satellite systems to remote sensing.

**132** **REMOTE-CONTROLLED SPACE STATION SURGERY** UCalgary researchers — led by neurosurgeon Dr. Garnette Sutherland, who developed the neuroArm used for brain surgery — are considering potential solutions for medical problems that may require acute care in space. The Robot-Assisted Space Telemetry project tests the feasibility of conducting remote-controlled tele-operations on the *International Space Station* from a workstation on Earth.

**BEYOND FRONTIERS**



**133** MEDi, a two-foot-tall multilingual robot designed to comfort kids undergoing medical procedures, was developed at the university and is now helping kids cope with pain in Alberta and in the United States.

**134** Our Rothney Astrophysical Observatory is one of Canada's best-equipped astronomical teaching facilities, helping students, school groups and the public to better understand the cosmos.

**135** UCalgary is a national leader when it comes to space research and teaching, having contributed to 20 space missions.

**136** UCalgary's Space Physics Group provided the world's first view of the global aurora from space in 1971.

**137** UCalgary's engineers and scientists have repeatedly broken ground when it comes to studying space weather's impact on global navigation satellite systems.

**138** Scientists at UCalgary designed three instruments currently being carried on European Space Agency *SWARM* satellites that study magnetic fields surrounding the earth.



**ARCHITECTURAL FIRM LEAVES MARK ON CALGARY**

Anyone who's eaten at Calgary's trendier restaurants has seen the work of UCalgary alumnae Kate Allen, BFA'06, MArch'09; Kelly Morrison, MArch'09; and Kristen Lien, BA'06, MEDes'08. They're the design firm behind FRANK Architecture and Interiors, who's responsible for decking out restaurants like Pigeon-hole, National, Model Milk and Alforno Bakery & Café. Lien chats about how the trio has changed the look of Calgary's eateries:

**How did your time at UCalgary shape FRANK?** It gave us the knowledge we needed to get going and a terrific mentor — Dale Taylor (former director of the architecture program at UCalgary). And it's where we all met.

**How many projects have you completed since you started in 2009?** More than 100.

**How has the design of public spaces changed in Calgary since you graduated?**

We have a vision, along with a lot of other creative types, to make Calgary a world-class city. We're trying to do that through hospitality and by punctuating the city with these beautiful venues.

**139 ONE AND ONLY** EVDS offers the only accredited graduate planning program and the only accredited architecture program in Alberta.



**140 WALK21** We all want a more walkable city — but a municipality has to be on board for academic research to have real-life impact. Calgary got one step closer to pedestrian-friendliness this fall when EVDS partnered with the City of Calgary to host Walk21, an international walkability conference, in September 2017.

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142

**ZIPPITY DO DA**

Legend has it that spinning this kinetic sculpture before an exam will help you ace — or, at least — pass the test. The mesmerizing turning of the Zipper brings peace to students, allowing them to concentrate better.



**146 CANADIAN SUPERHEROINE NELVANA RISES AGAIN!**

UCalgary is home to a treasure trove of original, first-run 1940s comics including *Nelvana of the Northern Lights*, illustrated by Canadian artist Adrian Dingle. Nelvana, the Inuit Goddess of the Northern Lights, was the first Canadian super-powered heroine, predating Wonder Woman.



143

**THE PRAIRIE CHICKEN**

Only at UCalgary will you find a 5.5-metre-high, 4.5-ton stainless steel sculpture known as the Prairie Chicken. Sculptor George Norris describes his 1975 Centennial Program piece of public art as “a hilltop gateway open to the sun. It is the pages of a book spread out for those who will be transported by its content. It is the prairie chicken’s feathers spread in full array, or it is the ritual-dance costume of the Blackfoot Indian.”



144

**NATURE IS AN ETERNAL MYSTERY**

Artist Reinhard Skoracki’s, BFA’97, impressive, 4.87-metre-tall sculpture, *Nature is an Eternal Mystery*, was created specifically for the new Energy Environment Experiential Learning (EEEL) building in 2011.

**145 DOUBLE THREAT**

In May 2017, the Schulich School of Engineering and the Haskayne School of Business launched the first combined BSc (Eng) and BComm degree program in Western Canada.

150

**EYE ON THE SNITCH**

UCalgary hosted the world’s largest game of quidditch in 2014. The Calgary Mudbloods, made up of students and alumni, continue to play the Harry Potter-inspired sport in tournaments across Western Canada and compete in the national championships each year. **U**



**EYE-OPENING FACTS**

**147** Teviet Creighton, BSc’94, and his brother, Jolien, BSc’92, discovered gravitational waves — ripples in space time — first predicted by Einstein’s general theory of relativity. They were part of a scientific team conducting an ultra-sensitive Laser Interferometer Gravitational-Wave Observatory experiment that detected gravitational waves caused by the collision of two black holes.

**148** Biology professor Leland Jackson, scientific director of Advancing Canadian Wastewater Assets (ACWA), and his colleagues, created a unique outdoor water system consisting of 12 full-size test streams fed with water from nearby Pine Creek Wastewater Treatment Plant.

**149** A Canadian clinical trial led by researchers at UCalgary’s Hotchkiss Brain Institute showed that minocycline, a common acne medication, can slow the progress of multiple sclerosis in people who have recently experienced their first symptoms.