



2019
**DELIVERING
IMPACT**



WHAT DOES A UNIVERSITY DO FOR A CITY?



UCalgary is — like our host city — a destination for people from around the world with ambitious dreams and the grit essential to fulfil them.

We offer students a high-quality, relevant learning experience that prepares them for success in life, as well as research that directly addresses society's most persistent challenges. Our creation and transfer of new knowledge contributes every day to our country's global competitive advantage, driving socio-economic change and making the world a better place.



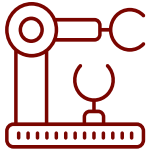
We do this in Calgary — one of Canada’s most caring cities, where a traditional ‘can-do’ spirit has grown into a ‘will-do’ commitment. We’re pioneers at heart, innovators by necessity, and community-builders because it’s in our DNA. We see potential where others balk at challenge and we know how to cooperate to get things done.

Here are some of the ways that UCalgary is delivering impact to Calgary, Alberta, Canada and the world. We are able to do this through excellent partnerships, deep community engagement, and strong philanthropic support.



WE CONDUCT
RESEARCH THAT
CHANGES THE WORLD.

UCalgary researchers have:



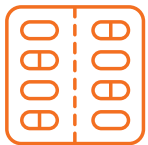
created an **image-guided robot that has revolutionized neurosurgery** and other branches of operative medicine



developed the first data-driven map of Earth's total groundwater supply



discovered a new method of **fighting severe lung infections** in people with cystic fibrosis



changed the way we prevent and treat running injuries

led a public health initiative to test homes for radon gas — a naturally occurring gas that can cause lung cancer



developed a robotic stroke assessment and therapy delivery tool

examined the benefits of using a robotic exoskeleton device following a spinal cord injury to improve patient recovery

shown that fibre supplements can help overweight children maintain a healthier weight and prevent many diseases caused by obesity

in partnership with Innovate Calgary, reported **2,264 discoveries** and secured **901 patents** from 1982 to 2018

discovered neural stem cells in the brains of adult mammals, leading to new approaches to brain cell replacement and repair

discovered that a common acne medication can **slow the progress of multiple sclerosis**

developed ground-breaking techniques to increase the efficiency of steam-assisted gravity drainage technology used in oil sands recovery

discovered new ways to eliminate allergen-induced asthma attacks

discovered a **new treatment for dry eyes**

shown how volunteering can reduce the development of dementia

identified the gene responsible for Nager syndrome — a condition causing deformation and deafness

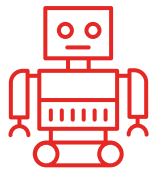
developed a test to identify osteoarthritis before it develops into a full-blown disease

tested the use of reovirus on cancer cells, opening up the possibility of a new way to treat some cancers

prevented thousands of injuries by researching concussion and brain injury, leading to a Hockey Canada ban on body-checking in youth hockey

developed a portable housing unit designed to allow the elderly or frail to remain in a home environment for as long as possible

partnered with The City of Calgary to advance wastewater treatment technologies, addressing environmental and health issues



demonstrated teleportation of a **photon over 6 kms**, an achievement that could facilitate **unhackable internet communication**

developed organ-on-a-chip platforms that will be able to mimic body functions and support safer drug-testing

advanced the detection, containment, and eradication of diseases that can spread from animals species to species and affect humans

advanced development of new rechargeable battery technology for use in electric vehicles, consumer electronics, and grids for storing renewable energy

developed a talking robot that **helps kids with anxiety** around medical procedures

led a major stroke clinical trial that significantly improved patient outcomes after ischemic stroke, including a 50% reduction in mortality

demonstrated the cause of sleep apnea and developed technologies to treat it

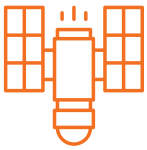
created the International Microbiome Centre — Canada's only research centre to study the microbiome and its impact on human and animal health

invented a new **breast cancer diagnostic kit** that screens faster and more effectively





created a nanocomposite coating and sensor network system capable of detecting pipeline leaks



monitored and supported animal welfare at the Calgary Stampede

invented technology to help prevent bedsores in spinal cord injury and stroke patients

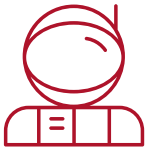


led one of the largest science initiatives in the Canadian Arctic, building the knowledge needed for a changing planet



discovered a molecular switch that could help to slow or even stop the spread of cancer

developed The Lindsay Atlas — a virtual human that brings anatomy to life in 3D



advanced the creation of a new generation of smart prosthetics

utilized NASA satellite data to forecast forest fires

discovered how the injured brain suppresses the immune system, helping doctors fight dangerous bacterial invasions

advanced innovations around the use of new stem cells to combat arthritis

developed novel gene therapy for urea cycle disorder

studied how cells **detect and repair DNA damage** to reduce cancer rates and **improve treatments for cancer patients**

developed a hub for climate research in North America, leading studies of the atmosphere, oceans, glaciers, and permafrost, deepening our understanding of climate change

developed fecal transplant pills to treat C. difficile — a potentially deadly infection

contributed directly to more than 20 space science missions, leveraging strengths in sensors and sensor webs, global navigation satellite systems, remote sensing, space science (planetary, astrophysics, near-Earth-space), and geospatial modeling

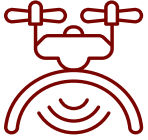
studied the impact of prolonged exposure to low gravity on astronauts' brains

discovered spill-resistant bitumen

advanced the topic of prevention of violence against women to the United Nations

created an electronic chip that can “talk” to brain cells

developed technology that allows surgeons to access the brain without cutting the skin



advanced development of North America’s first commercial **methane-sensing drone system**, used to seek and measure emissions from natural gas leaks and other sources

developed a method of producing affordable climate-neutral fuels using algal biomass

operate the Ward of the 21st Century, a **research and beta test-site** for prototypical hospital design, novel approaches to health care delivery, human factors research, and **innovative medical technologies**

tested the first **hydroponic growing system** in the Yukon, key to producing **fresh food year-round** in the North

documented the variations of **air quality in Calgary neighbourhoods**

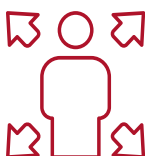
developed the Cannabis Evidence Series — one of the most comprehensive examinations of cannabis compiled, informing government and community groups in the wake of legalization

improved the **understanding of energy resources worldwide**, increasing recovery, minimizing environmental impact, and **offering expertise in talent development and industry governance**



WE EDUCATE
STUDENTS TO BECOME
COMMUNITY-BUILDERS.

UCalgary:



documents ways to help refugees and immigrants from war-torn countries successfully settle and adapt into Canadian communities

offers more than **250 program options** to more than 32,000 students

helps Calgarians reinvent themselves for a rapidly changing economy, through creative programs, fast-track options, and continuing education

has offered distance learning in social work since the 1990s before any other institution, **making education accessible in rural and remote communities**

supports veterinary medicine students in providing **preventive health care to pets** in remote regions of Northwest Territories.

shares First Nations Sky Lore through the **Rothney Astrophysical Observatory's collection of mythologies**, resources, and talks featuring Indigenous storytelling

partners with the Calgary Urban Project Society (CUPS) to host **free veterinary clinics for pets of people living below the poverty line**, offering a hands-on learning experience for students



offers the **Global Energy Executive MBA** — the first specialized program of its kind



partners with the Canadian Armed Forces to offer public programming and resources on military history and human conflict at the Military Museums of Calgary



offers the International Energy Lawyers program, a joint degree program with the University of Houston Law Center that supports the energy industry in Canada and the U.S.



welcomes the public to participate in an archeology program at Blackfoot Crossing Historical Park in the only known prehistoric fortified village on the Canadian Plains



offers the only process learning-driven **nanoscience program** in North America

has created the **Taylor Institute for Teaching and Learning** — the first building in Canada dedicated solely to improving post-secondary teaching and learning

operates the Hunter Hub for Entrepreneurial Thinking, an interdisciplinary nucleus for activities that support entrepreneurial student experiences, **enable faculty to lead in innovation**, and expand a growing community of **entrepreneurial and innovative thinkers**

offered one of the **first university-level computer game design** courses in the world

leads the Partner Research Schools (PRS) initiative — collaborations among schools, communities, and universities with projects covering everything from how to integrate technology into the classroom, to facilitating social interaction between international and Canadian students, to building STEM teaching capacity

operates the Energy Environment Experiential Learning building — one of the largest LEED Platinum laboratories in North America

operates the Taylor Family Digital Library — the most technologically advanced library in North America

offers scholarships to students from traditionally underrepresented groups to help them gain entrance to medical school

hosts symposia that tackle barriers faced by Indigenous people in education



runs a nursing faculty in Qatar — **the largest overseas program** developed to date by a Canadian university, **improving access to nursing education worldwide**

partners with SAIT to deliver a program in **energy engineering** that addresses the industry’s need for graduates with a mix of technology and engineering science skills and knowledge

offers **cross-faculty courses** on advancing healthy and socially just schools and communities to assist educators, social workers and others **develop safe and caring learning environments**

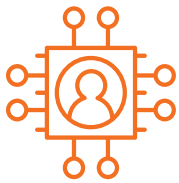
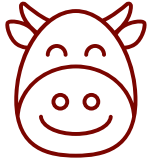
has addressed a call to action by the Truth and Reconciliation Commission, launching a course on First Nations, Métis and Inuit History, Education, Leadership

helps Calgary science teachers get students excited about physics through rollercoasterology field trips to amusement parks

gives international immigrants with education backgrounds the opportunity to combine their existing skills with the knowledge needed to deliver the Alberta curriculum

offers an embedded certificate in **sustainability studies**, helping students become sustainability leaders





hosts Alberta's first Faculty of Veterinary Medicine, opened in 2005 in response to the **Bovine Spongiform Encephalopathy (BSE) crisis**, offering innovative programs and community care

is the first in Western Canada to offer **combined engineering and commerce degrees**

is helping to diversify Alberta's economic future by offering a fast-track master's degree in **software engineering**

operates W.A. Ranches, a 1000-head cattle ranch that allows students and faculty across disciplines to study cattle and the environment in a complex, real-farm context

offers Canada's first hands-on, **multi-disciplinary program in wearable sensor technology**

has developed online courses with community partners to help leaders develop workplace mental health strategies

maintains one of the largest academic collections of retro video games in Canada

operates Cybermentor — an award-winning program that matches young girls with women in science, technology, engineering, and math

offers the only combined dance and kinesiology degree in Canada, allowing students to graduate with a strong foundation in both science and arts



WE SERVE AS AN
INTELLECTUAL, SOCIAL
AND CULTURAL HUB.

UCalgary:



hosts Campfire Chats each year to honour National Indigenous Peoples Day in partnership with the Calgary Stampede, sharing Indigenous perspectives to advance reconciliation in our community



partners with The City of Calgary on the Urban Alliance initiative, which promotes the seamless transfer of research between The City and the university, for the benefit of all our communities



housed more than 1,400 Fort McMurray Fire evacuees (and their pets) in 2016, providing shelter, support, and thousands of meals as part of disaster relief efforts



housed almost 1,200 evacuees and 485 emergency responders on campus during the 2013 southern Alberta floods, with 1,094 volunteers providing 6,588 hours of support



is home to the Arctic Institute of North America, the **largest archive and digital collection of Arctic research** data, images and art

provides legal aid to vulnerable Calgarians through a partnership between Student Legal Assistance and Calgary Urban Project Society (CUPS)

has contributed more than \$3.8 million to the United Way from 2011 to 2018

supports the Calgary **Distinguished Writers Program**, which invigorates writing and reading communities by bringing in established and emerging authors to the city

is a partner of Dancing Parkinson's YYC, a program that provides a therapeutic rehabilitative exercise class for patients and their care partners

provides community access to the Rozsa Centre — one of the premiere music recital facilities in western Canada

collaborates with the National Music Centre on opportunities to celebrate music in Canada through educational programming and exhibitions

preserved the history of the Canadian flag and the archives of the historian who proposed its current design

supports 14 varsity teams and 9 competitive clubs within Dinos Athletics, hosting **over 200 sports events** in Calgary each year

preserves and stewards the **archives of eminent Canadian authors**

is home to the Sport Medicine Centre — a multi-purpose, academically integrated sport medicine facility

celebrates students who contribute more than a million hours of community service each year

engages and supports a network of more than 180,000 alumni in 151 countries worldwide

partners with Alberta Health Services to coordinate education, research and service to society



runs the largest kids summer camp program of any academic institution in Canada, **hosting more than 10,000 campers every summer**



hosts the Canadian Architectural Archives, the largest collection of the work of Canadian architects in the world



helps low-income Calgarians navigate the complexities of tax laws and courts with the help of professors, tax lawyers and students



is Alberta's First Fair Trade Campus, providing people with the option to purchase products that change lives.



helps African communities improve child health with education and health promotion through partnerships with universities in East Africa

welcomes more than 20,000 student registrations in Continuing Education courses each year

developed a sophisticated psychology research environment that also offers affordable mental health support to Calgarians regardless of background, income or circumstance

helps thousands to better understand the cosmos each year at our Rothney Astrophysical Observatory — one of Canada's best-equipped astronomical teaching facilities

operates the Olympic Oval, home to the Fastest Ice in the World™ and hosts elite speed skaters from around the world

leads makeCalgary, a community-based platform that brings together researchers, graduate students, industry professionals, and community partners to help design a bright future for Calgary

delivers much-needed dental care to summer camp horses

stewards the EMI Music Canada Archive, including master recordings, album cover art, and awards preserving the influence and legacy of Canadian music.

hosts the School of Creative and Performing Arts — the second largest arts and culture hub in Calgary, showing over 200 performances annually

hosts the Sport Injury Prevention Research Centre, one of only 10 International Olympic Committee Centres of Excellence in Injury and Illness Prevention in Sport in the world

works with government and the public service, the private sector, Indigenous groups, labour, post-secondary institutions and NGOs to improve public policy outcomes for Canadians

is developing better palliative care for vulnerable populations

benefits from extraordinary philanthropic support that leads to a better student experience, more impactful research and strong connections to the community





**EYES
HIGH**
STRATEGY 2017-22

I WILL
LIFT UP MY EYES

ucalgary.ca