

FACULTY OF KINESIOLOGY

2019/20
**Community
Report**



**UNIVERSITY OF
CALGARY**

Dean's Message

No.1
**SPORT
SCIENCE
SCHOOL IN
NORTH
AMERICA**
No.7 **WORLD
WIDE**



Cover photo: Dr. Nicole Culos-Reed chats with an Alberta Cancer Exercise program participant.

What a year!

Few could have predicted this unprecedented COVID-19 pandemic; however, over many months, we have all demonstrated incredible resilience and adapted to this new reality.

As always, I am very proud of our students, faculty and staff for their strength and caring during this time. Our academic faculty are working hard to create an excellent education for our undergraduate and graduate students and, at the same time, still focusing on their own research. And our staff that support our academic faculty and our other diverse units continue to innovate and thrive in this very challenging and ever-changing environment.

I want to touch briefly on a few of our accomplishments this year. You can read more about our impact to our community and beyond in this year's Community Report:

- Our researchers are exploring alternatives to the one-size-fits-all approach to exercise intensity for maintaining a healthy cardiovascular system, especially for those over 65.
- We are expanding our free exercise program geared for those with cancer and cancer survivors beyond urban settings to remote and rural communities across the country.
- A pilot study shows some children with autism respond positively when they ate a modified version of a ketogenic diet, demonstrating an improvement in metabolism and the gut microbiome.
- We are collaborating with sport and recreation partners in our city to establish an innovative Calgary Adaptive Hub: Powered by Jumpstart to offer more inclusive programs across facilities throughout Calgary.

During these challenging times, the Faculty of Kinesiology continues to have an impact, improving the health and mobility for all ages, from youth to older individuals and from recreation participants, elite athletes to Olympians, as well as those with disability and disease.

Dr. Penny Werthner

Dean, Faculty of Kinesiology



Making an impact

Our research changes individuals' lives through improving health and mobility of all ages



Combining science and dance to prevent injuries

Students in the dance science program not only dance, but they take kinesiology and anatomy classes so they can teach dance safely and reduce their own risk of injury. The class is led by UCalgary's Dr. **Sarah Kenny**, PhD, who incorporates her injury prevention research into the classes she teaches, and with professional dancers in the community.



Low-calorie sweeteners increase weight of offspring

Consuming low-calorie sweeteners while pregnant increased body fat in mice offspring and disrupted their gut microbiota — the bacteria and other micro-organisms in the intestinal tract and affect health and risk of numerous diseases. Findings by Dr. **Raylene Reimer**, PhD, are significant as they impact the critical early years of life, particularly during pregnancy and breast-feeding.

Getting the correct dose of exercise. Alternatives to the one-size-fits-all approach to exercise

Kinesiology researchers are honing in on a “prescription” that will help individuals sustain an independent, high-quality life for as long as possible.

“Getting the right dose of exercise is important for everyone, especially for those over 65, the fastest growing segment of the Canadian population, which consumes 46 per cent of health-care budgets in Canada,” says Dr. **Juan Murias**, PhD, a researcher in the Faculty of Kinesiology at the University of Calgary. Current research indicates general daily physical activity is not always enough to trigger positive changes to the cardiovascular system to minimize the loss of function with aging.

To understand the right stimulus or dose of exercise, the researchers are testing intensity based on domains of exercise, often referred to as training zones, to understand what level of intensity or stress the body needs to produce positive adaptations that improve health outcomes.

The researchers study ways to accurately prescribe exercise, so that participants find the domains or zones that truly maximize the benefits of endurance training programs.



Kids with ASD respond well to ketogenic diet

While a high-fat, low-carb ketogenic diet may be most well known for those hoping to lose a few pounds, researcher Dr. **Chunlong Mu**, PhD, postdoctoral associate with Dr. **Jane Shearer**, PhD, have discovered a modified version of the diet may help children with autism spectrum disorders, or ASD. After three months on the diet, kids had improved behaviour and it changed the metabolism and trace elements in their bodies.



A new way to assess and track neurological function

Dr. **Ryan Peters**, PhD, is developing new ways for performing neurological testing anytime, anywhere, and with greater accuracy. He is the co-founder and chief science officer of Vibratus and says you can think of his technology as your wearable neurologist. This will be the first startup business to come out of the Faculty of Kinesiology's new specialization in wearable technology, led by Dr. **Reed Ferber**, PhD.



Enriching the student experience

We create inspiring environments in which students can learn, discover, create and innovate

Mouthguard found to protect against concussion in ice hockey. Study began as an undergraduate research project

Researchers discovered that mouthguards reduce the risk of concussion in ice hockey. They looked at dental custom fit and off-the-shelf. Both protected against concussion.

The study began as an undergraduate research project by University of Calgary Kinesiology student **Dirk Chisholm**. “This study is the strongest evidence to date that supports mandatory mouthguard use for youth between the ages of 11 and 17 when playing ice hockey,” says Dr. **Carolyn Emery**, PhD, chair of the Sport Injury Prevention Research Centre at the Faculty of Kinesiology.

Although policy around the use of mouthguards is in place in some areas of Canada, researchers say it should be more effectively enforced.

Mouthguards may protect against concussion because they reduce the forces transmitted to the brain, but further research is necessary to understand the protective mechanism. The study has implications for multiple contact sports such as football.

“This exciting discovery is the final product of an undergraduate research project which demonstrates the value a strong undergraduate research program can have for our communities,” says Emery.



Menstrual cycle shows no impact on sport performance

Women are under-represented in sport and exercise research. Most researchers are unsure about how hormonal changes influence their performance. Researchers demonstrated that both the menstrual cycle and oral contraceptive cycle have little impact on exercise performance, according to **Anmol Mattu**, a MSc student in Kinesiology, supervised by Dr. **Juan Murias**, PhD.



Olympian-turned-instructor wins with students

Dr. **Cari Din**, PhD, encourages her kinesiology students to challenge their own thinking and become effective critical thinkers. As a result, students say they were more confident and improved their writing and grades. Din earned a University of Calgary Teaching Award and a Students' Union Teaching Excellence award.

Connection with the community

We are committed to find ways to improve the lives of individuals in all our communities



Young campers on campus

Active Living's summer camps were restructured to accommodate COVID-19 protocols with small groups of no more than 10 people. The university is leading the way in the 'new normal' and these programs had a big impact in the community on the social, mental and physical well-being of these kids.



Patients embrace virtual visits

When the University of Calgary had to close its doors, the **Sport Medicine Centre** chose to remain open. A teleconferencing tool was used for services including physicians, physiotherapy and dietician consults. Now, many have embraced the new way of doing business in the comfort of their own home, as it can be difficult to visit the clinic when you have an injury, or you live far from the university or out of town.



New inclusive recreation partnership

The Faculty of Kinesiology, lead by Dr. **Carolyn Emery**, PhD is collaborating with seven other sport and recreation partners to establish the innovative Calgary Adaptive Hub: Powered by Jumpstart. This initiative will help support children with disabilities. Partners in the hub are designing and offering more inclusive programs across more facilities throughout Calgary including the University of Calgary's Adapted Summer Sports Camp.



Dinos win top spot in university football

After a 24-year wait, the Dinos captured the fifth Vanier Cup championship in program history with a solid 27-13 win over the Montreal Carabins. The win in November of 2019 vaulted them to the top of U SPORTS football for the first time since 1995.

Track athletes take the championship

Led by fifth-year seniors **Russell Pennock** and **Matthew Travaglini** finishing third and fourth, respectively, the Dinos captured their second straight U SPORTS men's cross country championship in Kingston, Ont., **Stefan Daniel**, the Canada West champion, finished 12th to earn All-Canadian status, while **Eric Lutz** and **Maximus Theissen** also scored for the Dinos, who repeated their 2018 triumph.



Cancer survivors thrive through exercise

Dr. **Nicole Culos-Reed**, PhD, is expanding the Alberta Cancer Exercise program beyond urban settings to remote and rural communities across the country, thanks to research funding provided by a Canadian Cancer Society/Canadian Institutes of Health Research Cancer and Survivorship Team Grant in partnership with the Alberta Cancer Foundation.



Dinos athletes help in the community

When the COVID-19 pandemic forced an early end to the athletic season, 20 members of the UCalgary Rowing Club in Dinos athletics kindly stepped up to help community members. The group was available for conversation, and offered to help with tasks such as childcare, dog walking, shoveling snow, delivering groceries and other goods to local families.

THANKS

We aimed high and we

Thanks to the extraordinary support of our philanthropic community, UCalgary's historic Energize campaign has transformed — and continues to transform — our campus, the community and beyond. Throughout the campaign, the Faculty of Kinesiology was the grateful beneficiary of \$61,018,312 in philanthropic support to enhance research endeavours, student awards and the student experience. As a city of trailblazers, we've become a 21st-century innovation university where big ideas have room to grow and entrepreneurial leaders have space to thrive.

UCalgary Energize by the numbers

- \$1.41 billion raised by 30,000 donors, including more than 12,000 alumni
- More than 3,200 faculty and staff gave more than \$31 million
- Contributions were made by donors in 67 different countries

THANK YOU!

We did it



- More than \$91 million in new legacy commitments
- 202 new graduate awards established
- More than 20,000 undergraduate students received \$61 million in scholarships and bursaries
- 526 new or renovated teaching, learning and research spaces over the course of the campaign

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Dr. Penny Werthner, Dean, Faculty of Kinesiology

2500 University Drive NW Calgary, AB, Canada T2N 1N4
kinesiology.ucalgary.ca

