



Applicant Institution	Project Title Summary Co-Principal Investigator(s), Institution Funding Partner	Grant Duration
Mark Basik CIUSSS de Centre-Ouest-de-l'Île-de-Montréal-Jewish General Hospital/Lady Davis Institute		\$1,000,000 2025-2030



Identifying young women at higher risk of breast cancer

Breast cancer is the most common cancer in women under 40 and rates of breast cancer in this group are increasing. These cancers are hard to predict or detect – only about 15% of cases show common genetic mutations and mammograms don't work well in young people. Mark Basik and his colleagues aim to understand why and how young women develop breast cancer so that they can help devise more effective screening and prevention strategies for this group, potentially saving lives.

Caroline Diorio, Laval University
Martin Yaffe, Sunnybrook Research Institute

Funded in partnership with Canadian Institutes of Health Research - Institute of Cancer Research (CIHR-ICR)



Vincent Fradet
Laval University

\$1,000,000
2025-2030



How gut bacteria can help prevent prostate cancer

Prostate cancer and gut bacteria have a close relationship – the more aggressive the cancer, the more it changes the bacteria living in the gut, which in turn help sustain the cancer. Drs Vincent Fradet, Sandra Isabel, David P. Labbé and their colleagues want to profile the gut bacteria of people at risk of prostate cancer to see whether changes to these bacteria can help predict the onset of the disease and the risk of more aggressive forms. They will also model changes to gut bacteria to learn whether dietary supplements can delay prostate cancer or help make it less aggressive.

David Labbé, The Research Institute of the McGill University Health Centre (RI-MUHC)

Sandra Isabel, Centre hospitalier universitaire de Québec

Funded in partnership with the Terry Fox Research Institution



Aaron Goodarzi
University of Calgary

\$1,000,000
2025-2030



Preventing lung cancers caused by combined exposure to radon and wildfire smoke

About 2 in 5 lung cancer cases are linked to non-tobacco causes such as breathing high levels of radioactive radon gas and the tiny particulates in smoke from wildfires and burning fuels. Exposure to these factors has been increasing for some time – radon exposure is rising as our buildings have changed and wildfire smoke has become an almost annual event across many regions of Canada. Dr Aaron Goodarzi has assembled experts in biology, physics, economics, medicine, population health, engineering and communications to understand what happens when we are exposed to radon and wildfire smoke at the same time. The researchers will also raise public awareness of our exposure these risks and work toward improved lung cancer screening for all who need it.

Alison Wallace, Dalhousie University

Maria Juana Aristizabal, Queen's University

Darren Brenner, University of Calgary

Doreen Ezeife, University of Calgary

Frank Jirik, University of Calgary

Funded in partnership with Canadian Institutes of Health Research – Institute of Population and Public Health (CIHR-IPPH)



Alberto Martin
University of Toronto

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2025-2030



Preventing colorectal cancers linked to a common gut microbe

A gut microbe known as pks+ E. coli is present in 20% of healthy people and 60% of people with colon cancer. Evidence suggests that this microbe is linked to colon cancer and that dietary fibre can help prevent pks+ E. coli-linked cancer – but we aren't yet sure whether or how pks+ E. coli causes cancer or how its levels can be adjusted to reduce the risk of cancer. Dr Alberto Martin and his team are studying this microbe to gain insight that can lead to better cancer screening and prevention.

Heather Armstrong, University of Alberta
Ken Croitoru, Mount Sinai Hospital

Funded in partnership with the Terry Fox Research Institution



Christopher Maxwell
University of British Columbia

\$1,000,000
2025-2030



Preventing breast cancer in women with a BRCA1 mutation

People who inherit a BRCA1 gene mutation have a much higher risk of developing breast cancer, especially during pregnancy or after giving birth. Currently, the only option that significantly reduces this risk is surgical removal of both breasts. Dr Chris Maxwell and his colleagues will study whether a drug commonly used to stop milk production after pregnancy could help prevent breast cancer. The international team will test this idea and, if successful, they could transform how we prevent breast cancer.

David Lim, Women's College Hospital
Joanne Kotsopoulos, Women's College Hospital

Funded in partnership with Canadian Institutes of Health Research - Institute of Cancer Research (CIHR-ICR)



Luke McCaffrey
McGill University

\$1,000,000
2025-2030



Decoding how breast cancer begins

Breast cancer rates continue to rise as people live longer, experience hormonal changes and lead different lifestyles to our ancestors. To help prevent breast cancer, we need a way to tell which early-stage breast lesions will become cancer and which will not. Dr Luke McCaffrey and his colleagues are studying the biological mechanisms that kickstart breast cancers and drive their progression. By identifying early warning signals, they aim to improve breast cancer prevention and early detection in people at high risk of the disease.

Ipshita Prakash, Jewish General Hospital
Josie Ursini-Siegel, Jewish General Hospital

Funded in partnership with Canadian Institutes of Health Research - Institute of Cancer Research (CIHR-ICR)



Rachel Murphy
University of British Columbia

\$1,000,000
2025-2030



Do ultra-processed foods cause colorectal cancer?

Evidence suggests that ultra-processed foods are linked to higher risk of cancer, including colorectal cancer. Right now, we don't know what nutrients or additives in these foods affect a person's risk of cancer or how they affect it. To find out, Dr Rachel Murphy and her colleagues will combine data, blood and stool samples from thousands of people across three provinces in Canada with a trial of people eating diets with different levels of processed foods with or without additives. They will then transplant the stool from these people into mouse models of colorectal cancer to see how the diets affect the gut microbiome and how the microbiome contributes to colorectal cancer.

Sharon Kirkpatrick, University of Waterloo
Benoît Lamarche, Laval University
Kathleen McCoy, University of Calgary

Funded in partnership with Canadian Institutes of Health Research - Institute of Cancer Research (CIHR-ICR) & Institute of Nutrition, Metabolism and Diabetes

