



Canadian
Cancer
Society



Cancer Research Atlantic Region

IT TAKES A SOCIETY

2025 Atlantic Cancer Research

Your impact in our region

In 2021, the Canadian Cancer Society (CCS) launched the Atlantic Research Campaign with an ambitious yet deeply purposeful vision: to strengthen cancer research across Atlantic Canada by fostering collaboration, celebrating excellence, and building lasting connections between researchers, donors, and communities. Anchored by a transformational \$2.5 million gift from J.D. Irving, Limited—establishing the **J.D. Irving, Limited – Excellence in Cancer Research Fund**—the campaign set out to do more than fund research. It aimed to create a dynamic, Atlantic-focused community where innovation, peer-to-peer support, and shared learning could thrive.

From the outset, the campaign objectives were clear. CCS sought to cultivate a collaborative environment for researchers, particularly those selected through the inaugural Atlantic call, recognizing their leadership and contributions to cancer research in the region. By strengthening relationships among researchers and leveraging a robust expert review process, the campaign worked to increase both the quality and quantity of applications—ultimately expanding opportunities for funding and discovery. At the same time, CCS deepened connections with donors, creating meaningful pathways for engagement between those who fund research and the researchers driving it forward.

The Atlantic Campaign delivered more than we could have hoped for. Over five years, it nurtured a strong sense of community among researchers, supported peer-to-peer learning, and brought the impact of cancer research to life through successful events, lab tours, and direct donor engagement. This spirit of collaboration translated into real momentum—fueling innovation, inspiring new partnerships, and elevating the standard of research across the region.

Together, through the Cancer Support Fund and the Research Fund, the campaign helped catalyze unprecedented investment and opportunity in Atlantic Canada. Thanks to the generosity of J.D. Irving, Limited and other dedicated supporters, this initiative has not only advanced scientific discovery but also strengthened the foundation for continued progress in cancer research and care.



Spotlight on funded research and discovery in Atlantic Canada

Around 3 in 5 cancer survivors experience sleep difficulties, and insomnia is one of the most common side effects of cancer. With so many in need of effective sleep care options, CCS-funded researcher Dr Sheila Garland has launched a clinical trial and is recruiting participants across Canada to test an innovative approach – one that puts solutions right in people's hands.

Since establishing her lab at Memorial University, Dr Garland has become a leader in the field of cancer survivorship and sleep – and now, she has developed a new module-based, interactive phone app to help cancer survivors sleep better. The app, **iCANSleep**, aims to give people a sleep treatment solution without barriers like geography, cost or long wait times.

The current standard insomnia treatment is cognitive behavioural therapy. Yet there are a limited number of trained therapists who can provide this treatment outside bigger cities, making it difficult for survivors living in rural and remote areas to access the care they need.

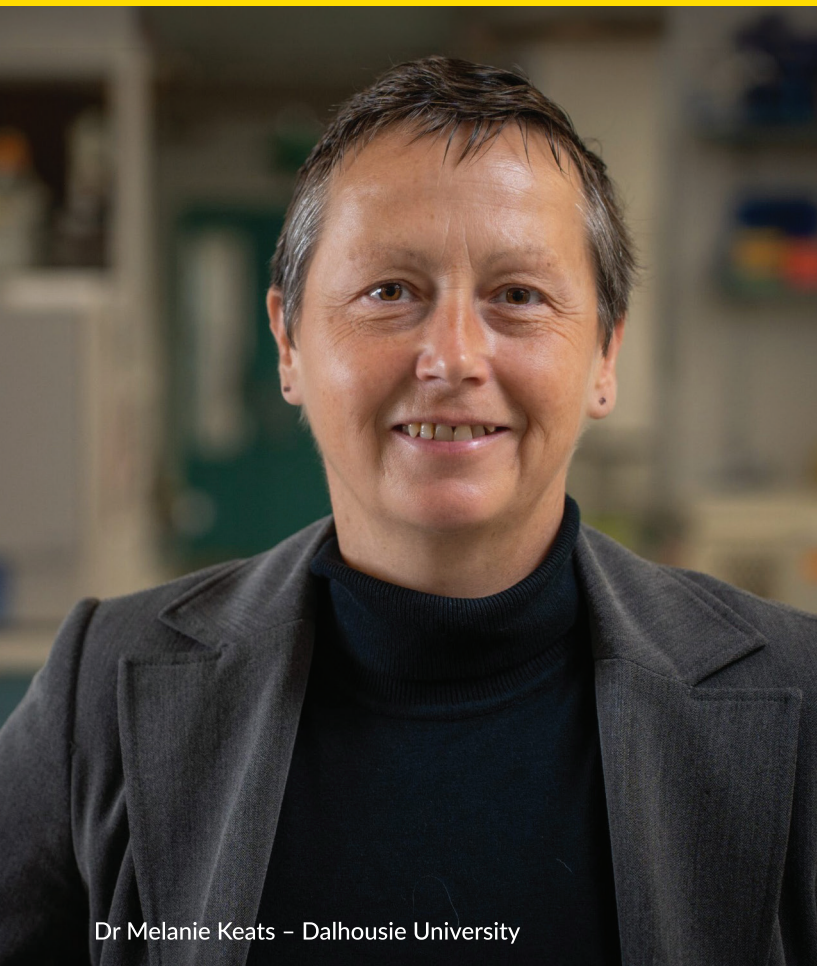
Recently the team pilot tested a fully functional version of the app to make sure it was helpful and easy to use. The researchers recruited 56 participants across Canada, and 48 of them reported major improvements in insomnia, anxiety, depression, fatigue and cognitive function.

"It really has made a change for me," said one study participant, a 51-year-old breast cancer survivor. "I think it's the way I think about sleep. I have less anxiety about it and less stress, and it's just changed my mindset towards sleep."

This project showcases CCS's strategic plan commitment to improving the lives of people affected by cancer.



Dr Sheila Garland – Memorial University



Dr Melanie Keats – Dalhousie University

Dr Melanie Keats is using exercise to help people living with glioblastoma enjoy life.

Glioblastoma is an aggressive form of brain cancer with a low survival rate even after treatment. People with glioblastoma and other brain tumours often experience muscle weakness, trouble balancing and difficulty moving.

Dr Melanie Keats at Dalhousie University believes that, for people with glioblastoma, maintaining a high quality of life is as important as finding new treatments.

“When you’re faced with a diagnosis with no cure, it’s about enabling individuals to enjoy life more fully,” Dr Keats explains.

With funding from CCS and J.D. Irving, Limited – Excellence in Cancer Research Fund, Dr Keats is studying how exercise can reduce side effects during and after treatment for glioblastoma.

“We’re trying to instill hope of maintaining the highest quality of life for as long as possible,” she says.

To do so, Dr Keats and her team developed an exercise study, RESIST, to evaluate outcomes among glioblastoma patients receiving standard care alone versus those receiving standard care combined with individually tailored resistance training. Exercise programming is supervised by a Clinical Exercise Physiologist and is delivered both in person at the Physical Activity and Cancer Lab in Halifax and remotely via Zoom.

Dr Mary MacNeil, an oncologist who works with many RESIST participants, says that people who finish the program have seen physical and mental benefits.

“[People] had more energy,” she says. “Their balance was better, and it helped them think of something other than the tumour and treatment for a while.”

Patients working with Dr Keats and her team have also emphasized the mood boost they get from exercise.

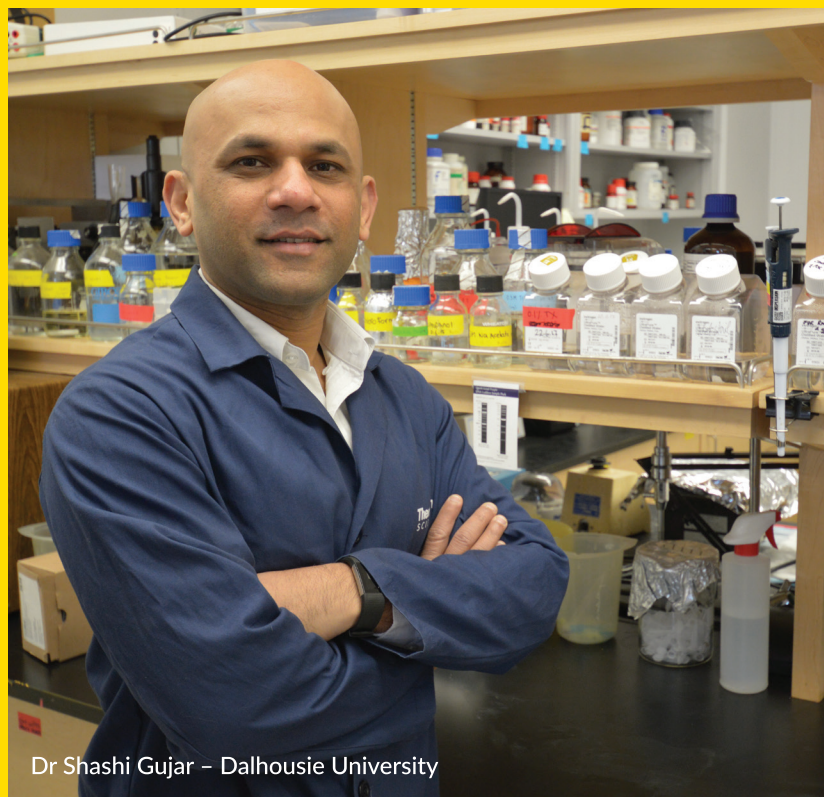
“Successes led to my morale becoming the bedrock on which I rely as I face my future,” says one RESIST participant. “For me, their work showed me what to do, how to do it and the value of unrelenting drive to survive and thrive.”

Dr Keats says that CCS funding has been crucial to the RESIST program and would like to thank donors for their contributions.

Boosting the effectiveness of viral therapies for lung cancer

Dr Shashi Gujar is taking an innovative approach to improve the effectiveness of virus-based immunotherapies for lung cancer. With support from CCS, Dr Gujar and his team are looking at how the environment around the tumour affects the ability of the immune system, and virus-based immunotherapies, to successfully target cancers. Specifically, the researchers are studying one particular pathway and its role in the immune response against the most common type of lung cancer.

The research team has uncovered a new way that cancer cells are able to hide from the body's immune system – and a way to restore the immune system's ability to fight back. Some cancer cells produce an enzyme that suppresses immune activity. Dr Gujar and his colleagues found that certain immune cells, especially ones called macrophages, can help clear out this enzyme – giving immunotherapies a better chance to do their job.



Dr Shashi Gujar – Dalhousie University



Dr Michiru Hirasawa – Memorial University

Treating chemotherapy-induced fatigue in people with cancer and survivors

Chemotherapy is effective for many people with cancer, but it comes with a variety of toxic side effects during and after treatment. These side effects can be so severe that some people have to reduce or even stop treatment completely. Also, chemotherapy-induced fatigue can leave them feeling physically and mentally exhausted, sometimes for several years after their treatments have finished. With funding from the Canadian Cancer Society, a team led by Dr Michiru Hirasawa is investigating why chemotherapy causes fatigue in some people with cancer. The team, including a cancer survivor, will test a commonly used chemotherapy to see what effect this treatment has on the brain and cells that regulate activity and fatigue. The researchers will then test a drug that is already used to treat diabetes and determine if it might be effective in preventing chemotherapy-induced fatigue. If successful, this project could help people continue with chemotherapy for longer, increasing their chances of survival and improving their quality of life.



Easier data access to improve care for children with cancer in the Maritime provinces

Children with cancer undergo many tests and scans to diagnose and analyze their cancer and monitor their health both during and after treatments. But in the Maritime provinces, this data is often split across different provincial and institutional systems, making it difficult for clinicians to access all the information about a child with cancer.

Integrating this information can revolutionize how clinicians diagnose and monitor childhood cancers, driving advances that build upon the care already provided. With CCS funding, Dr Victor Martinez is leading a team developing a new platform to integrate data from across the Maritimes, making it easier for clinical care teams to get a more complete picture about children with cancer and their disease. The platform will convert test results and medical records into a shared format that will be stored on a secure online hub. This project will enable easier access to children's cancer data for researchers and clinicians in the Maritime provinces, improving clinical care and speeding up research to improve outcomes for children with cancer.

“Over the past year, we’ve made meaningful progress in advancing a new approach to care—one that brings together patient data from multiple sources to better inform treatment. With support from CCS, we’ve begun early testing and evaluation, creating a strong foundation for future implementation and confidence in its potential to advance precision medicine. Just as importantly, joining a national community of practice has allowed us to learn from others facing similar challenges, share solutions, and shape our next steps—reinforcing that this innovative model is not only possible, but sustainable.”

-Dr Victor Martinez



Dr Patrick Murphy – University of PEI

Designing new therapies for breast cancer by studying cellular nutrients

Dr Patrick Murphy, University of Prince Edward Island is opening the door to a novel treatment for triple-negative breast cancer (TNBC). TNBC is challenging to treat and has few options for therapy but, with the support of a J.D. Irving, Limited – Excellence in Cancer Research Grant, and the Emerging Scholar Research Grant, Dr Murphy is working to improve the outlook for people facing this cancer.

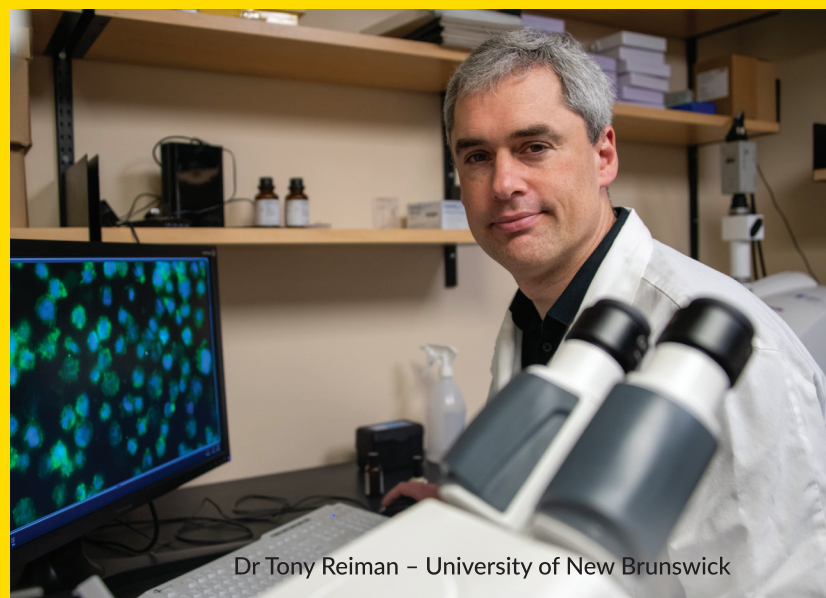
Many TNBCs are dependent on the serine biosynthesis pathway (SBP) but the benefit of the SBP to tumors is not fully understood. Defining this knowledge gap will provide many opportunities to improve their ability to treat these worst-outcome breast cancers. Since many of the metabolites produced by the SBP in cells are also found in circulation, they may undermine strategies to inhibit the pathway. In the past year of the grant, the team has analyzed the pathway in depth in tumors and have identified unique sensitivities of many TNBCs to the depletion of the SBP-dependent metabolite cysteine. This led them to investigate how

SBP-dependent breast cancers acquire cysteine, revealing a potential resistance mechanism to cysteine starvation (a putative breast cancer therapy). Ultimately, inhibiting this resistance mechanism may lead to improvements in cysteine starvation therapies for breast and other cancers.

Looking at lymphoma, myeloma and lung cancer in Atlantic Canada

Dr Tony Reiman is the Canadian Cancer Society Research Chair at the University of New Brunswick. In this role, he supports a research program comprised of lab projects and clinical trials that aim to understand more about 3 types of cancer: multiple myeloma, lymphoma and lung cancer. With the crucial input of patients and caregivers as research partners, Dr Reiman leads a team to better understand the biology of these cancers and investigate new therapies and treatment approaches. One study Dr Reiman leads involves 250 patients with myeloma from across Canada. In this study, the research team will analyze multiple blood and bone marrow samples donated by these patients over time to learn more about this currently hard-to-treat cancer. The researchers also seek to understand ways of diagnosing the cancer types they study earlier, to improve patient prognosis. As part of his role as Chair, Dr Reiman has also trained a number of research trainees and other

highly qualified personnel in Atlantic Canada, greatly benefitting the research ecosystem in the region and promoting collaboration with other researchers and clinical trial coordinators nationally and internationally.



Dr Tony Reiman – University of New Brunswick

Changing the narrative of lung cancer to improve prevention for non-smokers

A team led by Dr Robin Urquhart is examining the effects of environmental exposures in non-smokers to help detect lung cancer earlier and save lives. Lung cancer is most often linked to smoking, but due to exposure to cancer-causing substances such as arsenic, radon gas, and air pollution, lung cancer can also occur in people who have never smoked. Yet, in several provinces in Canada, where screening programs are being implemented for people at high risk of lung cancer, only a person's age and smoking history are currently considered in the risk assessment.

Over the past year, Dr Urquhart and her team have made strong progress toward understanding how environmental exposures like radon, arsenic, and air pollution contribute to lung cancer risk. They have launched a national study with 5,000 participants, collecting samples and exposure data to help refine who should be screened for lung cancer. In the lab, they are uncovering how these exposures damage lung cells—including using machine learning to identify a key protein linked to arsenic exposure. The team is also developing new tools to better measure harmful air particles and studying their effects, while gathering input from communities across Canada to improve how risk is communicated. Early findings are already being shared with researchers and healthcare providers, and discussions are underway with provincial screening programs to explore expanding eligibility criteria—laying the groundwork for more effective prevention, earlier detection, and ultimately, saving lives.



Dr Robin Urquhart – Dalhousie University

Understanding barriers to colorectal screening

Colorectal cancer screening plays an important role in saving lives by detecting cancer early or even preventing it altogether. However, many individuals who are eligible for screening do not take part. This is particularly notable in Atlantic Canada, where rates of colorectal cancer diagnoses and deaths are among the highest in the country.

In response, Dr Arlinda Ruco and her team at St. Francis Xavier University are working to better understand which groups are less likely to participate in screening and the reasons behind this. Over the past year, the researchers have examined screening patterns using data from 2012 to 2023 provided by the Nova Scotia Colon Cancer Prevention Program and are now preparing to publish their findings.

The team also explored differences in screening participation by race and ethnicity, and they are currently studying the influence of income and geography on screening outcomes. This information will help identify where gaps exist so interventions can be tailored to the communities that need them most.

With the help of strong community partnerships, they have completed 12 focus groups on barriers to colorectal cancer screening involving 125 participants, with additional sessions planned in 2026 for under screened communities throughout Nova Scotia. These conversations are providing valuable insight into the barriers affecting screening decisions. This project showcases CCS's strategic plan commitment to preventing cancer.



Dr Arlinda Ruco – St. Francis Xavier University

Identifying opportunities to prevent cancer in Atlantic Canada

The team's goal is to support cancer prevention interventions that more effectively target communities with higher-than-average rates of cancer and cancer-causing factors. These communities often also experience lower socioeconomic conditions and are in greater need of support to manage the impact of cancer and enable health promoting behaviours to reduce or mitigate cancer risk.

Over the past year, Dr Saint-Jacques's team, funded by the J.D. Irving, Limited - Excellence in Cancer Research Fund, has developed socioeconomic status profiles for all 464 communities included in the study. These profiles offer a look at the material, social and environmental contexts of people's lives – critical factors in assessing cancer risk.

So far, one of the most exciting developments is a dashboard that will soon make this information accessible to everyone. The dashboard currently includes socioeconomic status profiles and will feature cancer profiles and exposure data (smoking rates, alcohol consumption, physical activity, living with excess weight and diet). This tool will help decision-makers respond quickly to cancer-related concerns, identify risk factors and design tailored programs to reduce the cancer burden in these communities.



Dr Nathalie Saint-Jacques – Dalhousie University

Clinical trials

Clinical trials are research studies that look at new ways to prevent, find and treat cancer. They can help us understand cancer better or discover what works best for particular types of cancer or groups of people. They play a critical role in shaping the future of cancer care. They provide patients with access to innovative therapies that are not yet widely available, while also advancing treatments for those who will need them in the future.

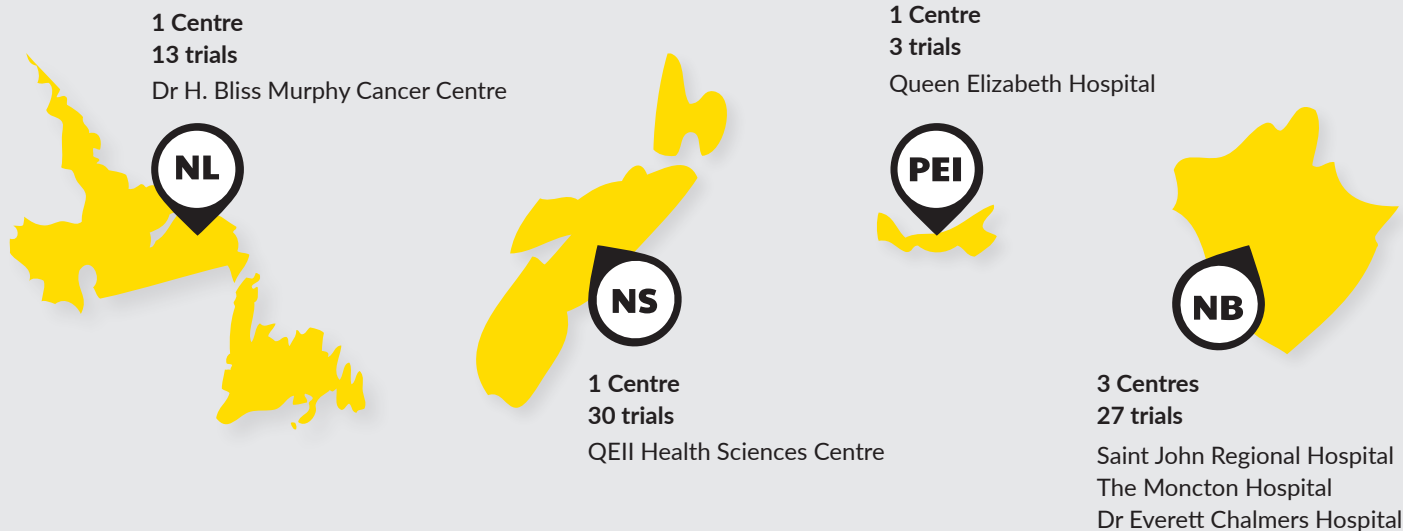
However, access to clinical trials remains limited due to a range of systemic barriers, including financial constraints, geographic challenges and low patient awareness. These challenges are even more pronounced in underserved regions like Atlantic Canada, where limited infrastructure and distance from major research centres make participation more difficult.

As a result, attracting investment from global organizations to support trials in Canada – particularly in the Atlantic provinces – can be challenging, ultimately reducing the number of opportunities available to patients.

The Canadian Cancer Society (CCS) and the Quebec – Clinical Research Organization in Cancer (Q-CROC) launched Cancer Trials Canada, the country's only national, bilingual, patient-centric website dedicated to cancer clinical trials. This past year we launched the **cancertrials.ca** platform in partnership with Q-CROC.

The launch of Cancer Trials Canada reflects CCS and Q-CROC's shared commitment to innovation, equity and excellence in cancer care. Together, the organizations are advancing a vision where everyone in Canada affected by cancer can access the information they need to explore clinical trial opportunities.

63 Atlantic Canada Cancer Trials



Finding hope through research – Thelma’s story

For Thelma and Harold, the first year of the diagnosis felt like the wilderness – overwhelming and isolating. Because cholangiocarcinoma is rare, there were no local support groups or clear pathways to specialized care. They relied on standard treatments and spent countless hours searching online for answers. It was a time in their lives marked by fear as they tried to stay strong for each other.

By mid-2024, Thelma and Harold’s journey took a hopeful turn when, by chance, a friend shared information about the Canadian Cholangiocarcinoma Collaborative (C3). With funding from the Canadian Cancer Society through a Breakthrough Team Grant, C3 is building a national network to advance research, expand access to molecular and immunotherapies and create a registry for people with biliary tract cancer (BTC). A first-of-its-kind partnership between people with this cancer, caregivers, clinicians and scientists, C3 aims to provide new treatment options and boost access to clinical trials that are rarely accessible in Canada. This could significantly enhance survival and quality of life for people with these cancers.

Through C3, Thelma and Harold found a fountain of information and gained a network of experts, advocates, patients and caregivers working together to improve outcomes for people with cholangiocarcinoma. This support brought hope back into their lives, transforming their outlook and empowering them to advocate for themselves and others.



“C3 didn’t just give us information; they gave us hope. They helped us understand what was possible, connected us with experts and showed us that people are working every day to change outcomes for rare cancers like Thelma’s. They opened doors for us we didn’t even know existed.”

– Harold Kelly, Thelma’s husband



Thank you.

Five years later, the impact of the Atlantic Research Campaign stands as a powerful testament to what is possible when collaboration, vision, and generosity come together. With investments totaling more than \$15.7 million, the campaign supported 38 grants, 15 undergraduate scholarships, and 3 research training awards—benefiting 49 researchers across Atlantic Canada and creating a vibrant, connected research community rooted in shared purpose.

These outcomes reflect far more than numbers. They represent strengthened peer networks, enhanced opportunities for emerging and established researchers, and a renewed sense of collaboration that continues to shape the region's research landscape. Through meaningful engagement—including lab tours and events—donors have seen firsthand the difference their support makes, while researchers have gained not only funding but a community of peers dedicated to advancing cancer research together.

By encouraging collaboration and championing bold ideas, we are ensuring that people in Atlantic Canada have access to the latest breakthroughs and comprehensive care. Together—with the leadership of J.D. Irving, Limited, whose early investment helped spark this momentum—we have built a campaign that exceeded expectations and laid the groundwork for future impact.

As we close this chapter and embark on the next, we do so with deep gratitude and optimism.

The J. D. Irving, Limited — Excellence in Cancer Research Fund has proven that when we invest in people, partnerships, and possibility, we move closer to a future without cancer—for everyone.

Because nothing big in cancer gets solved by one person or one organization. It takes all of us. It takes a society.





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