



BANTING

RESEARCH FOUNDATION

A Department Chair took a risk on a young investigator

The inspiration for the Banting Research Foundation was the triumph of a committed young Canadian doctor over an ancient disease – diabetes. In the summer of 1921, Fredrick Banting was given the opportunity to pursue a novel research idea by a Department Chair willing to take a risk and provide the resources necessary to perform experiments that led to a transformational discovery – insulin.

Insulin is now acknowledged as being one of the most important medical discoveries of all time. In 1923, Banting and JJR Macleod, his Department Chair at the University of Toronto, were awarded the Nobel Prize in Physiology or Medicine. In the more than 90 years since, insulin has made living with diabetes manageable for many millions of people around the world. All this occurred because a leader was willing to stake scarce resources on a young investigator intent on pursuing a testable hypothesis.

The Banting Research Foundation was established in 1925 to support Frederick Banting and other biomedical researchers in Canada similarly dedicated to discovering causes and cures of diseases. For the next two decades the Foundation was essentially the only agency funding biomedical research across Canada.

As a Foundation we honour and preserve this legacy by taking calculated risks every year to assist a new generation of biomedical researchers with our Banting Research Foundation Discovery Awards. Our goal is to strengthen the capacity for innovative health science in Canada by providing financial support for the most imaginative ideas proposed by our most promising new investigators. Each year we ask ourselves, might this investigator be Canada's next Banting?

Investing in the Future

Scientific researchers in Canada often start their careers with very little financial support for their bold ideas. It can be difficult for early-career researchers to compete for sparse grant funds against well-established investigators with longer track records.

The Banting Research Foundation Discovery Awards exclusively fund early-career biomedical researchers with imaginative new ideas that may have implications beyond a single disease. These awards fund the best and most promising ideas. Many proposals are for pilot projects designed to generate data to enable subsequent applications to government or other agencies that grant long-term research support.

Each submission undergoes rigorous evaluation by a volunteer panel of accomplished and imaginative scientists who have a broad range of experience, interests, and expertise. For this reason alone, our Discovery Award confers prestige and credibility upon successful candidates at a critical formative stage of their careers.

We believe that by supporting these researchers early on, we can help to launch their promising careers so they can further explore ideas that could lead to discoveries that benefit human health. We also see this as an opportunity for Canada to maintain the level of commitment to biomedical research necessary to fuel discovery and retain top talent.

Currently we are able to fund only 10 to 15% of proposals received. We want to ensure that no opportunity for biomedical discovery is lost due to lack of resources, and that new investigators have the funds they need to explore their ideas, like Banting did.

The Banting Legacy

Banting's legacy is not simply about insulin. It is also about Canadians imagining new discoveries to alleviate disease and improve human health, if only those with great ideas but limited resources were given an opportunity to experiment and succeed.

In 1925 there were no granting agencies or foundations to support biomedical research in Canada. The Banting Research Foundation was established that year both to commemorate the discovery of insulin and to stimulate Canadian biomedical research in other fields.



The inaugural fundraising campaign raised nearly half a million dollars, a considerable sum at the time, from individual and corporate donors. In 1948, the Foundation received a bequest of nearly \$1 million from the estate of Kate E Taylor of Toronto. These two endowments represent the principal source of funds from which our Trustees now disburse investment income annually as Banting Research Foundation Discovery Awards.

Return on Investment

Since 1925, the Banting Research Foundation has awarded over 1300 grants to outstanding early-career biomedical researchers across Canada. Many of these grants sparked remarkable discoveries that transformed the practice of medicine and surgery, reduced illness and death rates, and propelled many of our recipients to positions of leadership and influence across Canada. Here are some highlights:

Grants awarded between 1935 and 1950 supported the first clinical trials (by **Charles H Best**, **Gordon Murray** and their colleagues) of heparin, a powerful anticoagulant that prevents blood clots from forming. Over the following years, heparin allowed ground-breaking research that enabled adults (**Wilfred Gordon Bigelow**) and children (**William T Mustard**) to undergo open heart surgery safely and effectively. Remarkably, heparin and its successor molecules remain cornerstones of contemporary medical therapy, and the technically challenging operations these surgeons pioneered are now considered routine.

In the 1960s and 1970s, the Foundation funded **Henry G Friesen**, **Charles H Hollenberg**, **John H Dirks** and **Louis Siminovitch** early in their research careers. Their subsequent discoveries benefited patients with hormone, kidney and genetic disorders. Each achieved positions of institutional and national leadership and became influential visionary advocates within universities, the corporate sector, and government for Canadian pre-eminence in medical research and innovation.

Recipients in the early 1980s whose early-career findings placed them at the forefront of entirely new fields of biomedical research include **Aldolfo de Bold**, recognized by a Canada Gairdner International Award for his discovery of the presence and functional importance of natriuretic peptides, heart hormones now fundamental to the management of heart failure; **Janet Rossant**, a pioneer in developmental biology and recipient of the 2015 Canada Gairdner Wightman Award; and **Brenda Gallie**, whose lifelong contribution to the prevention, diagnosis and treatment of retinoblastoma, an important genetic cause of blindness in children, was recognized in 2015 by the Order of Canada.



Meeting the Challenge

For the past 90 years we have invested in the future of biomedical research and the careers of new investigators, with the aim of stimulating new discoveries and demonstrating positive returns on our investment. We hope to continue for another 90 years and beyond.

The current research funding environment in Canada is changing, and proportionally less is available to support discovery research. This can make it difficult for early-career researchers to get the funding they need to explore new ideas that may lead to practical innovations.

In 2015, the Foundation received 78 applications, nearly double what it usually receives. Our current endowment allows us to fund only about 6-7 applications each year. Many outstanding proposals may go unsupported because of lack of funds.

Recent grant recipients have acknowledged with gratitude that it was through the productivity enabled by the Foundation's grant that they were able to establish a secure program of long-term funding from other agencies. As noted by Carl Ernst, Canada Research Chair in Psychiatric Genetics at McGill University, who received a Banting Research Foundation Award in 2012,

“Young investigators in health research in Canada have very few opportunities to secure funding without competing with well-established investigators, so this provided precious funds in a very important time in my career.”

This means that the Banting Research Foundation and the realization of its goal to strengthen the capacity for innovative health science in Canada is more important than ever. To continue to fund the best and the most promising new investigators in Canada, and encourage them the way Banting was encouraged, we need to provide more funding – so we don't miss the next important discovery.

Our Goal

Our goal is to enhance our capacity to support early-career biomedical researchers in Canada over the next several years. We want to continue the legacy that was started by a Department Chair willing to take a risk on a new investigator nearly 90 years ago.

Here is how you can help us achieve our goal:

Support the Endowment Fund

Our endowment fund was created in 1925 and has since grown to over \$4 million. This endowment provides funding for early-career biomedical researchers. However it has limited capacity. We want to protect the legacy that was established 90 years ago, and build our capacity to help launch the research careers of new investigators. This investment may lead to important discoveries in Canada. Your support will ensure that we can continue the legacy that was inspired by Banting.

Support the Discovery Award Program

Our Discovery Award program provides one-year research grants to applicants receiving the highest scores in an annual peer-reviewed competition. Grants are reviewed by a panel of accomplished scientists experienced in a wide range of biomedical research disciplines. Our funding generally supports pilot projects intended to enable early-career biomedical investigators to gather data that will strengthen subsequent applications for longer-term research grants from other funding agencies. Your contribution can go a long way in helping us to fund additional awards so we can support these researchers early in their careers.

We have seen what can happen when someone is willing to take a risk on a new idea and invest in someone early on in their career. Please join us in taking a similar step and help to launch Canada's next Banting.



Saint-Irénée, Quebec, painted by Frederick Banting, circa 1931



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