

Tender hearts welcome

Heritage
A tradition of
innovation

Vision
The relationship
between mental
well-being and
cardiovascular
health

Innovation
Prevention:
the key to
a healthy heart
and brain

Commitment
A great
love for the
Institute



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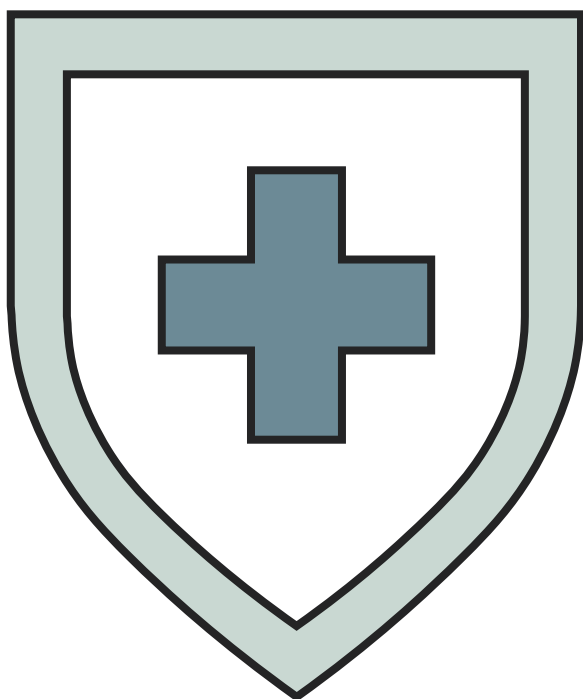
Thank you

The team at the Montreal Heart Institute Foundation is deeply committed to supporting the excellence of an internationally renowned institution dedicated to serving Quebecers. In fact, they make it their mission to honour the Institute's legacy, promote its vision, support its innovative projects, and highlight its commitment to serving our community.

The goal may be a lofty one, but it's extremely motivating and gratifying! The caring teams at the Institute help alleviate pain. Save lives. Keep families together. The Institute and the Foundation are fortunate to count on talented, forward-thinking and dedicated teams, and on loyal, generous collaborators and donors.

Our magazine offers a look at life at the Montreal Heart Institute, at some of the people who make a difference every day, and at its research projects and major accomplishments. We hope you'll enjoy reading all about it.

Once again, thank you from the bottom of our hearts. Together, we can continue to support the incredible work being done at the Montreal Heart Institute!



United
to save
thousands
of lives.

TC Transcontinental
is proud to support the
mission of the Montreal
Heart Institute Foundation.



Shaping the future

—— The second edition of our magazine gives you a glance at the medicine of the future and shares stories of exceptional people who are helping to make this vision a reality.

Dear Readers,

The past year has shown us all just how important research is. After all, that's what made it possible for the COVID-19 vaccines to be developed in record time. At the Montreal Heart Institute, research can have an impact on the lives of millions of people suffering from heart disease, here and abroad.

In this edition of the Foundation magazine, we want to show you how our teams are striving to find solutions that will improve the health of the general population. One of these solutions is called personalized medicine. It's an innovative approach poised to change the face of medicine in the years to come. By pursuing our research in genetics, an area where the Institute already stands out, we could soon be able to adapt treatments to each individual patient. There is extraordinary work being done at our Research Centre, and the extended Foundation family is privileged to witness first-hand these outstanding breakthroughs. Our progress is due in large part to your support, your generosity and your loyalty.

Donors play a key role in the international success of the Montreal Heart Institute. They ensure the vitality of the Research Centre, the Health Innovations Coordinating Centre, the Pharmacogenomics Centre, the Biobank, and the EPIC Centre. They lay the groundwork for new departments that have become the benchmark of our field. A heartfelt thank you to everyone who has invested in the cause and to everyone who is making our vision possible—read on to find out more about these big-hearted individuals.

Alain Gignac,
President and CEO of the
Montreal Heart Institute Foundation



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“By working with Institute leaders and major philanthropists, the Foundation is securing the means necessary to make the cardiovascular medicine of the future a reality.”

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Legacy

A legacy of excellence and human-centric care

Our predecessors have left us an invaluable legacy. Since the Montreal Heart Institute was founded in 1954, our teams and allies have combined forces to create one of the world's biggest and most renowned cardiology centres.

The Institute's founder, Dr. Paul David, instilled a human-centric vision and approach that still live on to this day. In fact, the Institute has developed an outstanding reputation for excellence in care, prevention, teaching, and research—all based on putting the patient at the heart of everything we do. Our teams provide increasingly specialized treatments and go above and beyond to push the boundaries of cardiovascular medicine, all while staying true to our core belief that the patient always comes first.

The Montreal Heart Institute's success is due in large part to the exceptional dedication of our collaborators and philanthropists who have shown time and time again that they care truly and deeply about protecting tender hearts.

In sum, the Institute is built on a legacy of excellence and care that has been shaped by previous generations. It's a legacy that we live up to every day—one we must rally around and protect for future generations.

A glimpse at the future of research

_____ What will the Institute’s researchers be working on in the coming years? David Rhains, Deputy Director of the Montreal Heart Institute’s Research Centre, shares an overview of upcoming projects.

380

employees at the Research Centre

88

are researchers focused on three areas of study:

01 **blood vessels**

Including postdoctoral interns and students, more than 600 people are currently working to better understand cardiovascular diseases and how to mitigate their effects.

02 **electrophysiology**
(the heart’s electrical system)

Following a long tradition of innovation, researchers at the MHI explore promising avenues—including precision medicine and ground-breaking clinical studies—and implement long-term flagship projects.

03 **myocardial function**
(the heart muscle)

Precision medicine

Studying a patient's specific traits enables health-care teams to provide the most personalized treatments possible.

Innovative clinical studies

Innovating how studies are carried out to facilitate data sharing and patient participation.

Flagship projects

Carrying out large-scale projects that aim to change the lives of patients.

Predicting risks with polygenic scores

"A polygenic score is basically a number that represents the variants in a person's genome," said David Rhainds. This score is used to identify a person's given risk of any number of conditions, including baldness, breast cancer, heart attacks, or even strokes. Future research projects will expand, validate and rely on polygenic scores to predict the risk of developing certain cardiovascular diseases and identify hundreds of as-yet-unknown markers.

Optimizing virtual studies

Several virtual studies, such as the COLCORONA study, have already been carried out. In the upcoming COLCOT-T2D study, which aims to demonstrate that colchicine could prevent cardiovascular events in individuals living with type 2 diabetes, patients can register, get information about the study, and even sign consent forms online. "Virtual clinical studies are here to stay," said David Rhainds. That's why it's so important to build the infrastructures and services these studies require. For instance, in the future, medication required by the study could be delivered directly to a patient's home. Furthermore, a nurse could visit the patient when a sample is required, or they could collect their own saliva using a collection kit. Sensors could even be used to collect data about the patient in real time. "This would enable us to widen our pool of participants. There are also myriad benefits for the patient as well. It will be easier for them to take part in studies with the use of modern communication tools," added David Rhainds.

Implementing a research program focused on the heart and brain

One of the Institute's flagship projects is an exhaustive, structured program that aims to understand the effects of cardiovascular diseases and their impact on cognitive decline and dementia. This program will focus on several aspects of the relationship between the heart and brain to validate new mechanisms. "We really want to undertake every aspect of our research on the heart-brain relationship with a group of researchers across Canada," said David Rhainds. With our ongoing BRAIN-AF study, we are assessing the impact of an anticoagulant used to prevent blood clots on cognitive decline in adults with a heart rhythm disorder. In the long run, we want to reduce cardiovascular diseases and strokes, and mitigate their impact.



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Patients at the heart of the Institute's decisions

—— Mélanie La Couture, President and CEO of the Montreal Heart Institute, explains how the Institute is positioning itself for the years to come.

“The Institute’s ecosystem is a unique one. There are very few places where different teams dedicated to research, care, prevention, and training work in such close collaboration,” said Ms. La Couture.

These four pillars support each other for the ultimate benefit of the patient who is at the core of everything the Institute does and who is central to its vision.

The future of the Investing in Excellence program

For the CEO of the Institute, putting the patient at the heart of decisions means enhancing the spaces that will improve the care they receive as well as their overall experience. This is the main goal of the Investing in Excellence program, which was launched in 2016 and is scheduled to be completed in 2022. More than \$225 million has been invested to create a centre for training and excellence in cardiovascular health, to modernize the emergency department, and to build two floors for patient rooms as well as an underground parking lot. “This new building is beautiful, pleasant to be in, and very well lit. But most importantly, it’s equipped with cutting-edge technology,” said Ms. La Couture, who was also the Foundation’s Executive Director from 2013 to 2017.

The project will also enable the Institute to offer outpatient medical services. The goal: provide more services to more patients, not just those who occupy one of the 153 beds at the hospital. Furthermore, rooms for hospitalized patients are nearly all single

occupancy. Rooms that are not new will be renovated. “Everything is designed with the patient in mind,” added Ms. La Couture.

The patient as a partner

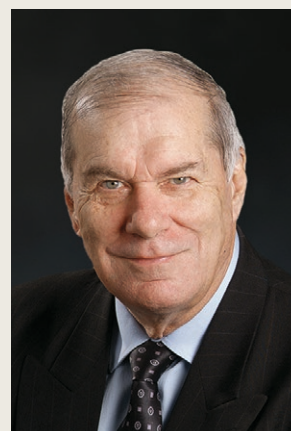
These renovations are part of a new vision the Institute has embraced: the patient as a partner. In fact, the MHI’s Patient Partner program aims to involve the patient in every aspect of their health-care treatment. “We want to obtain the patient’s perspective or their loved ones’ perspective to improve the care we deliver. We’re open to all recommendations.” This approach has been proven to benefit the patient’s physical, psychological, and overall well-being.

Personalizing treatments

In addition to putting the patient at the heart of the Institute’s vision, health-care teams are committed to delivering treatments tailored to each patient’s individual characteristics. This is known as personalized medicine. Ms. La Couture is proud of the research that has been done, specifically at the Institute, which is a pioneer in the field. “We’ve been investing in personalized medicine for over a decade and it’s an approach that our professionals have already adopted. We continue to pursue our research in this area, specifically in genetics. In fact, we’re at a point where we are personalizing prevention to ensure that recommendations are adapted to each individual.” For example, in the near future, it will be possible to prevent a cardiac event before it even occurs.

According to Ms. La Couture, the success of the Institute is thanks in large part to its hyperspecialized and dedicated teams who are committed to innovation. But it’s also thanks to donors. “Major institutions thrive because they can depend on a community of philanthropists who are in essence a dedicated family. That’s what enables projects to succeed.” This family is the fifth pillar that contributes to the strength of the other four.

Contributing to progress



_____ A member of the Foundation's board of directors for more than two decades, Louis Tanguay shares his thoughts on his involvement and the importance of planned giving.

When he was president of Bell Québec in the late 1990s, Mr. Tanguay was asked to become involved in the Foundation. He quickly agreed to join the cause. "What impressed me so much about the Institute was its highly specialized mission. I've spent a career working with technology, which has made me understand that progress is built on research, which in turn relies on cutting-edge know-how." He joined the Foundation's board of directors, even presiding as the Chair for three years. Today, he is actively involved in several of the Foundation's committees and oversees the Major and Planned Giving committee.

Making your donation go further

This committee of specialists supports the Foundation's executive team to develop and execute strategies to optimize donations. The benefits of various scenarios are emphasized and then promoted to potential donors. In fact, the Foundation's website lists several specific ways of making a planned gift.

What are the advantages of planned giving? Thanks to tax credits for donations, donors can easily give a greater amount without incurring more costs. They have the satisfaction of knowing they're doing more, and that the Montreal Heart Institute can rely on extra resources to treat patients. This is the case when a person chooses to give shares, a type of donation that is increasing in popularity. With a bequest, the donor can also alleviate the tax burden on their estate while leaving a mark that is in line with their values. "Simply put, anyone planning to donate a significant amount should consider a planned gift. There are myriad ways to optimize a donation that are suited to an individual's situation and profile," said Mr. Tanguay, who has committed to making a bequest to support the Foundation. He also pledged to make a major donation over the next five years to support the BRAIN-AF study, a project he considers very promising.



Real repercussions

The incredible advances in the treatment of cardiovascular disease have motivated this philanthropist to keep supporting the Institute. “The progress that has been made has had a huge impact on improving life expectancy. Not only can we live longer, we can also be healthier for longer,” he said.

He truly believes that these breakthroughs are only made possible through research. In 2021, the Foundation donated more than \$27 million to the Institute. Nearly two-thirds of this amount has gone to supporting research. Mr. Tanguay believes this is the reason why the Institute has been able to achieve great things. “I don’t think there’s any field where a donation makes a greater impact,” he said. Mr. Tanguay is a convinced and convincing man—a rare gem whose contribution to the Foundation has been invaluable.

“I don’t think there’s any field where a donation makes a greater impact.”

Louis Tanguay



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A tradition of innovation

—— Interview with Dr. Denis Roy, winner of the Canadian Cardiovascular Society Research Achievement Award and pillar of the Montreal Heart Institute.

List of Montreal Heart Institute winners of the Research Achievement Award

Dr. Denis Roy (2021)
 Dr. Jean-Claude Tardif (2008)
 Dr. Stanley Nattel (2001)
 Dr. Jean-Lucien Rouleau (1997)
 Dr. Pierre Thérout (1996)
 Dr. Martial G. Bourassa (1992)
 Dr. Lucien Campeau (1985)

In the fall of 2021, Dr. Denis Roy joined the impressive list of Montreal Heart Institute researchers who have been awarded the prestigious Research Achievement Award by the Canadian Cardiovascular Society. This award is offered to an established researcher working on a specific aspect of cardiovascular research in Canada.

“It is undoubtedly a great honour,” said the former President and CEO of the Institute (2012–2017). As a specialist of heart rhythm disorders, Dr. Roy has led research projects that have changed the practice of cardiology and improved the prognosis for patients suffering from atrial fibrillation. His studies were published in the *New England Journal of Medicine*, one of the world’s most renowned medical journals, and are still cited by numerous experts today. “I also believe that part of the reason I was awarded this recognition is because I am currently involved in a third major study that has the potential to be one of the biggest ever undertaken at the Institute,” said Dr. Roy.

Improving the lives of patients

The BRAIN-AF study is a research project that aims to demonstrate the link between atrial fibrillation and cognitive impairment in order to find a treatment to prevent cognitive decline. Many international experts already consider it to be a revolutionary study that has the potential to affect major change in clinical practice. “Imagine, we could find a treatment to prevent or slow the progression of dementia!” says Dr. Roy, a man who is fully committed to improving the lives of patients.

Progress built on past achievements

According to Dr. Roy, these advances are possible thanks to the structure implemented by the Institute’s founder, Dr. Paul David, and other trailblazers, such as Dr. Martial G. Bourassa. They’ve instilled a culture of excellence and collegiality that has enabled the Institute to recruit the most talented experts, and train physicians and researchers who then go on to share their knowledge throughout the world. The legacy of research and clinical leadership they’ve built has only grown stronger over the years.

These past achievements pave the way for a bright future at the Institute. Dr. Roy believes that the ongoing support they receive from the community and Foundation plays a key role that has enabled the Institute to become one of the world’s best cardiology centres, making discoveries that change lives. Moreover, the Foundation has contributed to numerous expansion and modernization projects at the Institute, including, most recently, the construction of the Centre de formation d’excellence en santé cardiovasculaire. Last but not least, the Foundation has provided key figures like Dr. Roy with the means to shine and help medical advances become a reality.



Care, prevention, teaching, and research. These four pillars are at the heart of everything the Institute does. They are interwoven, each supporting the next. That's what makes the Institute's ecosystem so unique.

The Institute is Canada's largest hospital centre dedicated to cardiology, and the country's biggest centre dedicated to preventing cardiovascular diseases. Furthermore, its Teaching Centre and its Research Centre have developed a stellar international reputation for their work in personalized medicine and genomics.

Research paves the way for a bright future filled with hope. The Institute's Research Centre has the means to achieve wonderful things thanks to the talent, expertise and technology at its disposal, and the unwavering support of its generous donors.

Our predecessors laid the foundation upon which the Institute's four pillars now solidly rest. It is our duty to pursue this work and to ensure the Institute remains a unique, enduring establishment that puts science at the service of patients.

Vision

Immovable pillars

Dreaming of a bright future

—— Interview on the future of cardiovascular medicine with Dr. Jean-Claude Tardif, Director of the Montreal Heart Institute's Research Centre.



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“I’m not afraid to dream,” said Dr. Tardif, a cardiologist who has had an immense impact on how cardiovascular diseases are treated, including recently with the COLCOT study on the use of colchicine. Dr. Tardif is someone who always aims high.

Back in 2004, Dr. Tardif wanted the Institute to focus more on genetics, which he believed was the future of medicine. It’s a science that enables research teams to better understand the building blocks of each individual human to better predict their likelihood to develop diseases and thereby prevent them. “I said we were going to create a pharmacogenomics centre. Everyone thought I was kidding.” But this hard-working professional, who has authored more than 600 scientific articles, was not deterred. Two years later, nearly \$60 million had been raised for the project. The Beaulieu-Saucier Pharmacogenomics Centre officially opened in 2008, and just like the Research Centre, it has developed an international reputation for excellence.

Areas of expertise come together

This success is due in large part to the Research Centre’s highly skilled teams. “Some directors say that the cast is the key to making a good movie. The same goes for a research centre! I believe the quality of researchers determines the outcome,” said Dr. Tardif. According to him, when different areas of expertise come together, teams can come up with new ideas and view problems in a different light. That’s what the Research Centre is all about. “I’m trying to foster collaborations between basic and clinical researchers. There is an immense potential for success in this type of partnership,” said the holder of the Canada Research Chair in Translational and Personalized Medicine. And when their research environment features cutting-edge equipment and efficient infrastructures, teams are primed to make discoveries that can change the future of medicine.

On the cusp of a medical revolution

Now more than ever, Dr. Tardif is convinced that breakthroughs in genetics will shape the future of medicine. “This revolution is within grasp. We have the talent, expertise, and technology. If we’re able to meet all the conditions for success, over the next 10 years, we could cut the rate of incidents caused by cardiovascular diseases by 50%.”

Dr. Tardif is also hopeful for what comes next. He dreams that one day we can prevent cognitive decline and dementia so people can remain healthy for longer. Because the brain and heart are inextricably linked, research in the cardiovascular field will play a key role to this effect. “As Director of the Research Centre, I’ve been given the opportunity to carry on the legacies of important figures, such as Dr. Paul David, Dr. Martial G. Bourassa and Dr. Stanley Nattel. I have been immensely inspired by these men who were responsible for major advances in research, and I believe it is our duty to continue their work.”

“Over the next 10 years, we could cut the rate of incidents caused by cardiovascular diseases by 50%.”

Dr. Jean-Claude Tardif



© Raphaël Ouellet

Investing in the future



_____ Denis Ricard, President and CEO of iA Financial Group, shares his organization's philanthropic vision.

Impressed by the Institute's reputation for excellence and leadership in care, teaching, prevention, and research, iA Financial Group (iA) has been supporting the Montreal Heart Institute Foundation for the past two decades. And because iA is deeply committed to causes that improve health, it was only natural for them to support the BRAIN-AF project.

"This research project is perfectly in line with our donation policy. It tackles two of the most common health-care issues: cardiovascular diseases and cognitive disorders. We expect the results of the study to have a significant impact on hundreds of thousands of people. Moreover, the project is taking place throughout Canada and therefore speaks to our employees across the country," said Mr. Ricard.

A corporate citizen

iA Financial Group has embraced a philanthropic vision for reasons that go beyond the visibility associated with a sponsorship. That's because giving back is part of the company's DNA. One staff member is even devoted to philanthropic causes full-time and oversees various aspects of their community involvement, including donations to charities. Thanks to its resources, iA is able to support more than 600 health-care, education, social services, and environmental organizations every year. In 2020, the company donated \$6.5 million to various causes.

600

health-care, education,
social services,
and environmental
organizations are
supported by iA Financial
Group every year.

Helping pave the way to a brighter future

During the pandemic, some companies had to scale back their expenses. But limiting his organization's financial support to social causes never even crossed Mr. Ricard's mind. Quite the contrary. "Donating to health-care is not an expense. It's an investment," he said. That's because donations contribute to the well-being of Canadians, an objective that is aligned with the insurer's values. They also help create a sense of belonging for employees who in turn become ambassadors of well-being within their own communities. But most importantly, health-care researchers and iA share similar goals: to provide patients with peace of mind and a sense of security for their future. That's why it's so important to support the progress being made in health care.

This philanthropic commitment is rooted in the organization's culture and aligns with its core values. Today and for years to come, iA is proud to support tender hearts.

**"Donating
to health-care
is not an
expense. It's
an investment."**

Denis Ricard



© Raphaël Ouellet



© Antoine Saito

The relationship between mental well-being and cardiovascular health

While most health-care professionals at the Montreal Heart Institute take care of a patient's heart, Dr. Judith Brouillette, Director of the Psychiatry Department, provides care for their mental well-being.

“If you want to take care of a person’s cardiovascular health, you also need to take care of their mental well-being.”

Dr. Judith Brouillette

Dr. Judith Brouillette is someone who is extremely curious. After graduating with a Ph.D. in electrophysiology, which would have made her a perfect candidate for a position at the Montreal Heart Institute, she finally joined the team in another capacity years later. That’s because an internship in psychiatry convinced her to focus on the brain instead of the heart. “I was riveted by psychiatry. I was fascinated to discover how the brain’s chemistry can profoundly affect human behaviour,” she said of her decision to return to school at the age of 27. Today she is a psychiatrist, researcher, and the director of the Institute’s psychiatry department. Her unique and highly specialized skill set is a major asset to an institute specialized in cardiovascular health.

A two-way street

Even though medicine traditionally segments the human body into different systems, it’s now widely accepted that the brain and heart have an impact on each other. “Psychologists were the first ones to make the connection between the two by demonstrating that people with hostile personality traits, such as anger and cynicism, are more prone to heart attacks. In light of these findings, researchers expanded their studies to focus on depression, anxiety and other issues,” said Dr. Brouillette. Conversely, physical problems often raise stress levels, which can exacerbate mental health problems. “Symptoms of anxiety, such as palpitations and chest pain, often mimic heart disease,” she added.

Psychiatrists therefore check in on hospitalized individuals, as well as those in outpatient clinics, to offer their services to help these patients deal with mental health issues. The Institute’s psychiatry department includes three psychiatrists and one psychologist. They are often called upon to meet with people dealing with disease or about to undergo procedures, such as heart transplants or implantation of artificial hearts. Dr. Brouillette also treats patients suffering from delirium (a state of severe confusion that can precede or follow a surgical intervention) or depression and anxiety.

Three research projects

In fact, anxiety is Dr. Brouillette’s main topic of interest. Her study titled *Préoccupations congénitales* focuses on anxiety in adults with congenital heart disease. With her Burnout study, she investigated anxiety, professional burnout, and post-traumatic stress disorders in health-care workers on the front lines of the COVID-19 pandemic. Finally, her Torsade study examines the real impact of certain psychotropic drugs on a rare form of arrhythmia.

In addition to her studies on the relationship between the heart and the brain, Dr. Brouillette wants to destigmatize mental health disorders. That’s because mental well-being is an intrinsic part of a person’s overall state of health. “If you want to take care of a person’s cardiovascular health, you also need to take care of their mental well-being,” she said.



SmartGown
Cardinal Health

Innovation

The future in our sights

The teams at the Montreal Heart Institute have inherited a legacy of firsts and major discoveries. Today, they continue to uphold the Institute's tradition of innovation.

The Institute's researchers have never shied away from the unbeaten path. Theirs is a fight against a formidable enemy, but their determination and creativity have enabled them to find new ways to prevent and treat cardiovascular diseases.

The scientific breakthroughs achieved at the Institute are made possible thanks to our research and health-care teams, as well as our loyal donors.

By helping to finance the Institute's activities, our donors help drive research projects that push the boundaries of cardiovascular medicine and, most importantly, save lives.

How does the human body react to heat?

_____ The effect of heat on cardiovascular health is a topic that is being increasingly studied by the scientific community.

Heat has myriad repercussions on our bodies. “Being exposed to heat is like doing a very low intensity workout,” said Daniel Gagnon, kinesiologist and researcher at the Institute. When exposed to heat, a person’s heart rate goes up and the blood circulates through their body at a quicker speed, which can mimic some of the benefits of physical exercise. In fact, a study published in 2016 involving 2,000 Finns revealed that those who regularly spent time in a sauna (a popular activity in Finland) were significantly less likely to die from cardiovascular disease.

Daniel Gagnon and his team are trying to expand on these discoveries as part of their research at the Institute’s EPIC Centre, Canada’s largest cardiovascular prevention centre. Several research projects are currently ongoing, including Daniel Gagnon’s work, which includes the use of a sauna. “If our studies establish that there are benefits to using a sauna, it could become another lifestyle habit we would recommend along with a healthy diet, stress management practices and physical exercise,” added Mr. Gagnon.



© Réjean Poudrette

A study published in 2016 involving 2,000 Finns revealed that those who regularly spent time in a sauna (a popular activity in Finland) were significantly less likely to die from cardiovascular disease.

EPIC Centre:
Canada’s largest
cardiovascular
prevention centre

Heart rate

Internal temperature

Sweat produced

Objective: understand the negative impacts of heat to eventually develop treatments that are based on science

For some residents of CHSLDs or low-income housing, it can be difficult to gain access to air conditioning during heat waves for technical or financial reasons.

22

days of high heat in 2020.

42

days of high heat per year expected by 2050.

Simulating heat waves

Other studies are currently making the most of the EPIC Centre's environmental chamber where researchers can set the temperature (-18 to 70 °C) and humidity levels. The chamber is used to simulate North American heat waves, which are hot and humid, as well as Australian heat waves, which tend to be dry. Researchers then collect physiological data from participants, including heart rate, internal temperature and amount of sweat produced. The project's goal is to better understand the negative impacts of heat to eventually develop treatments that are based on science.

The CHAUDS project

Moreover, Daniel Gagnon wants to study the effects of heat outside the laboratory. To this effect, the CHAUDS project will involve senior citizens living in long-term care facilities in underprivileged areas. For some residents of CHSLDs or low-income housing, it can be difficult to gain access to air conditioning during heat waves for technical or financial reasons. Daniel Gagnon's study will therefore aim to quantify the conditions these individuals are submitted to and find alternate ways of helping them cool down, such as electric fans for instance. "This is one of the first times we are attempting to go out into the community, and it could result in tangible solutions for those who need them," he said. It is truly a crucial project, especially when keeping in mind that there were 22 days of high heat in 2020, and that this number could increase to anywhere between 30 and 42 by 2050.

The effects of the environment on the human body have always fascinated Mr. Gagnon. Today, he is specifically focused on heat because it impacts all the organs in a complex physiological way. Climate change has also made this a topic of the utmost importance. "Heat is becoming increasingly part of our daily lives. Because of this, there are questions we need to study," he said. His project is also designed to help those most vulnerable, including anyone suffering from heart disease.



© Julie Perreault

The perfect match

_____ When a donor feels a connection to a certain project, the sky's the limit. Fabienne Larouche shares her story.

“The Montreal Heart Institute is an immense source of pride for Quebecers.”

Fabienne Larouche

There's often a reason why someone feels so attached to a specific cause. That's what happened to Fabienne Larouche, TV writer and producer, and her spouse Michel Trudeau. “Michel's father was one of the first patients to undergo a bypass surgery in 1968. For our part, we recently benefited from the expertise of Dr. Laurent Macle, a cardiologist and electrophysiologist, as well as other preventive services provided by the Institute,” says Ms. Larouche. When she learned about Dr. Macle's research project, she knew she wanted to do her part to support his work.

STAR AF 3

The STAR AF 3 study aims to evaluate the best ablation strategy for treating persistent atrial fibrillation. For many patients suffering from this condition, catheter ablation remains an excellent option. However, those with persistent atrial fibrillation often require more than one procedure. The STAR AF 3 project is therefore intended to establish a new standard of care for these patients, thereby preventing them from having to undergo multiple surgeries.

Ms. Larouche funded the purchase of 600 AliveCor Kardia devices, which monitor the heart rhythm of individuals taking part in the three-year study. The AliveCor Kardia monitors are currently used in more than 35 centres around the world.

“Do you want to change the world?”

The connection a major donor has to a project is often the result of behind-the-scenes work. That's where François Caron-Melançon, Advisory Director, Major Gifts, comes in. “We need to make the right request to the right person at the right time. The Foundation team presents a global portrait of everything being done to find an element that aligns with the interests of the potential donor,” he says. What do major donors all have in common? They want to contribute to a project that will make the world a better place. “Do you want to change the world” is one of the first questions Mr. Caron-Melançon often asks major donors.

For Ms. Larouche, the answer was obvious. “The Montreal Heart Institute is an immense source of pride for Quebecers. It's one of the world's most renowned hospitals and I consider it a duty to help them maintain and even grow their reputation for excellence,” she says. As someone who regularly takes part in the Grand Bal des Vins-Coeurs, the Foundation's flagship event, Ms. Larouche knew she had to support Dr. Macle's research project.

These productive partnerships play a major role in cardiovascular research. “It's incredibly satisfying to pair the right project with the right donor. When this happens, donors become ambassadors who raise awareness of the cause,” says Mr. Caron-Melançon. These individuals really do change the world, one donation at a time.

A breeding ground for medical breakthroughs

—— Dr. Jean-François Tanguay and Dr. Philippe Demers tell us how the Institute's teams are constantly pushing the boundaries of cardiovascular medicine.



Dr. Jean-François Tanguay © Antoine Saito

The Institute has always been a fertile ground for innovation. For instance, in April 2021, Dr. Jean-François Tanguay, head of the Institute's hemodynamics department, implanted a new BIOTRONIK Orsiro stent in a patient, a first in Canada. This stent's mesh tube is about half the size of traditional devices, thereby allowing for greater precision in small blood vessels. Moreover, Dr. Mohamed Nosair implanted a Boston Scientific MEGATRON stent in a patient, a first in North America. This stent is more robust and makes it easier to carry out procedures on larger arteries.

And the achievements don't end there. The Surgery department and cardiac surgeon Dr. Philippe Demers implanted a new biological aortic prosthesis in a patient in 2021—yet another Canadian first. This state-of-the-art device allows surgeons to reconstruct the aortic root with a next-generation biological valve. Moreover, this new prosthesis requires no anticoagulants and is expected to be more durable than traditional prostheses whose lifespans are usually 10 to 15 years.



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“It is immensely gratifying to provide what we think are the most cutting-edge technologies to our patients.”

Dr. Philippe Demers

A domino effect

The positive impacts of these firsts are undeniable. First, they allow patients to benefit from technology that is not yet available on the market. According to Dr. Tanguay, the effects also ripple throughout the entire health-care system. “In the long run, if there are fewer complications, hospitalizations will be shorter and fewer patients will come to the emergency room. These are also positive ramifications.” Furthermore, these advances represent golden learning opportunities for students and professionals who come to the Institute for training.

“Medical firsts are a source of great pride for our institution,” said Dr. Demers. “In these moments, we feel like we’re embodying the Institute’s mission, which is to innovate and contribute to the advancement of knowledge in treating cardiovascular diseases. It’s immensely gratifying to provide what we think are the most cutting-edge technologies to our patients.”

Key partners

These kinds of advances are made possible thanks to the close ties between various partners: patients, health-care teams, R&D firms, and donors. Both researchers want to highlight the generosity of philanthropists, who have enabled the Institute to purchase state-of-the-art equipment such as LUCAS chest compression devices and next-generation surgical robots. “The Foundation is the pillar of the Institute. It’s a key partner in its clinical services and all its clinical and basic research activities,” added Dr. Demers.

The legacy of innovation at the Institute continues to thrive. It was the first institution in the world to implement a digital patient engagement and remote monitoring platform designed by Canadian firm Seamless™. The results are very encouraging and demonstrate how it’s always possible to do more—a principle that drives the Institute’s teams on a daily basis.



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Prevention: the key to a healthy heart and brain

—— Interview with Dr. Louis Bherer, neuropsychologist, researcher, and Associate Scientific Director of Preventive Medicine at the Montreal Heart Institute.

“The best strategy is to prevent the disease.”

Dr. Louis Bherer

“Some might be asking themselves why an institution like ours, dedicated to cardiology, studies the brain. That’s because the heart and brain are in fact inextricably linked. What’s good for one is good for the other,” said Dr. Bherer, who is committed to finding ways to prevent conditions that affect these two key organs. As the holder of the Mirella and Lino Saputo Research Chair in Cardiovascular Health and Prevention of Cognitive Impairment at Université de Montréal and the Montreal Heart Institute, he has made prevention the core focus of his innovative projects.

COVEPIC

Shortly before the COVID-19 pandemic, Dr. Bherer began a research project involving 400 patients who were members of the EPIC Centre. His study examined the effects of a combination of physical exercise and cognitive training on body and brain health. In March 2020, all activities had to be suspended. But the team didn’t sit around twiddling their thumbs. The EPIC Centre’s kinesiologists quickly uploaded their physical exercise programs online, which inspired Dr. Bherer to do the same with his cognitive stimulation and monitoring activities. COVEPIC (*Cognitive and SpOrt Virtual EPIC Training*) was born, and it was based on an entirely virtual research protocol, which was previously unheard of in the field. In fact, the protocol was the topic of an article published in the journal *Trials*.

The benefits of nature

A second project, this time in collaboration with Sépaq, also kept Dr. Bherer busy during the pandemic. As an outdoor and camping enthusiast, Dr. Bherer undertook a systematic review of published articles to demonstrate that the benefits of being in nature have been scientifically proven. His findings allowed him to conclude that spending a lot of time in nature reduces a person’s heart rate, blood pressure, stress, and anxiety. Would his team go so far as to prescribe a hike in the woods to prevent cardiovascular events? “It’s complementary to our approach to promoting health. For instance, we could recommend that people spend 15 to 20 minutes in a park near their home, twice a week, to help them reap the benefits on their cardiovascular health,” he said.

Prevention: a bold choice

In light of these promising approaches, he’s thrilled that prevention has become a core part of the Institute’s mission – a bold stance admired by other Canadian health professionals. “Curative treatments have their limits. The best strategy is to prevent the disease.” In other words, the healthier the heart, the lower the risks of cognitive impairment. As the saying goes: an ounce of prevention is worth of pound of cure. That’s why an increasing number of physicians like Dr. Bherer believe that prevention must be an integral part of health-care.



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Supporting health-care workers

—— An interview with Pierre Michaud,
founder of Réno-Dépôt, who has been donating
to the Foundation for the past 21 years.

“Don’t wait until you’re sick to support this cause.”

Pierre Michaud

Pierre Michaud is not someone who shies away from a challenge. But when he was diagnosed with a serious heart condition in 2013, even he was shaken. He underwent the Ross procedure, which involves the replacement of the aortic valve. His surgery lasted 10 hours. “When my doctor recognized me later on, he said he was going to Réno-Dépôt and jokingly asked if he could get a discount. I told him only if he saved my life!” said Mr. Michaud with a smile.

A promise is a promise! But instead of offering his physician a discount, Mr. Michaud has chosen to support the Montreal Heart Institute’s aortic surgery clinic, where he was treated using cutting-edge techniques. Today, this specialized centre is world renowned. “When I developed arrhythmia, I wanted to get the best care possible. I called a world-class hospital in California, and they advised me to go to the Montreal Heart Institute,” said Mr. Michaud. He recently renewed his pledge to support the clinic over the next five years, with the knowledge that the work carried out by Dr. Philippe Demers and his team improves the treatments available to patients requiring aortic surgery.

A patient who is grateful for nurses

While Mr. Michaud wants to highlight the state-of-the-art techniques used at the Institute, he also wants to thank the nurses for their dedication. They provided exceptional, personalized and friendly care, similar to the type of service he wanted to instill within

his own organization. “When I was operated on, I spent Christmas with the nurses. Some of them left to be with their families, but others stayed with me. They even set up a small Christmas tree in my room. Their dedication made a lasting impression on me,” he said. That’s why he decided to raise funds for the Dr. Denis Roy Award for Excellence in Nursing, which includes a grant. In 2021, the award was given to Claudie Roussy, a nurse practitioner specialized in care for adults, and to Émilie Caplette, nursing advisor in palliative care and senior care. With this award, the Institute recognizes their outstanding dedication and professionalism.

Guiding the way for the next generation of philanthropists

At 79, this generous donor wants to encourage the next generation of philanthropists to get involved. “We need to find ways to get young entrepreneurs involved,” he said, adding that there is a huge potential for generosity in Montreal. He believes that one way to motivate young people is to help them understand what donations are used for. “Don’t wait until you’re sick to support this cause,” he added while reflecting on his own experience. His illness has convinced him of the importance of supporting health-care workers who go above and beyond every day.



The Montreal Heart Institute is a tight-knit family. A family that shares a common vision and strongly believes in the Institute's mission. They work tirelessly to help advance cardiovascular medicine, with the goal of saving even more lives.

Patients and their loved ones, researchers and health-care teams, volunteers and administrators, partners and collaborators, philanthropists and donors—everyone contributes to the cause in their own way. Some walk the Institute's hallways every day, determined to alleviate their patients' suffering. Some work with microscopes and cutting-edge devices in the hope of one day eradicating the world's leading cause of death. Others have been personally affected by heart disease and want to give back.

We are extremely grateful to all these individuals, who care about others and want to make a real difference. **Thank you.**

Commitment

Unwavering dedication



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A great love for the Institute

_____ First a patient, then a volunteer and donor, Gilles Spinelli has planned a bequest since he had surgery over 20 years ago to give back to those who took such good care of him.

Gilles Spinelli was admitted to the Montreal Heart Institute in 1979 for an aortic valve problem. At the time, he had no idea he was going to become one of the Institute's most devoted volunteers, generously supporting its mission in myriad ways. He underwent surgery seven years later to remove a cardiac myxoma and then received a mechanical valve in 2000. That's when he decided to get involved with the cause. "I wanted to give back to the Institute. They told me to get in touch with the Foundation. That's where I began to work as a volunteer," said Mr. Spinelli, who wanted to say a special thank you to Ms. Carole Gray from the Foundation, who believed in him from the get-go.

From patient to volunteer

Mr. Spinelli is involved in several initiatives: he's a volunteer for the heart surgery support program and a member of the users' committee. He's also a member of the Clinical Ethics and Research Ethics committees. During the COVID-19 pandemic, most volunteers halted their activities, but Mr. Spinelli continued to volunteer for the heart surgery support program five days a week, calling patients on the eve of their surgeries to reassure them. "I'm dedicated and I care deeply about the Institute!" he said happily.

He has also helped the Foundation's Planned Giving team for about four years. His task was to explain planned giving and describe the benefits of this type of donation for the organization and the donor. He even put his words into action by planning his own bequest.

Donating without depriving yourself

A bequest to an organization that's dear to your heart is an excellent way of paying tribute to your own values. "I'm proud to have made a bequest. It's a way to leave your mark," said Mr. Spinelli. He also considers it a good way to give because this type of donation doesn't affect your day-to-day finances. It also allows heirs to receive a tax credit, which can help alleviate the tax burden of an estate.

There are several ways to plan a bequest: you can leave a specific amount (specific bequest), an amount that remains after other obligations have been paid (residuary bequest), the entire amount of assets (universal bequest) or even the amount of a life insurance payout. Mr. Spinelli is relieved to know that his donation will enable researchers to continue to improve treatments for patients. He believes it's a way to "help them help us." He also thinks it's important for him to support a team he admires so much.

"I'm telling you, there's a sense of community there, bottom to top. From those on the ground floor to the executives. The Institute is really a big family," said the man who is now part of a prevention program at the EPIC Centre. And just like with any family, we want to ensure it continues to thrive long after we're gone.

Waiting for a new heart while raising funds for the cause

——— Éric Cool has been raising funds for the Foundation while waiting for a heart transplant. A profile of a man who is an incurable optimist.

At the age of 47, despite being in good physical condition, Éric Cool suffered a major heart attack. He was brought to the Institute, where Dr. Louis Perrault performed emergency surgery on him. Unfortunately, after the incident his heart could only operate at 50% of its capacity. Over the next few months, his condition deteriorated to the point where he was told he would need a heart transplant. Éric Cool is now on sick leave from his job as a high school principal, but that doesn't mean he's sitting around twiddling his thumbs.

Seeing the glass half full

Even though he's currently on the waiting list for a new heart, Éric Cool feels more physically fit than ever. He refuses to sit idly by as he waits for his surgery, especially because he doesn't want his children to feel sad during the ordeal. "Do you want to turn this into something positive?" he asked them. Soon afterwards, he launched a fundraiser for the Montreal Heart Institute Foundation. He was immediately supported by the Foundation's team, specifically Marie-Pierre Lafortune, Advisor, Business Development and Partnerships. She provided support as well as opportunities for visibility that he never would have thought of on his own. "I was even interviewed by a TV station in Quebec City, which raised awareness about my fundraiser. Two days later, we had already raised \$10,000 and a month later we were up to \$25,000," said the former Beauport Harfangs player.

Because his fundraising team is so enthusiastic and committed, they quickly met their initial goal of \$30,000. As a high school principal, Éric Cool is a natural leader. He created a committee that includes loved ones and friends, and they've been able to rally others to the cause. Everyone shares responsibilities and remains in good spirits. They've organized myriad events to raise awareness, including a Finnish lawn game tournament, fundraising dinners, a hockey pool, and more. In addition to collecting donations, Éric Cool also encourages the people he meets to sign their organ donation sticker. "It's a gesture that's worth more than money," he said.

Humour and support to get through a rough patch

In June 2021, Éric Cool's condition continued to deteriorate. The Institute's team implanted a mechanical pump designed to assist his heart until he receives a new one. Despite this, his spirits remain high. "I've been joking about it with my kids. At night when I plug it into the wall outlet, I tell them I'm a robot and I need to charge my batteries."

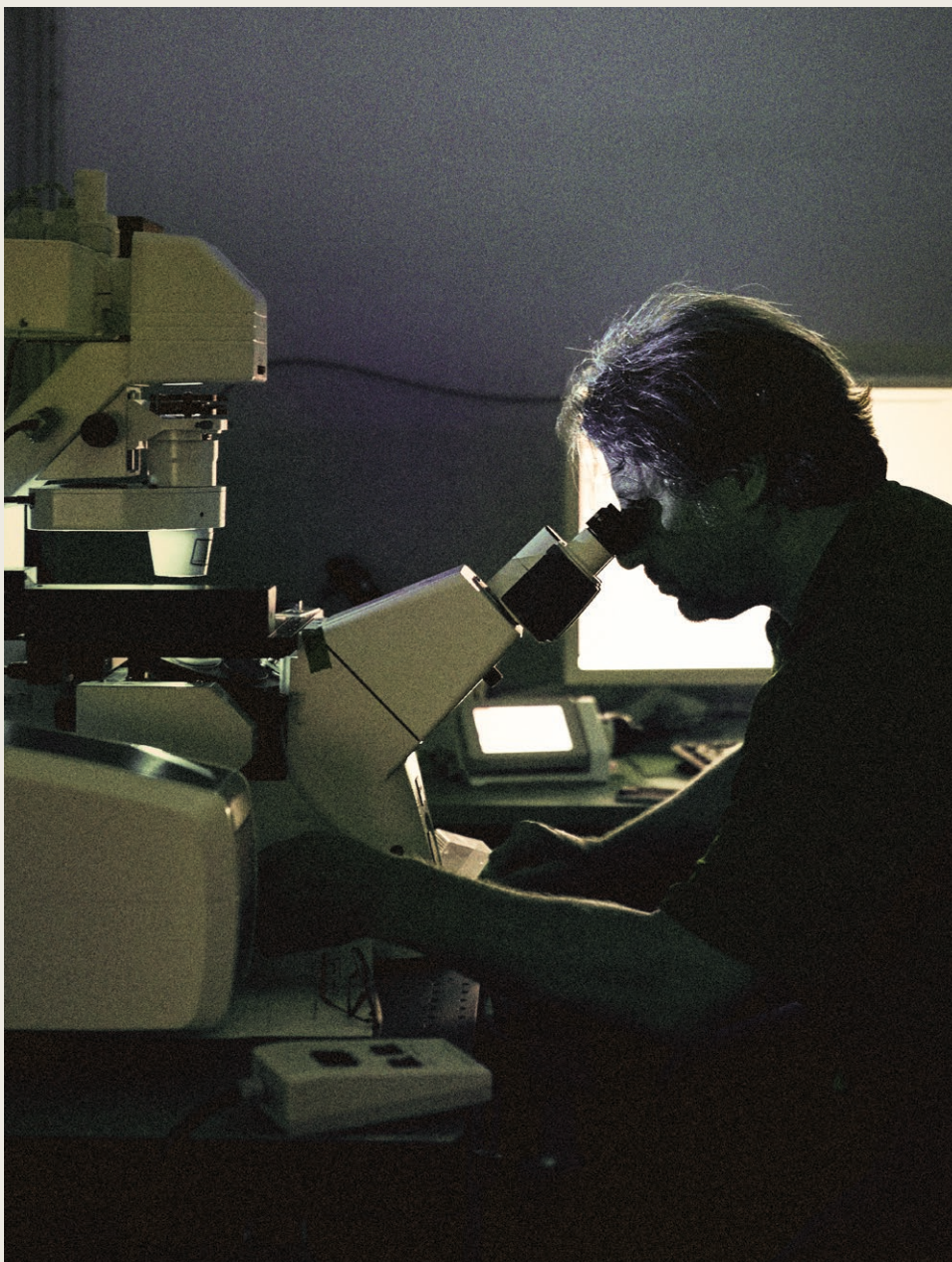
While humour has helped him get through this difficult period, the members of his health care team have also played an important role. "They answer my questions and always come up with solutions. And if they don't have any, they'll look for them," he said with admiration. "The Institute's medical team is all about leveraging medical expertise for their patients. We can really sense that they're doing it for the right reasons." We could say the same about this exceptional patient, who has chosen to face adversity with courage.

Éric Cool asked his children:
"Do you want to turn this into something positive?"



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To support Éric Cool's cause, visit the "Donner c'est Cool" Facebook page, where you will find information about his fundraising activities.



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Sharing the love

_____ Paul Morimanno explains how a gift of shares has allowed him to give more without spending more.

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“We need to support research to improve lives for years to come.”

Paul Morimanno

Paul Morimanno has been one of the Foundation’s long-time monthly donors because he understands the impact of cardiovascular conditions – both his mother and sister suffered from heart disease. After retiring from his job at Power Corporation, he decided to increase his support for research. He considered several options, including the gift of shares.

“It’s a more advantageous way of giving for a donor because of the tax deductions. It allows me to indirectly increase the amount of my donation. If I wanted to give \$5,000 in cash, it would cost me \$2,500 after the tax credit. But with a gift of shares, I can donate \$10,000 and the net cost of my donation remains the same,” said Mr. Morimanno.

The gift of shares: a simple and advantageous way to donate

Donating shares to an organization does, in fact, have certain tax benefits. Any increase in the value of the shares since their acquisition is exempt from taxes, which allows the donor to do more. Plus, the Foundation has made the process extremely easy: a person can simply fill out the form on our website and send it to their broker to authorize the transfer.

“This is a significant advantage for people with a portfolio of shares that has increased significantly in value,” he added. In other words, the higher the capital gain, the greater the tax savings. That’s the option Mr. Morimanno chose when he donated shares acquired at a low price a decade ago, which have since gained a lot of value.

Doing more for research

Whether it’s through a gift of shares or other means, Mr. Morimanno believes it’s very important to support research in cardiovascular health. “Thanks to the research carried out at the Institute, the surgeries that take place these days are miles ahead of what was being done 25 years ago. We need to support research to improve lives for years to come,” he said. “And I’m more than happy to help.”



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