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# LIAISON

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“Research in behavioral medicine  
actually helps people.”

- Dr. Kim Lavoie and Dr. Simon Bacon



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# Sacré-Cœur plays a leading role in research and teaching in Quebec



**The Montreal Sacré-Cœur Hospital has all the specialties associated with a major university hospital. Because of its fields of expertise, 25% of the population of Quebec, or nearly 2 million people, are likely to be referred to it one day.**

It is also a university research and teaching centre that provides patients with cutting-edge care and services. The research teams at the Centre for Advanced Research in Sleep Medicine (CARSM), the Jean-Jacques-Gauthier Cardiopulmonary Rehabilitation Centre, the Integrated Trauma Centre and the Montreal Behavioural Medicine Centre are all closely linked to Sacré-Cœur through the active participation of physicians, researchers and health care professionals in their work.

The research that takes place in the various facilities of the CIUSSS du Nord-de-l'Île-de-Montréal (NÎM), the majority of which is conducted at the Sacré-Cœur Hospital, is grouped under the name Savoirs partagés. Trauma, sleep disorders and chronic diseases are leading-edge sectors mainly targeted by research activities at Sacré-Cœur.

The Director of Research and Innovation at CIUSSS NÎM, Mr. Daniel Sinnett, explains that this is mainly clinical and translational research because it involves patients who participate on a voluntary basis and who are aware that it may have direct or indirect benefits for them. He adds, "We also have a major social and psychosocial research component with the Montreal Behavioural Medicine Centre.

Of the 250 researchers working in the various CIUSSS research sites, about 200 are attached to Sacré-Cœur. With the new Integrated Trauma Centre (ITC), the only one of its kind in Canada, which opened in June 2022 at Sacré-Cœur, the trauma sector that brings together several researchers and physicians in various specialties is an important cradle of research in itself. The ITC is a supra-regional centre of excellence that receives a large volume of patients and offers a unique environment to conduct research projects on head injuries, spinal cord injuries, etc.

According to Mr. Sinnett, the challenge in research is to recruit the best players and the competition is fierce at the global level. The critical mass of patients followed by the Hospital and its medical specialties, the expertise of the researchers and clinical teams, and their ability to raise funds to finance their research projects are all elements that are taken into account when recruiting and retaining our top researchers.

And it is in the financing of these research teams and their equipment that the Foundation provides significant support. "Over the years, the Foundation has given us \$20 to \$25 million. This money allows us to buy equipment, upgrade facilities, recruit researchers and support our students. It is therefore a very important partner for the success of our strategic plan and for ensuring that the results of our research are passed on to patients and the Quebec population," said Daniel Sinnett.

In addition, the Foundation's investment in research provides extraordinary leverage to obtain additional funding from government or private granting agencies in the research and health sectors. "When we apply for funding, having the Foundation behind us, ready to invest in a project, is a compelling factor and helps us make our case. **The Foundation is a key partner and we could not accomplish our research and education mission without them,**" concluded Sinnett.

For more information, visit [rechercheciusssnim.ca](http://rechercheciusssnim.ca) (in French)



**Daniel Sinnett, PhD,**  
Director of Research and  
Innovation at CIUSSS du  
Nord-de-l'Île-de-Montréal

## Did you know...

The Sacré-Cœur Hospital is celebrating its 50th year of affiliation with the Université de Montréal for research and teaching? 70% of Sacré-Cœur's researchers come from this university. The other 30% of researchers are from McGill University, Concordia University, UQAM, UQTR and ÉTS. Several activities will take place this spring to celebrate this anniversary. We'll give you more information about them in a future Liaison newsletter and in our communications. Stay tuned!



# Our Sacré-Cœur experts in the public forum!

## Dr. Kim Lavoie speaks out on the importance of wearing a mask



**Dr. Kim Lavoie, PhD, FCPA, FABMR**  
 professor of psychology and Canada Research Chair in Behavioural Medicine at UQAM.

In an article by La Presse journalist Isabelle Hachey, published on December 17, researcher Kim Lavoie speaks out on the importance of wearing masks and the damage caused by government authorities imposing the use of this effective health measure. According to Dr. Lavoie, this "military method" has resulted in Quebecers wearing masks first and foremost to avoid punishment. Then, once the threat of punishment was lifted, they stopped wearing them. They no longer had the motivation to do so.

*In french only*

## Nadia Gosselin answers questions about sleep



**Nadia Gosselin,**  
 Researcher and Scientific Director of the Centre for Advanced Research in Sleep Medicine (CARSM) at Sacré-Cœur Hospital

Sleep deprivation remains a serious public health issue in Canada. According to the most recent Statistics Canada sleep data released in March 2022, nearly one-third of Canadians do not get enough sleep and many suffer from a variety of sleep disorders. Nadia Gosselin, Scientific Director of the Centre for Advanced Research in Sleep Medicine (CARSM) at Sacré-Cœur Hospital, stated on the program *Matins sans frontières*, broadcast on January 9 on ICI Radio-Canada, that Canadians do not have all the conditions in order to sleep well.

*In french only*

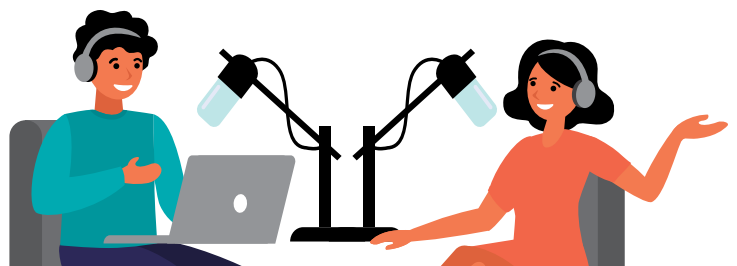


## Dr. Gabrielle Barrieau and Julianne Grenier participate in the program *La folle histoire de la médecine*

In the series he hosts on ICI EXPLORA, historian Laurent Turcot dives into the heart of the thrilling history of medicine. In each episode, the host interviews passionate researchers and practitioners with a dedication for science, to take stock of the current state of knowledge and to reflect on the therapeutic approaches of the future.

Dr. Gabrielle Barrieau, an anesthesiologist, and Julianne Grenier, a respiratory therapist at the Montreal Sacré-Cœur Hospital, participated in the episode on the history of C-sections that aired on December 30 on ICI EXPLORA.

*In french only*



# Dr. Kim Lavoie and Dr. Simon Bacon: An inspiring duo in life and at work!

As parents, spouses and researchers, Dr. Kim Lavoie and Dr. Simon Bacon have been running one of the largest laboratories at the Sacré-Cœur Hospital Research Centre called the Montreal Behavioural Medicine Centre (MBMC) since 2006. They lead a team of 40 employees and students (undergraduate to postdoctoral). Since March 2020, they have been conducting one of the largest studies of their careers: the iCARE study ([www.icarestudy.com](http://www.icarestudy.com)), which looks at the experiences of people around the world during the COVID-19 pandemic.



**Dr. Kim Lavoie, PhD, FCPA, FABMR**  
professor of psychology and Canada Research  
Chair in Behavioural Medicine at UQAM who  
initiated the iCARE study.



**Dr. Simon Bacon, PhD, FTOS, FCCS, FABMR**  
professor at Concordia University and co-holder  
of the Fonds de recherche du Québec - Santé (FRQS) dual  
research chair in artificial intelligence and digital health  
for change in health behaviour.

## Q: What are your challenges as a researcher?

**Dr. Lavoie:** As researchers, a lot of our time is spent looking for grants and attending conferences and conventions. Between the two of us, we have obtained more than \$13 million in research funding and published more than 240 scientific articles in our careers. One of the biggest challenges for us is the work-life balance in all this. The fact that we work together means that we attend the same conferences. We have very little family support, since Simon's family is in England. Very often we have brought our children with us.

**Dr. Bacon:** Our daughter Olivia, in her first year of life, attended 12 conferences. Our colleagues know our children very well!

## Q: What inspired the iCARE study?

**Dr. Lavoie:** The MBMC's purpose is to study the behaviours and decisions we make on a daily basis that have an impact on our physical and mental health and on the diseases we are likely to develop. With the pandemic, we saw an opportunity to understand attitudes of the population and mobilization issues in this context.

**Dr. Bacon:** One of the things we're looking at is what motivates people to adhere, or not, to health recommendations and measures.

## Q: What is the scope of this study?

**Dr. Bacon:** This research program is still ongoing and will continue for the next four years. More than 150,000 participants from over 200 countries took part in this study by voluntarily completing a large survey. Using questionnaires, the study looks at participants' habits and collects data on health behaviours such as hand washing and mask use.

Dr. Lavoie and Dr. Bacon have obtained nearly \$2 million in funding, including four grants from the Canadian Institutes of Health Research (CIHR) and one from the Ministère de l'Économie et de l'Innovation.

## Q: In concrete terms, what is its impact?

**Dr. Lavoie:** This study led to the publication of 15 scientific articles, 30 infographic abstracts and 44 scientific communications. Because of our expertise, we were invited to be part of the Health Canada working group on the COVID Alert application.

Dr. Lavoie is also a member of the Behavioural Science team of the COVID-19 Expert Panel, which advises the Government of Canada.

## Q: What interests you about behavioural medicine, your specialty?

**Dr. Bacon:** Research in behavioural medicine makes a difference, helps make changes and helps people in a real way!

**Dr. Lavoie:** Physicians are very limited in the effect they can have on patients' lifestyles. Behavioural medicine is there to show another approach and to equip people who are facing chronic diseases or various health problems, such as severe obesity, cardiac disorders and respiratory problems.



Pictured on this photo: A part of the team made up of employees and students of the MBMC.

### Q: What other types of research is your group working on?

**Dr. Lavoie:** We have received a CIHR/Canadian Cancer Society grant to conduct a study on the cardiorespiratory and immunological effects of vaping (\$100,000) and a CIHR grant to validate a digital assessment tool for physicians' behaviour change communication skills (\$294,000).

Dr. Bacon also holds a dual research chair with Dr. Éric Granger, professor in the Department of Systems Engineering at ÉTS (\$1.5 million). He is also co-investigator for the COVID-END project (\$1 million), which aims to develop synthesized data on COVID-19 to support decision making and policy development. Additionally, Dr. Bacon is the principal investigator for a study of brain health in patients undergoing bariatric surgery (\$1.5 million).

### Q: What are some of the accomplishments you are particularly proud of that are making a difference in people's lives?

**Dr. Bacon:** My colleagues and I have developed a program called Acceleration 2.0 that aims to change eating habits and increase physical activity among participants, specifically targeting those at risk of developing chronic diseases. The 12-week program takes into account the specific situation and state of mind of each participant and offers personalized help through artificial intelligence.

**Dr. Lavoie:** Another project is developing a support program for bariatric surgery patients called Inter-Change. Currently, there is no support to help these people change their behaviours. This results in people having to return after a few years. Patients need psychosocial and behavioural support.

In addition, the MBMC is developing a training program in chronic disease prevention and management for physicians to give them the tools they need to help their patients change behaviours called MOTIVATOR. In medicine, physicians are not trained to change behaviours. This training program comes with measurement tools to see if participating physicians are meeting the expected competency thresholds in the skills they are being taught. This is done with digital and interactive tools, for example with virtual patients, to simulate and measure the application of the knowledge acquired.

In addition to all of these projects, both researchers are very happy to work with engaged staff and students.

**Dr. Bacon:** One of the most remarkable things is to see the students grow and evolve, while developing all their skills and knowledge. In short, to see them then take the next steps. We have fantastic students who have accomplished great things and continue to do so. It fills me with immense pride and joy. □



## Sacré-Cœur has one of the largest reference centres in Quebec for vasculitis

**Vasculitis (also called vasculitides) is a rare and complex diseases. There are different types of vasculitis that often affect organs such as the skin, lungs, kidneys, nose and sinuses, nervous system, heart, digestive system and joints.**

Dr. Jean-Paul Makhzoum, a specialist in internal medicine at the Sacré-Cœur Hospital, is well versed in autoimmune vasculitis. In these diseases, the immune system attacks blood vessels in all organs and can sometimes lead to intensive care stays or even death. In 2017, Dr. Makhzoum along with his colleagues specializing in autoimmune vasculitis created the Vasculitis Clinic, the 4th of its kind in Canada, which has become one of the field's largest referral centres in Quebec. The specialists receive more than 450 requests for consultations per year from all over Quebec. Because of their reputation, they even receive consultations from outside the province and from other countries.

*“There is still a great deal of knowledge needed about these diseases, which is why we have several local, national and international research projects(...).”*

– Dr. Jean-Paul Makhzoum

They have also created a quick access clinic for giant cell arteritis to quickly diagnose this disease that can cause sudden and irreversible vision loss in some elderly patients. This clinic, with its innovative diagnostic approach, is the first of its kind in Canada.

"Despite our best efforts to provide this highly specialized care for these little-known diseases, we are often limited by the lack of information on the best treatments to offer. There is still a great deal of knowledge needed about these diseases, which is why we have several local, national and international research projects aimed at improving diagnostic tests and identifying new treatments for these serious diseases," explained Dr. Jean-Paul Makhzoum.



In this picture, the vasculitis research team composed of Guylaine Marcotte (coordinator), Maria Nikolaros (nurse), Audrey Martineau (research assistant), Dr. Jean-Paul Makhzoum, Dr. Carolyn Ross, Dr. Rosalie-Sélène Meunier, Dr. Stéphanie Ducharme-Bénard.

The Foundation has helped fund an ultrasound machine and has agreed to provide \$5,000 in seed money for the research of the group of internal medicine physicians specializing in autoimmune vasculitis, whose goal is to find new drugs that are much less toxic than those used to treat giant cell arteritis, among other diseases. This funding will allow for the launch of other research projects in these rare diseases.

Here is, below, from left to right, founders of the vasculitis clinic: Dr. Jean-Paul Makhzoum, Dr. Maxime Rhéaume, Dr. Meriem Belhocine, Dr. Anne-Marie Mansour, Dr. Michelle Goulet.



# An end and a beginning of the year marked by great firsts for Sacré-Cœur!

There is much to be optimistic about if you are a Sacré-Cœur patient and your medical condition requires special interventional techniques. The experts at this major teaching hospital have proven this and have enabled spectacular advances in late 2022 and early 2023, particularly in neurology, orthopedics and hemodynamics.



## Surgery on an awake brain

An entire team from the Sacré-Cœur Hospital operating room performed a first on October 4: awake brain surgery on a patient with a tumor. This procedure is performed in other hospitals in Canada and the United States but has never been done before at Sacré-Cœur. This type of surgery is usually done when language or motor functions are to be preserved in the case of an invasive tumor.

This teamwork involved meetings with nurses, surgeons, radiologists, etc. to prepare the operating room and the procedure. This particular case was reviewed by the oncology tumor committee with several stakeholders. The patient also had to do a lot of work beforehand with neuropsychologists and neurophysiology to prepare for it.

## New technology in hemodynamics

Hemodynamics, one of the specialties of cardiology, can now add to its toolbox the use of advanced intracoronary imaging technology, Ultreon™. This technology was used for the first time in Quebec on January 10, at Sacré-Cœur.

The Ultreon™ technology allows for optimal quality of care, offering several advantages for patients, such as a reduction in the length of the procedure and the use of artificial intelligence to detect the morphology of the patient's artery.



Pictured here: The team of nurses, medical imaging technologists, hemodynamics specialists in the middle (Remi Kouz and Raja Hatem) and Abbott company representatives.

## Repair of fractured ribs by thoracoscopy

Another first, this time in the country, took place once again in the Sacré-Cœur operating room, on November 18 and 21—the repair of fractured ribs using thoracoscopy. This technique is part of the so-called minimally invasive surgery for the thorax, meaning interventions made through several small incisions using long, thin instruments. Thanks to this, pain is considerably reduced and above all recovery is much quicker. The patients are doing very well.





# 30<sup>th</sup> GALA DES ÉMILIE

Here are the six 2022  
"Coups de coeur":

## An unforgettable benefit evening!

The Foundation's Gala des Émilie, which took place on Thursday, October 27, under the co-presidency of Demix Béton and Ingénia Technologies, **raised a record amount of \$1,010,000**. As is the tradition, this prestigious evening was also an opportunity to pay tribute to physicians, health professionals, and a generous business volunteer. It also served to highlight the mobilization of the teams for the opening of the new wings regrouping the Integrated Trauma Centre (ITC), the Mother-Child Unit (MCU) and the endoscopy department. All people who have been dedicated to improving care at Sacré-Cœur for many years.



**CIUSSS NÎM "COUP DE COEUR"  
(CLINICAL CARE)**

### Stéphane Gauvin

He has developed extensive expertise in occupational therapy, mainly in outpatient care at the Clinique d'ergothérapie de la main.



**COUNCIL OF PHYSICIANS, DENTISTS  
AND PHARMACISTS' "COUP DE COEUR"**

### Anne Fillion

She is newly retired after a 35-year career as a hospital pharmacist.



**CIUSSS NÎM "COUP DE COEUR"  
(EDUCATION AND RESEARCH)**

### Dr. Kim Lavoie et Dr. Simon Bacon

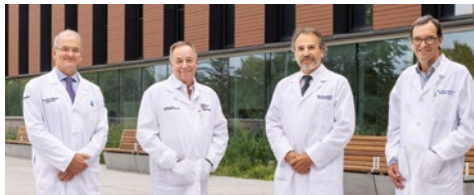
Together, they have been managing the Montreal Behavioural Medicine Centre, based at the Sacré-Cœur Hospital Research Centre, since 2006.



**CIUSSS NÎM "COUP DE COEUR"  
(SUPPORT SERVICES)**

### The ITC-MCU-Endoscopy Project Committee

Approximately a hundred people have actively participated in the carrying out of this large-scale project.



**FOUNDATION'S  
"COUP DE COEUR"**

### Dr. Patrick Bellemare, Dr. Ronald Denis, Dr. Marc Giasson and Dr. Gilles Lavigne

They are the visionary doctors who had the idea of building the Integrated Trauma Centre.



**FOUNDATION'S  
"COUP DE COEUR"**

### Louis A. Tanguay

He has been a member of the Foundation's Board of Directors since 1987 and was the first Honorary President of this annual gala in 1992.

*In french only*

## YOU CAN MAKE A DONATION:

♥ **Online** at [fondationhscm.org](http://fondationhscm.org)   ♥ **By Cheque**   ♥ **By Phone**

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Founded in 1976 by the Sisters of Providence, the Montréal Sacré-Cœur Hospital Foundation has as its raison d'être to help the extended Sacré-Cœur and Albert-Prévost team constantly improve the care, treatment and environment of patients, while supporting the research and teaching activity of this major university hospital.

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**Pénélope  
McQuade**  
Volunteer  
spokesperson

