



15 Years !

Annual Report 2021



Fondation Arbour
Sapere aude!



“Throughout his life, Pierre recognized the key role higher education played in stimulating Quebec’s economic development and competitiveness. His Foundation will continue on his legacy by encouraging success in higher education in Quebec.”

Philippe Arbour

Pierre’s son and Chairman

Creation of the foundation

The Arbour Foundation was created as a result of Mr. Pierre Arbour donating all of the shares of his private company, Alkébec Inc., valued then at \$9 million in 2005. Created December 30th, 2005, the Foundation operates under article 149(1)(f) of the Income Tax Act.

Mission of the foundation

The mission of the Foundation is to grant scholarships to deserving students in financial need at the master’s and doctorate levels in three disciplines having been identified as most likely to foster economic growth: engineering, computer science and business administration.

The foundation’s solemn declaration endorsed by scholarship recipients

“I pledge to act with honesty and integrity while respecting human rights and dignity. I will strive to create sustainable prosperity and I will oppose corruption and exploitation. As I hold true to these principles, I will achieve peace of mind and a righteous reputation.”

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Cover Image

Dancers Onstage (1889)
Oil on canvas, 76 × 82 cm. Musée des Beaux-Arts, Lyon
Edgar Degas (1834-1917)

Our values

Preamble

The Arbour Foundation is committed to financing and backing deserving students who possess a series of praise-worthy intellectual and moral qualities, whilst also giving consideration to difficulties which may have been overcome by applicants.

The Arbour Foundation is committed to defending the Enlightenment values and principles exemplified by the sharing of knowledge, the elevation of reason, the promotion of science and humanism.

We believe that the principles underpinning the Enlightenment are axiomatic and are pillars for quality education, transcending both time and borders. The Arbour Foundation encourages universities to defend these principles.

The Arbour Foundation also encourages students in their discovery of the Enlightenment principles underpinning the Enlightenment by carefully considering and reflecting on the Foundation's statement of values.

Our statement of values

Value 1: Diversity of opinion / Freedom of speech and expression

The Arbour Foundation:

- believes that every individual should have the right to express his or her opinions and is justified in standing up to those who attempt to suppress debate. A corollary to freedom of speech is the right of people to hear the ideas of others, in order to be able to form nuanced opinions based on hearing multiple and divergent arguments;
- encourages people to actively engage in good-faith discussion, civil debate, and conversation to foster a greater understanding and to flesh out areas of knowledge which require further elaboration and debate.
- promotes scientifically minded dialogue which aims to rank-order competing claims based on the strength of objective analysis;
- considers that all domains of knowledge and scientific enquiry can lead to a better understanding of the human condition and complex phenomena;
- endorses the adoption of the Chicago Principles. According to these principles, no debate should be suppressed on the basis that ideas are «disagreeable, offensive, unwise, immoral, or wrong-headed»; and
- believes that people should be respectful of others' choices so long as such choices do not impede on the personal choices or the liberty of others.

**Value 2:
A commitment to rational thought**

The Arbour Foundation:

- encourages secular, logical, objective thought and its systematic application in an impartial and disinterested way with the aim of uncovering the truth and of discerning facts from ideology, which will almost inevitably interfere with the quest for the truth;
- believes that reason and knowledge based on a scientific rank-ordering of competing claims must prevail over ideology, and that knowledge must never be suppressed. An attempt should be made to fine tune ideals to reflect the facts, including a fundamental human nature, as well as the practicalities of everyday life;
- supports the use of the scientific method and proposes the adoption of a Bayesian approach which seeks to incorporate new information to refine formulations, ideas and to improve theories, and to discard discredited or false ones, with the aim of improving the body of knowledge. We are agnostic to results whether consistent with a priori expectations or not; and
- believes that every field of study that is capable of evaluation under the scientific method must be prepared and willing to submit its claims and premises to empirical testing.

**Value 3:
A judicious application
of knowledge**

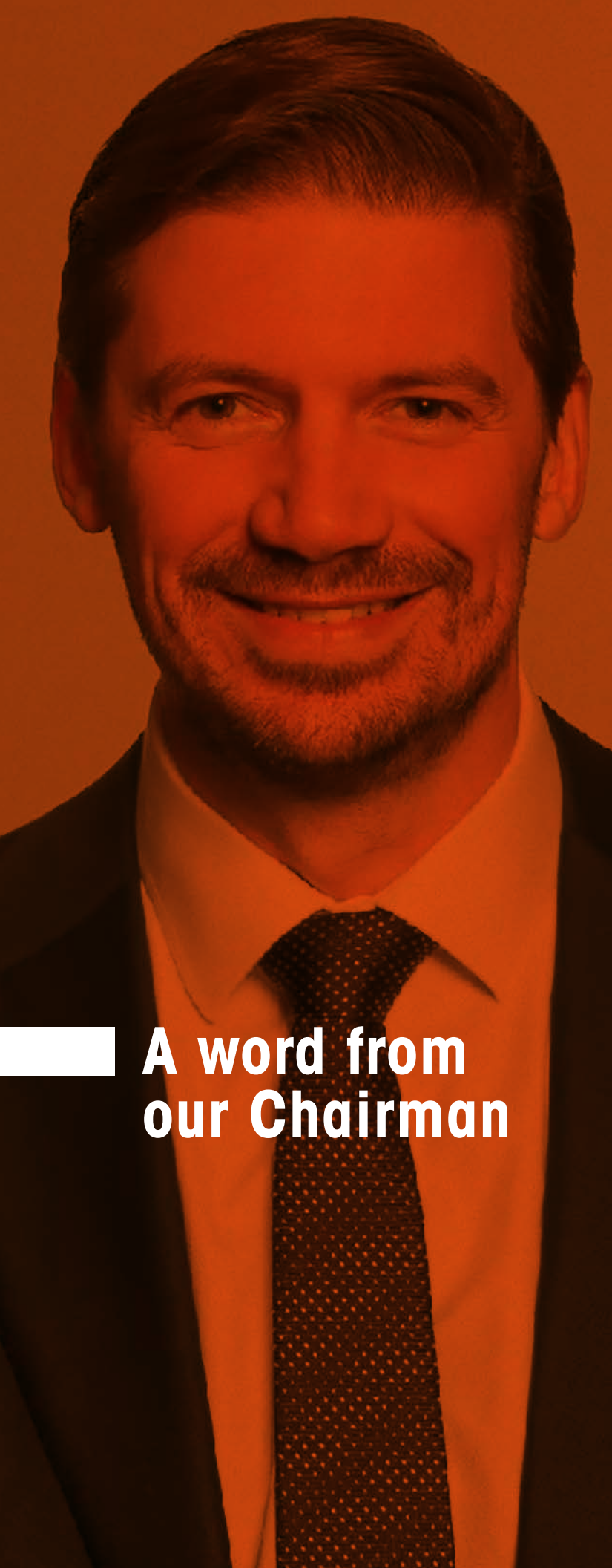
The Arbour Foundation:

- encourages individuals to use discovered truths and facts wisely, and apply themselves to solving problems with the objective of improving the human condition as well as the world we live in;
- encourages individuals to recognize that changes in the status quo inevitably leads to trade-offs. The scientifically-minded approach is to identify and quantify such trade-offs and carefully consider the law of unintended consequences; and
- encourages critical thinking to avoid policies and plans which may appear well-intentioned, but which are not backed by the latest scientific findings and body of literature.

**Value 4:
Individual responsibility, meritoc-
racy, and equality of opportunity**

The Arbour Foundation:

- judges the individual on merit, without regard to characteristics such as ethnicity, gender or religion;
- believes that each individual should assume personal responsibility and must act based on freewill. We hold that intent is demonstrated through action;
- believes that concerted efforts must be made to remove obstacles that stand in the way of the principles of free choice and equal opportunity; and
- believes that the pursuit of equality of outcome is incompatible with the principles of equality of opportunity and meritocracy.



A word from our Chairman

I see reason for optimism: according to Our World in Data, over 65% of the population has received at least one dose of the approved COVID-19 vaccines. Locally, 82% of Canadians have completed the two-dose initial protocol, a figure which places Canada 6th in the world (behind China). France places 11th (78%), while the United Kingdom is 13th with 73%. But the vaccine is only one part of the equation: according to the UK's Office of National Statistics (ONS), over 99% of UK adults including 85-98% of minors have antibodies, meaning that only about 1% of the population is immuno-naïve. Further, 80-90% of UK minors are believed to have contracted COVID-19 without health consequences.

This is great news, and suggests that, via the combination of vaccination and infection, we may have achieved the threshold for herd immunity, which is often defined as $1 - (1/R_0)$, where R_0 is the average number of infections caused by each new case.

As subsequent mutations of the virus become more contagious but less deadly, the R_0 has increased from 2.5 at the time of the original outbreak to as high as 10 for Omicron and offshoots. This means that the point of herd immunity has shifted from 60% to approximately 90%. But given that less than 1% of the population is now immuno-naïve, subsequent outbreaks are leading to less serious illness and death. In fact, the age weighted average Case Fatality Ratio (CFR) of Omicron has fallen to ~0.15%, in line with that of the flu (0.1% - 0.14%).

Herd immunity does not mean that the virus disappears from the environment, but rather that it ceases to transmit at the same pace, and perhaps most crucially, ceases to cause serious issues for those people who encounter it.

Moving into a post-pandemic world

It's only natural for people to wish to get back to life. Many countries have concluded that it is now safe to do so, with quarantines, curfews and mask mandates being dropped. In the United Kingdom for instance, all COVID restrictions were dropped on 24 February 2022. The data backs the decision: the number of patients requiring mechanical ventilation has dropped over 90% since the first peak.

After over four decades of talk about personalized healthcare, it's incumbent on individuals to take the precautions that best suit their own personal circumstances, while not unduly putting others at risk.

Given these developments and the emerging evidence of catastrophic learning deficits that have emerged because of disruptions to classroom learning, it is my great hope that our Arbour Foundation scholars will be able to resume attending university lectures in person, something which the University of Sherbrooke has taken a lead on over the past months.

The Foundation has also resumed live candidate interviews during the summer of 2021, a practice that we hope to replicate in 2022. I would like to thank my colleagues Diane de Champlain and Marine Hadengue for leading this charge. Although MS Teams and Zoom have proven to be fantastic tools which have now gained widespread adoption, nothing replaces human interaction.

War

As if post-pandemic supply chain disruptions weren't enough, war has increased the price of gas, and consequently helped fuel inflation to levels not seen since the early 1980s.

Productivity and energy independence are therefore the next frontier, which will create demand for the types of young minds that are financed by the Fondation Arbour.

The Foundation

As the Foundation begins to hit its stride since my father's passing nearly four years ago, I'd like to reiterate thanks to my highly committed group board members who have worked diligently to uphold the values of the Foundation, including freedom of speech, and merit-based selection criteria which include financial need.

We are very proud of our scholars and alumni community and believe that the Fondation Arbour scholars are capable of succeeding anywhere, though we hope that they will leave their mark in the province of Quebec. As we make our way through 2022, there is no shortage of opportunities for the Foundation or our scholars.

Philippe Arbour, MSc, CFA



A word from our Chief Executive Officer

Dear friends of the Foundation,

The year 2021 was not an easy one for any of us, once again marked by the pandemic, confinement and restriction of freedom for many. For the scholars of the Foundation and also for all students in Quebec, Canada and the rest of the world, the year 2021 has been a source of great anxiety. Job losses, distance learning, the closure of socialization sites and the uncertainty of the future have all contributed to an anxiety-inducing climate that has had an impact on the mental health of young people in general.

Continuing its mission to help deserving students in need of financial support, the Foundation supports these young people who are currently in distress. More than an organization offering scholarships, the Arbour Foundation is also a community and a big family. We offer mentoring with members of the Foundation's Board of Directors. Our scholars also benefit from internship opportunities in both large and smaller companies (ABB, Matrox, Hydro-Québec, Pageau Morel, Bombardier, CAE). To maximize their chances of success in their job interviews, and thanks to the generosity of Ascension and its founding partner, Mr. Claude Martel, we also offer them preparatory coaching.

In this uncertain job market, we also support them if they want to start their own business. There is no shortage of funding for proven start-ups in Canada. However, it is at the time of the earliest intentions, when young people want to start a business after their studies, that support is lacking. This is where the Arbour Foundation comes in, thanks to a fruitful partnership with Mitacs. I would like to take this opportunity to thank them for their trust in the Foundation. The list of start-ups supported in 2021 appears later in the annual report.

In 2021, we were also pleased to sign an agreement with IVADO to support data science startups. This means that IVADO postdoc science entrepreneurs are now eligible for entrepreneurship funding from the Foundation, again in tandem with Mitacs. In order to bring together all these actors, we organize networking events. In 2021, we were honored to welcome Mr. John Parisella, Quebec businessman, political columnist and politician. Mr. Parisella is Special Advisor, Strategy and Outreach, at NATIONAL Public Relations and is also a member of the Board of Directors of the Fondation pour la langue française with which the Arbour Foundation is partnering. Mr. Parisella was pleased to share with us his experience and his vision of French as the key to success in Quebec and abroad.

Thanks to this partnership, we are now offering French workshops to those who need them in order to further promote successful integration into Quebec society. This new French-learning program, implemented in close collaboration with the Fondation pour la langue française, has met with great success, both for our scholars and for their instructors. I would like to take this opportunity to warmly thank the Fondation pour la langue française for their commitment!

Finally, and to continue to increase our capacity for funding and support, we have started our first fundraising campaign by soliciting friends and scholars of the foundation. As a former scholar myself, I am proud to have been the first to contribute to this initiative. Trustees and past scholars with successful professional careers also gave generously, contributing to create the first "Arbour Community Recognition Scholarship". I would like to take this opportunity to thank them warmly for having paved the way. Let's keep it going!

We hope that our fundraising campaigns will allow us to offer even more scholarships at our partner universities and schools: Bishop's University, Concordia University, École de technologie supérieure, HEC Montréal, McGill University, Polytechnique Montréal, Université de Montréal, Université de Sherbrooke, and Université du Québec à Montréal. We would also like to welcome two new partners, the Institut national de la recherche scientifique (INRS) and Université Laval. Thank you for joining the Arbour community!

Although 2022 initially looked like it would be an easier year than 2021, with an end to the lockdown and a relaxation of sanitary measures, it is now the issues of inflation and the war in Ukraine that seem to be driving this new year. The Foundation must therefore continue to be present to support its scholars. As mentioned previously, it is their mental health that is now greatly affected and support, beyond financial assistance, continues to be crucial. Access to psychological care is still too limited for young people in general and we must accompany them as best we can towards a stable situation in a world that has unfortunately been largely characterized by instability for almost 3 years now.

The world of tomorrow is the education of today.

Marine Hadengue, PhD.
CEO

Board of Directors



Philippe Arbour

Philippe Arbour is pursuing a career in private equity and private capital in London. Philippe was most recently Managing Director at Intermediate Capital Group (ICG), a multi-asset class investment management firm. Prior to ICG, Philippe was a partner at London-based Palamon Capital Partners, a European middle market private equity firm. Before joining Palamon in 2013, Philippe spent 10 years at Lloyds Banking Group where he worked across a number of areas including trade finance, specialist credit, and leveraged finance. In 2010 he was seconded to 3i PLC, a British private equity firm. Philippe holds the CFA designation and has a Masters in Finance & Investment from Durham University and a Bachelor in Business Administration (Honours Economics) from Bishop's University.



Me Michel Brunet

Me Brunet practices corporate and commercial law at Dentons Canada LLP's Montreal office. He focuses on the sale and acquisition of business corporations and on their financing needs. Mr. Brunet previously held positions at Fraser Milner Casgrain (FMC), one of Dentons' three founding firms, namely National CEO.



Diane de Champlain

Most of her career has been spent in the world of communications and philanthropy. A graduate of the Université de Montréal and HEC Montréal, she was President of the Parents Association of Collège Jean-de-Brébeuf and a member of its board of directors. Later, she was entrusted with the reins of the Polytechnique Foundation as President and Chief Executive Officer whose mandate was to raise \$100 million for Polytechnique as part of the Campus Montreal campaign. The goal was exceeded with \$111 million collected. She decided at the end of the Campaign, in October 2017, to leave and continue to devote herself to other causes that are dear to her heart. Since 2017, she has been a member of the Board of directors of the Fondation des artistes, a foundation that supports artists who encounter financial difficulties during a low point in their careers.



Marine Hadengue

A former scholar of the Foundation, Marine Hadengue holds a PhD degree in engineering from Polytechnique Montréal. She is currently Assistant professor at SKEMA, a global business school with campuses located in the United States, France, China, Brazil and South Africa. Before doing her PhD, Marine worked as an engineer at Essilor. She also holds an MSc in political science from Université de Montreal and a BA in mechanical engineering from Polytechnique Montréal. She did her postdoctoral studies at Polytechnique Paris.



André Laurin

André Laurin was until recently President and CEO of BrainBank, an innovation management technology company whose software is deployed on a global scale by Fortune 500 and Global 1000 clients such as Verizon, Nestlé and Bridgestone as well as to government agencies. After a successful exit from the company that he founded in 1999, he is now an independent investor. He has a B.A. from Concordia University.



André Monette

Mr. Monette graduated magna cum laude as a chemical engineer from Polytechnique Montréal and received a diploma in advanced management from Harvard University. He was President and CEO of Johnson & Johnson France, then became President and CEO of Janssen Pharmaceutical in Toronto. He has acted as President of the governance committee at the R.E. Fund of Fonds de Solidarité des Travailleurs du Québec (FSTQ) and served as a member of the board of several institutions including Investissement Québec and the Real Estate Fund of the FSTQ. He has served as a member of the investment committee of several institutions including the New Economy of the FSTQ and Amorchem, an institutional life science investment fund.

The Arbour Foundation's Team



Joëlle Dorais

Executive Assistant

As Executive Assistant of the Arbour Foundation, Joëlle is the first contact point with the Arbour community. She assists the CEO with strategic development and the promotion of the visibility and mission of the Foundation, in line with the values of its founder, Mr. Pierre Arbour.



Hussein Slim

Communications Advisor

Hussein received his PhD degree in electrical engineering from École de technologie supérieure. His research aimed at investigating and designing approaches and models to classify and quantify uncertain information for performance and safety assessments in complex sociotechnical systems.

As Communications Advisor, Hussein puts forward the Arbour Community. To this end, he communicates with scholars and the academic community, provides technical and creative support to the Foundation, implements strategies and practical steps to increase social media presence, designs and develops content ideas for publication, etc.



Émilie Thibault

Conseillère en relations publiques

Public Relations Advisor

Émilie is a PhD student at Polytechnique Montréal in the field of environmental design. More specifically, she studies decision making related to design and operations in complex industrial environments through the study of real-time data. She was awarded the Pierre Arbour Honorary Award in 2019.

As Public Relations Advisor and PhD student at Polytechnique Montréal, Émilie is in charge of writing the monthly profiles which feature past scholars who accept to share their experience in order to inspire others and to showcase the Arbour community.



Khaoula Alaoui Mamoun

Human Resources Advisor

Khaoula Alaoui Mamoun, PhD student in human resources at Université de Sherbrooke, is an expert in skills development, strategic HR management and organizational development. Her research interests focus, among other things, on the influence of the soft skills of the project manager on the mobilization of his team and the success of the project.

As HR Advisor, Khaoula shares her knowledge and expertise in recruiting and HR management with our scholars, helping them get ready for a job interview and improve their employability.



Thierno Diallo

Internal Communications Advisor

Thierno Diallo received his PhD “Magna Cum Laude” in electrical engineering from Université de Sherbrooke. His research focuses on heteroepitaxy of III-V materials for optoelectronic applications, synthesis, and transfer of 2D graphene, Van der Waals epitaxy of III-V and IV materials, and in situ TEM growth.

As Internal Communications Advisor, Thierno manages our Teams platform which brings together the Arbour community. In addition to reinforcing the bonds between scholars, this collaborative platform is also the hub to share ideas, experiences, and creations.



Morgane Gabet

Editor-in-chief

After studying political science and management in France, Morgane has been studying for her PhD in public health at ESPUM (University of Montreal School of Public Health) since September 2018. More specifically, she is interested in access and continuity of care in mental health.

As Editor-in-Chief, Morgane will plan, write and supervise the Foundation’s newsletter, in collaboration with management.

Our Scholarship Programs

Our scholarships are among the most generous in Canada. The Arbour Foundation is one of the few organizations to fund foreign students. Together with our university partners, we fund students in engineering, computer science and management. Our funding is allocated in the following way:

\$20,000 per year for PhD students (renewable once)

\$13,000 per year for Master's students (renewable once)

\$13,000 for MBA students (not renewable)

Our scholars are exceptional students. They have been carefully selected first by their university and second by the Foundation's Selection Committee during a 30-minute individual face-to-face interview. Each of them embodies academic excellence and outstanding leadership skills, but, most of all, incredible perseverance. Our scholars are deserving students who, at one time or another in their lives, have overcome major challenges either personal or professional. We believe that these ambitious young persons do or will contribute to Quebec's economy by bringing innovative solutions to current and emerging issues.

Our Scholars 2021-2022



Le génie pour l'industrie

Antoine Bregaint

MSc

Comparison of the integration of renewable energy sources in networks based mainly on coal, nuclear and hydroelectricity.

Ahmed Moubtahij

MSc

Automatic generation of summaries.



Pranay Jindal

MBA



Anthony Sanogo

MSc

Course-based master's.

Raphaëlle Bilodeau

MBA

Jad Adam Taher

MSc

Virtual worlds and cyber diseases: designing enjoyable experiences for users.

Élisabeth Viau

MSc

Development of an active feedback tool for investor performance in a stock market simulation context.

Rami Yamin

MBA

Laura Ahunon

PhD

Development of a hybrid biomaterial (based on chitosan and platelet-rich plasma) for the treatment of diabetic foot ulcers.

Amandine Gesta

MSc

Optimization and control of a one-degree-of-freedom ankle exoskeleton for the rehabilitation of children with cerebral palsy.

Majed Ghattas

PhD

Vaccines-mRNAs-Nanoparticles-Chitosan.

Pierre Kateb

MSc

Stretchable electrodes made of conductive polymers for the detection of vital signs in newborns.

Samuel Mugisho Muhindo

PhD

Storage and restitution of solar energy through electric vehicles.

Charles-Olivier Poirier

MSc

Characterization and integration of PEEK (Poly ether ether ketone) fasteners for 3D printed panels of a lunar rover.



MohammadReza Fasihanifard

PhD

MEMS-based integrated photonic platforms.

Pedram Fekri

PhD

Autonomous flexible robotic system based on artificial intelligence for the treatment of cardiac arrhythmias.

Dania Nehme

MSc

The marketing of comics.

Fae Sarayloo

MBA



Mathieu Lussier

MSc

Application of machine learning tools in the field of finance, particularly portfolio management.

Nathan Painchaud

PhD

Deep variety learning for improved characterization of hypertension in echocardiographic imaging.

Jean Marie Tshimula

PhD

Predicting behavioral deterioration using deep learning.



Étienne Boucher

MSc

Latent space characterization of unsupervised deep learning models of hydroelectric plant alternator vibration signals.

Pierre-André Brousseau

PhD

A permutation approach to the unsupervised stereoscopic matching problem.

Geneviève Cyr

PhD

User-partners, co-creators of health innovations in a living laboratory context.

Pierre-Jacques Deblois

MSc

Optimization of the rehabilitation clinic's referral process.

Labanté Outcha Daré

PhD

Comparative case study of a systemic quality improvement strategy: France - Quebec - England.

MohammadAmin Zaheri

PhD

Management of consistency break updates between models and generated artifacts.



Alex Bouchard-Tremblay

MSc

Strategic planning in the implementation of a technological culture.

Sébastien Burdalski

PhD

Structuring emergence: the shaping of the human by capitalism. A longitudinal study from the industrial revolution to digital capitalism.

Karine St-Laurent

MSc

The integration of responsible management training into management programs.

Yetioman Touré

PhD

Analysis of cooperative capacity building in Africa: from translation to sustainable ownership of new cooperative practices.

Our Partners

University partners

SINCE 2006



\$855,500*

HEC MONTRÉAL

\$714,000*



\$570,000*



\$364,000*



\$561,000*

SINCE 2007



\$1,161,000*

SINCE 2008



\$386,000*

SINCE 2013



\$614,000*

SINCE 2022

SINCE 2020



\$13,000*



*Scholarships value since the beginning of the collaboration

Industrial partners

Internship offered to our scholars

SINCE 2020



matrox

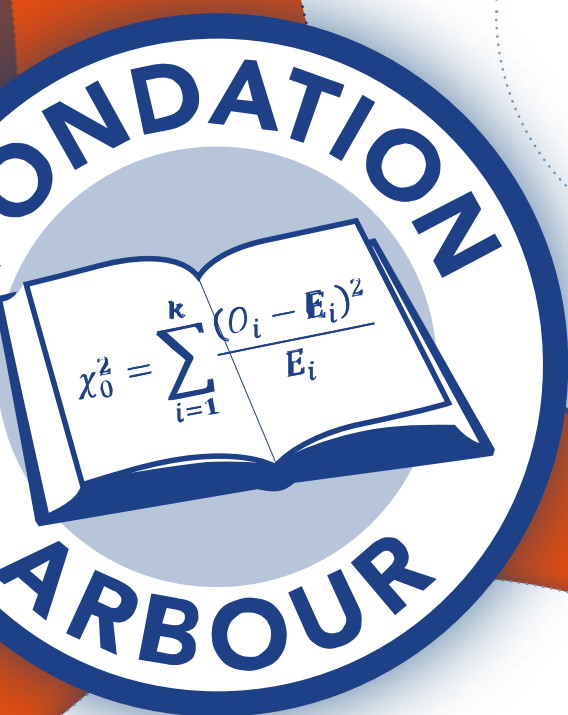


SINCE 2021

PAGEAU
MOREL

SINCE 2022

BOMBARDIER



Entrepreneurial partners

A dozen projects funded in the last 18 months

Mitacs

IVADO



QCSE

ton
équipier

CREATEK

Other partners

Coaching to our scholars

SINCE 2021

ascension

Fondation pour la
langue française

Our support to technological entrepreneurship



EncephalIX

Dynamic cranioplasty: developing a new surgical approach to prevent and treat intracranial hypertension.

Co-founders: Denis Rancourt and Simon Lapointe, from Université de Sherbrooke



Algoméga

Develop a sustainable process for the growth and recovery of algae oil.

Co-founders: Pierre-Olivier Lemire, Éric Desnoes, students at Université du Québec à Trois-Rivières



LifeEngine

Develop surgical simulators for physician practice, with hardware and software solutions for training, accelerating medical device development, planning new surgeries and more.

Co-founders: Catherine Forest-Nault and Aymeric Guy, PhD students at Polytechnique Montréal



Devocean

Thanks to the expertise of the professionals who support us, our team of engineering students at the University of Sherbrooke is currently developing a solution to the environmental issues of the fishing industry. Once on the market, our product aims to make crab fishing more sustainable and profitable.

By collaborating with key players in the field and by placing fishermen at the heart of our development, we intend to provide a solution adapted to the needs of the industry.

Co-founders: Carl-Philippe Cyr Mercier, Renaud Dupont, François Gauthier, Simon Therrien, all engineering students at Université de Sherbrooke



AxCell Laboratories

AxCell Labs develops and produces a membrane made from bacterial cellulose applicable in several types of surgical reconstructions (healing interface, plastic surgery implant, protector of subcutaneous implants) in order to provide safety and comfort to patients.

Founder: Jérémie Chaussé.



"We would like to thank the Arbour Foundation for their financial contribution to our technological entrepreneurship project. This grant means a lot to us, as it will allow us to develop a solution even faster for the Quebec maritime industry. Moreover, your support is a mark of your trust in our business project and it will inspire us to surpass ourselves. We have the ambition to allow Devocéan to put Quebec as a leader in sustainable marine exploitation and your help is a step towards achieving this goal!"

On behalf of the entire Devocéan team, thank you for this incredible opportunity."

Renaud Dupont

Financial Director

Devocéan

The Arbour mentorship program goes beyond financial support

Through the Foundation's mentorship program, members of its Board of Directors, according to their field of expertise, act as mentors to advise and guide selected scholars in their studies and career objectives.

Mentorship lasts for the duration of the scholarship. Our mentoring program consists of regular meetings between the mentor and the scholar, who benefits from the great experience and vast network of his mentor.

Each year, approximately fifteen scholars are fortunate enough to take part in the mentorship program. These students benefit from the personal and professional support of our Board members in their quest toward excellence. They also have access to the precious network of our administrators, which allows some to find jobs or internships in prestigious organizations. Each year, a survey is distributed to assess if expectations have been met. We strive to continue to offer these opportunities to the Arbour scholars!



"In addition to my traditional responsibilities as a director on the Arbour Foundation Board, there are recent initiatives that I am involved in. One of them is the mentoring program launched in 2018. This initiative is near and dear to my heart because we can see the impact that our contributions have on our scholars. I believe the first quality needed to be a good mentor is the ability to listen well. From there, the rest follows naturally. I am proud to be a part of such a quality initiative, but I also consider myself privileged because the scholars we mentor are full of energy and innovation in their areas of interest. This allows us to produce an alchemy that leads to new experiences. Whether it's in education, business, or high tech, I'm embarrassed to say that I get as much out of it as I put in."

André Laurin
Mentor



"I would like to thank the Arbour Foundation for their commitment to the student community by offering a mentorship program to their scholarship recipients. During the past year and still today, I have been fortunate to be accompanied by an exceptional mentor who gives me the necessary tools to progress professionally. My mentor shares her knowledge, resources and advice with me in order to guide me in my studies and in my future career. With exceptional listening skills and empathy, I can talk to her about my concerns, as well as ask her a thousand and one questions. With each meeting, I feel more and more confident to enter the job market and to stop, little by little, the imposter syndrome. I thank my mentor for the precious time she gives me."

Félicia Hughes

Mentee



"When I discovered the Arbour Foundation, it was the mentoring program that first caught my attention. The chance to speak personally with one of the members was a golden opportunity for me given my thirst for learning and my aspiration to grow professionally."

Since my meetings with Mrs. de Champlain, my path seems to be much clearer. The access to her knowledge and expertise inspires me and motivates me to always go further by carrying out my projects in a more assiduous manner. My mentor's journey, her accomplishments and her desire to share this part of herself call me to discover a more confident and professional version of myself. The mentoring program is not only an opportunity to identify with the life model of a woman with incredible values, but also to discover my strengths and weaknesses, encouraging me to develop parts of myself that I could not have imagined. Mrs. de Champlain's great generosity, her listening skills and her wisdom will make a huge difference for the rest of my life. I am extremely grateful to the Arbour Foundation for offering me this immeasurable support."

Elisabeth Viau

Mentee

"Obtaining the Arbour Foundation scholarship has been, above all, a support for me on multiple levels. Beyond the financial stability and the precariousness from which this scholarship brought me out, it offered me compassion and listening, through its unique mentoring program, of which I was a beneficiary for two successive years, to finalize my thesis.

At first, I saw the Arbour Foundation's mentorship as a way to strategically help me succeed in my studies. I believed that benefiting from this mentorship would simply help me advance my thesis and better learn about the Quebec context that I had just discovered three years earlier. But what I didn't know was that my mentorship would prove to be crucial in several ways. First, on a personal level, it allowed me to meet my mentor, in whom I found an attentive and available ear, especially in difficult moments. Secondly, her advice on a personal and academic level, and her great experience definitely helped me to move forward in my doctoral journey in the best possible way. Moreover, thanks to his advice, I was really motivated, in the middle of the COVID-19 pandemic, to refocus on my thesis and to concentrate on what is most important on a personal level, in order to finalize my thesis in time.

For me, the Arbour Foundation Scholarship was not just a scholarship. In addition to the financial support, the mentorship I received through this scholarship was very important for the rest of my doctoral career and for my future in Quebec."

Labante Outcha Daré

Mentee



Events organized by the Foundation in 2021

Networking Events

The Arbour Foundation typically hosts two networking events per year and these attract many scholars and guests. In these times of pandemic, the Foundation was only able to host one virtual event in 2021. However, we were extremely fortunate to have Mr. John Parisella as our keynote speaker on May 12.

Mr. Parisella has a long and distinguished career in politics, philanthropy, diplomacy, education, and business. He has worked with and advised top politicians and leaders on both sides of the border. Mr. Parisella participated in the "Virtual Interview with John Parisella" with Arbour Foundation Fellows and Board members. In presenting his background, he made a wise and eloquent demonstration of the importance of French for success.

The son of Italian immigrants, he learned French in his daily life before pursuing his studies in English. He brilliantly demonstrated that French has opened many doors in his extraordinary career.

A great communicator, Mr. Parisella captivated his audience who were eager to ask him a large number of questions.

Thank you again, Mr. Parisella!



LE FRANÇAIS, CLÉ DU SUCCÈS AU QUÉBEC ET À L'INTERNATIONAL

Conférence virtuelle avec Monsieur John Parisella,
homme d'affaires, chroniqueur politique et homme
politique québécois





**Achievements and successes
of our scholars**

Laura Ahunon

PhD

Polytechnique Montréal

TEACHING :

Instructor in Biomolecular Statistical Thermodynamics (GBM2620)

Responsible for Molecular and Cellular Biology Laboratories (GBM3610)

SOCIAL INVOLVEMENT:

President of the AÉCSP (Association des Étudiants des Cycles Supérieurs de Polytechnique)

Raphaëlle Bilodeau

MBA

HEC Montréal

Internship to come in August 2022

Alex Bouchard-Tremblay

MSc

Université du Québec à Montréal

Fall 2021 internship at KPMG Lighthouse

Étienne Boucher

MSc

Université de Montréal

6-month internship at the Institut de recherche d'Hydro-Québec (IREQ)

Antoine Bregaint

MSc

École de technologie supérieure

Development of the new wind energy course at ÉTS
2nd prize in the poster competition organized by ÉTS

Pierre-André Brousseau

PhD

Université de Montréal

Pierre-André Brousseau and Sébastien Roy, A self-supervised permutation approach to the stereo matching problem. Proceedings of IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2022, (submitted).

Sébastien Burdalski

PhD

Université du Québec à Montréal

Lecturer - Management (MET2150) : Winter 2021, Fall 2021, Winter 2022.

Completing the literature review with a grade of A+: Winter 2022.

Instructor of educational activities MET2150 : Winter 2021, Fall 2021

Communication at the Montréal Business Schools' PhD Symposium at HEC Montréal : Winter 2022

Communication at the conference '10èmes rencontres critiques en management' at Louvain-la-Neuve (Belgium) : Fall 2021

Reviewer - Euram 2022 - Track - "Management History, Theory, and Philosophy" : Winter 2022

Article submitted and under review for the Revue Interdisciplinaire Droit et Organisations (RIDO): Winter 2022

SOCIAL INVOLVEMENT:

Vice-President Finance, Association étudiante du doctorat en administration (Aephda) : Winter 2021, Fall 2021, Winter 2022.

Geneviève Cyr

PhD

Université de Montréal

PUBLICATION - ARTICLES:

Bouabida, K, Pomey, M.P., Cyr, G., Aho-Glele, U. & Gomes, B. (2021) The paradoxical injunctions of partnership in care: Patient engagement and partnership between issues and challenges. Patient experience journal. 8 (1) :Article 2. DOI: 10.35680/2372-0247.1538

Tremblay, N., Cyr, G., Cohendet, P. et Simon, L. (2021). La dynamique des « communs » de connaissances: le rôle des organismes intermédiaires d'innovation dans les écosystèmes de santé. Finance contrôle et stratégie. (Article resoumis décembre 2021)

PUBLICATION - BOOK CHAPTERS:

Tremblay, N., Cohendet, P., Cyr, G, Simon, L. et Manent, M. (2022). Open Lab and Communities in Healthcare Ecosystems: The case of Institut TransMedTech (ITMT) in the Centre Hospitalier Universitaire Sainte-Justine (CHUSJ). Mérimod Versailles eds – Routledge. Open Labs and Innovation Research (Chapitre soumis août 2021)

OUTREACH ARTICLE:

Bolduc, J., Cyr, G., Baly, O. (13 janvier 2021). Comment gérer une croissance organisationnelle rapide en temps de crise? Bulletin du Centre de Recherche en santé publique. 2 (5). https://mailchi.mp/ssss.gouv.qc.ca/cresp_questions_vol2n5

PRESENTATIONS:

Réseau de recherche sur l'innovation – Forum Innovation.
Titre : Les Living Labs en milieu de santé : le cas de l'Institut TransMedTech à Montréal. Présenté par : Cyr, G., Tremblay, N, Darmame, S. (June 1, 2021)

Série savoirs du Labo du partenariat du Centre d'excellence sur le partenariat avec les patients et le public (CEPPP).
Titre : Les usagers partenaires, co-créateurs d'innovations en santé en contexte de laboratoire vivant. Présenté par Cyr, G. (June 23, 2021)

Séminaire de recherche Mosaic 2021, HEC Montréal. Titre : User engagement in Healthcare Living Labs : a scoping review. Présenté par Cyr, G. (December 10, 2021)

Special event - Groupe d'intérêt Innovation (SIG 06 INNO) de European Academy of Management (EURAM). Titre : Open Lab and Communities in Healthcare Ecosystems : The case of Institut TransMedTech in the Sainte-Justine University Health Centre. Présenté par Cyr, G. et Tremblay, N. (rapport en collaboration avec Cohendet P. Lambert, T., Saadoud, E., Simon, L) (March 10, 2021)

AWARDS AND GRANTS:

Fonds de recherche du Québec – Société et Culture (May 2021)

Unité de soutien - Système de santé apprenant (SSA) Québec (September 2021)

Pierre-Jacques Deblois

MSc

Université de Montréal

RESEARCH ASSISTANT

CIRANO et École de santé publique de l'Université de Montréal

- Budget analysis of CISSS et CIUSSS : Evolution of the amounts allocated to the Public Health program
- Cannabis use and mental health among LGBTQ+ youth

TEACHER'S ASSISTANT

École de santé publique de l'Université de Montréal

- ASA 6705 - Théorie et pratique de la stratégie
- Volunteer Comité citoyen de la Clinique médicale Pointe-de-Saint-Charles
- Abolishing incidental costs
- Universal dental coverage

VOLUNTEER

- Passerelle Action humanitaire et communautaire
- Peer sponsorship
- Public Health School UdeM

SOCIAL INVOLVEMENT

Board of Directors of the student association:

- Assistant VP External Affairs
- Creation of a socio-political committee

Labanté Outcha Daré

PhD

Université de Montréal

TEACHER'S ASSISTANT/LECTURER

École de santé publique de l'Université de Montréal
SPU 1004-A-H21 - Politique et système de santé

TEACHER'S ASSISTANT

École de santé publique de l'Université de Montréal
ASA 6703 - Économie de la santé
ASA 6120-X-A21 - Fondement du management
ASA 6754-X-21 - Système de santé et santé des populations

ARTICLES SUBMITTED UNDER REVIEW - 2021

International Journal of Health Policy and Management (IJHPM)
Cadeddu S, Daré LO, Denis J-L: What is the ecosystem underpinning the emergence and development of bottom-up innovation in health organizations? Insights from a scoping review

ARTICLES PENDING SUBMISSION - 2021

Daré LO, Champagne F, Denis J-L: Towards a theoretical framework for systemic quality improvement in health care and services: quality improvement support agencies.

MohammadReza Fasihaniard

PhD

Concordia University

PUBLICATION:

Fasihaniard, M., Pottier, P., & Packirisamy, M. (2021, May). MEMS Enabled Asymmetric Slab Waveguide for Continuously Tunable Filter. In 2021 Photonics North (PN) (pp. 1-1). IEEE. <https://ieeexplore.ieee.org/document/9597909>

PATENT PENDING:

In-Plane MEMS-Based Tunable Multi-Band Filter

Pedram Fekri

PhD

Concordia University

PUBLICATIONS

- Fekri, P, Khodashenas, H, Zadeh, M, and Dargahi, J, "Y-Net: A Deep Convolutional Architecture for 3D Estimation of Contact Forces in Intracardiac Catheters" in IEEE Robotics and Automation Letters (RA-L) DOI: 10.1109/LRA.2022.3148439, 2021 (Peer-reviewed Journal)

- Fekri, P, Dargahi, J, and Zadeh, M. "Deep Learning-Based Haptic Guidance for Surgical Skills Transfer". Frontiers in Robotics and AI 2021; 7:185. (Peer-reviewed Journal)

Fekri, P, Khodashenas, H, Zadeh, M, and Dargahi, J, "Y-Net: A Deep Convolutional Architecture for 3D Estimation of Contact Forces in Intracardiac Catheters" accepted in IEEE International Soft Robotics, 2022, (RA-Letter and Conference – Dual Acceptance)

- Tavakolian, N, Fekri, P, Dargahi, J and Zadeh, M, "KDepth-Net: Mono-Camera based Depth Estimation for Autonomous Driving," in SAE Technical Paper 2022-01-0082, Detroit, MI, USA, 2022,

- Fekri, P Nourani, H, Razban, M, Dargahi, J, Zadeh, M. "A Deep Learning Force Estimator System for Intracardiac Catheters", in IEEE International Symposium on Medical Measurements and Applications (MeMeA), Neuchatel, Switzerland, 2021.

- Fekri, P, Setoodeh, P, Safavi, A. A., and Zadeh, M, "Metalearning: Sparse Variable-Structure Automata," in arXiv:2102.00315, 2021 (arXiv)

- Khodashenas, H, Fekri, P, Zadeh, M, and Dargahi, J, "A Vision-Based Method for Estimating Contact Forces in Intracardiac Catheters", in IEEE International Conference on Autonomous Systems: ICAS, Montreal, QC, Canada, 2021.

Amandine Gesta

MSc

Polytechnique Montréal

Fast-tracking to PhD (MDI)

CONFERENCES WITH PUBLISHED ABSTRACTS :

- EXOBerlin TECHDAY 2021

Gesta, A, Mohebbi, et A. Achiche S., (2021) Low-cost 1 degree of freedom ankle exoskeleton for children with Cerebral Palsy, [Conference presentation abstract], Exoskeleton design, control and applications - EXOBerlin TechDay, https://exo-berlin.de/download/EXOBerlin_TECHDAYCatalogue_EXOTech2021.pdf

- Mother-Child Research Provincial Conference

Gesta, A, Mohebbi, et A. Achiche S., (2021) Low-cost 1 degree of freedom ankle exoskeleton for children with Cerebral Palsy, [Conference presentation abstract], Congrès provincial de la recherche mère-enfant, <https://event.fourwaves.com/fr/cprme/resumes/8740095d-f33c-41d4-a9ea-571605021910>

Majed Ghattas

PhD

Polytechnique Montréal

PUBLICATIONS:

Ghattas, M., Dwivedi, G., Lavertu, M., & Alameh, M. G. (2021). Vaccine Technologies and Platforms for Infectious Diseases: Current Progress, Challenges, and Opportunities. *Vaccines*, 9(12), 1490.

EXCHANGE/INTERNSHIP

One-year exchange at University of Pennsylvania in The Weissman Lab and The Engineered mRNA and targeted nanomedicine core.

Pranay Jindal

MBA

McGill University

Winner of the Desautels Net Impact Sustainability Cup 2021

Pierre Kateb

MSc

Polytechnique Montréal

PUBLICATIONS :

Hagler, J., Kim, C., Kateb, P., Yeu, J., Gagnon-Lafrenais, N., Gee, E., Audry, S., & Cicoira, F. (2022). Flexible and stretchable printed conducting polymer devices for electrodermal activity measurements. *Flexible and Printed Electronics*. Rossetti, N., Hagler, J., Kateb, P., & Cicoira, F. (2021). Neural and electromyography PEDOT electrodes for invasive stimulation and recording. *Journal of Materials Chemistry C*, 9(23), 7243-7263.

TEACHING:

Assignment supervisor for a course on biomedical instrumentation

Assignment supervisor for a course on chemical engineering issues and applications

Samuel Mugisho Muhindo

PhD

Polytechnique Montréal

JOURNAL PUBLICATION:

Muhindo, S.M.; Malhamé, R.P.; Joos, G. A Novel Mean Field Game-Based Strategy for Charging Electric Vehicles in Solar Powered Parking Lots. *Energies* 2021, 14, 8517. <https://doi.org/10.3390/en14248517>

TEACHING:

Lab instructor GBM3310 Modélisation et commande en physiologie (3rd year course in biomedical engineering - Winter)

TEACHING:

Assistant ELE3201 Asservissements (3rd year course in electrical engineering - Summer)

LAB INSTRUCTOR

ELE3201 Asservissements (Fall)

LAB INSTRUCTOR

ENE8412 Gestion de la charge et de la production fluctuante (Graduate course in power engineering - Fall).

Dania Nehme

MSc

Concordia University

PUBLICATIONS:

Pineda, A., & Nehme, D. (2021, May 15). Enfants de la violence conjugale. Le Devoir. <https://www.ledevoir.com/societe/601553/societe-enfants-de-la-violence-conjugale>
My research entitled "The Power of Transmedia Storytelling Through Comics" was selected by the American Marketing Association for its academic conference.

Four interviews to discuss my marketing achievements with Chat & Spin Radio, hosted by Ron Clark and Ian Johnson, broadcasted in the UK and internationally, with 999,900 weekly listeners.

Schwartz, C., & Nehme, D. (Host and Guest). (2021, December 19). DANIA; Marketing Comic Books; Researcher, Concordia University, MSc, '22; Illustrator [Video podcast episode]. In Conversations with Calvin: We The Species. YouTube. https://www.youtube.com/watch?v=zatjZ_hD-7mE&t=4s&ab_channel=ConversationswithCalvin%3B-WeTheSpeciEs

SCHOLAR IMPLICATION:

Member of the Golden Key International Honour Society, an award for top-performing graduate students, based solely on their academic achievements.

Reviewer of academic papers and posters for the American Marketing Association's conference

Worked as a research assistant, and as a teaching assistant for Dr. Paulin in two marketing courses: B2B Marketing at the undergraduate level, and Strategic Relationship Marketing at the graduate level.

Nathan Painchaud

PhD

Université de Sherbrooke

PUBLICATIONS:

N. Painchaud, N. Duchateau, O. Bernard, et P.-M. Jodoin, "Echocardiography Segmentation with Enforced Temporal Consistency," soumis à IEEE Transactions on Medical Imaging, nov. 2021.

Charles-Olivier Poirier

MSc

Polytechnique Montréal

Summer 2021 internship at MDA in mechanical design of satellite antennas

Anthony Sanogo

MSc

Bishop's University

Internship to come in August 2022

Fae Sarayloo

MBA

Concordia University

Recipient of Hardeep Grewal MBA scholarship (2021) / Management consulting project for Montreal-based biotech start-up (2022)

Karine St-Laurent

MSc

Université du Québec à Montréal

St-Laurent, K. (2022, 23-25 mars). La formation à un management responsable pour des organisations plus durables [Résumé]. 22e Colloque annuel des étudiants de cycles supérieurs du Centre de recherche sur les innovations sociales (CRISES) : Le monde moderne peut-il être sauvé?, Québec, Canada. <https://crises.uqam.ca/etudiants/colloque-etudiant-crisis/> (accepted)

Writing a sustainability report for a leading Canadian construction company – @freelance

Teacher's Assistant (correction of papers, master's level) – ESG UQAM – DSR8414-Hiver2022 : Grands défis planétaires Final Z-score for master's degree : 4,3 / 4,3

Winner - Bourse d'excellence à la maîtrise ESG2 – ESG UQAM

Jad Adam Taher

MSc

HEC Montréal

Development of a start-up
Finance Internship

Yetioman Touré

PhD

Université du Québec à Montréal

PUBLICATIONS:

Touré, Y. (2021). Coopératives agricoles africaines : de l'instrumentalisation aux défis d'émancipation https://ieim.uqam.ca/spip.php?page=article-cooperation&id_article=12946

Toure Y. (submitted, September 2021). Renforcement de capacités organisationnelles des coopératives en Afrique: conditions de traduction et d'appropriation des pratiques coopératives. *Annales de l'économie publique, sociale et coopérative*, 39 P.

Toure Y. (submitted, September 2021). Analyse conceptuelle de la coopérative dans le développement du Sud : cas de l'Afrique. *RECMA*, 17 P

Jean Marie Tshimula

PhD

Université de Sherbrooke

PUBLICATIONS:

Tshimula, JM, Gray, S., Chikhaoui, et Wang, S. "Emotion Detection in Law Enforcement Interviews," soumis à IEEE COMPSAC Human and Social Computing, 2022

Élisabeth Viau

MSc

HEC Montréal

Fast-track to MSc (business intelligence)

SOCIAL INVOLVEMENT:

Analyst - National Bank Investment Fund

Executive Vice-President - Société des Relations d'Affaires

HEC Montréal

SUMMER 2022 INTERNSHIP

Business Analyst at Boursify

Rami Yamin

MBA

HEC Montréal

Exploring ideas and their technical and financial feasibility.

Exploring sources of funding.

Development of a business plan (continuous process).

Developing innovative business models (multiple revenue streams).

Mohammad Amin Zaheri

PhD

Université de Montréal

M. Zaheri, M. Famelis and E. Syriani, "Towards Checking Consistency-Breaking Updates between Models and Generated Artifacts," 2021 ACM/IEEE International Conference on Model Driven Engineering Languages and Systems Companion (MODELS-C), 2021, pp. 400-409, doi: 10.1109/MODELS-C53483.2021.00063.

<https://doi.org/10.1109/MODELS-C53483.2021.00063>

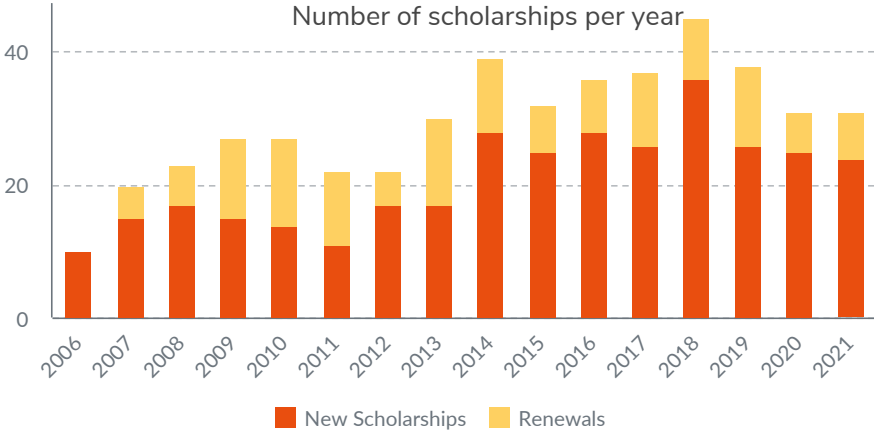


Key Performance Indicators

NUMBER OF SCHOLARSHIPS

471
Total number of grants awarded since the Foundation's creation

+ \$5.5 M
Total amount awarded in grants since the creation of the Foundation



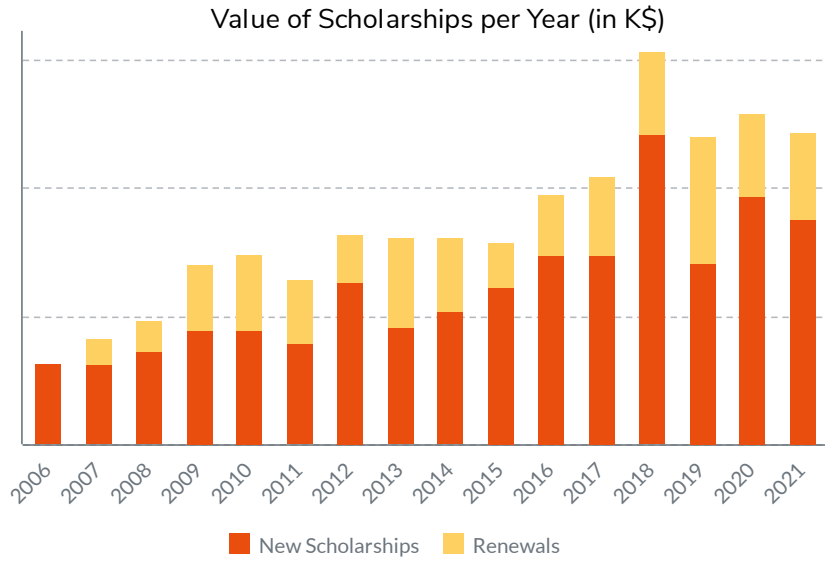
AMOUNT OF SCHOLARSHIPS

\$487,500
Total value of scholarships granted in 2021

\$13,000
Value of the scholarship at the Master's level in 2021 (compared to \$10,000 in 2019)

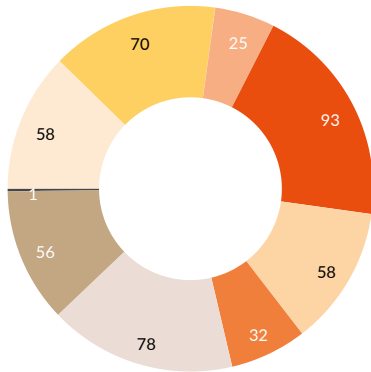
\$20,000
Value of the scholarship at the doctorate level in 2021 (compared to \$17,000 in 2019)

\$13,000
Value of the scholarship at the MBA level

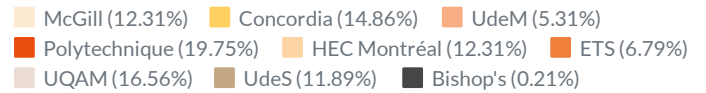


PER UNIVERSITY

Number of scholarships awarded per university since the Foundation's creation

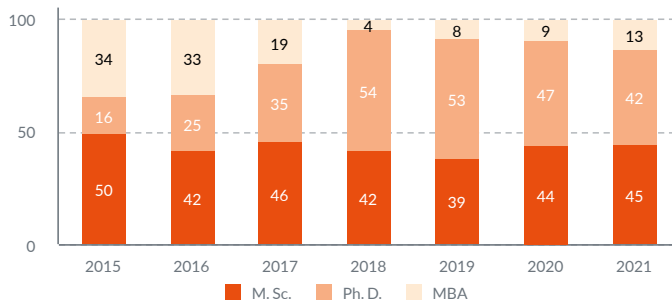


Polytechnique leads with 93 scholarships followed by UQAM (78) and Concordia (70) since the creation of the Foundation



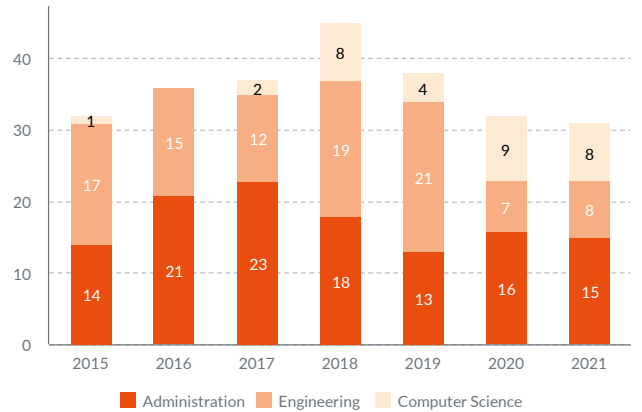
PER DIPLOMA

Scholarships awarded by the Foundation (%)



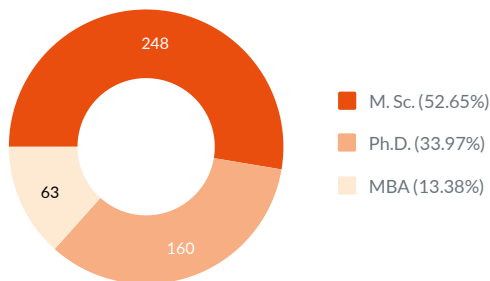
PER PROGRAM

Number of scholarships awarded by domain and year

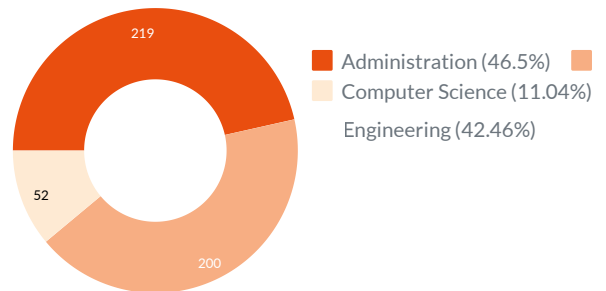


8*
Number of computer science scholarships awarded in 2021 vs. 4 in 2019

* Includes awards in software engineering and computer engineering

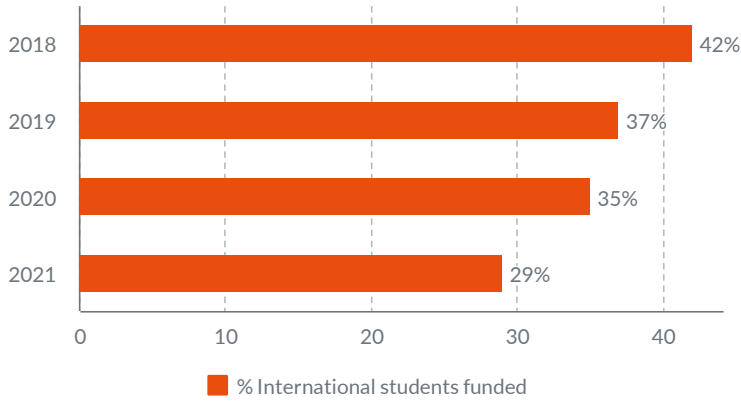


Scholarships awarded since the creation of the Foundation



Number of scholarships awarded by domain since the Foundation's creation

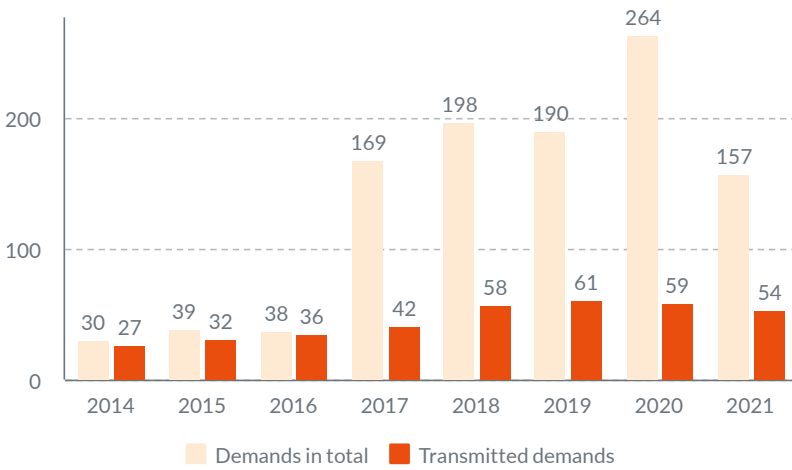
SOCIAL INDICATORS



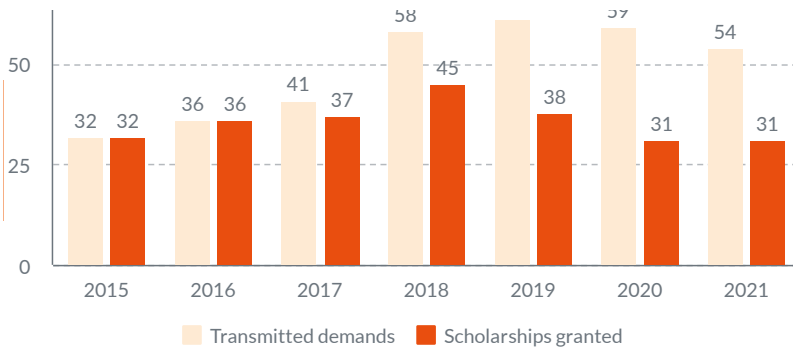
% of foreign students among our scholarship recipients

157
Total number of applicants for Arbour scholarships in 2021 compared to 264 in 2020

Total number of applications received vs. number of applications forwarded to the Foundation by universities




Approx. 34%
% of applications selected by universities in 2021 for transmission to the Foundation



20%
% of students who received a scholarship out of all applicants in 2021, i.e. 157 applicants (compared to 12% in 2020)

44%
Percentage of rejected applications

A hand holding a small green seedling over soil, with an orange overlay.

The first fundraising campaign began by soliciting friends and former grantees of the foundation to contribute to the creation of the “Arbour Community Recognition Grant”.

You can do the same and make a donation by visiting the Foundation’s website:

www.fondationarbour.com

Our donors

Our 2021 donors

Past scholars

Marie Boucher \$1,500
Sébastien Désilets \$250
Alexandre Guilbault \$700
Montu Gupta \$130

Board Members

Diane de Champlain \$250

Friends of the Foundation

Desjardins Valeurs mobilières
\$5,000
Eight Capital \$12,000

Our first donors of 2022

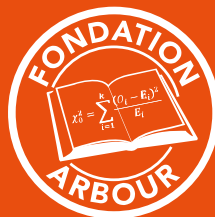
Past scholars

Marianne Araj
Nadia Belaribi
Franck Benichou
Marie Boucher
Montu Gupta
Marine Hadengue
Nadira Hajjar
Félicia Hughes
Alexandra Marin
Charlotte Pearce
Bahare Samadi
Jean-Philippe Sicard
Hussein Slim

Board Members

Michel Brunet
Diane de Champlain
André Laurin
André Monette

**A great big thank you
to all of you!**



Fondation Arbour
Sapere aude!

1434 rue Sherbrooke O - Bureau 300 - Montréal (QC) H3G 1K4
514-844-5990 - info@fondationarbour.ca - www.fondationarbour.com