

IMPACT REPORT

# 2019-2020



**NBIF**



WE HELP NEW BRUNSWICK INNOVATORS

**take their ideas  
further.**

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# OUR STORY



At NBIF, we help New Brunswick innovators solve globally relevant problems through research, solid advice and access to capital. By leveraging the success of our portfolio, we reinvest strategically to create new opportunities for New Brunswick.

**Every day, New Brunswick innovators trust us with their dreams. This is a responsibility we take very seriously.**

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THE NBIF TEAM

## OUR MISSION

We help New Brunswick innovators take their ideas further.

## OUR VISION

By fostering a strong and collaborative innovation ecosystem in New Brunswick, we will become recognized as leaders in the fields of innovation, research and venture capital.

# MESSAGE FROM OUR CHAIR

Sometimes it can be challenging to see the good when you're in the midst of a challenging period, and globally we have never seen anything like the past nine months. From another viewpoint, we have experienced new levels of collaboration, partnerships, a coming together, and making faster decisions as we transition, adjust, and thrive in uncertainty.

**“ AT NBIF, CREATIVITY,  
INNOVATING, BUILDING,  
PROBLEM-SOLVING,  
RESEARCHING, AND IMAGINING  
NEW WAYS OF OPERATING  
ARE WHAT WE DO DAILY.  
IT'S IN OUR DNA.**

We work with resilient people and know how to keep going despite not always seeing the straight path forward. That's what innovation is all about.

Our Impact Report will showcase stories of magnificent researchers, students, and entrepreneurs that exhibit these traits every day and who are always up for a challenge. We have outstanding talent, projects underway, companies, and educational institutions here



in New Brunswick. We are proud of our work and remain, despite any challenge that's thrown our way, committed and accountable to achieving positive outcomes and benefits for our province.

On behalf of the Board of Directors and the entire team, we are excited to share our 2019–2020 Impact Report, demonstrating the innovation and thought leadership that is happening here in New Brunswick. As you will see, a global pandemic hasn't slowed us down. We look forward to what's ahead as we continue to collaborate to build and create growth in our economy.

*Cathy Simpson*

**CATHY SIMPSON**  
**BOARD CHAIR**

# NBIF Board of Directors



## Cathy Simpson

CEO, TECHIMPACT

Board Chair  
Committees: 1, 4



## Eric Cook

EXECUTIVE DIRECTOR AND CEO,  
RPC

Board Vice-Chair  
Committees: 1, 3



## Rob Miller

PRESIDENT CPA, CA,  
EDGEWATER CONSULTING LTD.

Board Treasurer  
Committees: 1, 2



## Gerry Verner

BUSINESS DEVELOPMENT,  
MARINER PARTNERS INC.

Board Secretary  
Committees: 1 4 (chair)



## Jill Green

CEO, GREEN IMAGING  
TECHNOLOGIES

Committees: 3 (chair)



## David Magee

VICE PRESIDENT RESEARCH,  
UNB

Committees: 2



## Daniel Mills

DEPUTY MINISTER OF  
POST-SECONDARY EDUCATION,  
TRAINING AND LABOUR

## Committees

1  
EXECUTIVE

2  
AUDIT & FINANCE

3  
GOVERNANCE

4  
HUMAN RESOURCES



# A MESSAGE FROM OUR CEO

NBIF entered the year with a clear vision for how we support New Brunswick's entrepreneurs and researchers and the province's broader innovation agenda. We were agile and decisive, collaborating to form new partnerships and developing new strategies to support venture capital investment and research funding.



**IT'S ALL FOCUSED ON HELPING NEW BRUNSWICK'S INNOVATORS TAKE THEIR IDEAS FURTHER.**

The COVID-19 pandemic changed a lot of things in the world, including how we operate. When the crisis struck, our team moved immediately to help the startups and researchers we work with to overcome the challenges the pandemic created and take advantage of the opportunities it presented.

In times of great disruption, innovation can thrive for those bold enough to seize the moment. We worked hard to help New Brunswick's entrepreneurs and researchers take advantage of these opportunities. Working with the New Brunswick Health Research Foundation, we launched a new COVID-19 research fund in a matter of weeks to help our research community contribute to the global battle against this novel coronavirus.



COVID-19 accelerated several emerging trends, including moving business online, remote working and other technology adoption that reduced the dependency on physical location. The rapid evolution of these trends and the province's success in managing the pandemic create meaningful new opportunities for New Brunswick.

Looking ahead, we will stay agile and enhance and expand our partnerships to create an environment for successful innovation. We know that at NBIF we are privileged to work with such smart, impactful and innovative New Brunswickers. We plan to have fun helping them succeed.

**JEFF WHITE, CPA, CA, ICD.D**  
CEO



# Staff



**Jeff White**

CPA, CA  
CEO



**Joanne Johnson**

Senior  
Administrator



**Maggie Edwards**

CPA  
Controller



**Angela Pyne**

Marketing &  
Communications  
Manager

## VENTURE CAPITAL TEAM



**Raymond Fitzpatrick**

CPA, CMA  
Director of  
Investments



**Thomas Bird**

P.Eng  
Investment  
Manager



**Daniel Hoyles**

CPA, CMA  
Investment  
Associate



**Jeff Lingley**

Investment  
Analyst



**Holly Ayles**

Investment  
Analyst

## APPLIED RESEARCH TEAM



**Laura Richard**

D. Phil (Oxon)  
Director of  
Research



**Alec Manley**

Research  
Development  
Officer



**Hilary Lenihan**

Research  
Development  
Officer



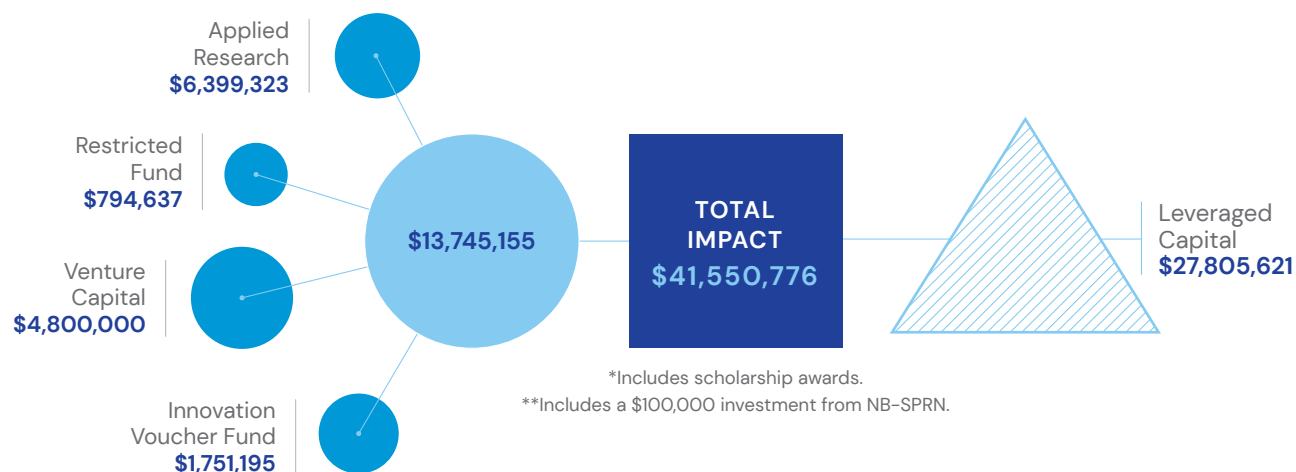
**Brandon Schlichter**

Research  
Development  
Coordinator

# FINANCIAL IMPACT 2019–2020

Our organization was incorporated to make strategic investments to grow the innovation ecosystem and applied research capacity in New Brunswick. Our experienced team on both the venture capital and the applied research side of our business carefully consider many factors when deploying research grants and venture capital. Here's a look at the financial impact we made this past year.

## OVERALL INVESTMENT

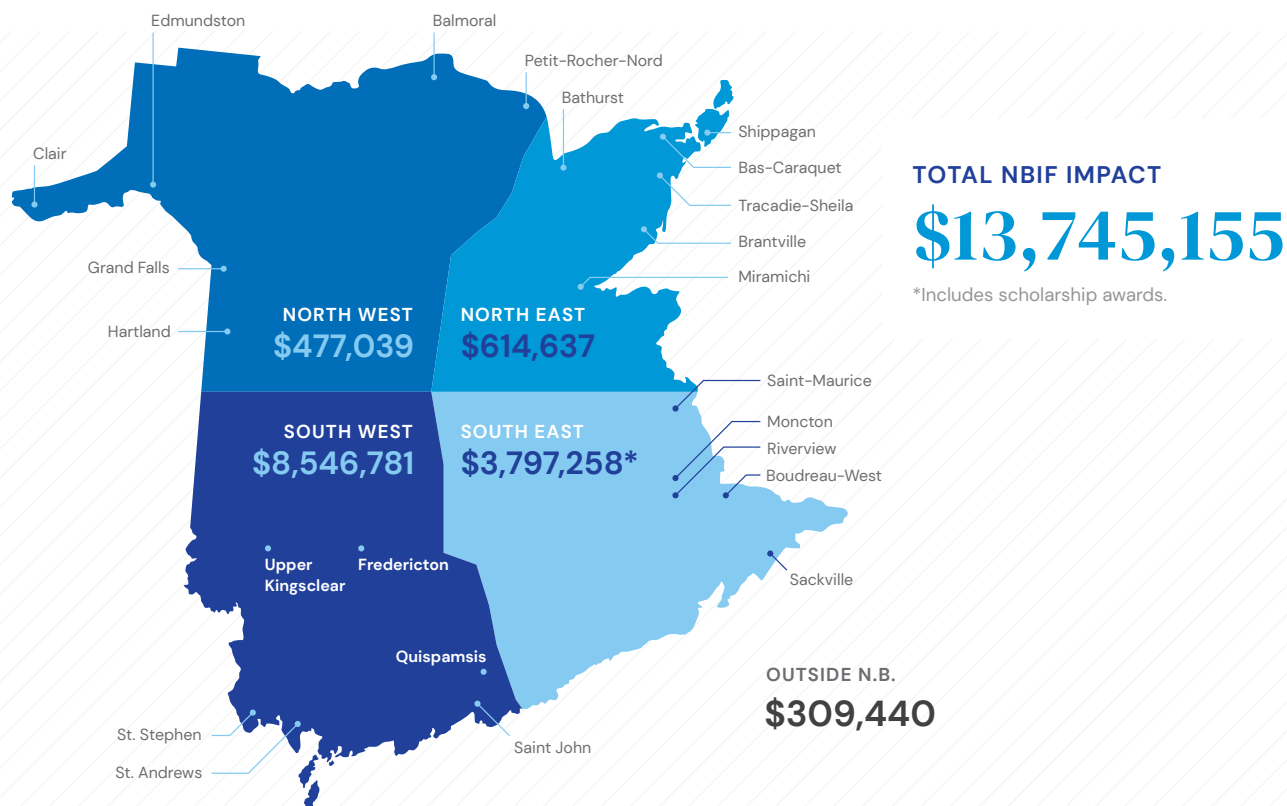


## SECTOR VIEW | AWARDED FUNDS

ICT	\$ 3,176,215	\$ 5,817,695	IT & Physical Science
Energy & Electronics	\$ 255,600		
Manufacturing & Materials	\$ 1,691,380		
Aerospace & Defence	\$ 320,000		
Precision Sciences	\$ 374,500		
Agriculture, Forestry, Food & Beverage	\$ 1,312,115	\$ 2,809,871	Environment & Agriculture
Environmental Technology & Resource Management	\$ 481,200		
Fisheries & Marine Sciences	\$ 1,016,556		
Biosciences & Biotechnology	\$ 452,573	\$ 2,554,745	Bioscience & Health
Health & Medicine	\$ 2,102,172		
Social Sciences, Humanities & Psychology	\$ 420,344	\$ 420,344	Social Sciences
Consumer Goods & Services	\$ 80,000	\$ 1,064,500	Business Operations
Finance, Economic & Business Science	\$ 964,500		
Statistics & Data Analytics	\$ 20,000		
Scholarships	\$ 1,078,000	\$ 1,078,000	Scholarships
<b>TOTAL</b>			<b>\$13,745,155</b>

\*Includes scholarship awards.

## GEOGRAPHICAL BREAKDOWN



## EQUITY, DIVERSITY AND INCLUSION

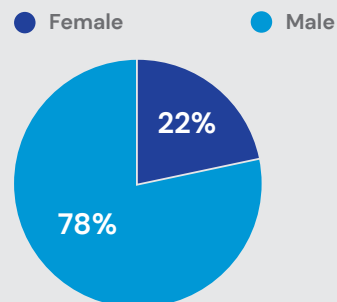
An Equity, Diversity and Inclusion Policy (EDI) recognizes that diversity has many facets; this is a strength in Canada. We want to support this further, as diverse environments are proven to be innovative, leading to research and startup excellence.

We developed our Equity, Diversity and Inclusion Policy (EDI) in November 2019. We understand researchers, companies, and other organizations have the most significant potential to thrive when they experience equitable, inclusive unbiased systems and practices.

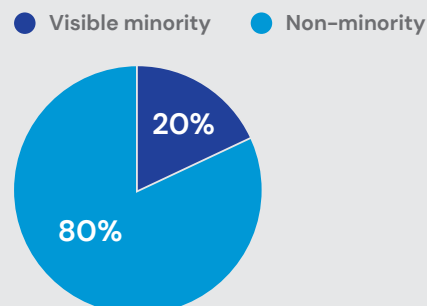
We committed to 3 key concrete actions: 1) Collect EDI data from all funding & investment applicants; 2) Report aggregate EDI statistics about our investments in our yearly impact report; 3) Ensure EDI principals are a part of our application review process.

By endorsing these principles and applying them to their respective environments, we're choosing to be a part of the transformation in post-secondary research experiences and startup investments, contributing to greater equity, diversity, and inclusion worldwide.

### GENDER DIVERSITY



### ETHNICITY



# VENTURE CAPITAL: YEAR IN REVIEW

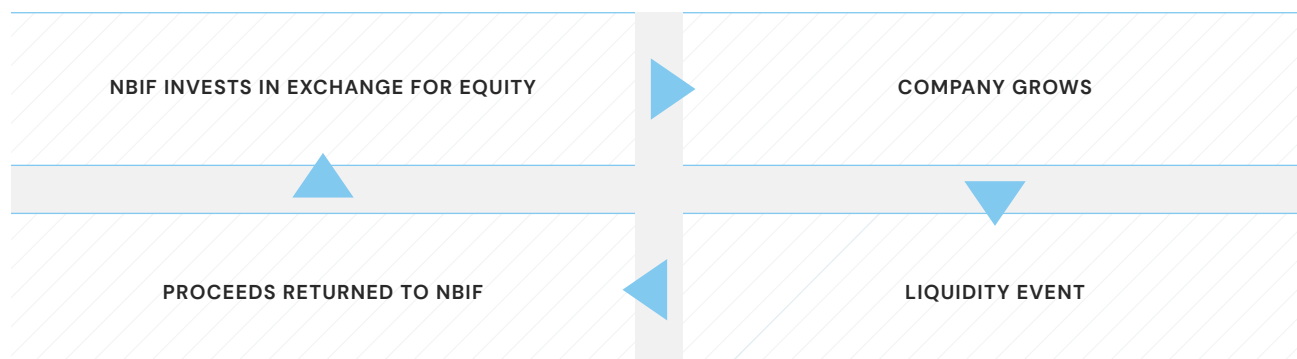
Venture capital investments support emerging startups and existing businesses with high growth potential. As these companies gain market traction, they need additional financial capital to maintain and accelerate their growth.

Our venture capital investments are made in exchange for company equity or equity-like securities, meaning we become an owner. Once we invest in a company, they are part of the NBIF portfolio. Our investments typically range from \$100,000 to \$1,000,000 per company round. If or when the portfolio company is sold, or we sell our shares at a higher valuation, we take the proceeds from these transactions and reinvest in other New Brunswick companies.

We look for New Brunswick companies in the startup phase and businesses with existing customers looking to scale. Our investment thesis' key element is to select the best potential for growth, which will lead to financial gains on our investment in a particular company. All our investments are consistently made with other equity investors, ranging from individual angel investors, owners, and other venture capital firms; this is key to expanding the companies' investment pool.

Conventional thought has been that a venture capital investment should provide a startup with 12 months of operational runway. However, our venture capital team has learned that startups are better served when given a longer runway. It avoids the additional time, costs, and complexities of raising additional capital as bridge financing, allowing the startup to remain focused on important milestones. Our venture capital fund investments are intended to support startups from 12 to 18 months.

Providing more capital to startups results in fewer yet larger investments. This is evident in our Startup Investment Fund (SIF), where four of the seven investments this past year received the program maximum at \$200,000 per financing from us. From our Venture Capital Fund (VCF), investments averaged over \$250,000 per funding from us, with three investments reaching the \$500,000 mark.







## VENTURE CAPITAL RESTRICTED FUND 2019-2020

<b>CONCRETE VENTURES</b>	<b>\$79,637</b>
Concrete Ventures	\$79,637
<b>PROPEL</b>	<b>\$215,000</b>
Trip Ninja	\$25,000
Reel Data	\$25,000
Side Door	\$25,000
Nova Scotia Limited (Room Service)	\$25,000
Side Door	\$15,000
Safa	\$25,000
TotaliQ	\$25,000
Jugaad Ventures (Simbi)	\$25,000
Foodbyte	\$25,000
<b>ENERGIA</b>	<b>\$100,000</b>
Prevue Logic Private Limited (o/a Tail Wind)	\$50,000
Clanz Technologies Ltd	\$50,000
<b>TOTAL NBIF INVESTMENT</b>	<b>\$394,637</b>

# PORTFOLIO OVERVIEW AND INVESTMENT HOLDINGS

NBIF was founded in 2002, and over the last 18 years, we've invested in over 110 companies in New Brunswick. Today we have an active portfolio of 63 companies. These companies are part of our province's innovation engine, shining a light on our place on Canada's innovation map. Helping New Brunswick innovators take their ideas further is core to our brand, and we are proud of their many achievements and thankful to be a part of their teams.

The following 63 active portfolio companies have each received investments from NBIF in exchange for equity as of the end of March 2020.

## TOTAL VENTURE CAPITAL INVESTMENTS

 alongside	 avrij analytics	 BEAUCERON SECURITY	 Eigen Innovations	 encore INTERACTIVE	 FIDDLEHEAD	 Fixel
2014 \$1.25M	2018 \$750K	2017 \$900K	2014 \$1.75M	2019 \$500K	2015 \$500K	2012 \$450K
 gemba	 HotSpot	 introhive	 inversa SYSTEMS	 Loft	 KOGNITIV SPARK	 MESH / diversity
2015 \$1.6M	2014 \$250K	2012 \$250K	2016 \$1.57M	2016 \$250K	2017 \$950K	2019 \$250K
 MYCODEV GROUP	 Patchell Brook BROOK	 Populus Plus	 Porpoise	 POTENTIAL MOTORS	 r	 RESSON
2015 \$600K	2016 \$350K	2010 \$1.57M	2016 \$300K	2019 \$500K	2016 \$350K	2017 \$786K
 rise	 QUBER	 SCENE SHARP	 Selectbidder	 SIMPT EK	 SMARTSKIN	 smartpods
2016 \$550K	2017 \$400K	2011 \$250K	2013 \$200K	2015 \$500K	2009 \$1.5M	2014 \$734K
 SomaDetect	 sonrai	 Sorocimed	 stash ENERGY	 TotalPave	 WellTrack	 anessa
2018 \$750K	2018 \$334K	2017 \$500K	2017 \$650K	2016 \$250K	2015 \$450K	2017 \$300K

35 Companies

\$23,053,611

K denotes thousand

M denotes million












## TOTAL STARTUP INVESTMENTS

 3D PLANETA	 VSS	 the Black Arcs	 CANUM	 CHINOVA BIOWORKS	 eCHART HEALTHCARE	 elandas	 EYESOVER
2019 \$200K	2018 \$100K	2017 \$100K	2019 \$250K	2017 \$100K	2019 \$200K	2020 \$200K	2018 \$200K
 GRAY WOLF	 GLOBAL Intelligence Inc.	 Jaza	 LEGACY LANE	 PFERAO	 Procedure Accelerator	 R	 TURBOPLAY
2019 \$50K	2019 \$150K	2016 \$200K	2006 \$25K	2017 \$100K	2020 \$200K	2019 \$100K	2017 \$200K

16 Companies

\$2,375,000

## TOTAL ACCELERATOR INVESTMENTS

 Clanz	 Tail Wind	 ReelData	 Room Service	 side door	 tripninja
2019 \$50K	2019 \$50K	2019 \$25K	2019 \$25K	2019 \$40K	2019 \$25K
 FoodByte	 iQ	 SnapAP	 SiMBi	 sāfa	
2020 \$25K	2020 \$25K	2020 \$25K	2020 \$25K	2020 \$25K	

11 Companies

\$340,000

## TOTAL LP INVESTMENTS



2020  
\$500K

1 Company

\$500,000

## TOTAL ACTIVE INVESTMENTS

63 Companies

\$26,268,611

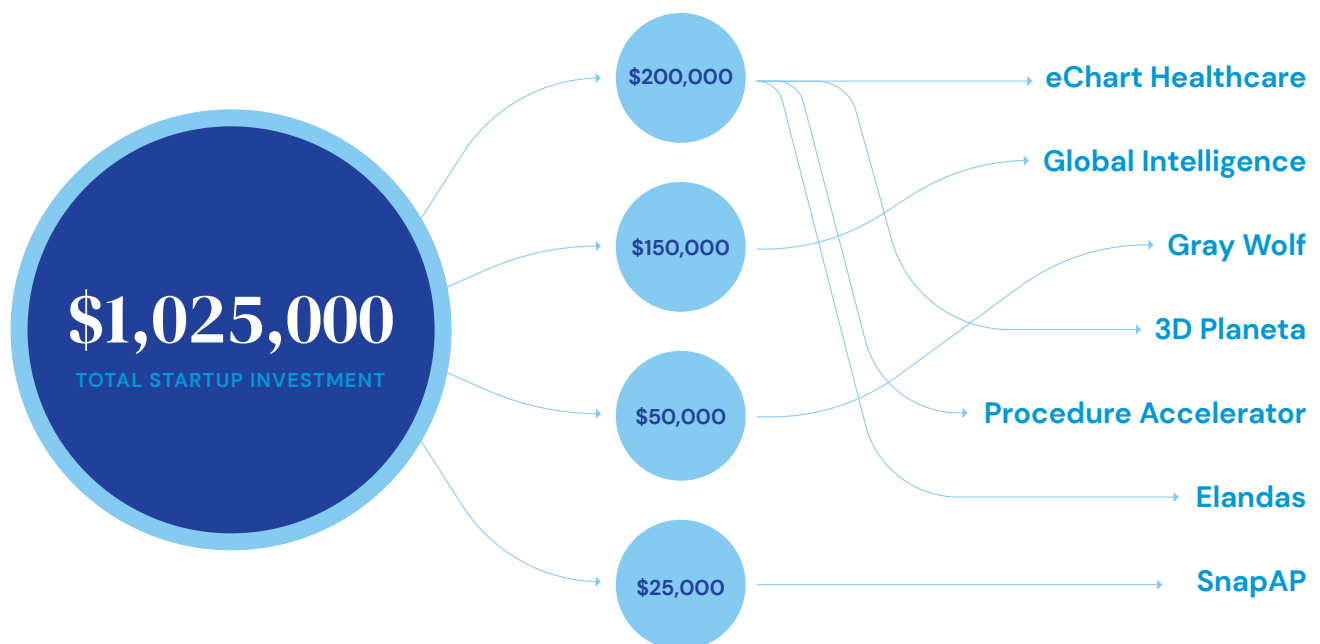
# STARTUP INVESTMENT FUND

**OUR STARTUP INVESTMENT FUND (SIF) PROVIDES EARLY-STAGE START UP COMPANIES WITH A SEED INVESTMENT OF UP TO \$200,000.**

This investment is to be used to develop a new business in New Brunswick with specific emphasis on the refinement and commercialization of an innovative product or service.

This past year, we invested in seven companies through the SIF. Many of these companies were post-revenue and had market traction. This is higher than our typical annual number of SIF investments. From our vantage point, having many venture capital fundable companies is a strong indicator of a healthy innovation and startup community.

## STARTUP INVESTMENT FUND 2019-2020





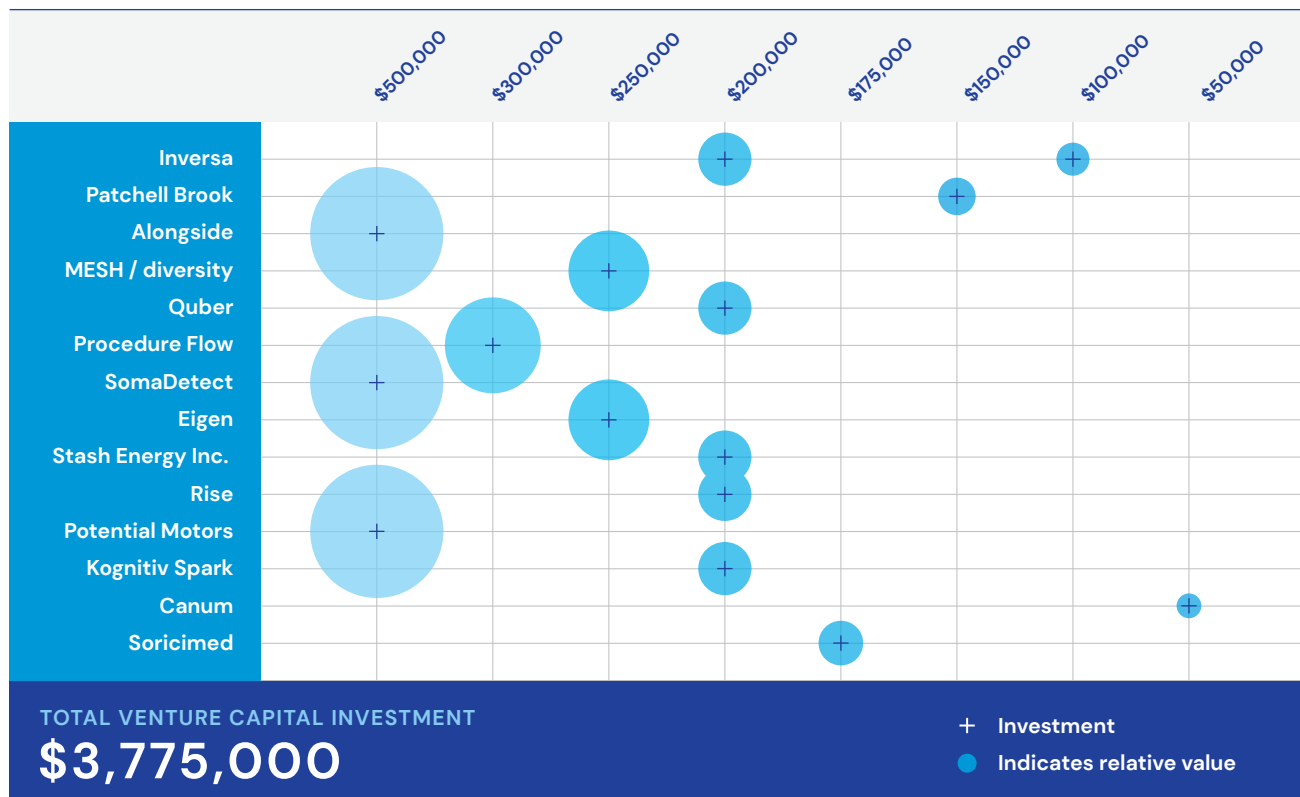
# VENTURE CAPITAL FUND

**OUR VENTURE CAPITAL FUND (VCF) IS FOR STARTUPS THAT HAVE SECURED MULTIPLE CUSTOMERS AND HAVE EARLY MARKET TRACTION WITH GROWING REVENUES.**

The investment is to help them scale up their operations, creating product-market fit and bridging the company to a Series A round. The fund provides up to \$1,000,000 and is intended to be used for product development, marketing, hiring, and additional IP protection.

We participated in several VCF rounds this past year. Many of these deals featured investors' syndicates, who also bring strategic resources and new networks to the table.

## VENTURE CAPITAL FUND 2019-2020



# INNOVATION VOUCHER FUND

## OUR INNOVATION VOUCHER FUND (IVF) IS DESIGNED TO DRIVE NEW BRUNSWICK INNOVATION THROUGH RESEARCH AND DEVELOPMENT.

The IVF provides New Brunswick small and medium-sized enterprises with funding to access to scientific research and development talent and facilities in our academic institutions to drive productivity and innovation into the private sector. For many companies, it offers the first step towards an innovation agenda, culture, and exposure to world-class talent in our institutions available to solve industry problems. We contribute non-repayable funding up to \$80,000 and match participants with researchers. The recipient company owns the intellectual property created through the project.

The IVF aims to help small and medium-sized enterprises become more profitable and competitive. This past year, we invested a total of \$1,751,196 in 26 companies through the IVF.

### INNOVATION VOUCHER FUND 2019-2020



Indicates relative value

**\$1,751,196**

Total Innovation Voucher Fund Investment

# VENTURE CAPITAL SPOTLIGHTS

**Who we are investing in is as vital as the company we are investing in.**

An experienced management team is essential to a startup's success. This year, we funded a handful of repeat entrepreneurs with significant leadership experience from the startup ecosystem. We consider this when investing in startups; a proven track record is a testament to future success.



SPOTLIGHT

## Daniella Degrace

PROCEDUREFLOW

Daniella, CEO of ProcedureFlow, has more than 20 years of entrepreneurial experience in high growth software companies with a wealth of knowledge and passion for startups. She served at the V.P. level with Q1 Labs, Radian6, and iMagicTV. Her time with these successful startups allowed her to transition to ProcedureFlow, a spin-out of Innovatia, successfully.

ProcedureFlow is an enterprise software-as-a-service (SaaS) product that helps employees manage lengthy, complex procedures. The solution reduces training time, lowers operating costs, and improves performance by providing employees with a visual step-by-step guide for every type of work scenario.

In 2015, NBIF invested \$500,000 in ProcedureFlow through our Venture Capital Fund. This past year, we invested another \$300,000, part of a \$2,900,000 round of financing to support revenue growth through sales and marketing.

The company was also recently selected as a Pandemic Tech Innovation Award winner by U.S. based TMC under Daniella's leadership.



SPOTLIGHT

## Norm Couturier

3D PLANETA

Norm Couturier, CEO of 3D Planeta, is leading the commercialization of the company's technology. Norm was a co-founder of Accreon, a technology company that was acquired by Mansa Capital in 2015. His building and exiting experience from a successful technology company is being leveraged in his role at 3D Planeta.

Dr. Yun Zhang developed the 3D image fusion technology used in 3D Planeta's platform at the University of New Brunswick. The technology provides next-generation 3D imaging and terrain visualization, utilizing deep expertise in image fusion.

3D Planeta's online platform brings 3D maps to conventional computers and devices to help assess immediate needs during emergencies or natural disasters. It also helps to visualize future opportunities, such as renewable energy exploration, precision agriculture and forestry, and sustainable land development.

This past year, we invested \$200,000 from our Startup Investment Fund in 3D Planeta. The company already had traction with customers, and this financing will be used for revenue growth through product development and early adopter programs.



Mike Wright, CEO of MESH/diversity, has over 20 years of experience in business and IT and also held the Senior Vice President of Operations position at Brovada, a company that helped insurance companies process data. U.K. based Willis Towers Watson acquired Brovada in 2015.

Alongside Mike is co-founder and Head of Behavioural Sciences is Dr. Leeno Karumanchery, a sociologist with 28+ years in the diversity and inclusion field; his research underpins the MESH/diversity platform. More than ever, organizations are recognizing the benefits to their people and their business of implementing stable Diversity and Inclusion programs.

MESH/diversity's software provides its clients curated and tailored Diversity and Inclusion programs to build more inclusive workplaces. Backed by science, the company's Diversity Intelligence™ Platform measures behaviour, including safety, belonging and inclusion, and leverages these benchmarks in providing actionable strategies to drive real change.

This past year, we invested \$250,000 in MESH to support revenue growth by building a sales and marketing team.



SPOTLIGHT

## Mike Wright

MESH/DIVERSITY

Sam Poirier, CEO of Potential Motors, attracted veteran technology leaders' interest after an early pivot in their business model. The company's leadership team now includes New Brunswick startup veterans Marcel Lebrun, Chris Newton, and Chris Ramsay. This group served as co-founders of Radian6, which Salesforce acquired in 2011, recognized by CVCA as deal of the year. Their vision has attracted multiple Ph.D.'s in AI and vehicle dynamics from all around the world.

Potential Motors is a spinout of UNB's Technology Management and Entrepreneurship program on the leading edge of the electric vehicle revolution. Their core product RallyAI is a vehicle control system that acts as a connector between the driver and the vehicle. It takes direction from the driver and uses AI to proactively adjust the vehicle based on real-time data from the vehicle's environment. RallyAI is smarter and faster than any human driver creating a more responsive and safe driving experience.

The company's leading-edge technology and proven leadership team led them to participate in the Energia Ventures accelerator this past year and raised a \$2.5 million funding round, including \$500,000 from us.



SPOTLIGHT

## Sam Poirier

POTENTIAL MOTORS

# APPLIED RESEARCH: YEAR IN REVIEW

Applied research is a critical part of the innovation and growth that will propel New Brunswick forward. We invest in projects with high potential for direct or indirect economic impact in our province.

This past year, we helped researchers secure the financial support they needed to innovate by awarding \$6,396,573 in funding. This unlocked another \$14,998,810 of leveraged funds from other partners in support of applied research. Our efforts focus on more than just writing cheques. We work to deliver the support needed to amplify results. By creating connections and bringing researchers together with industry partners and other stakeholders, we enhance innovation to drive impact in New Brunswick.

We also innovated our approach to applied research by 1) developing a five-year strategy and vision for Applied Research funding and 2) by broadening the scope of the support we provide. This 5-year vision is critical for innovation in N.B., as it guides our research investment strategy to help build innovation capacity and excellence in our province. We also added two new funds to our program roster: The Social Innovation Research Fund (SIRF) and the Lab-to-Market Fund. With this expansion of mandate and portfolio, we can support innovation in new and diverse ways.

From an operational standpoint, we reviewed our award administration process to increase efficiency and provide greater transparency. We revised guidelines, changed our fund names, and added explicit evaluation criteria to help our researchers and administrators understand our mission and our support. To ensure we maintain an open and transparent approach to innovation, we reached outside of our walls to bring expertise and diversity to our process by adding an external panel of research experts who help us review funding applications.

## WE DELIVERED RESULTS IN FIVE KEY AREAS THIS YEAR VIA OUR APPLIED RESEARCH GRANTS:



**BUILDING  
COLLABORATIONS  
AND EXTENDING  
NETWORKS**



**CREATION  
OF INTELLECTUAL  
PROPERTY**



**DEVELOPMENT  
OF HIGHLY  
QUALIFIED  
PERSONNEL (HQP)**



**FORMATION OF  
NEW COMPANIES**



**JOB CREATION  
IN ACADEMIA**

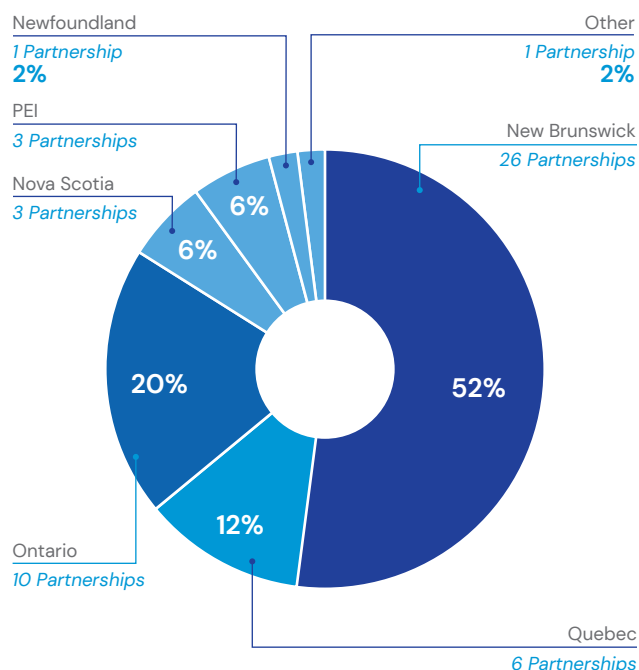
TARGET	ACTUAL	TARGET	ACTUAL	TARGET	ACTUAL	TARGET	ACTUAL	TARGET	ACTUAL
53	55	2	7	210	277	2	3	65	155

# INDUSTRY PARTNERSHIPS

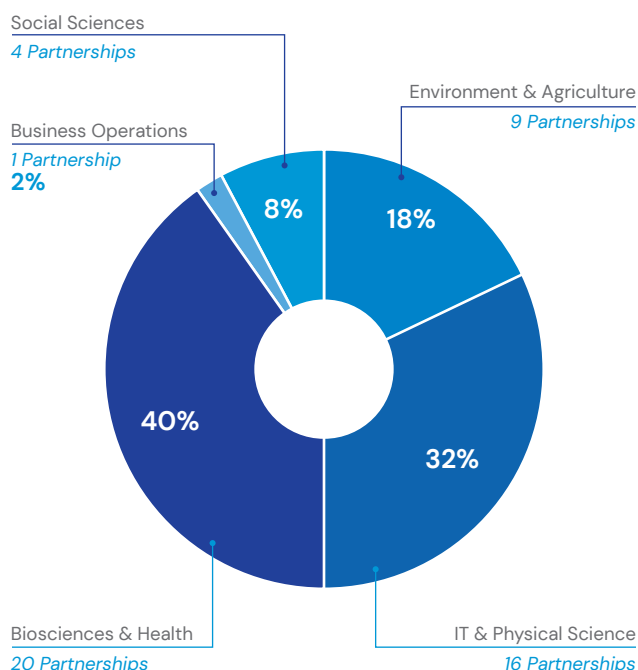
At the heart of impactful applied research is the transfer of knowledge from the academic setting to a broader audience. To do this, our researchers work with non-academic partners in industry, government, and not-for-profits around the globe. This past year, 50 different industrial partners were involved in the research projects we supported, and they contributed a total of \$2,281,067 in funding. That's a powerful testament to the quality and relevance of the research that is happening within New Brunswick. The information below represents where those partners are geographically, and through which sector the support was leveraged, as a percentage of the total number of partnerships.

## PARTNERSHIPS SUPPORTED 2019-2020

### GEOGRAPHICAL BREAKDOWN OF OUR INDUSTRY PARTNERSHIPS



### SECTOR BREAKDOWN OF OUR INDUSTRY PARTNERSHIP



TOTAL INDUSTRY PARTNERSHIPS

50

TOTAL PRIVATE INDUSTRY CONTRIBUTION LEVERAGED BY NBIF

\$2,281,067

# TOP 25 STAR MENTORS OF 2020

## Celebrating exemplary mentorship

AT NEW BRUNSWICK  
RESEARCH INSTITUTIONS

Faculty, professors, and teachers help to fill the pipeline of qualified researchers through mentoring and training, which is one of our province's greatest assets for the future of the innovation economy.

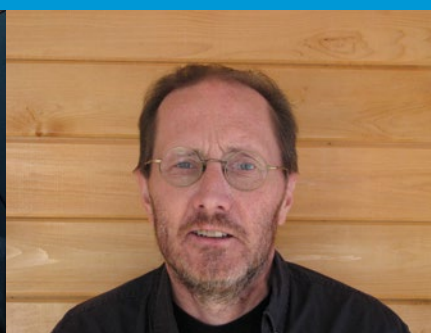
In its inaugural year, we are honouring the Top 25 Star Mentors from New Brunswick's universities, colleges, and research institutions who have shown an exemplary job of training the next generation of researchers.



2020 STAR MENTOR OF THE YEAR  
UNIVERSITY \$70,000 GRANT

**Dr. Kenneth Kent**

UNIVERSITY OF NEW BRUNSWICK



2020 STAR MENTOR OF THE YEAR  
RUNNER-UP \$40,000 GRANT

**Dr. Stephen Westcott**

MOUNT ALLISON UNIVERSITY



2020 STAR MENTOR OF THE YEAR  
INSTITUTION \$50,000 GRANT

**Dr. Benjamin de Jourdan**

HUNTSMAN MARINE SCIENCE  
CENTRE



MITACS HONOURABLE MENTION  
VOUCHER \$1,500

**Dr. Rémy Rochette**

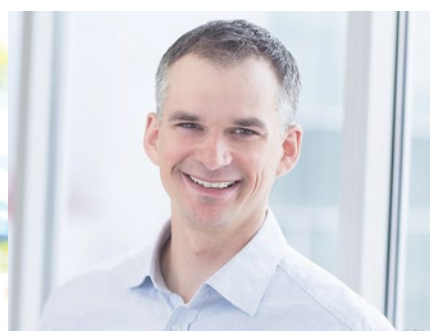
UNIVERSITY OF NEW BRUNSWICK



MITACS HONOURABLE MENTION  
VOUCHER \$1,500

**Michelle Robichaud**

NEW BRUNSWICK  
COMMUNITY COLLEGE



MITACS HONOURABLE MENTION  
VOUCHER \$1,500

**Dr. Mathieu Bélanger**

CENTRE DE FORMATION MÉDICALE  
DU NOUVEAU-BRUNSWICK



# Star Mentor Honourees



**Dr. David Barnett**  
ATLANTIC CANCER  
RESEARCH INSTITUTION



**Dr. Lauren Beck**  
MOUNT ALLISON UNIVERSITY



**Dr. Tyson MacCormack**  
MOUNT ALLISON UNIVERSITY



**Dr. Gilles Robichaud**  
UNIVERSITÉ DE MONCTON



**Dr. Pier Jr Morin**  
UNIVERSITÉ DE MONCTON



**Dr. Sandra Turcotte**  
UNIVERSITÉ DE MONCTON



**Dr. Barry Blight**  
UNIVERSITY OF NEW BRUNSWICK



**Dr. Bruce Balcom**  
UNIVERSITY OF NEW BRUNSWICK



**Dr. Chris Gray**  
UNIVERSITY OF NEW BRUNSWICK



**Dr. Felipe Chibante**  
UNIVERSITY OF NEW BRUNSWICK



**Dr. Jon Sensinger**  
UNIVERSITY OF NEW BRUNSWICK



**Dr. Joseph Nocera**  
UNIVERSITY OF NEW BRUNSWICK



**Dr. Martin Sénéchal**  
UNIVERSITY OF NEW BRUNSWICK



**Dr. P. Thayyil Jayachandran**  
UNIVERSITY OF NEW BRUNSWICK



**Dr. Sara Eisler**  
UNIVERSITY OF NEW BRUNSWICK



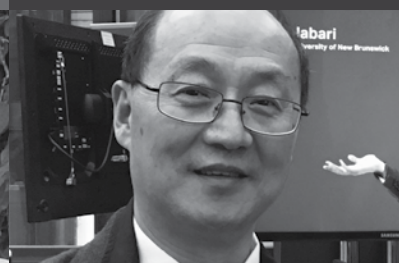
**Dr. Scott Pavey**  
UNIVERSITY OF NEW BRUNSWICK



**Dr. Shelley Doucet**  
UNIVERSITY OF NEW BRUNSWICK



**Dr. Tillmann Benfey**  
UNIVERSITY OF NEW BRUNSWICK



**Dr. Yun Zhang**  
UNIVERSITY OF NEW BRUNSWICK

# TECHNOLOGY ADVANCEMENT

Our technology advancement category is divided into 3 funds. In each of these areas of applied research, when evaluating project applications, we use the Technology Readiness Level (TRL) framework from the Government of Canada to assess projects. We also look for the strong potential for commercialization or the possibility of an economic impact on New Brunswick.

## THE FOLLOWING FUNDS FALL UNDER OUR TECHNOLOGY ADVANCEMENT PROGRAMS:

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### ▲ EMERGING PROJECTS FUND

This is our mechanism to support research at an early stage of project development: innovations at TRL 1-3\*. We look for new ideas that have the potential to grow into larger collaborative projects or technology/knowledge transfer opportunities.

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### ● EQUIPMENT FUND

This fund is formerly our Innovation Capacity Development Fund. With the changes made in 2020, the fund is now used to purchase critical equipment to support a research program that advances innovations at TRL 1-6. By doing this, it increases our province's applied research capacity.

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### ■ LAB-TO-MARKET FUND

This new fund, formerly the Concept Validation Fund, has been reframed to focus on research commercialization and technology validation activities. This fund is used to accelerate the development of new or improved innovations, and/or transfer knowledge that addresses specific, well-defined market problems at TRL 3 or higher.

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This past year we invested a total of **\$2,894,116** into technology advancement.

RESEARCHER	INSTITUTION	AMOUNT AWARDED	FUND
Zhen Lei	UNB – Fredericton	\$10,000	EMERGING PROJECTS FUND <b>\$295,400</b>
Mohamed Touaibia	UdeM – Moncton	\$25,000	
Barry Blight	UNB – Fredericton	\$23,500	
Yonghao Ni	UNB – Fredericton	\$25,000	
Anne-Marie Dion-Côté	UdeM – Moncton	\$25,000	
Anna Ignaszak	UNB – Fredericton	\$25,000	
Nicolas Pichaud	UdeM – Moncton	\$25,000	
John Kershaw	UNB – Fredericton	\$25,000	
Keith Brunt	DAL	\$25,000	
Clodualdo Aranas	UNB – Fredericton	\$25,000	
Jillian Rourke	MTA	\$17,700	
Erika Naruzawa	CCNB – Grand Falls	\$25,000	
Marcelo Santos	UNB – Fredericton	\$19,200	
William Cook	UNB – Fredericton	\$150,000	EQUIPMENT FUND <b>\$1,253,796</b>
Andrea Morash	MTA	\$115,440	
Ben Speers-Roesch	UNB – Saint John	\$150,000	
Clodualdo Aranas	UNB – Fredericton	\$150,000	
William McIver	NBCC – Fredericton	\$25,405	
Yang Qu	UNB – Fredericton	\$100,000	
Ennouri Triki	CCNB – Bathurst	\$20,000	
Justin Liefer	MTA	\$121,393	
Marc Surette	UdeM – Moncton	\$38,610	
Moulay Akhloufi	UdeM – Moncton	\$199,000	
Rodney Ouellette	ACRI	\$117,348	
Yang Qu	UNB – Fredericton	\$66,600	
Stephen Wyatt	UdeM – Edmundston	\$25,700	LAB-TO-MARKET FUND <b>\$1,344,920</b>
Kevin Percy	UNB – Fredericton	\$25,700	
Jamey Smith	HMSC	\$195,000	
Stephen Lewis	ACRI	\$175,000	
Gaetan Pelletier	NHRI	\$80,000	
Gobinda Saha	UNB – Fredericton	\$200,000	
Alli Murugesan	UNB – Saint John	\$50,000	
Yonghao Ni	UNB – Fredericton	\$80,000	
Benjamin de Jourdan	HMSC	\$180,000	
Gobinda Saha	UNB – Fredericton	\$51,940	
Lauren Beck	MTA	\$134,580	
Scott Pavey	UNB – Saint John	\$133,000	
Samuel Gaudet	UdeM – Moncton	\$4,000	
Eric Hervet	UdeM – Moncton	\$10,000	
<b>TOTAL NBIF Investment</b>			<b>\$2,894,116</b>

UNB – Fredericton University of New Brunswick, Fredericton  
 UNB – Saint John University of New Brunswick, Saint John  
 UdeM – Moncton Université de Moncton, Moncton  
 UdeM – Edmundston Université de Moncton, Edmundston  
 CCNB – Grand Falls Collège communautaire du Nouveau-Brunswick, Grand Falls  
 CCNB – Bathurst Collège communautaire du Nouveau-Brunswick, Bathurst

MTA Mount Allison University  
 STU St. Thomas University  
 NBCC – Fredericton New Brunswick Community College, Fredericton  
 HMSC Huntsman Marine Science Centre  
 NHRI Northern Hardwoods Research Institute Inc.  
 ACRI Atlantic Cancer Research Institute



**You cannot force ideas.  
Successful ideas are the  
result of slow growth. Ideas  
do not reach perfection in  
a day, no matter how much  
study is put upon them.**

**ALEXANDER GRAHAM BELL**







SPOTLIGHT

## Lauren Beck

LAB-TO-MARKET FUND

Lauren Beck, a researcher at Mount Allison University, sets an example of how social science researchers can think big, as she uses her expertise in humanities to help e-commerce brands better understand how imagery affects a consumer's perception of a product. Lauren founded the Centre for Early Modern Visual Culture – a virtual research laboratory that develops and studies how metadata (data about data) shapes our way of seeing and knowing the world around us.

Through Artificial Intelligence (AI), Lauren's research has the potential to improve the efficiency and market visibility of brands doing business online. Lauren is working with industry partners such as Shopify, the Canadian e-commerce juggernaut, to determine how e-commerce platforms can leverage this research. The e-commerce sector is expected to grow by 18% in 2020 alone, so this project's potential impact cannot be overstated.





## Anna Ignaszak

### EMERGING PROJECTS FUND

This past year, Anna received \$25,000 through our Emerging Projects fund to develop a new electrochemical diagnostic technique for Lyme disease. Anna's project focuses on a portable sensor with the ability to detect the natural interaction between human fibronectin protein and the borrelia burgdorferi BBK32 protein. Anna has partnered with Vett Lloyd, a researcher at Mount Allison University specializing in Lyme disease, to develop this sensor.

Lyme disease can be easily treated if detected early after transmission from a tick. Still, it is often left undiagnosed and untreated because it is an understudied disease, and current testing methods are expensive and time-consuming. This means that those eventually diagnosed after many years because of the current lack of early detection may end up with long-term or lifelong side effects.

Considering the increasing incidence of ticks and Lyme disease in New Brunswick and Canada, this project's investment in developing an early detection device is key. It could significantly impact the health and well-being of New Brunswickers.

## Ennouri Triki

### EQUIPMENT FUND

Formerly a postdoctoral researcher at the University of McGill in Montreal, Ennouri Triki has created La division matériaux de pointe (DMP) at CCNB-INNOV in Caraquet. The DMP assists industry with cutting-edge advanced materials testing and research.

The DMP recently acquired a new mechanical impact testing device with support from our Equipment Fund. Unique within the province of New Brunswick, this equipment enables specialized impact testing on advanced materials. NBIF contributed \$20,000 to the project alongside a \$150,000 contribution from the Natural Sciences and Engineering Research Council (NSERC).

The impact tester will be used in mechanical testing for tensile, shear, bending, and compression strength. This testing is incredibly valuable for builders of fiberglass-based fishing boats. Of note, NBIF has funded several Innovation Vouchers with New Brunswick shipbuilders, which are on-going. The voucher projects use this type of testing and applied research to create additional value for the shipbuilding industry.

# GRADUATE SCHOLARSHIPS

We have seen firsthand the critical role student development plays in the innovation economy. Talent is a crucial element of the economy, and our N.B Graduate Scholarships program aims to enhance this pillar. Our scholarships support students pursuing masters and Ph.D. programs in applied research. Eligible domestic and international students at a New Brunswick university receive financial support to pursue their studies and skill development.

In 2020, we focused on collaboration, flexibility, and creativity to deliver impact in three key ways:

- ▲ We surveyed previous scholarship recipients to determine how this scholarship impacted them.
- We worked with each institution to assess its student recruitment priorities and aligned our policy to meet their needs.
- We kicked off a study to determine the retention rate of scholarship recipients post graduation. The study is still in progress, and we intend to report on our findings during fiscal 2021–22.

**THIS PAST YEAR, WE AWARDED 138 GRADUATE SCHOLARSHIPS TOTTALLING \$1,078,000.**

INSTITUTION	# OF STUDENTS SUPPORTED	NBIF CONTRIBUTION	INSTITUTIONAL CONTRIBUTION	FEDERAL LEVERAGE	TOTAL LEVERAGE
MTA	3	\$15,000	\$9,000	\$17,500	\$26,500
UNB	84	\$783,000	\$252,000	\$1,258,000	\$1,510,000
UdeM	51	\$280,000	\$176,000	\$174,000	\$461,500
<b>TOTAL</b>	<b>138</b>	<b>\$1,078,000</b>	<b>\$437,000</b>	<b>\$1,449,500</b>	<b>\$1,998,000</b>

MTA Mount Allison University  
 UNB University of New Brunswick  
 UdeM Université de Moncton

## Michelle Cormier

UNIVERSITÉ DE MONCTON

Michelle Cormier is the recipient of an N.B Graduate Scholarship in Social Innovation. Her research considers the impact of overparenting and, in turn, how it affects a child's ability to do well in school. The research focuses on how a lack of resilience could impact a teenager's ability to develop interpersonal skills, learn, adapt, and handle failure. Michelle's research could help develop strategies to increase adolescents' resilience and help parents find a healthy balance of involvement and protectiveness in their children's lives.



SPOTLIGHT

# RESEARCH ASSISTANTSHIPS INITIATIVE (RAI)

The funds from our Research Assistantships Initiative are provided to applied researchers to support a portion of the funding needed to hire undergraduate and graduate student research assistants. This fund is centered around developing and mentoring highly qualified personnel and filling the pipeline of future innovative research professionals.

This past year we were creative in our approach to how the funds were allocated, which is how the Top 25 Star Mentor Awards and the R3 Research Student Pitch Competition came to life. Both focused on the development and mentoring of students. We had

planned to award the winners at our biennial R3, but the forum was cancelled due to COVID-19. Although the forum didn't happen, we did execute a public online experience to share the awards with the winners and their colleagues

Through our Research Assistantships Initiative Fund, 10 awards were distributed, totaling \$233,750 which will be used to support students in New Brunswick's universities, colleges, and institutions.

*\*For more details on the Top 25 Star Mentors, see page 24.*

RESEARCHER	AWARD TYPE	INSTITUTION	AMOUNT AWARDED
Kenneth Kent	Star Mentor Award – University	UNB – Fredericton	\$70,000
Benjamin de Jourdan	Star Mentor Award – Institution	HMSC	\$50,000
Stephen Westcott	Star Mentor Award – Runner-Up	MTA	\$40,000
Jocelyn Paré	Award for NB Industrial Research Chair	ACRI	\$18,000
Erik Scheme	Award for NB Industrial Research Chair	UNB – Fredericton	\$18,000
Marc Surette	Award for NB Industrial Research Chair	UdeM – Moncton	\$18,000
Meng Gong	Award for NB Industrial Research Chair	UNB – Fredericton	\$18,000
Jacob Demers	Student pitch competition – 1 <sup>st</sup> prize	MTA	\$1,000
Lydia White	Student pitch competition – 2 <sup>nd</sup> prize	UNB – Saint John	\$500
Amy Andrews	Student pitch competition – 3 <sup>rd</sup> prize	UNB – Fredericton	\$250
TOTAL			\$233,750

UNB – Fredericton University of New Brunswick, Fredericton  
 UNB – Saint John University of New Brunswick, Saint John  
 UdeM – Moncton Université de Moncton, Moncton

MTA Mount Allison University  
 HMSC Huntsman Marine Science Centre  
 ACRI Atlantic Cancer Research Institute

## Jacob Demers

### MOUNT ALLISON UNIVERSITY

Jacob is a graduate student completing his research in the ECAB Lab at Mount Allison University. Jacob studies enclosed freshwater ecosystems, known as impoundments. Impoundments are constructed to compensate for the loss of natural wetland and what wetland managers are noticing is that waterfowl usage declines as impoundments age. Jacob is exploring how water quality, soil characteristics, and aquatic insect communities change in impoundments through time. His research aims to better understand wetland senescence; to maintain the ecosystem functions and services of constructed wetlands.



SPOTLIGHT



# START-UP AWARDS

Attracting the right talent is imperative to any organization focused on innovation, and today, the competition for that talent is global. Our Start-Up Awards are one-time recruitment awards offered to new permanent faculty or researchers at New Brunswick post-secondary and research institutions. These awards create competitive talent recruitment packages, which increases the researchers' capacity for applied research in our province.

This past year we awarded \$450,000 across four universities. We also completed a survey with previous recipients of the award to understand how the award impacted them and helped them carry out their research and recommendations for improvements. We expect to implement these recommendations in fiscal 2021.

RESEARCHER	INSTITUTION	AMOUNT AWARDED
Ali Tekeoglu	UNB – Fredericton	\$50,000
Bradley Harding	UdeM – Moncton	\$50,000
Jenny Wong	MTA	\$50,000
Justin Liefer	MTA	\$50,000
Kalikinkar Mandal	UNB – Fredericton	\$50,000
Lambert Giner	UdeM – Moncton	\$50,000
Mohammad Zadeh	UNB – Fredericton	\$50,000
Orla Murphy	UNB – Saint John	\$50,000
Vickie Plourde	UdeM – Moncton	\$50,000
TOTAL		\$450,000

UNB – Fredericton University of New Brunswick, Fredericton  
UNB – Saint John University of New Brunswick, Saint John

MTA Mount Allison University  
UdeM – Moncton Université de Moncton, Moncton

## Jenny Wong

MOUNT ALLISON UNIVERSITY

Jenny Wong is a Ph.D. graduate from the University of Toronto and an analytical environmental chemist who was recruited to Mount Allison University in 2019 with the help of an NBIF Start-Up Award.

Her proposed research will improve our understanding of indoor and outdoor air quality, with a specific focus on aerosol chemistry.

Jenny seeks to answer questions such as; where do toxic aerosols originate from and which chemical species are responsible for toxicity? This research is particularly important because our ordinary, everyday habits could be significantly impacting the environment and our health. Aerosols such as hairspray, vape cigarettes, and even wood-burning stoves affect the air we breathe. This knowledge is not only important to individuals, but to the organizations that create these products.



SPOTLIGHT



# RESEARCH PROFESSIONAL INITIATIVE (RPI)

Our Research Professionals Initiative (RPI) provides applied researchers with some of the funding required to hire research professionals, including lab managers, technicians and Post-Doctoral Fellows. As stated earlier, a key focus area this past year was job creation. This fund is one mechanism to do just that. Our RPI supports talented staff hiring, which helps a researcher carry out their project program, thus creating jobs for researchers and further building our research capacity in New Brunswick. It also leads to the development of new IPs, the leveraging of industrial partners and student training.

We awarded 10 Research Professional Initiative awards across 3 universities, totaling \$894,000.

RESEARCHER	INSTITUTION	AMOUNT AWARDED
Jon Sensinger	UNB – Fredericton	\$105,000
Étienne Hébert-Chatelain	UdeM – Moncton	\$75,000
Zhen Lei	UNB – Fredericton	\$90,000
Tommi Linnansaari	UNB – Fredericton	\$90,000
Allen Curry	UNB – Fredericton	\$90,000
Huining Xiao	UNB – Fredericton	\$90,000
Luc Tremblay	UdeM – Moncton	\$84,000
Marc Surette	UdeM – Moncton	\$90,000
Shelley Doucet	UNB – Saint John	\$90,000
Erik Scheme	UNB – Fredericton	\$90,000
<b>TOTAL</b>		<b>\$894,000</b>

UNB – Fredericton University of New Brunswick, Fredericton  
UNB – Saint John University of New Brunswick, Saint John

UdeM – Moncton Université de Moncton, Moncton

## Zhen Lei

UNB FREDERICTON

Zhen Lei is the OSCO Research Chair in Off-Site Construction and the Scientific Director of the Off-site Construction Research Centre (OCRC). The OCRC is housed at the University of New Brunswick (UNB) and has a mandate to advance off-site construction technologies and enhance knowledge in the construction industry.

Since its inception in 2019, the OCRC has expanded through HQP hiring and built collaborations with industry partners such as OSCO Construction Group, PCL Construction, Alantra Leasing, and many others. With increased capacity to conduct research, Zhen applied to us for \$90,000 to help support the hiring of a Research Engineer who will help manage research projects of the OCRC while also conducting independent research activities. This Research Engineer will focus on digital technology advancement in construction, specifically in supply chain simulation, digital twin, and Building Information Modeling (BIM) areas.



SPOTLIGHT

# SOCIAL INNOVATION RESEARCH FUND

**WE ADMINISTER OUR SOCIAL INNOVATION RESEARCH FUND (SIRF) IN PARTNERSHIP WITH THE NEW BRUNSWICK SOCIAL POLICY RESEARCH NETWORK (NBSPRN), RECOGNIZING THAT SOCIAL INNOVATION CAN DRIVE SIGNIFICANT IMPACTS, DIRECTLY AND INDIRECTLY, IN OUR ECONOMY.**

Our Social Innovation Research Fund allows communities and organizations to work directly with researchers at New Brunswick universities and colleges to support the development of new ways of thinking to address concerns that have often existed for many years. This fund fills a gap in our provincial research landscape as a lot of federal funding in social science and humanities research requires matching funds. Before the SIRF launched, this wasn't in place in New Brunswick. Responding to feedback from the research community, we wanted to fill this void with the SIRF and facilitate many social innovation research projects that would not have gotten off the ground before.

With two rounds completed, we have heard a lot of positive feedback from the province's research community. Researchers are anxious to access funds that help them work with community organizations, not-for-profits, and other issue-driven groups. They want to address concerns that might not otherwise receive attention and leverage our province's stellar social science and humanities researchers' interdisciplinary expertise.

**PROJECTS FOCUS ON SOCIALLY INNOVATIVE RESEARCH WITH THE ABILITY TO IMPACT THE PROVINCE OF NEW BRUNSWICK THROUGH ONE OF THE FOLLOWING:**

**ECONOMIC IMPACT – DIRECT  
OR INDIRECT**

**SOCIAL IMPACT – MEASURED  
THROUGH IMPROVEMENT IN THE  
QUALITY OF LIFE OF  
NEW BRUNSWICKERS**

**INTERVENTION WORKING TO ADDRESS  
A COMPLEX ENVIRONMENTAL ISSUE**

**AN INTERVENTION WORKING  
TO ADDRESS A COMPLEX  
SOCIAL PROBLEM**

We have had an enormous demand for this fund (more than any of our other funds), and the quality of those applications is exceptionally high. This past year, 16 projects, totalling \$400,000 were funded, and the potential impacts of the work are vast. We are excited to see what the results will be from these projects in the coming years!

RESEARCHER	INSTITUTION	AMOUNT AWARDED
William McIver	NBCC – Fredericton	\$30,000
Janine Rogers	MTA	\$15,000
Shelley Doucet	UNB – Fredericton	\$30,000
Grant Handrigan	UdeM – Moncton	\$15,000
Susan Reid	STU	\$20,000
Michelle Lafrance	STU	\$20,000
Céline Surette	UdeM – Moncton	\$25,000
Murshed Chowdhury	UNB – Fredericton	\$20,000
Gül Çalışkan	STU	\$25,000
Julia Woodhall-Melnik	UNB – Saint John	\$46,060
Daniel Dutton	UNB – Fredericton	\$30,000
Tom Beckley	UNB – Fredericton	\$20,000
Terri Byers	UNB – Fredericton	\$13,552
Lise Savoie	UdeM – Moncton	\$43,600
Claire Johnson	UdeM – Moncton	\$25,000
Stéphanie Collin	UdeM – Moncton	\$21,788
<b>TOTAL</b>		<b>\$400,000</b>

UNB – Fredericton University of New Brunswick, Fredericton  
 UNB – Saint John University of New Brunswick, Saint John  
 UdeM – Moncton Université de Moncton, Moncton

MTA Mount Allison University  
 STU St. Thomas University  
 NBCC – Fredericton New Brunswick Community College, Fredericton

## Michelle Lafrance

ST. THOMAS UNIVERSITY

Michelle Lafrance is a professor of psychology at St. Thomas University, and her research focuses on information and system navigation for older adults and their caregivers in New Brunswick. Population ageing is a leading concern for government and policymakers as the percent of older adults in New Brunswick increases sharply. The percent of our population aged 65 years and older is expected to reach 30% over the next 20 years. However, there are many issues with how both older adults and their caregivers can access existing resources. Michelle's team has come to understand that existing resources for older adults are fragmented, confusing, and inaccessible for the majority of New Brunswickers. Nowhere is there a single-entry point into older adults' information needs; instead, older adults and caregivers are often sent from agency to agency as they search for support. This fragmentation is problematic as it is stressful to navigate. It often results in individuals not receiving the assistance they require and/or people are being directed to enter 'the system' when this is unnecessary, further taxing already burdened government services.

This project stands to provide numerous benefits to the province. By streamlining, coordinating information, and enhancing the quality of existing provincial services, Michelle's team hopes that their project will support individuals to connect to the appropriate services they need, which will help divert inappropriate referrals away from an already taxed system. Further, they hope that guiding these individuals toward a broader menu of available services will help reduce caregiver stress.



SPOTLIGHT

# COVID-19 RESEARCH FUND

**COVID-19 PRESENTED A CLEAR AND ONGOING THREAT TO THE GLOBAL COMMUNITY; MANAGING THIS PANDEMIC, AND THE ONES THAT FOLLOW, IS AN ENORMOUS CHALLENGE WITH NO CLEAR SOLUTION.**

We partnered with the New Brunswick Health Research Foundation (NBHRF), the Atlantic Canadian Opportunities Agency (ACOA), and AGE-WELL National Innovation Hub (APPTA) to develop a funding program supporting research that addressed the novel coronavirus (COVID-19) outbreak. Our team created this program within two weeks of the declaration of a provincial state of emergency. We felt it was essential for us to contribute quickly to New Brunswick's research response to the virus. The projects we sought to fund were ones that assessed either the effect on people, communities, or the economy.

We received 60 applications that included many diverse and innovative projects, topics ranging from the

effects of isolation on Long Term Care (LTC) residents to detecting COVID-19 using X-Rays. The response was overwhelmingly positive, and we were able to fund highly impactful projects to develop, test, and implement new, emerging methods of detecting and/or combatting COVID-19.

In total, we funded 27 projects to New Brunswick researchers, valued at \$846,707. This was made possible by our team, the researchers, and the partners who willingly joined us to support our province's researchers carry out this critical research.

*\*For more information on projects funded and or partnerships, visit our website.*

## Moulay Akhloufi

UNIVERSITÉ DE MONCTON

Moulay Akhloufi's Detection of COVID-19 using Artificial Intelligence project aims to develop an AI-based tool capable of detecting COVID-19 using chest x-rays. The AI-based assessment of these x-rays will help health practitioners confirm coronavirus, as the current method of laboratory testing, the RT-PCR, has high specificity, but sensitivity can be low in some cases and the turnaround time for results is long. Chest x-rays can be used to pre-screen and/or triage patients for RT-PCR testing and used as a tool for determining the progression of the disease in an individual. Moulay's AI algorithm will detect COVID-19 in these x-ray scans, which will speed up the process of reading each scan, providing those potentially infected with a positive or negative diagnosis quickly. X-ray machines are more widely available, especially at point-of-care locations. This makes the potential impact of the research widespread among health practitioners in different healthcare environments.

This project's findings are essential to health practitioners and managers, decision-makers, and researchers worldwide. The algorithm developed could be used for diseases beyond just COVID-19. Moulay and his research team have developed a public website to share their findings: <https://covid19.primeai.ca/>



RESEARCHER	INSTITUTION	AMOUNT AWARDED
Shawn MacLellan	UNB – Fredericton	\$36,214
William McIver	NBCC – Fredericton	\$37,593
David Busolo	UNB – Fredericton	\$33,385
Claire Johnson	UdeM – Moncton	\$11,000
Anna Ignaszak	UNB – Fredericton	\$41,000
Erik Scheme	UNB – Fredericton	\$38,000
Lloyd Waugh	UNB – Fredericton	\$26,840
Hadi Eslaminosratabadi	UNB – Saint John	\$33,710
Moulay Akhloufi	UdeM – Moncton	\$36,000
Matt Rogers	UNB – Fredericton	\$25,500
Gobinda Saha	UNB – Fredericton	\$32,000
Suzanne Dupuis–Blanchard	UdeM – Moncton	\$23,910
Sandra Magalhaes	UNB – Fredericton	\$40,000
Herb Emery	UNB – Fredericton	\$33,000
Vett Lloyd	MTA	\$40,210
Felipe Chibante	UNB – Fredericton	\$45,000
Shelley Doucet	UNB – Saint John	\$10,955
Gilles Robichaud	UdeM – Moncton	\$45,000
Rob Moir	UNB – Saint John	\$14,250
Stephen Westcott	MTA	\$25,000
Sarah Gander	Horizon Health Network	\$44,000
Janet Durkee–Lloyd	STU	\$20,422
Ansar Hassan	Horizon Health Network	\$43,600
Daniel Dutton	DAL	\$35,000
Daniel Dutton	DAL	\$21,720
Keith Brunt	DAL	\$40,000
Paul Atkinson	DAL	\$13,398
<b>TOTAL</b>		<b>\$846,707</b>

UNB – Fredericton University of New Brunswick, Fredericton  
 UNB – Saint John University of New Brunswick, Saint John  
 UdeM – Moncton Université de Moncton, Moncton  
 MTA Mount Allison University

STU St. Thomas University  
 NBCC – Fredericton New Brunswick Community College, Fredericton  
 DAL Dalhousie Medicine, New Brunswick



# CONCLUSION

With every challenge comes an opportunity, and the past year has certainly seen more than its fair share of challenges. We thrive on helping innovators solve complex problems. We remain focused on finding creative solutions and new ways of operating for our research partners, our portfolio companies, and ourselves. To this end, we leverage our resources to amplify local efforts in the fight against COVID-19, and to rise to the indirect challenges caused by the pandemic. This is in addition to our team's many efforts in growth and innovation throughout the year.

Beyond the pandemic, this past year has been marked by many milestones and achievements. We welcomed new members to our team and our board and modified many of our programs to increase our impact and accountability. We are proud of the research we have funded and the investments made in growing our portfolio companies.

We have a clear vision for supporting researchers and entrepreneurs. Our brand strategy is anchored in the idea of helping New Brunswick innovators take their ideas further. While the work we do is complex, our team is united in this simple, shared purpose.

**As we begin a new year, we look forward to continuing to help New Brunswick innovators take their ideas further.**

THE NBIF TEAM

