

# ROSALIND & MORRIS GOODMAN

CANCER RESEARCH CENTRE / ANNUAL REPORT 2019-2020



*Making Discoveries, Changing Lives.*



**McGill**

Rosalind & Morris Goodman  
Cancer Research Centre

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**Design:** Lisa Kiesel, McGill University  
**Images:** The GCRC respects public health guidelines to reduce transmission of COVID-19. Some images in this report were taken prior to the pandemic.  
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# MESSAGE FROM THE DIRECTOR



Dr. Morag Park

As I look back on 2020, I reflect on the challenges that the pandemic has brought to the global research community.

The pandemic has underscored the significance of supporting research to find solutions to public health emergencies. As one of our scientists pointed out, COVID-19 is the pandemic of 2020, but cancer is the pandemic of our lifetime. What’s more, the needs for cancer screening, diagnosis and treatment are now more urgent than ever before.

That is why I am so thankful for our researchers, who are our cancer heroes and our essential workers.

Despite the difficulties, the past year has been filled with outstanding scientific achievements and major milestones in the growth and development of the Rosalind and Morris Goodman Cancer Research Centre (GCRC). These breakthroughs were only possible through the ingenuity and dedication of our scientists who have worked tirelessly to keep our research going.

The GCRC has shown its resiliency and determination to emerge from this crisis stronger and in an even greater position of leadership. Our scientists are playing key roles in the response to the pandemic, with some conducting vital research into the biology and treatment of COVID-19.

Our scientists have maintained an exemplary record of achievement, winning some of the most prestigious prizes and awards in their fields. The GCRC has grown into a national leader in collaborative, interdisciplinary cancer research. We are now the headquarters for several consortia uniting fundamental, translational, and clinical investigators throughout Montreal and the province of Quebec. These initiatives extend across Canada by linking with national networks aiming to revolutionize the way cancers are diagnosed and treated through an open and collaborative approach to personalized medicine.

As the GCRC continues to evolve, we are re-imagining our training programs in collaboration with our partners throughout McGill. Our goal is to prepare the brightest young minds for future leadership in an environment of intersectoral and cross-disciplinary cancer science. This exciting new program will enable our scientists to push the boundaries and make a difference in the lives of the millions of people affected by cancer.

Thank you again for supporting us. Thanks to you, we continue to make discoveries and change lives.

**Morag Park**, Ph.D., FRSC, FCAHS  
Director, Rosalind and Morris Goodman Cancer Research Centre  
Diane and Sal Guerrero Chair in Cancer Genetics  
Distinguished James McGill Professor, Depts. of Oncology,  
Biochemistry and Medicine, McGill University



# OUR MISSION STATEMENT

- To understand how cancers initiate, progress, and metastasize and to discover new targets and precision medicine strategies.
- To establish, grow and lead national and global networks that will improve the treatment and management of cancer.
- To provide innovative training programs for future generations of leading cancer researchers.
- To promote awareness and strengthen support for fundamental research on cancer prevention, diagnosis and treatment

# THE GCRC AT A GLANCE

24

FULL-TIME  
Investigators

27

ASSOCIATE  
AND  
AFFILIATE MEMBERS

13

DEPARTMENTS  
at the Faculty of Medicine  
and Health Sciences and the  
Faculty of Science.

168

RESEARCH TRAINEES  
including undergraduates,  
graduates, and  
post-doctoral fellows.

36

STAFF  
in administration  
and operations.

141

PEER-REVIEWED  
SCIENTIFIC  
PUBLICATIONS,  
27% of which were  
in high-impact journals.

\$1.8

MILLION  
in scholarships and  
fellowships awarded to our  
trainees.

\$22.9

MILLION  
in individual grants  
awarded to  
our investigators.

\$1.78

MILLION  
raised for the GCRC  
through philanthropy in the  
2020 fiscal year.

7

INNOVATION  
PLATFORMS  
bringing the most advanced  
technology to our research.

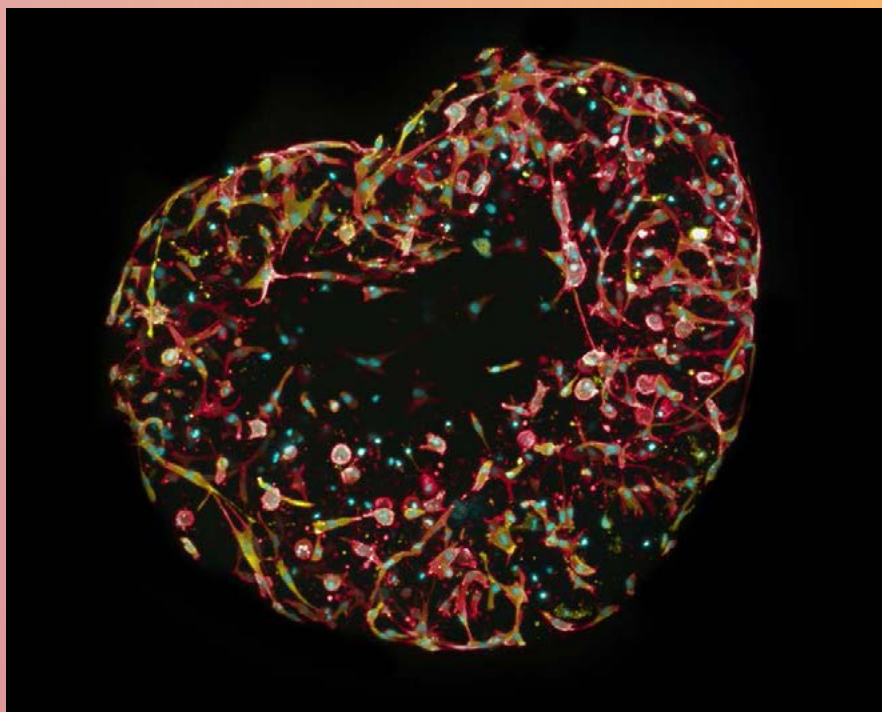
30

COUNTRIES  
across the globe in our collaborative  
research network.

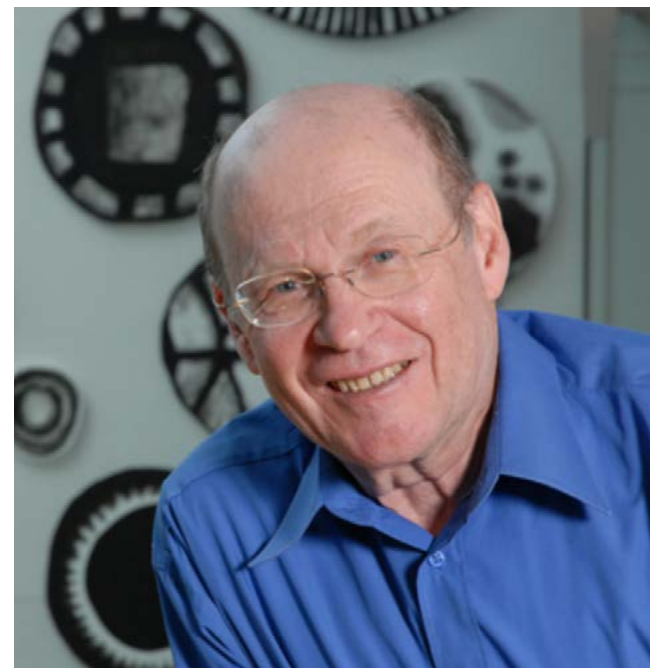
## RESEARCH HIGHLIGHTS

### Patient at Heart, Science in Hand.

Investigators at the Rosalind and Morris Goodman Cancer Research Centre continue to make discoveries to better understand what causes cancer, how it develops and how best to treat it. Discover how our scientists are winning the battle against cancer and finding new approaches for better treatment.



© Gabrielle Brewer/GCRC



Dr. Nahum Sonenberg is one of the world's most eminent and visionary cancer researchers.



Dr. Ian Watson uncovered why men are genetically more prone to skin cancer

### Revealing the secrets of protein synthesis

**Proteins are the molecular machines that perform most of the functions required for life and major structural components of cells and tissues. Protein production is tightly controlled during normal cell function, but in cancer the production of proteins that drive growth and malignancy is dramatically increased.**

By discovering how the initial steps of protein production are controlled, **Dr. Nahum Sonenberg** has had an immense impact on cancer biology. Throughout his remarkable career of over 40 years at McGill, his insight has led to promising new cancer therapies that have entered the clinic or are currently in clinical trials.

Dr. Sonenberg has received many of the most prestigious research prizes in the world, including the Wolf Prize (2014), Lewis S. Rosenstiel Award (2011) and Gairdner International Foundation Award (2008). He was named to the list of Highly Cited Researchers by the science analytics company *Clarivate* in both 2019 and 2020. This list includes the researchers whose work ranks in the top 1% of scientific publications cited by their peers during the last decade.

### Shedding light on Melanoma

**Unlike many cancers, the incidence and mortality rate of melanoma are increasing rapidly. While melanoma occurs in both sexes, it is more frequent and more aggressive in men. Understanding the genetic basis of melanoma will yield insight into its development and progression to metastatic disease, which is often fatal, as well as identify new therapeutic strategies.**

**Dr. Ian Watson** has directed some of the most important genome sequencing studies of melanoma ever performed. His analysis of over 1,000 genomes from melanoma patient samples, the largest genomic study of this disease to date, was published in 2020 by the prestigious journal *Nature Cancer*. Dr. Watson's work uncovered new genetic drivers of melanoma. He found that *DDX3X*, a gene that suppresses melanoma, is mutated and inactivated only in melanomas from male patients. These findings help to explain the increased incidence of metastatic melanoma in men. Dr. Watson's group is now studying how loss of *DDX3X* can be exploited to design new treatment strategies for melanoma.

Alkallas, R., Lajoie, M., Moldoveanu, D. et al. Multi-omic analysis reveals significantly mutated genes and *DDX3X* as a sex-specific tumor suppressor in cutaneous melanoma. *Nat Cancer* 1, 635–652 (2020)





Dr. Sidong Huang is among the pioneers in the functional characterization of cancer genomes

## Making progress on a rare ovarian cancer

**Small cell carcinoma of the ovary, hypercalcemic type (SCCOHT) is a rare and aggressive cancer typically diagnosed in women under 40 years old, with long-term survival of only 30%.**

**Dr. Sidong Huang** is a world-leading expert in the functional characterization of cancer genomes. Dr. Huang's functional genomic analysis found that SCCOHT cells are dependent on cyclin-dependent kinases 4 and 6 (CDK4/6), proteins that stimulate cell division. Collaborating with investigators from McGill's Lady Davis Institute and from Greece, his team revealed that a SCCOHT model derived directly from a young patient responded to CDK4/6 inhibitors, which are clinically approved, allowing her oncologists to improve her treatment. Dr. Huang also discovered that other cancers with a genetic profile similar to SCCOHT, including some lung cancers, respond to CDK4/6 inhibitors. Based on his work, a nation-wide clinical trial is now testing CDK4/6 inhibitors in patients suffering from these cancers.

Xue Y, et al. CDK4/6 inhibitors target SMARCA4-determined cyclin D1 deficiency in hypercalcemic small cell carcinoma of the ovary. *Nat Commun.* 2019 Feb 4;10(1):558. <https://www.nature.com/articles/s41467-018-06958-9>

Xue Y, et al. SMARCA4 loss is synthetic lethal with CDK4/6 inhibition in non-small cell lung cancer. *Nat Commun.* 2019 Feb 4;10(1):557. <https://www.nature.com/articles/s41467-019-08380-1>

## Using AI to advance cancer research

**'Omic' technologies for large-scale molecular characterization of cancer are creating an increasingly complex "big data" landscape. These huge datasets promise to yield crucial breakthroughs, but their interpretation is extremely challenging. Increasingly, researchers are using artificial intelligence (AI) and machine learning to handle this complexity.**

We are developing AI analysis pipelines that will maximize the impact of the data generated by our unique Innovation Platforms, through our in-house expertise and collaborative networks. In 2020, GCRC investigators and their collaborators won two Genome Quebec/IVADO/Oncopole "Omics Data Against Cancer" grants, involving **Dr. Morag Park** (with Dr. Amin Emad of Mila and McGill University) and **Dr. Ian Watson** (with Dr. John Stagg of the University of Montreal and Dr. Hamed Najafabadi of the McGill Genome Centre). This funding will enable us to continue integrating the latest AI technology and methods into our cutting-edge research programs.



Dr. Lawrence Kazak has discovered a crucial factor controlling energy balance and body weight

## Obesity and cancer – understanding the link

**Understanding how lifestyle factors influence cancer is essential to predict cancer risk and improve clinical management. Obesity and metabolic syndrome promote cancer initiation, metastasis and drug resistance, but the mechanisms are not well-understood.**

**Dr. Lawrence Kazak** studies the biology of adipocytes, otherwise known as fat cells. In *Nature Metabolism*, he reports that uptake of a key nutrient, creatine, by adipocytes is a crucial factor controlling energy balance and body weight. *Nature Metabolism* highlighted Dr. Kazak's paper as among their best articles of the past year and also interviewed him as part of their *Career Pathways* series, describing the career journeys of promising young investigators. Dr. Kazak is now examining how creatine, energy metabolism and the function of brown adipocytes, which burn fat and generate heat, influence cancer development and progression.

Kazak L, et al., Ablation of adipocyte creatine transport impairs thermogenesis and causes diet-induced obesity. *Nat Metab.* 2019;1(3):360-370.

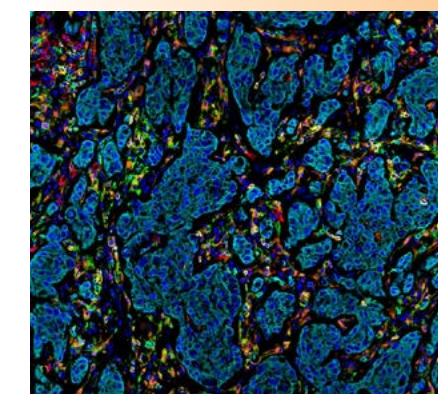
Finley L, Kazak L. Career pathways, part 1. *Nat Metab.* 2020 Jun;2(6):481-482.

## Immune regulation of breast cancer

**The tumour immune microenvironment, or TIME, often determines how a cancer will progress and respond to therapy.**

**Dr. Morag Park** was the first to show that changes in the stroma (normal cells infiltrating and surrounding the tumour) predict clinical outcome in breast cancer patients. These stromal cells include many components of the immune system that play a key role in disease progression. In the *Journal of Clinical Investigation*, Dr. Park presents a unique spatial analysis of the cellular composition of triple-negative breast cancer (TNBC), an aggressive subtype. Distinct tumor immune microenvironment (TIME) subgroups divided TNBC into groups associated with different clinical outcomes. These findings have significant implications for patient stratification for precision therapies as well as for understanding the progression of TNBC, determining prognosis and identifying potential therapies that could improve survival in this devastating disease.

Gruosso T, et al. Spatially distinct tumor immune microenvironments stratify triple-negative breast cancers. *J Clin Invest.* 2019 Apr 1;129(4):1785-1800. <https://www.jci.org/articles/view/96313>



Triple Negative Breast Cancer with tumour immune exclusion

©Donmei Zuo/GCRC





Dr. Jerry Pelletier has screened over 200,000 chemical compounds to identify drugs that could treat breast, pancreatic and potentially other cancers

## Harnessing natural products to combat cancer

**Cancer cells make new proteins at an abnormally high rate, often becoming dependent on factors promoting the initiation of protein synthesis to grow and survive. How can this vulnerability be exploited to improve therapy?**

Among the most important regulators of protein production is eukaryotic initiation factor 4A (eIF4A), which is required in many cancer types to produce proteins that drive cell growth, survival and metastasis. By screening over 200,000 chemicals, **Dr. Jerry Pelletier** has discovered a series of natural products that inhibit eIF4A. These novel drugs – from sources including corals, sponges and mahogany trees – are being developed as targeted therapies for cancer. Dr. Pelletier co-led a study in *Nature Communications* that showed their efficacy in models of pancreatic cancer and uncovered new details of how these drugs work in a paper published in *Cell Reports*.

Chan K, et al., eIF4A supports an oncogenic translation program in pancreatic ductal adenocarcinoma. *Nat Commun.* 2019 Nov 13;10(1):5151. <https://www.nature.com/articles/s41467-019-13086-5>

Chu J, et al., Rocaglates Induce Gain-of-Function Alterations to eIF4A and eIF4F. *Cell Rep.* 2020 Feb 25;30(8):2481-2488.e5. [https://www.cell.com/cell-reports/fulltext/S2211-1247\(20\)30156-X?](https://www.cell.com/cell-reports/fulltext/S2211-1247(20)30156-X?)

## A patient-centric approach

**Biobanks are repositories of biological samples and data stored in an organized manner for use in research. Biobanking of tumour and normal tissue, blood and microbiome samples from cancer patients enables research on biomarkers of tumour progression, patient prognosis and drug response.**

Our researchers, with their clinical collaborators, continue to lead and support the development of biobanks that empower the entire cancer research community. These include the first breast cancer biobank in Quebec, based at the McGill University Health Centre (MUHC) and led by **Dr. Morag Park**, as well as biobanks dedicated to lung cancer (**Drs. Logan Walsh, Jonathan Spicer** and members of the Lung Cancer Research Network and the Montreal Cancer Consortium), melanoma (**Dr. Ian Watson** and members of the Montreal Cancer Consortium), pancreatic cancer (part of the Quebec Pancreas Cancer Study led by **Dr. George Zogopoulos**) and gastrointestinal cancers (led by GCRC Associate Member **Dr. Lorenzo Ferri**).

Biobanking initiatives spearheaded by the GCRC and its collaborative network have also established collections of *patient-derived models* of cancer, where tumour samples obtained directly from patients are propagated in mice (patient-derived xenograft, or PDX, models) or as 3-dimensional tumour-like structures in the laboratory (patient-derived organoids). These unique models preserve the genetic changes, drug response and resistance patterns observed in the original tumours and are a powerful tool for discovering new therapeutic strategies.



## Solving the problem of resistance

**Our researchers are developing strategies to prevent or reverse drug resistance, the most important problem in cancer treatment.**

Although inhibitors of cyclin-dependent kinases (CDKs) are promising cancer therapies, resistance is a concern. In *Molecular Cancer Research*, **Dr. Sidong Huang, Dr. Jerry Pelletier, Dr. Morag Park** and colleagues report that cells resistant to CDK4/6 inhibitors are sensitized to drugs targeting eIF4A, suggesting a strategy that could mitigate CDK inhibitor resistance.

Kong T, et al., eIF4A Inhibitors Suppress Cell-Cycle Feedback Response and Acquired Resistance to CDK4/6 Inhibition in Cancer. *Mol Cancer Ther.* 2019 Nov;18(11):2158-2170. <https://mct.aacrjournals.org/content/18/11/2158.long>

An aggressive breast cancer subtype known as “HER2-positive” is treated with the targeted therapy Herceptin. However, many tumours do not respond or become resistant. In *Cell Reports*, **Dr. William Muller** and colleagues show that an enzyme controlling gene expression is linked with Herceptin resistance in patients. Blocking its activity in model systems reversed Herceptin resistance by altering communication between tumour cells and the immune system.

Hirukawa A, et al., Reduction of Global H3K27me3 Enhances HER2/ErbB2 Targeted Therapy. *Cell Rep.* 2019 Oct 8;29(2):249-257.e8. [https://www.cell.com/cell-reports/fulltext/S2211-1247\(19\)31167-2?](https://www.cell.com/cell-reports/fulltext/S2211-1247(19)31167-2?)

Immunotherapy stimulates the immune system to attack cancer, producing durable responses and cures in some patients. However, other patients relapse, do not respond, or suffer debilitating side effects. The Lung Cancer Research Network, the Montreal Cancer Consortium and the Quebec Cancer Consortium are using unique biobanks of clinical samples and powerful technology platforms to understand these diverse responses and optimize immunotherapy strategies so more patients will benefit.



# INNOVATION AND TECHNOLOGY

Our Innovation Platforms place us at the cutting edge of cancer research.

The GCRC has developed a suite of platforms featuring advanced technology, managed and staffed by dedicated, highly qualified personnel. These Innovation Platforms are a vital part of our work and are also available to other researchers at McGill and beyond.



McGill's Life Sciences Complex building

*“As an interface for researchers, clinicians, and entrepreneurs, the GCRC is a state-of-the-art complex where concepts can be built and tested, and where solutions can be presented to the marketplace.”*

Mitra Cowen,  
MICAM Platform Manager



© Owen Egan/ McGill University

The **Single Cell Imaging and Mass Cytometry Analysis Platform** (SCIMAP) uses mass cytometry to identify specific cell populations at a single-cell level and precisely map their spatial distribution within a tissue sample.

Since 2011, the **Metabolomics Innovation Resource (MIR)** has been the leading metabolomics platform in Canada, providing access to information-rich technologies for metabolomic analysis of cells, tissues and biofluids.

The **McGill Integrated Core for Animal Modeling** (MICAM) was the first platform in Quebec to offer GEMM technology, which was developed in part by GCRC investigators. It is now a national leader in rapid model development using genome engineering. MICAM has created nearly **600 GEMMs** for 113 Canadian and international clients.

A partnership between the GCRC and the Canadian Centre for Computational Genomics (C3G), the **Bioinformatics Innovation Platform** has contributed to 50 GCRC projects involving analysis of large “omics” datasets.

Co-directed by a board-certified pathologist, the **Histology Innovation Platform** features state-of-the-art, integrated technologies for microscopic analysis of tissue samples from models and patients, including automated systems for detecting, imaging and quantifying specific proteins in cancer and stromal cells

The **McGill Platform for Cell Perturbation (MPCP)** provides libraries of genetic tools that can activate or suppress any gene in the human or mouse genome. These libraries enable the entire genome to be analyzed in a single experiment in a “screening” approach that can reveal new targets for cancer therapy.

The **Flow Cytometry Innovation Platform** has 7 state-of-the-art flow cytometers for quantitative analysis of specific cell types and isolation of pure populations of cells from blood or tissue samples for further analysis.



## COLLABORATIONS

By collaborating across fields and disciplines, we bring a broader perspective and a wider range of tools and approaches to the fight against cancer.



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Dr. Ian Watson of the GCRC (far right) and Dr. John Stagg of l'Université de Montréal (far left) both lead the Montreal Cancer Consortium

## Montreal Cancer Consortium

**Launched in June 2018, the Montreal Cancer Consortium (MCC) is a pilot project of the Marathon of Hope Cancer Centres Network (MoHCC) of the Terry Fox Research Institute (TFRI), which aims to improve cancer diagnosis and treatment by leveraging big data breakthroughs.**

2019-20 was a pivotal year for the MCC, which established novel biobanks of samples from cancer patients and a suite of technology platforms for deep molecular characterization of these samples. This has positioned the consortium to contribute to the wider network during the remainder of the project.

Through a collaboration with Imagia, who were awarded \$49M in partnership with TFRI from the Government of Canada's Strategic Innovation Fund Stream 4, data generated by the MCC will be accessible to researchers across Canada as part of the Digital Health Discovery Platform.

*Exploring the edge of human knowledge has changed the way we treat cancers.*

*Our scientists are at the heart of this change.*





From left to right: Michel Bouvier, IRIC; Lucie D'Amours, Q-CROC; Danika Laberge, CATALIS; Pierre Fitzgibbon, Minister of Economy and Innovation; Diane Gosselin, CQDM; Morag Park, GCRC; and Renaldo Batista-Oncopole

## Quebec Cancer Consortium

**Formed in 2017 under the leadership of Dr. Morag Park, the Quebec Cancer Consortium (QCC) unites four Montreal hospitals, with their respective research centres, and two university-based research centres, including the GCRC.**

In 2019, the QCC was awarded \$10M by the Ministère de l'Économie et de l'Innovation (MEI) du Québec through its *Fonds d'accélération des collaborations en santé* program. With additional contributions totalling \$17.9M from 12 private, public and non-profit partners, this will be invested to double patient recruitment into oncology clinical trials and establish infrastructure to support the development of personalized medicine and immunotherapies in Quebec.

An expansion of the MCC at the provincial level, the QCC will serve as the Quebec Node of the TFRI Marathon of Hope Cancer Centres Network (MoHCC). Members of the MCC/QCC are helping to shape this national initiative with scientists and clinicians from across Canada.

## Terry Fox Onco-metabolism Program

**Directed by Dr. Peter Siegel of the GCRC, The Terry Fox New Frontiers Program Project Grant (PPG) in Targeting the Metabolic Vulnerabilities of Cancer investigates how changes in metabolism drive cancer and how they can be targeted by new therapies.**

With 19 years of continuous funding from TFRI and a track record of innovation and discovery, this program unites investigators from McGill (GCRC and Lady Davis Institute), the University of Ottawa, Centre de recherche de l'Hôpital Maisonneuve-Rosemont and the Van Andel Institute (Michigan, USA). The current PPG is also funded by a contribution from the Quebec Breast Cancer Foundation.

A major achievement has been the development of the Metabolomics Innovation Resource, the leading technological platform dedicated to metabolism in Canada, made possible through investments from TFRI, Canada Foundation for Innovation (CFI) and the Dr. John A. and Mrs. Clara M. Fraser Trust.



Dr. Peter Siegel (pictured with his son Matthew) leads the Terry Fox New Frontiers Program Project Grant



Dr. Logan Walsh (top) and Dr. Jonathan Spicer (bottom) are co-leads of the Lung Cancer Research Network

## Lung Cancer Research Network

**Led by Dr. Jonathan Spicer and Dr. Logan Walsh, the Lung Cancer Research Network was established in 2018 to consolidate and focus McGill's efforts in lung cancer research. It includes over 50 members from the GCRC, seven Departments of McGill's Faculty of Medicine and Health Sciences, the Faculty of Engineering and leading clinicians and clinician-scientists from the McGill University Health Centre (MUHC), the Jewish General Hospital and St. Mary's Hospital Center.**

In 2019-20, members of the Lung Cancer Research Network published over 50 papers in peer-reviewed journals and established a lung cancer biobanking program and patient database in collaboration with the Montreal Cancer Consortium/MoHCC. Under the leadership of Dr. Spicer, the MUHC was the first site in the world to open a neoadjuvant immunotherapy clinical trial for lung cancer and remains the site with the largest number of patients recruited.





Dr. Nahum Sonenberg, GCRC (far left) and Dr. Michael Pollak, Lady Davis Institute (centre left) are co-leads of the Dream Team. They were joined here by Marc Miller, Member of Parliament and McGill's Principal Suzanne Fortier

## Stand Up To Cancer Canada Metastatic Breast Cancer Dream Team

**Dream Teams are Stand Up To Cancer's flagship projects, establishing nation-wide, multidisciplinary teams to address critical problems in cancer prevention, diagnosis and treatment.**

Based at the GCRC, with investigators and clinicians at the University of Alberta and BC Cancer, the Metastatic Breast Cancer Dream Team is one of only three SU2C-sponsored Dream Teams based in Canada. With funding of up to \$6M, they are conducting the first clinical trial of a new class of targeted therapies for advanced breast cancer at three hospitals in Montreal, Edmonton and Vancouver.



Dr. Daniela Quail leads a consortium including scientists and clinicians from McGill and the Netherlands Cancer Institute

## Brain Tumor Funders' Collaborative

**The Brain Tumor Funders' Collaborative (BTFC) is a partnership of five Canadian and American organizations dedicated to brain cancer research.**

**Dr. Daniela Quail** of the GCRC leads a BTFC-funded consortium including scientists and clinicians from McGill and the Netherlands Cancer Institute (NKI) who are dedicated to improving the treatment of aggressive, currently incurable brain cancers such as glioblastoma. With access to a unique set of patient samples from clinical trials, Dr. Quail's team is using the GCRC's Single Cell and Mass Cytometry Analysis Platform (SCIMAP) to identify biomarkers that will identify brain cancer patients most likely to benefit from immunotherapy. With the powerful imaging mass cytometry technology available through SCIMAP, they will also generate the first publicly available glioblastoma immune cell atlas, to comprehensively define tumour-immune interactions at the single-cell level with spatial resolution.

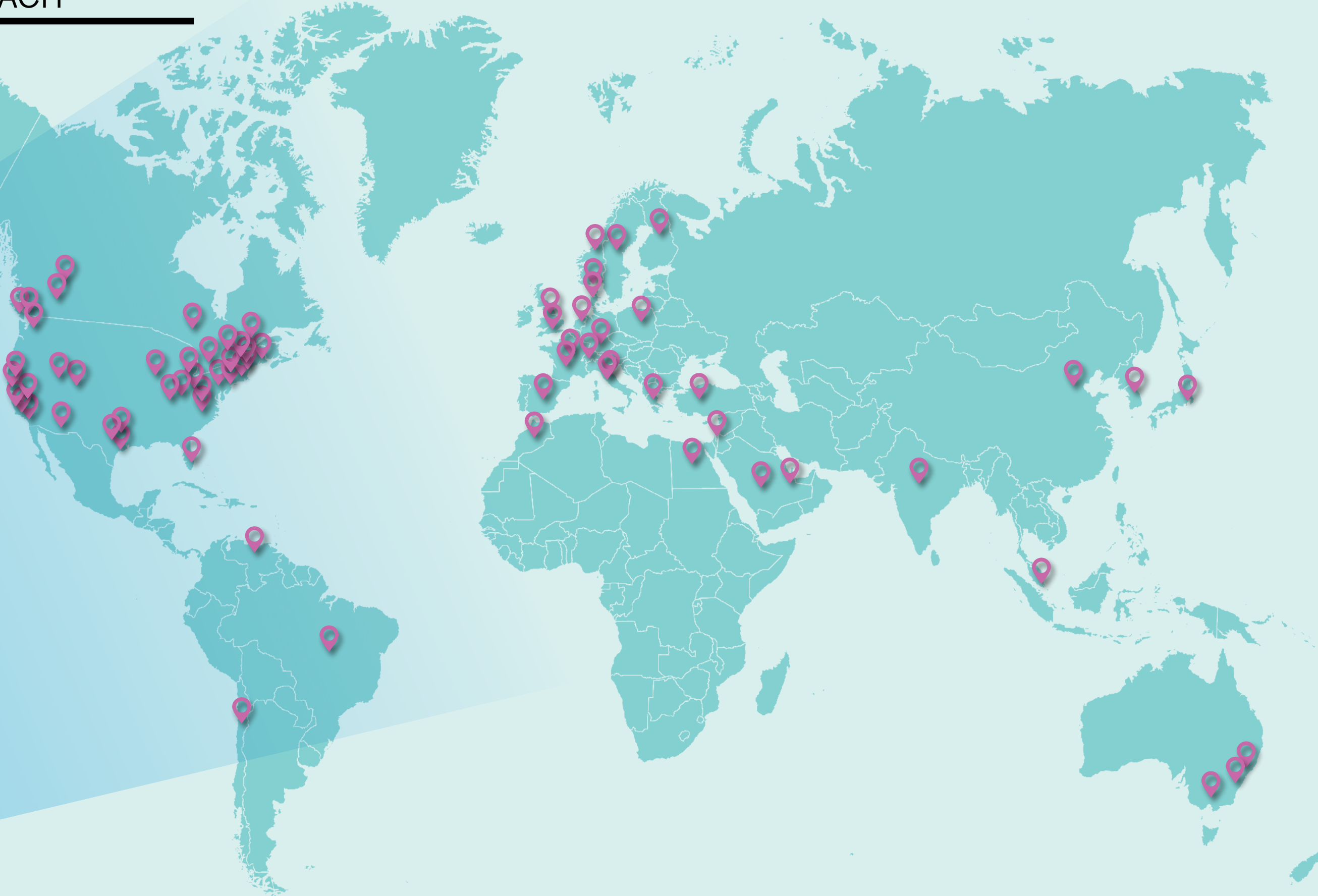


# WORLDWIDE REACH

Ongoing research collaboration in 30 countries

As well as having local and national partners, the Rosalind and Morris Goodman Cancer Research Centre also has a worldwide network – no longer do patients only benefit from the research performed in their own city. Instead, scientists are pooling their resources and knowledge base, sharing them with international colleagues, all while learning from one another.

- |           |              |
|-----------|--------------|
| Australia | Japan        |
| Austria   | Morocco      |
| Belgium   | Netherlands  |
| Brazil    | Norway       |
| Canada    | Poland       |
| Chile     | Qatar        |
| China     | Saudi Arabia |
| Denmark   | Singapore    |
| Egypt     | South Korea  |
| France    | Spain        |
| Germany   | Sweden       |
| India     | Switzerland  |
| Israel    | Turkey       |
| Italy     | UK           |





# AWARDS AND RECOGNITION



Elena Kuzmin

## Scholarships, Fellowships and Trainee Awards

**Maia al-Masri**  
**Paula Coelho**  
 Rosalind Goodman Commemorative Scholarship

**Gabrielle Brewer**  
 Marilyn Wener Excellence Award

**Roberta Cagnetta**  
 Banting Postdoctoral Fellowship, the *Canadian Institutes of Health Research (CIHR)*

**Matthew Dankner**  
**Yifan Wang**  
 The Vanier Canada Graduate Scholarship, jointly administered by the three Federal research funding agencies.

**Elena Kuzmin**  
 Banting Postdoctoral Fellowship, the *Canadian Institutes of Health Research (CIHR)*

Fellow of the *Global Future Council on Biotechnology*, the *World Economic Forum*.

Women in Science Research Excellence Fellowship, *L'Oréal Canada* with the support of the *Canadian Commission for UNESCO*.

**Marine Lingrand**  
 The Relève étoile Jacques-Genest Award, the *Fonds de la Recherche en santé du Québec*.

**Bianca Adams**  
**Bianca Colalillo**  
**Samuel Dore**  
**Anne Doyoung**  
**Bryn Golesworthy**  
**Yu Gu**  
**Ana Maria Hincapie**  
**Hannah Hosein**  
**Thiviya Jeyakumar**  
**Sunghoon Kim**  
**Chloe Liu**  
**Alexandre Poirier**  
**Hedyeh Rahimian**  
**Charlotte Scholtes**  
**Emilie Solymoss**  
 Canderel Training Awards



Dr. Nicole Beauchemin



Dr. Peter Siegel

## Grants, Awards and Research Chairs

**Dr. Nicole Beauchemin**  
 Career Award for her enduring legacy as scientist, mentor and teacher of the fundamentals of cancer research.

**Dr. Josée Dostie**  
 Chercheur-boursier Senior Award, the *Fonds de la Recherche en santé du Québec*.

**Dr. Philippe Gros**  
 Chevalier de *L'Ordre National du Québec*

**Dr. Sidong Huang**  
 Venture Capital Funding, Amorchem II L.P.

Excellence in Teaching Award, McGill's Biochemistry Undergraduate Society

**Dr. Lawrence Kazak**  
 Appointed Canada Research Chair in Adipocyte Biology

**Dr. Alain Nepveu**  
 SynergiQc Breast Cancer, the *Consortium de recherche biopharmaceutique (CQDM)*.

Distinguished James McGill Professor

**Dr. Morag Park**  
 Grand Prix Scientifique, the *Quebec Breast Cancer Foundation*

Quantum Leap, the *Consortium de recherche biopharmaceutique (CQDM)*.

Grand Challenge Award, from *Cancer Research UK*

Distinguished James McGill Professor

**Dr. Jerry Pelletier**  
 LeadAction-Onco breast cancer, *IRICoR* and the *Quebec Breast Cancer Foundation* through their LeadAction Breast Cancer Competition.

Robert L. Noble Prize from the *Canadian Cancer Society*.

Distinguished James McGill Professor

**Dr. Peter Siegel**  
 Grand Prix Scientifique, the *Quebec Breast Cancer Foundation*

**Dr. Nahum Sonenberg**  
 World's most cited and influential researchers list, *Clarivate/Web of Science*

Honorary degrees from *Institute national de la recherche scientifique (INRS - Quebec City)* and Ben Gurion University (Beersheba, Israel)

**Dr. Jonathan Spicer**  
 Fellowship, the *American Surgical Association Foundation*

**Dr. Michel Tremblay**  
 Appointed Grand Ambassadeur de *l'Université de Sherbrooke*

**Dr. Logan Walsh**  
 Seed grant from the *McGill Interdisciplinary Initiative in Infection and Immunity (MI4)*

**Dr. Ian Watson**  
 Team Science Award, the *American Association for Cancer Research*



# IN THE COMMUNITY

Despite the challenges posed by the COVID-19 pandemic, the Rosalind and Morris Goodman Cancer Research Centre has continued to safely organize and participate in virtual outreach activities that benefit Montreal’s local community.

**The Gala:** Due to the COVID-19 pandemic, the in-person Gala planned for June 2020 was postponed until June 2021.

**Santé:** On June 4, 2020 a virtual event, Santé, was held to celebrate the work of our scientists and thank our sponsors and supporters. Hosted by CTV’s Ben Mulroney, it attracted over 800 online attendees and was supported by McGill leadership, including the Chancellor, the Honourable Michael A. Meighen, and the Vice-Chancellor and Principal, Professor Suzanne Fortier.

**Défi Canderel:** The Défi Canderel, founded by Mr. Jonathan Wener, provides vital support for GCRC trainees and recruitment programs. The 2019 Défi Canderel was the most successful in the event’s history of over 30 years, raising over **\$917,000** for the GCRC. In May 2020, the event was held virtually, with people running individually or with family members in their neighbourhoods. Despite the challenges of the pandemic, an incredible **\$502,000** was raised to benefit the GCRC.

**Terry Fox Run:** The GCRC continued to support the Terry Fox Foundation in their efforts to fund life-saving cancer research. In 2019, the GCRC team of 32 runners, led by PhD student Marina Fukano, raised over **\$4,700** from 64 different sponsors. In 2020, a virtual Terry Fox run was organized by Master’s student Rachel Catterall, raising a significant **\$5,960**.



GCRC trainees Marina Fukano & Gabrielle Brewer during the 2020 Terry Fox virtual race

## Uplifted by our Community:

The GCRC’s Annual Fund received **\$28,158** from 196 individual donors during the past fiscal year. These donations averaged \$150, but collectively they were vital to the success of our research and training programs.

Cancer touches us all, and 53 of these donations were memorial gifts. We sincerely thank all those who have honoured or commemorated their loved ones by supporting the GCRC’s efforts to end cancer.

*There is strength in numbers - we are deeply grateful for all the support we’ve received from our community.*



GCRC trainee Hellen Kuasne with her son during the Défi Canderel race



The GCRC staff celebrating McGill24

**Public Lecture Series:** The GCRC Public Lecture Series continued to communicate cutting edge cancer research to the public in 2019, with in-person events in October (AI, Machine Learning and Cancer) and November (Human Papillomavirus-associated cancers). Each lecture was attended by around 200 people, and was recorded and made available online. In November 2020, the GCRC hosted its first virtual Public Lecture Series (Metabolism and cancer). Over 800 people tuned in, and the lecture continues to be viewed online.

**GCRC & Friends:** The GCRC expanded its virtual outreach through GCRC & Friends, a series of online lectures given by McGill experts and hosted by GCRC Associate Director Dr. Thomas Duchaine.

**Young Women In Bio:** The GCRC supports the education and growth of young female leaders in STEM fields as a proud partner of *Young Women In Bio*, hosting an annual day for them since 2012 that features an educational workshop and tour of the Centre led by GCRC trainees.

**CURE Foundation National Denim Day:** The CURE Foundation, an organization dedicated to eradicating breast cancer, held its annual *National Denim Day* Fundraiser on May 12, 2020. The GCRC raised a total of **\$2,890** for the CURE Foundation through its participation in this event.

**McGill24:** Every year, over a 24-hour period, the McGill community comes together to raise money in support of the McGill causes most important to them. During last year’s McGill24 (March 11th, 2020) the GCRC raised a total of **\$4,759** from 49 donors, giving us one of the highest number of donors to a single project within the Faculty of Medicine and Health Sciences.



## TRAINING THE NEXT GENERATION

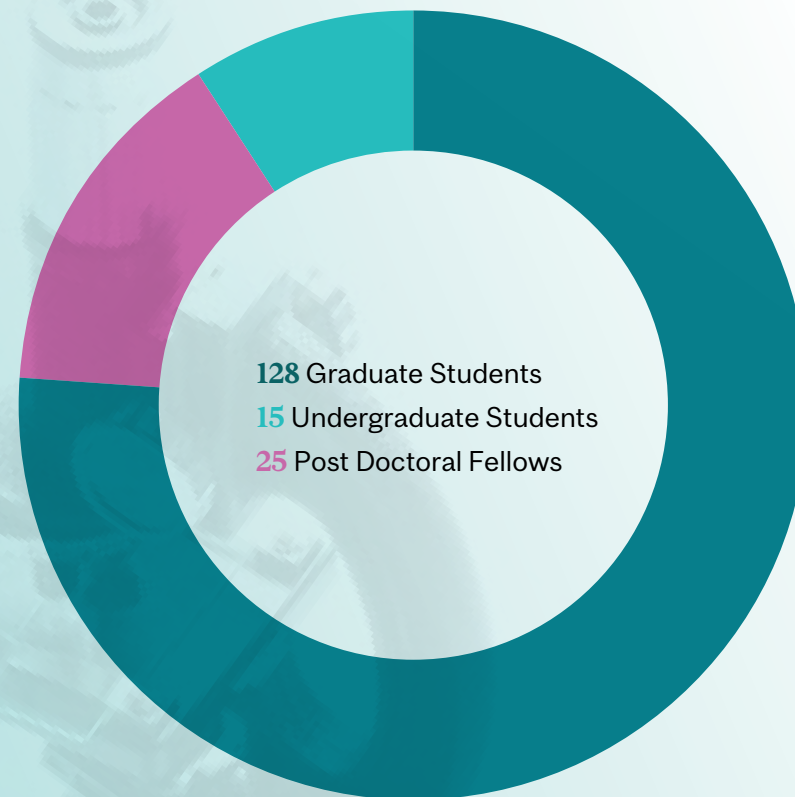
**168**  
UNDERGRADUATES,  
GRADUATES,  
AND POST-DOCTORAL  
TRAINEES

Recruiting and nurturing the most promising trainees from across Canada and around the world remains at the core of our mission. Their success in winning scholarships, fellowships, awards and accolades shows the strength of their abilities and the quality of our programs. Their talent, creativity and commitment are fundamental to research at the GCRC.

The GCRC has one of the largest trainee populations in McGill's Life Sciences Complex. Our programs aim to prepare the next generation of cancer researchers through a program integrating basic and translational research with strong teamwork and leadership.

**16**  
MSc  
and  
**10**  
PhD  
DEGREES AWARDED

**+\$1.8**  
MILLION  
in scholarships and fellowships  
from diverse foundations  
and agencies



## Meet Matt and Reem, two of our promising trainees



Matt Dankner

*“What gets me out of bed in the morning is having the potential to impact the lives of patients.”*

It is a real privilege to work with a talented team of scientists and clinicians who have taught me so much over my time at the GCRC and inspire me each day. Interacting with patients benefitting from our findings and seeing our research applied in the real world have been among the most rewarding experiences of my Ph.D.



Reem Kurdieh

*“We are trying to understand the early mechanisms that drive the initiation of breast cancer.”*

I love the fact that we have 3D cell cultures that we can use in the lab to mimic human tissue organization – it means the technology that we have enhances the reliability of our research.”



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# SUPPORT US

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The Rosalind and Morris Goodman Cancer Research Centre is a non-profit research organization working to eliminate cancer. We rely on grants and donations to fund our work.



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Your support makes our research breakthroughs possible.  
**[mcgill.ca/gcrc/donate](https://mcgill.ca/gcrc/donate)**

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