



**Stem Cell
Network**

Powering
Regenerative
Medicine

**Réseau de
Cellules Souches**

Propulsons
la médecine
régénératrice

CANADA'S SCIENCE. **CANADA'S COMMUNITY.**

ANNUAL REPORT 2022/2023



\$148M

DIRECT INVESTMENT IN RESEARCH,
TRAINING, AND OUTREACH

185

PATENTS ISSUED

\$157M

IN RESEARCH PARTNERSHIPS

118

LICENCES GRANTED

250+

TRANSLATIONAL RESEARCH
PROJECTS SUPPORTED

6,400+

TRAINEES AND HIGHLY QUALIFIED
PERSONNEL TRAINED

279

RESEARCH GROUPS FUNDED

30

CLINICAL TRIALS FUNDED

1,132

PATENT APPLICATIONS

27

REGENERATIVE MEDICINE BIOTECH
COMPANIES CATALYZED

ABOUT THE STEM CELL NETWORK

The Stem Cell Network (SCN) is a Canadian not-for-profit that supports stem cell and regenerative medicine research; training the next generation of highly qualified personnel; and knowledge mobilization and transfer of stem cell and regenerative medicine research. From the lab to the clinic, SCN’s goal is to power life-saving therapies and technologies through regenerative medicine research for the benefit of all. Created in 2001, with support from the Government of Canada, the Network has grown from a few dozen labs to more than 270 world-class research groups, supporting over 250 research projects and 30 clinical trials. Since its inception, over 25 biotech companies have been catalyzed or enhanced and more than 6,400 highly qualified personnel have been trained. In 2021, the Government of Canada demonstrated its continuing trust and support in SCN with an investment of \$45 million for the 2022–2025 period.

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A MESSAGE FROM **SCN** **LEADERSHIP**

Dear Friends,

It has been an incredible year of growth at the Stem Cell Network (SCN), and, as we take a moment to pause and reflect on the last 12 months, we couldn't be prouder of the accomplishments of the Network, which have been inspired, driven forward, and supported by you — Canada's stem cell and regenerative medicine community.

When you join the Stem Cell Network, you join a broad and supportive scientific community, collectively working together to move the field of regenerative medicine (RM) forward. Canada has been a world leader in regenerative medicine from the start. From the experiments demonstrating the existence of stem cells by Drs. Till and McCulloch in Toronto in the 1960s, Canadian researchers have continued to make significant contributions nationally and globally, building a strong, vibrant and world-leading community.

During this past year alone, SCN investigators from coast to coast have made important advancements in areas such as diabetes, cardiac disease, lung and liver repair, muscular dystrophy, and neurodegenerative diseases. This year also saw the enhancement of several Canadian regenerative medicine and biotechnology companies, such as Notch Therapeutics, Aspect Biosystems, and Axolotl Biosciences. As in previous years, we have also seen hundreds of trainees — the next generation of Canada's great scientists — join the community, honing their scientific and technical skills, engaging with and learning from the best, and bringing innovative ideas to the fore. It is this dedicated, talented, and interconnected SCN community, comprised of researchers, trainees, and industry professionals, that is elevating the field of regenerative medicine and helping us achieve the ultimate goal of a healthier and more prosperous Canada. It truly is *Canada's Science and Canada's Community*.

This past fiscal year was a significant one for SCN. We started the year with the launch of our new three-year strategic plan, [IGNITE](#), which was paired with a new vision and a refreshed brand focused on realizing the potential of regenerative medicine. Perhaps most notably, in spring 2022, SCN released the results of its largest funding competition to date, which saw \$19.5 million for 32 stem cell and regenerative medicine research projects and clinical trials. Later that fall, we launched a second funding competition, with results recently released, which saw an additional \$8.92 million in research funding for 24 research projects and clinical trials. When combined, the stem cell and regenerative medicine sector will have invested a total of \$28.4 million in funding dollars into the system, with \$31.8 million in partner funding for 56 projects in 26 disease areas, involving more than 550 researchers, clinicians, and trainees. This is by far the largest injection of funding in SCN history, and we couldn't be more thrilled to see it come to fruition.

Of course, we would be remiss if we didn't mention the Network's training and knowledge mobilization programming, which also saw record-breaking years. Through SCN's training program, we aim to foster a sticky environment for next-generation talent to learn in Canada — and remain in Canada. This past year, SCN worked with its diverse set of training partners to offer 30 training events, including workshops, courses,

webinars, internships, fellowships, exchanges, and training through the Till & McCulloch Meetings. Combined, SCN training benefitted a total of 608 stem cell and regenerative medicine trainees across the country.

In this same vein, SCN's knowledge mobilization program also saw an uptick in its activities this year. We worked avidly to create new opportunities to elevate and promote the work of Canadian researchers on the national and international stage, launching a new blog for researchers to showcase their work, [Insights from the Network](#), and working hand-in-hand with our partners to create new options to engage youth in stem cell and regenerative medicine science.

As we look forward, to the next fiscal year, we would like to extend our gratitude and deep thanks to the SCN staff, Board of Directors, Research Management Committee, International Peer Review Committees, our Training and Education Committee, our Early Career Researcher Committee, and our Trainee Communication Committee for their tremendous efforts over the past year. We're honoured each and every one of you is part of Canada's stem cell and regenerative medicine community, working together to develop this vibrant sector that is yielding scientific advancements, fuelling clinical trials, enabling company creation, and delivering the health solutions of tomorrow. We simply could not do what we do without you.

Declan Hamill, MA,
BCL/LLD, ICD.D
Chair, Board of Directors

Cate Murray,
President and CEO

Michael Rudnicki, O.C.,
Ph.D., FRS, FRSC,
Scientific Director

Bernard Thébaud, M.D.,
Ph.D., FCAHS, FRCPC,
Associate Scientific Director

HIGHLIGHTS FROM THE YEAR

APRIL

Dr. Bernard Thébaud joins the Stem Cell Network as the Associate Scientific Director.

SCN launches a new three-year strategic plan, [IGNITE](#), and a new brand.



2022



SCN celebrates National Volunteer Week, and thanks hundreds of volunteers.

MAY



SCN announces [\\$19.5 million for 32 stem cell and regenerative medicine research projects and clinical trials.](#)



SCN partners with Sandrine Soubes (Tesselle Development) to deliver Daring to Dare®, a leadership and career development program for women trainees in stem cell and regenerative medicine.

JUNE

Michael Rudnicki, SCN's Scientific Director, is admitted to the Royal Society for his leadership in stem cell research that has transformed our understanding of muscle regeneration.



The SCN community joins together for an in-person event focused on research security and building scientific excellence through inclusivity and diversity.

SCN and Medicine by Design announce a [strategic partnership focused on training the next generation of leaders, scientists, and entrepreneurs.](#)

JULY

The UK Medical Research Council (MRC) and SCN launch the [UK-Canada Exchange Programme Awards](#) in regenerative medicine.



HIGHLIGHTS FROM THE YEAR

CONT'D

AUGUST

SCN announces the second and final of two [national research funding competitions](#) planned for the 2022–2025 funding cycle.



SEPTEMBER

SCN recognizes Dr. Connie Eaves as the [2022 Till & McCulloch Lifetime Achievement Award recipient](#) and Dr. Tyson Ruetz as the 2022 Drew Lyall Award of Excellence recipient.



OCTOBER

SCN & JDRF announce Karoliina Tuomela as the first recipient of the [J. Andrew McKee Fellowship in Type 1 Diabetes](#).



500+ attendees gather in Vancouver for the Network's [2022 Till & McCulloch Meetings](#).



SCN Welcomes [three new board members](#): Reza Moridi, Nadine Beauger, and Michael Kallos.

NOVEMBER

SCN participates in, and sponsors, the 2022 Canadian Science Policy Conference.



Celebrating youth in STEM, SCN joins Let's Talk Science on Parliament Hill.

HIGHLIGHTS FROM THE YEAR

CONT'D

DECEMBER

SCN and Mitacs announce the placement of [four next-generation leaders](#) in Canadian biotech companies through the SCN–Mitacs Industry-based Internship Partnership.



2023

JANUARY

Cate Murray, SCN's President and CEO, speaks at the Canadian Club of Ottawa about the future of Canada's life science industry.



PHOTO CREDIT: Canadian Club of Ottawa



SCN welcomes the inaugural members of its [Early Career Researchers Committee](#).

FEBRUARY

With SCN support, StemAxon, Mesintel Therapeutics, Morphocell Technologies, and Axolotl Biosciences participate at the [OBIO Investment Summit](#).



PHOTO CREDIT: OBIO®



[Women stem cell and regenerative medicine researchers](#) gather in Ottawa on the heels of International Day of Women and Girls in Science.

MARCH

Dr. Bernard Thébaud and the team at the Ottawa Hospital Research Institute treat the first patient in an [SCN-funded, world-first Phase I clinical trial](#).





POWERING RESEARCH

For more than 20 years, SCN has led the way in building national capacity — and a national community — in the stem cell and regenerative medicine field by supporting world-class research and empowering leading researchers and trainees from coast to coast.

SCN's ranks are filled with talented biologists, bioengineers, clinicians, ethicists, chemists, and many others who have propelled the field forward. A collaborative network built *by researchers for researchers*, it is a talented and dedicated community that is avidly advancing leading-edge research, with the ultimate goal of creating better health solutions that benefit all Canadians.

Through its comprehensive research funding program, SCN aims to foster made-in-Canada cell- and gene-based therapies and technologies by supporting translation of Canadian research discoveries, from innovation and development through pre-clinical evaluation,

and into clinical trials and commercial applications. Rather than “fund and forget,” we nurture and grow solutions so they are optimally positioned to succeed. Tapping into the Network community's expertise and building communities of practice and national peer networks have been vital and are a hallmark of SCN's approach. Taken together, these factors are the reason why Canadian stem cell research is punching above its weight — and why Canada's stem cell community ranks among the top in the world.

Read on to discover more about the life-changing work being charted by members of the SCN community.

“

CANADA HAS BEEN A WORLD LEADER IN REGENERATIVE MEDICINE FROM THE START. FROM THE EXPERIMENTS DEMONSTRATING THE EXISTENCE OF STEM CELLS BY DRS. TILL AND MCCULLOCH IN THE 1960S, CANADA'S RESEARCH COMMUNITY HAS CONTINUED TO DRIVE THE FIELD FORWARD AND TRANSLATE DISCOVERIES INTO THE THERAPEUTICS OF TOMORROW.”

Michael Rudnicki, O.C., Ph.D., FRS, FRSC

EXTRAORDINARY RESEARCH, UNPARALLELED POTENTIAL

SCN's robust research program has been carefully designed to meet the needs of Canada's stem cell and regenerative medicine community at all stages of the research continuum. Not only does SCN's research program foster Canadian innovation and translational strengths, but it fortifies Canada's position in a globally competitive sector.

The 2022–2023 fiscal year was an incredibly busy one for the Stem Cell Network's research program. On May 12, 2022, Andy Filmore, Member of Parliament for Halifax and Parliamentary Secretary to the Minister of Innovation, Science and Industry, announced the research funding results for the first

year of SCN's Cycle 4 funding period (2022–2025). In total, 32 stem cell and RM projects and clinical trials received funding, valued at \$19.5 million. The projects and clinical trials involve more than 400 researchers, clinicians, and trainees and cover 20 different disease areas and illnesses, including stroke, cardiovascular disease, type 1 diabetes, Parkinson's, muscular dystrophy, blood cancers, multiple sclerosis, wound repair and sepsis.

In May 2023, SCN researchers from Cycle 4 Round 1 submitted progress reports. Projects are moving forward as planned, meeting key milestones and expectations.

In September 2022, SCN opened a second and final funding competition for the 2022–2025 period (Cycle 4 Round 2). SCN received 65 applications, which were assessed through an international peer review for scientific merit, and then considered for strategic fit by SCN's Research Management Committee (RMC). In total, 24 stem cell and RM projects and clinical trials received funding valued at \$8.92 million with 23 partner organizations committing to \$9.44 million of in-kind or cash support. The projects and clinical trials span 14 disease areas, including brain disorders, diabetes, heart and lung disease, cancer, and spinal cord injury.

SCN was honoured to be joined on May 16, 2023, by Adam van Koeverden, Member of Parliament for Milton and Parliamentary Secretary to the Minister of Health to formally announce the research funding results alongside Parliamentarians, researchers, SCN Board members and partners.



SCN 2022–2025 FUNDING RESULTS

\$28.4M

56 PROJECTS

\$31.8M

IN PARTNER SUPPORT

550+

RESEARCHERS, CLINICIANS, AND TRAINEES ENGAGED

22

CANADIAN RESEARCH INSTITUTIONS

26

DISEASE AREAS

SCN PEER REVIEW PROCESS

SCN funding applications are evaluated to identify scientifically excellent research that will further the field, and will ensure Canada continues to have international impact in regenerative medicine. Evaluation of an application's scientific merit is performed by SCN's international peer review committees, comprised of international subject matter experts drawn from academia and industry. For Round

1 and 2 funding competitions, seven international peer review committees were used, totalling 52 reviewers; the members of these committees graciously gave their time and expertise and provided thorough and efficient reviews. Following the work of these committees, a strategic evaluation of highly ranked, peer-reviewed applications is then conducted by SCN's Research Management Committee.

When combined with the results of SCN's Cycle 4 Round 1, a total of \$28.4 million will be distributed to support stem cell and RM projects and clinical trials with \$31.8 million in partner funding for the 2022–2025 funding period — the largest injection of funding in SCN history.

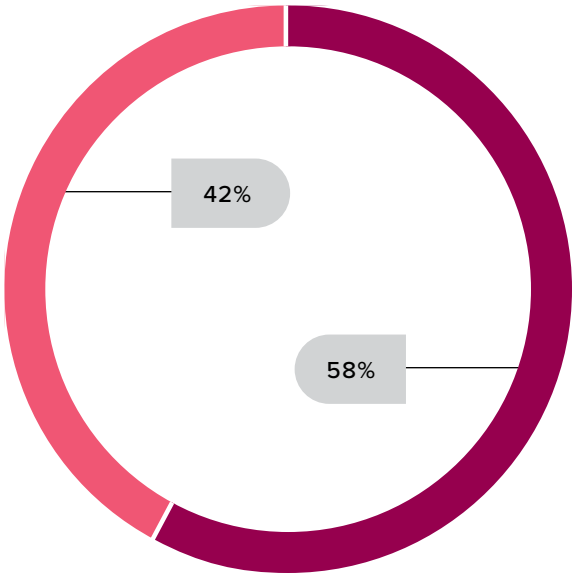
The pages that follow showcase the work of SCN researchers, from both Rounds 1 and 2, making advances in the areas of Parkinson's disease, blood cancer, immune disease, and public policy.

DID YOU KNOW?

Stem cells have traditionally fuelled the field of regenerative medicine (RM) which focuses on replacing, repairing, or regenerating human cells, tissues, and organs. RM has the potential to halt or reverse disease instead of simply alleviating symptoms. In some cases, RM may even have the potential of offering a cure.

ROUND 1 & 2 PRINCIPAL INVESTIGATOR GENDER BREAKDOWN

● Women ● Men





DR. MARTIN LÉVESQUE:
Université Laval; Cycle 4,
Round 1: Impact Awardee

CELL REPLACEMENT THERAPY FOR PARKINSON'S DISEASE

Parkinson's disease, a chronic and devastating neurodegenerative disease, is characterized by the buildup of toxic proteins in the brain which, in turn, cause brain cells to stop functioning or die. Cell replacement therapy has the potential to introduce new, healthy neurons to the brain. This is the focus of an SCN-funded project at Université Laval helmed by Dr. Martin Lévesque and his research team. Using their expertise in cell transplantation and Parkinson's disease, the team is experimenting with clearing out toxic proteins to help healthy transplanted neurons survive — testing this approach using lab-scale models. If successful, this research will mark a major milestone in treating Parkinson's.

“

Following successful results, we plan to move our research towards clinical trials. While there are multiple steps involved in reaching that goal, we are already collaborating with clinicians and international experts in clinical trials for Parkinson's disease. We believe our research has high translational potential and could have a strong impact on the development of a disease-modifying therapy for patients suffering from Parkinson's disease in Canada and worldwide.”



DR. YALE MICHAELS: CancerCare Manitoba Research Institute and University of Manitoba; Cycle 4, Round 2: Impact Awardee

ENHANCING T-CELL PRODUCTION FOR CANCER AND IMMUNE DISEASES

T-cells are a type of white blood cell. Part of the immune system, they help protect the body from infections and unhealthy cells — such as cancer cells. T-cell transfer therapy can be used to treat cancer and immune diseases. However, gathering enough T-cells from donors is expensive and the effectiveness of the resulting treatment varies from patient to patient.

Dr. Yale Michaels is an SCN ECR and former trainee who worked under the supervision of Peter Zandstra, a long-time SCN investigator at the University of British Columbia. While in Zandstra's lab, Michaels developed a method for differentiating pluripotent stem cells into T-cells. Pluripotent stem cells can be grown in the lab, making them a

renewable, cost-effective source of T-cells. Building on this research in Manitoba with an SCN-funded award, Michaels's goal is to use cellular engineering to enhance T-cell production to develop safe, effective, and inexpensive cell and gene therapies for cancer and immune diseases. If successful, patients will have increased access to immunotherapy, providing health and economic benefits to Canadians.

“

Our goal is to help make it easier and more affordable to manufacture immune cell therapies from stem cells. Our long term vision is to enable more patients to benefit from these living medicines.”



DR. LY VU:
University of British Columbia; Cycle 4,
Round 1: ECR Jump Start Awardee

ENHANCING THE REGENERATIVE POTENTIAL OF BLOOD STEM CELLS

When a cancer patient needs a stem cell transplant, bone marrow is not the only option. Blood from donated umbilical cords is another source. Unfortunately, each umbilical cord holds only a small number of stem cells, forcing clinicians to pool cord blood samples or select less desirable matches to get enough stem cells. Using novel promoters of stem cell expansion, Dr. Ly Vu, an SCN-funded Early Career Researcher (ECR) at the University of British Columbia, hopes to leverage new insights in cord blood-derived stem cells to increase understanding of blood cell regeneration and create better transplant options for cancer patients.

“

By uncovering new methods for generating these cells in large numbers, we hope to implement innovative approaches to improve patient access to cord blood-cell therapies. In addition, our enhanced understanding of stem cell biology will have implications in the broader stem cell and regenerative medicine research field.”



ASSOCIATE PROFESSOR, AMY ZARZECZNY:
University of Regina; Cycle 4, Round 1: Translation and Society Team Awardee

LAW, PUBLIC POLICY, AND SOCIAL LICENCE FOR NEXT-GENERATION REGENERATIVE MEDICINE

Clinical translation of regenerative medicine (RM) holds great potential to offer life-changing treatment options for various illnesses and conditions. Successful clinical translation requires regulation and governance frameworks that support the development of safe, effective, and accessible treatments, while limiting premature and unethical applications. An SCN-funded project led by Amy Zarzeczny at the University of Regina is working to inform the development of an inclusive regulatory and governance framework that will strengthen the social license for the clinical translation of regenerative medicine. The project deliverables include recommendations for policy and regulatory reform, academic publications and presentations, policy briefs, and training for the next generation of HQP.

Co-Investigators Timothy Caulfield and Ubaka Ogbogu from the University of Alberta have been part of the SCN community for many years, and the project also has a strong and diverse team of collaborators.

“

Our team is grateful to the Stem Cell Network for funding support, and we are excited to be working on these complex and important issues. Realizing the positive potential that RM offers will require strong governance and public support, and we hope our work will contribute valuable evidence to inform future policy in this area.”



DR. BERNARD THÉBAUD

CLINICAL TRIALS OFFERING HOPE FOR THE FUTURE

SCN is powering clinical trials, testing new cell-based therapies and technologies to address illnesses such as blood cancers, sepsis, and type 1 diabetes, as well as lung development in premature babies and wound repair for burn patients. Clinical trials, such as those highlighted here, are just a few of the nearly 100 important and life-altering trials moving forward in the field of regenerative medicine.

LIFE-SAVING CELL THERAPY FOR PRETERM BABIES

Preterm babies require supplemental oxygen and mechanical intervention to breathe, but this can damage their fragile lungs, causing bronchopulmonary dysplasia (BPD), a chronic lung disease. With smaller and weaker lungs, and therefore a lack of oxygen during brain development, babies with BPD can develop learning disabilities or problems walking, hearing, and seeing. Approximately 1,000 babies in Canada develop BPD each year, and complications of extreme preterm birth are the number one cause of death in children under five years old.

Earlier this year, Dr. Bernard Thébaud and his team at the Ottawa Hospital successfully treated their first patient in a world-first clinical trial using a stem cell therapy. This SCN-funded Phase I Clinical Trial will enroll up to nine babies

at very high risk of developing BPD, being cared for in the neonatal intensive care units at The Ottawa Hospital or Sunnybrook Health Sciences Centre. The babies will be treated with an IV infusion of umbilical cord tissue cells grown from the donated umbilical cords of healthy newborns, manufactured with collaborators in Dresden, Germany. The goal of this trial is to determine whether the therapy is safe and feasible for premature babies, and to find the best dose for future trials.

“

The treatment of our first preterm baby is a critical step towards a potential breakthrough therapy that could help premature babies in Canada and around the world.”



DR. DAVID THOMPSON

FIRST GENE-EDITED CELL THERAPY FOR TYPE 1 DIABETES

Type 1 Diabetes is a chronic disease affecting more than 300,000 Canadians. Those living with diabetes cannot properly produce insulin, an important hormone that helps the body control glucose levels in the blood. Although life saving, insulin injection is not a cure for diabetes. Chronically high blood sugar can cause serious complications, including blindness, amputations, stroke, kidney failure, nerve damage, heart disease, and a shortened lifespan.

Dr. David Thompson's team is conducting a clinical trial of the first gene-edited cell replacement therapy for type 1 diabetes. This SCN-funded trial is testing cells that have been genetically engineered to evade the immune system, loaded into thin devices (created by a biotechnology company, ViaCyte) and implanted under the skin. These

stealthy cells remove the need for immunosuppression. If successful, this novel approach could end the need for insulin injections — marking another major milestone in Canada's diabetes research history.

“

We have conducted successful trials in which islet cells generated from stem cells are implanted under the skin. The challenge has been the need to use anti-rejection drugs. Now, in a world first, we are testing genetically engineered cells, eliminating the need for immunosuppression. If successful, this innovative approach could free Canadians from insulin injections, and the debilitating complications of diabetes.”



IMPACT

SCN industry partner, Aspect Biosystems, secures US\$2.6 billion deal with Novo Nordisk for diabetes and obesity

Just as the fiscal year came to a close, on April 12, 2023, Aspect Biosystems and Novo Nordisk announced a US\$2.6 billion partnership to develop bioprinted tissue therapeutics for diabetes and obesity — a game-changing investment in the life sciences sector. This collaboration leverages Aspect Biosystems' proprietary bioprinting technology and Novo Nordisk's expertise and technology in stem cell differentiation and cell therapy development and manufacturing.

This partnership was made possible, in part, by research funded by the Stem Cell Network through the lab of Dr. Timothy Kieffer at the University of British Columbia. In early 2020, Dr. Kieffer was awarded \$500,000 through SCN's *Fuelling Biotechnology Partnerships Program* to advance Aspect Biosystems' implantable 3D bioprinted cell therapy for delivering insulin-producing cells to treat type 1 diabetes. The data generated from this project was key for the Novo-Nordisk deal.



DR. LUCIE GERMAIN

TREATING RARE EYE DISEASES

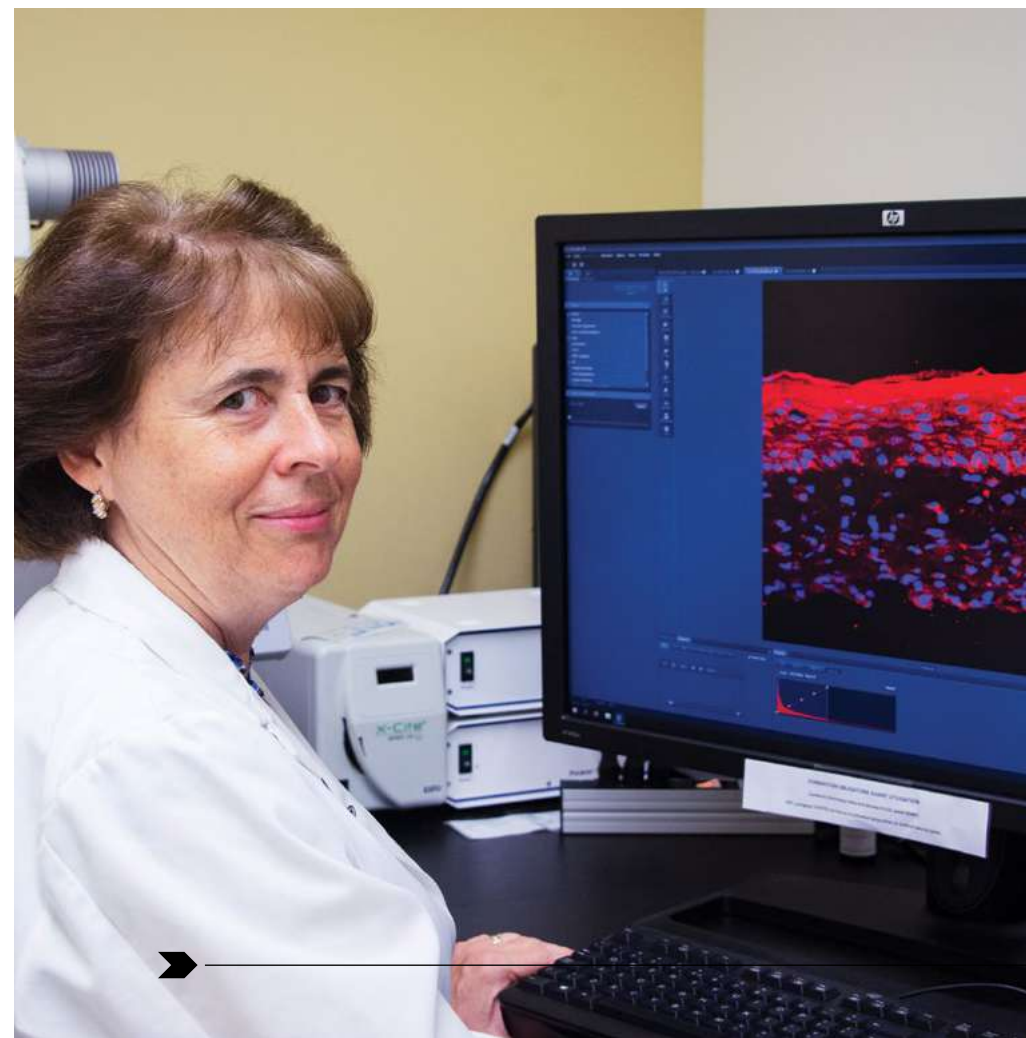
Limbal stem cell deficiency (LSCD) is a rare but severe disease caused by the damage or depletion of stem cells in the cornea of the eye following trauma or disease. Without treatment, LSCD results in severe visual impairments that impact the quality of life of patients and their families. LSCD affects a patient's ability to work, drive, and conduct daily activities.

Dr. Lucie Germain and her team at Université Laval are conducting a multi-centre, SCN-funded clinical trial to test the ability of a stem cell-based therapy (cultured epithelial corneal autografts, CECA) to treat LSCD. If successful, incorporating this therapy into Canada's standard of care will mark a major advance in ophthalmology for

patients suffering from LSCD, significantly improving their lives.

“

Our clinical trial, if successful, will provide clinical proof-of-concept for a safe and effective stem cell-based therapy accessible to Canadian ophthalmologists and their patients. To date, we have grafted 15 patients — with 93% showing good anatomical results one-year post transplant, and 87% with better vision at their last follow-up. We are excited about the potential of this therapy to become the standard of care in Canada, representing a major clinical advancement for patients suffering from LSCD.”



SCN 2022–2025 ROUND 2 FUNDING RESULTS*

CLINICAL TRIALS AWARDS	Supporting early-stage clinical trial projects with high translational potential.	
	Lucie Germain, Université Laval (Québec) Clinical trial of cultured epithelial corneal autografts for the treatment of Canadians with limbal stem cell deficiency	\$603,600
	Marc Jeschke, McMaster University (Ontario) A phase I, single-blind, randomized study of safety of cellularized Integra® using autologous burn-derived MSCs	\$298,000
	Sowmya Viswanathan, University Health Network (Ontario) Autologous Bone Marrow Aspirate Concentrate or Lipoaspirate Concentrate for OsteoArthritis: ABLE OA Clinical Trial	\$750,000
ACCELERATING CLINICAL TRANSLATION AWARDS	Supporting multi-disciplinary research that is moving towards the clinic within five years or is addressing a key research question associated with an ongoing clinical trial.	
	Véronique Moulin, Université Laval (Québec) Allogeneic dermis to accelerate the production of a tissue-engineered skin substitute to treat Canadian burn patients	\$600,000
	Bernard Thébaud, Ottawa Hospital Research Institute (Ontario) AAVenger-B: Adeno-Associated Virus Engineered Gene Epithelial progenitor cell Regeneration for surfactant proteinB deficiency	\$599,800
	Bruce Verchere, University of British Columbia (British Columbia) Genetic engineering of hESC-derived insulin-producing cells to improve graft outcomes in type 1 diabetes	\$600,000
	Juan Carlos Zúñiga-Pflücker, Sunnybrook Research Institute (Ontario) Production of progenitor T cells for immune-reconstitution and targeted immunotherapies (ProTIMM)	\$599,875
	Peter Zandstra, University of British Columbia (British Columbia) PSC-derived immune cells as an advanced delivery vehicle for protein therapeutics	\$400,000
FUELLING BIOTECHNOLOGY PARTNERSHIPS	Supporting academic partnerships with emerging Canadian regenerative medicine biotechnology companies to bring innovative technologies or therapies to the clinic or market.	
	C. Florian Bentzinger, Université de Sherbrooke (Québec) Mobilizing endogenous repair in muscular dystrophy	\$398,600
	Michael Fehlings, University Health Network (Ontario) Translation of cGMP grade oligodendrogenic NPCs (oNPCs) for the treatment of traumatic cervical spinal cord injury	\$400,000
	Massimiliano Paganelli, Centre Hospitalier Universitaire Sainte-Justine (Québec) iPSC-derived Encapsulated Liver Tissue: extending the indication to acute-on-chronic liver failure	\$400,000
	Fabio Rossi, University of British Columbia (British Columbia) Bone targeted EP4 agonists as therapeutics for muscular dystrophy	\$399,821

IMPACT AWARDS	Supporting proof-of-principle experiments, including novel therapeutic or technical approach development, that will drive regenerative medicine therapies forward.	
	Yan Burelle, University of Ottawa (Ontario) Targeting mitochondrial quality control to promote muscle regeneration	\$224,520
	Colin Crist, Sir Mortimer B. Davis-Jewish General Hospital (Québec) Shining light on muscle regeneration: MuSC mediated delivery of optogenetic contractile properties to skeletal muscle	\$250,000
	Junio Dort, University of Ottawa (Ontario) Novel therapeutic compounds targeting G-coupled receptors to enhance muscle stem cell function in Duchenne muscular dystrophy	\$250,000
	James Ellis, The Hospital for Sick Children (Ontario) Extracellular vesicles transport molecular cargo from stem cell derived healthy astrocytes to rescue Rett syndrome neurons	\$250,000
	Kristin Hope, University Health Network (Ontario) Harnessing developmentally guided post-transcriptional HSC drivers to advance in vivo hematopoietic regeneration	\$250,000
	Zachary Laksman, University of British Columbia (British Columbia) Development of high-throughput assays to stratify cardiotoxic drug risk by sex and genotype	\$249,997
	Arvind Mer, University of Ottawa (Ontario) Decoding Alternative Splicing Regulatory Networks in Myogenic Stem Cell Function	\$250,000
	Yale Michaels, CancerCare Manitoba (Manitoba) Cellular engineering to enhance T cell production from pluripotent stem cells	\$249,957
	Shinichiro Ogawa, University Health Network (Ontario) Sustained liver engraftment with bioengineered functionally complete liver tissues	\$249,233
IMPACT AWARDS: ELSI STREAM	Martin Post, The Hospital for Sick Children (Ontario) Enhancing the production of human alveolar-like macrophages for lung cancer therapy	\$250,000
	Supporting the knowledge generation and/or translation of regenerative medicine research for targeted stakeholders and/or users.	
	Jason Guertin, Université Laval (Québec) Supporting the use of early economic evaluations within the regenerative medicine field	\$200,000
	Manoj Lalu, Ottawa Hospital Research Institute (Ontario) Developing guidance to translate promising cell therapies to early phase clinical trials	\$200,000

*See Appendix for the full list of Co-Investigators and Collaborators.



TRAINING NEXT- GENERATION TALENT

The strength of SCN’s community lies in the expertise of its researchers and industry experts, who continue driving the regenerative medicine sector forward by mentoring and training Canada’s next generation of stem cell scientists.

Many SCN researchers and principal investigators began their careers as trainees participating in Network workshops, events, or working on an SCN-funded project. Today they continue fostering scientific excellence and growing Canada’s RM community, mentoring next-generation talent and leading SCN’s training initiatives.

Since 2001, and with vital partner support, SCN has offered more than 11,000 specialized training opportunities to more than 6,400 highly qualified personnel (HQP). To build an ever-growing and thriving community, the Network creates

an environment where talent can thrive. Mentorship, peer networking, funding, and career development support are vital tools in this approach — one that has yielded enormous success, creating a ‘sticky environment’ where SCN trainees are choosing to remain in Canada to work and live.

Read on to learn how SCN’s community is preparing tomorrow’s workforce, so they are primed to step into dynamic scientific careers and compete globally, positioning Canada at the fore of RM research.

“

ULTIMATELY, THE TRAINING I RECEIVED FROM SCN OVER THE YEARS HELPED ME CO-FOUND TISSUEX TECHNOLOGIES TO COMMERCIALIZE A TECHNOLOGY THAT WAS DEVELOPED IN THE LABORATORY SETTING FOR COMMERCIAL USE IN DRUG DISCOVERY.”

Dr. Mohsen Afshar, Co-founder and CTO at TissueX Technologies

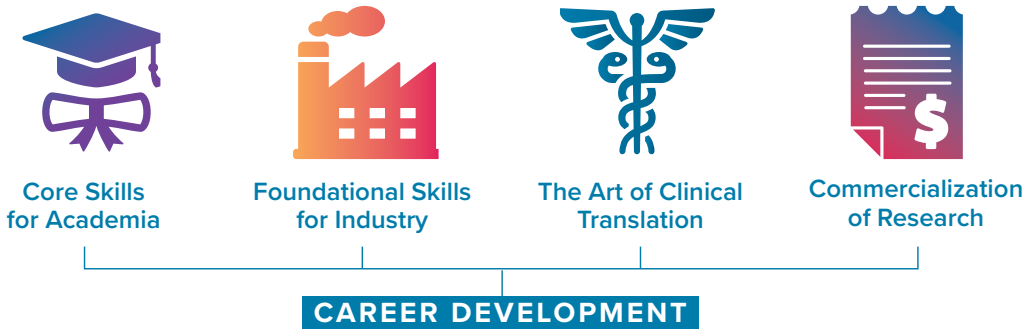
EQUIPPING THE NEXT GENERATION OF REGENERATIVE MEDICINE LEADERS

In fiscal year 2022–2023, SCN worked with several partners to offer 30 training events, including workshops, courses, exchanges, internships, webinars, and training through the Till & McCulloch Meetings. In total, SCN provided 1105 training opportunities to 608 individual trainees. An additional 180 trainees received hands-on lab experience through SCN funded stem cell and regenerative medicine research projects.

SCN's comprehensive training program spans four key pillars of activity, designed to:

- Promote rigour and reproducibility to maximize the translational impact of outputs arising from SCN research funding investments in regenerative medicine.
- Prepare HQP for careers in academia and industry.
- Accelerate Canadian regenerative medicine research by building competence in foundational skills and cutting-edge techniques.
- Support early career researchers in the development and success of new research programs.
- Facilitate the clinical and commercial translation of regenerative medicine discoveries.

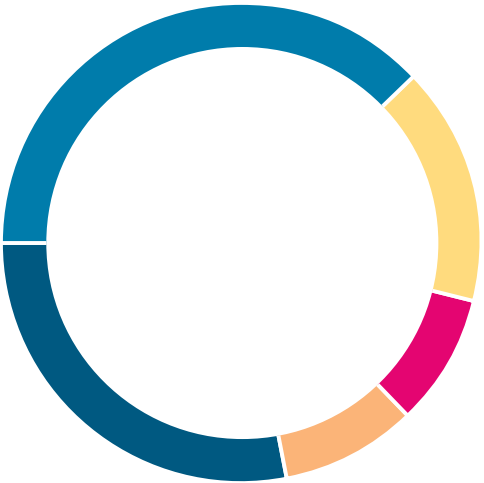
These training opportunities are at the heart of SCN's mission and provide a well-rounded experience for both established researchers and next-generation talent, driving forward a world-class community of excellence and collaboration in Canada's stem cell and regenerative medicine sector.



“The Stem Cell Network’s training program is like none other in Canada. From workshops, to fellowships, to opportunities to participate on committees and in conferences, SCN provides trainees and early career researchers with opportunities to advance their careers, establish networks, and meaningfully engage in Canada’s stem cell and regenerative medicine community.” — Priye Iworima, PhD Candidate, University of British Columbia

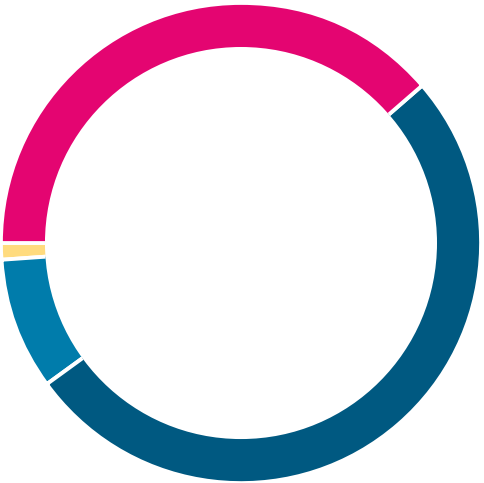
TRAINING PILLARS BREAKDOWN 2022–2023

- Core Skills for Academia **38%**
- Foundational Skills for Industry **16%**
- Commercialization of Research **9%**
- Accelerating Clinical Translation **9%**
- Other (e.g. travel awards, fellowships) **28%**



SCN TRAINEES BY GENDER 2022–2023

- Man **39%**
- Woman **52%**
- Not disclosed **9%**
- Non-binary **1%**



THE TRAINING YEAR IN REVIEW

MAY

RNA-SEQ ANALYSIS WORKSHOP

Training Pillar: Core Skills for Academia
Date: May 2–June 17, 2022
Location: Online
Partner: Ottawa Bioinformatics Core Facility (OHRI)
Attendees: 48
Through a mix of interactive lectures and computer lab exercises, participants learned about RNA-seq data acquisition and analysis, with valuable hands-on training.

CONNECTING CANADA AND THE U.K. PART 1: STEM CELLS AND REGENERATIVE MEDICINE SYMPOSIUM

Date: May 24, 2022
Location: Online
Partner: UK Regenerative Medicine Platform
Attendees: 53
This symposium introduced participants to the wealth of research being undertaken in the two countries. Featuring talks from expert speakers working in the areas of stem cells and regenerative medicine, the symposium provided a meaningful opportunity for participants to expand their networks internationally.

JUNE

SPOTLIGHT ON CLINICAL TRANSLATION: MAKING THE LEAP FROM THE LAB BENCH TO PHASE I CLINICAL TRIALS

Date: June 9, 2022
Location: Online
Partner: Medicine by Design
Attendees: 43
This workshop provided investigators and trainees with a basic understanding of the clinical pipeline, from essential pre-clinical studies to Phase I first in-human trials. An interactive Q&A session allowed participants to pose questions relevant to their research and network with clinical trial experts.

BIostatistics FOR Biomedical RESEARCHERS WORKSHOP

Date: June 14–16, 2022
Location: Online
Partner: University of Toronto
Attendees: 25
Biomedical researchers were introduced to basic statistical concepts and methods relevant to designing and analyzing experiments. This workshop also provided participants foundational learning in the use of discovery tools provided by data analysis and visualization software.



IGNITE

Securing the Future of Stem Cell and Regenerative Medicine Research

In June 2022, SCN brought together approximately 100 funded researchers from coast to coast for a one-day, in-person event focused on research security and building scientific excellence through inclusivity and diversity. IGNITE meetings will take place every two years at SCN, an opportunity for SCN-funded investigators to gather and focus on specialized topics not traditionally addressed at scientific meetings. IGNITE meetings also provide time and space for participants to collaborate, network, and exchange ideas.

JULY

TERMIS-AM 2022 PRE-CONFERENCE WORKSHOP — 3D BIOPRINTING: PRINCIPLES AND STRATEGIES FOR TISSUE ENGINEERING AND REGENERATIVE MEDICINE

Date: July 7, 2022
Location: Toronto (TERMIS 2022)
Partner: FluidForm and Aspect Biosystems
Attendees: 51
This workshop focused on strategies to overcome common challenges in tissue engineering using extrusion-based bioprinting methods. It featured expert speakers working in the field and a panel discussion with industry leaders on commercializing and translating 3D bioprinting.

CONNECTING CANADA AND THE U.K. PART 2: NETWORKING EVENT

Date: July 19, 2022
Location:
Partner: Medical Research Council
Attendees: 104
Leading up to the SCN and UK Medical Research Council’s International Exchange Programme, this event gave principal investigators a platform to promote their research program to potential exchange scientists. It also provided scientists in the early stages of their careers with an opportunity to connect with exchange hosts.



“

Through this workshop, I learned that I can determine whether factors significantly affect the readout of the experiments. This allows me to be more efficient in designing experiments, especially for optimization.” — Olivia Lee, Post-doctoral fellow, University Health Network

SEPTEMBER

FUNDAMENTALS OF R WORKSHOP

Date: September 7–28, 2022

Location: Online

Partner: BioCanRx

Attendees: 11

BioCanRx and SCN partnered to provide a multi-session introductory workshop equipping scientists with the tools and know-how to properly use the scripting language, R, to manage biological data-sets in their research.

DARING TO DARE® DEVELOPMENT PROGRAM

Date: September 9, 2022–
January 19, 2023

Location: Online

Partner: Tesselle Development

Attendees: 40

Many women early in their careers find themselves needing space to reflect, build confidence, and develop strategies to navigate the complexities of professional transition. This program, designed for early-career women in research, consisted of five virtual half-day workshops with coursework.

BEYOND ACADEMIA SEMINAR SERIES

Date: September 14, 2022; October 13, 2022; November 16, 2022; January 18, 2023; February 16, 2023; and March 15, 2023

Location: Online

Partner: Medicine by Design

Attendees: 302

This seminar aims to help trainees understand the career options available beyond academia, the skills required for certain positions, and some of the daily functions of those positions. Each session features two speaker presentations, a joint Q&A, and panel discussion.

JOB HUNT LIKE A PRO WEBINAR

Date: September 20, 2022

Location: Online

Partner: STEMCELL Technologies

Attendees: 59

This webinar shared the latest career tips and expert advice to help participants stand out in the job market. Industry experts discussed job search strategies, planning career moves, and making the best impression at the Till & McCulloch Meetings (TMM) Career Connect.



TILL & MCCULLOCH MEETINGS OCTOBER 2–5

TMM PRE-CONFERENCE WORKSHOP 1 — LEVELING UP ON INFLUENCE

Date: October 2, 2022

Location: Vancouver (TMM 2022)

Attendees: 28

Communication skills are a prized asset for all career choices. This workshop included a masterclass in communicating scientific research, a discussion with experts on pitching scientific ideas, and a pitch contest judged by the panel of experts.

TMM PRE-CONFERENCE WORKSHOP 2 — SURVIVING AND THRIVING

Date: October 2, 2022

Location: Vancouver (TMM 2022)

Attendees: 38

Intended for graduate students, this workshop covered aspects of project planning, experimental design, and writing a publishable story while giving attendees the opportunity to interact with panellists who shared their unique lived experiences and advice for surviving and thriving in graduate school.

VIRTUAL HUMAN DEVELOPMENT WORKSHOP

Date: October 5 and 6, 2022

Location: Vancouver (TMM 2022)

Attendees: 49

This inaugural workshop assembled a team of international experts to initiate the process of creating an innovative computer-based simulator of human embryonic development, allowing for computational experimentation with stem cells and human embryos without sacrificing living materials.



“

I used the concepts learned to rewrite my poster presentation for the next day. This allowed me to be more confident during my presentation because I knew that my speech was clear. Thank you!” — *Emilie Ollame-Omvane, CHU Sainte-Justine*



SINGLE CELL LEARNING SERIES WITH 10X GENOMICS

Date: October 12–November 2, 2022
Location: Online
Partner: 10X Genomics
Attendees: 89

This series offered researchers an opportunity to explore different ways in which single-cell sequencing can transform research projects, introducing researchers to single-cell technologies and their advantages while demonstrating the basics of experimental design and data analysis.

REGULATORY LITERACY COURSE

Date: October 14, 2022–January 20, 2023
Location: Online
Partner: weCANreg Inc.
Attendees: 21

SCN and weCANreg partnered to deliver the Regulatory Literacy Course, offering participants tailored project support from weCANreg through a series of four educational seminars; semi-monthly support meetings; and report presentations delivered to weCANreg coaches and course participants.

DRUG DISCOVERY IN STEM CELL AND ORGANOID MODELS

Date: October 19–20, 2022
Location: Online
Partner: McGill Regenerative Medicine Network
Attendees: 42

This two-day symposium focused on the tools necessary to undertake various types of screening in more relevant physiological models using patient-derived iPSCs and organoids. The symposium included both informational talks by renowned experts and a practical session focused on analyzing and visualizing single-cell biosensor data.

“

I really enjoyed the course. I've had some previous experience developing a CTA [clinical trial application], but not yet for a stem cell trial that we need to develop ourselves from scratch. I think after this course, I will be able to lead the lab and clinical team to develop necessary elements and submit a CTA for our autologous stem cell product.” — *Indri Purwana, Clinical Trial Coordinator, University of Alberta*

ECR PROGRAM: PROJECT MANAGEMENT

Date: November 8–15, 2022
Location: Online
Attendees: 17

Participants learned light-touch project management tools and processes tailored for research while also having an opportunity to share their experiences and knowledge.

“

Overall, the event helped me organize and manage different project budgets in our lab. Also, the Microsoft Excel templates provided were very useful in making our own budget templates.” — *Praveen Pedabaliyarasimhuni, McGill University*

BEST PRACTICES FOR COLLECTING, DOCUMENTING, AND MANAGING RESEARCH DATA AND RECORDS WORKSHOP

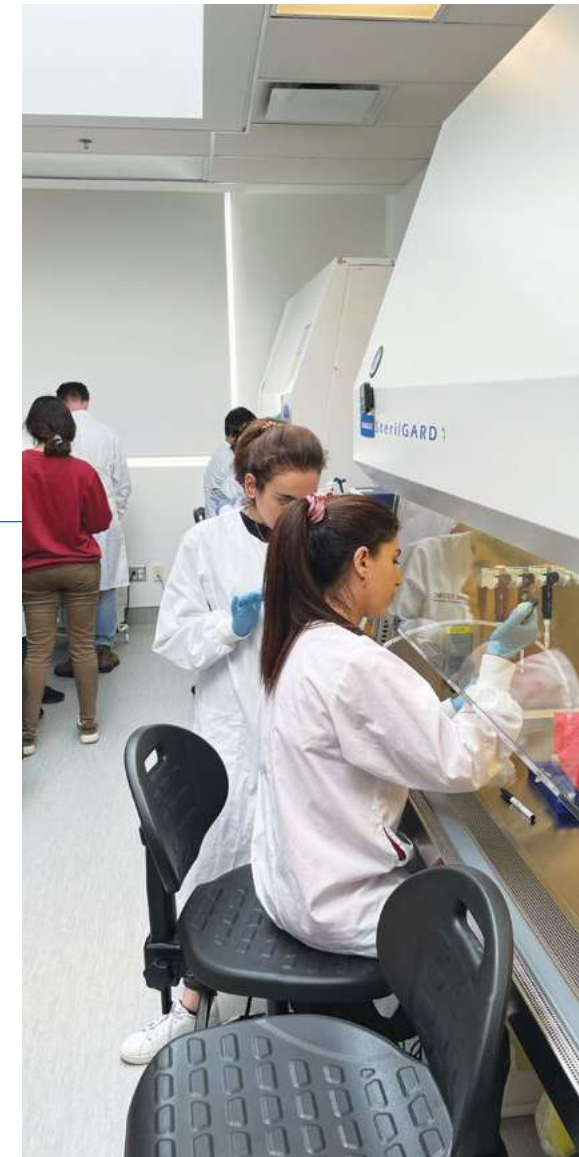
Date: January 7–February 27, 2023
Location: Online
Partner: BioCanRx
Attendees: 25

This four-session training workshop provided attendees with foundational knowledge in research data and record management best practices guiding the collection, documentation, and management of research data and records with an eye to clinical translation.

FUNDAMENTALS OF OPTICAL MICROSCOPY COURSE

Date: January 19–March 22, 2023
Location: Online
Partner: University of Calgary
Attendees: 16

This course covered the essential concepts required to design and carry out fluorescence imaging experiments with a wide-field or confocal microscope. Participants also had the opportunity to plan and present an imaging experiment directly related to their research.



FEBRUARY

UBC FLOW COURSE

Date: February 6–February 10, 2023

Location: Biomedical Research Centre, University of British Columbia, Vancouver

Partner: University of British Columbia

Attendees: 14

Participants of this course came away comfortable with flow cytometry samples and full understanding of troubleshooting strategies. The course maximized hands-on experience, with participants working in small groups using various instruments.

ACADEMIC INDUSTRY PARTNERSHIPS ROUNDTABLE

Date: February 7, 2023

Location: Online

Partner: adMare BioInnovations

Attendees: 38

This online roundtable brought together leading experts in academia and industry to provide insights into strategies for finding productive partners, best practices for aligning goals, structuring contacts, and enabling successful projects.



ECR PROGRAM: PRE- AND POST-AWARD FINANCIAL MANAGEMENT WEBINAR

Date: February 14, 2023

Location: Online

Partner: Hospital for Sick Children Grants Management Office

Attendees: 32

SCN and finance experts in the Grants Management Office at the Hospital for Sick Children partnered to host this webinar that provided attendees with methods for financial management at all stages of the grant and award life cycle.

SYNTHETIC BIOLOGY WORKSHOP

Date: February 20–24, 2023

Location: University of British Columbia, Vancouver

Partner: University of British Columbia

Attendees: 21

This workshop introduced stem cell and regenerative medicine researchers to the background, technical skill sets, potential applications, and ethical considerations of synthetic biology through on-site lab coursework, talks from experts, and group discussions.



MARCH

ECR PROGRAM: OPTIMIZING YOUR PUBLISHING STRATEGY

Date: March 2, 2023

Location: Online

Attendees: 25

This interactive session provided Early Career Researchers (ECRs) with strategic approaches to accelerate manuscript development and improve the impact of their publications. It featured talks from researchers at different career stages, insights from a journal editor, and a panel discussion.

“

I had done flow cytometry before, but during this workshop I realized that I have been wrong the whole time. This workshop was the most useful workshop I have ever had so far. I tried doing flow cytometry a few days after the workshop, and I could see the difference in my confidence in doing it. I need this technique frequently in my project.” — *Yeganeh Dorri Nokoorani, PhD Student, UBC*



INTERNSHIPS, FELLOWSHIPS,
AND EXCHANGES

Recognizing the importance of talent development, the Stem Cell Network leverages the strengths of its partners to provide tomorrow’s life science leaders with the skills and experience required to work in Canada’s burgeoning RM sector through a series of fellowships, internships, and exchanges.

The **SCN-Mitacs Industry-based Internship Partnership** pairs the brightest graduate students and postdoctoral fellows with Canadian RM-focused biotech companies that are moving innovative therapies and technologies into the marketplace. Running annually from 2022–2025, the program’s first set of interns were successfully placed in mid-2022.

In early 2023, SCN launched the second call for applications to fund up to six interns — a total of 10 for 2022–2024. The SCN-Mitacs Industry-based Internships are one of the Network’s most important training programs as they offer a unique opportunity for participants to gain on-the-job technical and business skills that will propel future careers in industry or academia forward.



HOSSEIN GOLZAR:
Company match: Allarta Life Science



RUCHI SHARMA:
Company match: Axolotl Biosciences



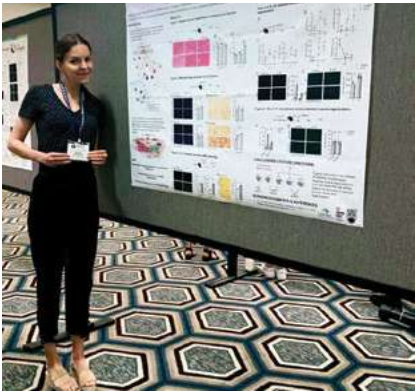
MAREK BUDZYNSKI:
Company match: Aspect Biosystems



JAMIE BEAULIEU:
Company match: BlueRock Therapeutics

INTERNATIONAL TRAVEL AWARDS PROGRAM

In the last year, SCN once again offered its **International Travel Awards Program** to trainees and highly qualified personnel (HQP). Twelve successful applicants received financial support to attend a diverse array of international conferences and meetings relating to stem cells, cell therapy, and regenerative medicine. The program also afforded trainees a prime opportunity to present their projects to an international audience, refine their communications skills, and contribute to heightening the visibility of Canadian research abroad.



The **J. Andrew McKee Fellowship in Type 1 Diabetes**, supported by SCN and JDRF, aims to help accelerate Canadian research, develop talent, and enhance Canada’s global leadership in type 1 diabetes research. Each year through 2026, SCN and JDRF are awarding one year-long fellowship, valued at CAD\$60,000 per year, for a fellow working at the JDRF Centre of Excellence at the University of British Columbia. The inaugural Fellow, **Dr. Karoliina Tuomela**, was named in 2022.

In the 2022–2023 fiscal year, the application process for the J. Andrew McKee Fellowship was reopened to welcome a second fellow for the 2023–2024 fiscal year. The successful candidate will commence their fellowship in mid-2023.

“

JDRF and SCN are huge networks of researchers across the country, across the continent, and really, across the world. Whenever you start bringing scientists together, particularly from different areas of research, there’s so much opportunity for learning and collaboration. It’s fantastic to be working in an area where there’s so much potential to see my research actually make a clinical impact – an impact that could really change someone’s life.” — *Dr. Karoliina Tuomela, Postdoctoral Research Fellow, BC Children’s Hospital Research Institute & University of British Columbia*



“

Thanks to the Stem Cell Network and UK-MRC for this great opportunity. This exchange provided me with several advantages, including international research collaborations, conducting research abroad, learning several new skills, networking, and a platform to present my research.”
— Dr. Ruchi Sharma, Postdoctoral Fellow, University of Victoria.

The **UK-Canada Exchange Programme** is administered by SCN and the UK Medical Research Council (MRC) to provide new skills to researchers and build linkages between U.K.- and Canada-based scientists in regenerative medicine. Following two showcase and networking events to foster deeper connections between and among Canadian and U.K. labs, the first set of exchanges began in January 2023. In total, 13 projects were successful, with 10 Canadian research scientists travelling to the U.K. to learn new skills, foster collaborations, and bring knowledge back to their Canadian research programs. The successful projects and awardees are detailed below. SCN will launch a new round of the exchange program in fall 2023.

2022/2023 UK-CANADA EXCHANGE PROGRAMME AWARDEES

PROJECT:

Developing a novel stem-cell derived therapy for biliary (liver) disease without the need for immunosuppression following transplantation

RESEARCHER	CANADA	Mina Ogawa, Scientific Associate	U.K.	—
LAB/INSTITUTE		Shinichiro Ogawa, University Health Network		Stuart Forbes, University of Edinburgh

PROJECT:

Understanding how skin stem cells respond to their environment during skin development and repair, guiding the development of targeted therapies to inhibit scar formation and skin fibrosis

RESEARCHER	CANADA	Fereshteh Younesi, PhD Student	U.K.	Thomas Kirk, PhD Student
LAB/INSTITUTE		Boris Hinz, University of Toronto		Emanuel Rognoni, Queen Mary University of London

PROJECT:

Patterning human stem cell differentiation and the mechanisms governing the fate of cells towards self-organization

RESEARCHER	CANADA	Tiam Heydari, PhD Student	U.K.	—
LAB/INSTITUTE		Peter Zandstra, University of British Columbia		Ge Guo, University of Exeter

PROJECT:

Engineering human pluripotent stem cells for improved transplantation of neural progenitor cells

RESEARCHER	CANADA	Danielle Serra, PhD Student	U.K.	Zhijun Wang, PhD Student
LAB/INSTITUTE		Michael Garton, University of Toronto		Tilo Kunath, University of Edinburgh

PROJECT:

Using a novel therapeutic target (PLAG1 transcription factor) to enhance human hematopoietic (blood) stem cell expansion in the lab for use in regenerative medicine

RESEARCHER	CANADA	Pratik Joshi, PhD Student	U.K.	—
LAB/INSTITUTE		Kristin Hope, University of Toronto		Katherine Bridge, University of York

PROJECT:

Generating a 3D human gastruloid (stem cell aggregate) model to study human heart development and disease

RESEARCHER	CANADA	Matthew Lok-Man, PhD Student	U.K.	—
LAB/INSTITUTE		Stephanie Protze, University Health Network		Naomi Morris, The Francis Crick Institute

PROJECT:
Modelling postnatal skeletal tissue morphogenesis and skeletal stem cell self-renewal

RESEARCHER	CANADA	Spencer Short, MD/PhD Student	U.K.	Rodrigo Garcia-Tejera, PhD Student
LAB/INSTITUTE		Daniel Coutu, Ottawa Hospital Research Institute		Linus Schumacher, University of Edinburgh

PROJECT:
Using organoid transplantation to reverse intestinal failure

RESEARCHER	CANADA	Bo Li, Research Associate	U.K.	Jayaram Sivaraj, Surgical Trainee
LAB/INSTITUTE		Agostina Pierro, The Hospital for Sick Children		Paolo de Coppi, University College London

PROJECT:
Modelling the neuroimmune system

RESEARCHER	CANADA	Ruchi Sharma, Post-doctoral Fellow	U.K.	Wendy Balestri, Post-doctoral Fellow
LAB/INSTITUTE		Stephanie Willerth, University of Victoria		Jehan El-Jawhari, Nottingham Trent University

PROJECT:
Determining the mechanisms that control cell fate during cell competition in human pluripotent stem cell cultures

RESEARCHER	CANADA	Ali Shahdoost, PhD Student	U.K.	Christopher Price, Post-doctoral Fellow
LAB/INSTITUTE		Nika Shakiba, University of British Columbia		Ivana Barbaric, The University of Sheffield

PROJECT:
Developing a novel stem cell-derived encapsulated liver tissue for drug discovery and development

RESEARCHER	CANADA	—	U.K.	Jenny Gehlen, PhD Student
LAB/INSTITUTE		Massimiliano Paganelli, CHU Sainte-Justine		Rocio Sancho, King's College London

PROJECT:
Using microinjections and flow to enhance maturation of blood vessel organoids into regenerative medicine tools

RESEARCHER	CANADA	—	U.K.	Gideon Pomeranz, PhD Student
LAB/INSTITUTE		Josef Penninger, University of British Columbia		David Long, University College London

PROJECT:
Investigating the epigenetic factors underlying neural stem cell quiescence during aging to promote brain white matter regeneration

RESEARCHER	CANADA	—	U.K.	Lucy Doyle, PhD Student
LAB/INSTITUTE		Freda Miller, University of British Columbia		Rob Illingworth, University of Edinburgh



MOBILIZING KNOWLEDGE

What’s the point of science if its learnings are never shared or translated? Knowledge mobilization is integral for moving research results forward and ensuring SCN investments of public funding ultimately result in tangible health, social, and economic benefits.

SCN’s knowledge mobilization program focuses on creating opportunities for researchers and trainees to exchange, collaborate, and innovate. It also enables policy and regulatory conversations, provides public education and patient engagement, and contributes to a strong science culture in Canada. Knowledge mobilization is at the heart of community and woven into all SCN programs and activities. Network researchers recognize the importance of knowledge exchange, transfer, and translation. Nationally and internationally, they are

known for their commitment to knowledge mobilization. This year, publication outputs, conference engagements, the filing/licensing of intellectual property, and the utilization of research for both policy development and public awareness all reflect this.

Read on to learn more about the game-changing advancements in SCN’s community and how the Network is translating and mobilizing research for the benefit of all Canadians.

“

SCN INVESTIGATORS ARE INTERNATIONALLY KNOWN FOR THEIR IMPORTANT CONTRIBUTIONS TO THE STEM CELL FIELD, INCLUDING THROUGH THE ACTIVE DISSEMINATION AND KNOWLEDGE MOBILIZATION OF ETHICS AND POLICY RESEARCH FOR THE BENEFIT OF SOCIETY AND SCIENCE.”

Cate Murray, President and CEO, Stem Cell Network

DID YOU KNOW?

In the past fiscal year there were 146 papers published based on SCN-funded research. There were also 55 new patent applications, 12 patents issued, and 2 licences granted in the same period.

MOBILIZING STEM CELL AND REGENERATIVE MEDICINE RESEARCH

SCN’s knowledge mobilization program is multifaceted, drawing upon and amplifying the important work taking place in both SCN’s research and training programs. Collaborating with numerous partners over the last fiscal year, SCN advanced its knowledge mobilization program by raising the profiles of those in the Network, fuelling research commercialization, and sharing, more broadly with Canadians and decision makers, the latest advances in stem cell and regenerative medicine research.

To highlight and amplify the novel work taking place across the Network, in fiscal 2022-2023 SCN showcased several research projects on its digital platforms and launched a new blog, Insights from the Network, covering topics from advancements in human pluripotent stem cell research, to adopting diverse and inclusive practices on research teams. Two such blog posts are highlighted below.



RESTORING REGENERATION IN CHRONIC LIVER DISEASE

In chronic liver disease patients, the liver is damaged and the capacity for the liver to regenerate is greatly reduced. Dr. Mamatha Bhat and her team at the University Health Network are studying these scarred livers to learn about healing pathways and find new therapeutic targets. The team hopes to one day use its expertise in bioengineering and gene therapy to create new therapies that will yield personalized treatments for chronic liver disease patients.

“

One in four Canadians are affected by liver disease, and I have seen many of these patients in my clinical work as a transplant hepatologist. For many patients awaiting a liver transplant, a match will never be found so new therapeutics that extend the lives of patients with liver disease are desperately needed. My research program aims to provide new hope for them by developing a novel treatment strategy in the world of transplant and regenerative medicine.” — Dr. Mamatha Bhat

STEM CELLS ON THE ROCK(S) Successes, challenges and opportunities for stem cell research in Newfoundland and Labrador

Dr. Jessica Esseltine and her team at Memorial University of Newfoundland are working to better understand Arrhythmogenic right ventricular cardiomyopathy (ARVC), a heart disease inherited through a genetic mutation most prevalent among a group of families in Newfoundland and Labrador and known as the ‘Newfoundland curse.’

“

We have a dedicated group of families invested in helping with our research. Although concentrated in NL, the heart disease (ARVC) caused by this mutation is seen worldwide. This research will allow us to understand basic ARVC biology, which may lead to new therapies based on understanding the causes of the variation in disease presentation we see, leading to true precision medicine.” — Dr. Jessica Esseltine



RECRUITING TALENT TO CANADA

In addition to highlighting the work of Network investigators, this past year SCN partnered with EduCanada to help address the ongoing challenges faced by Canadian researchers in recruiting exceptionally talented trainees to work in academic labs. Together, SCN and EduCanada developed [promotional videos](#) highlighting Canada as an

attractive study destination for international students interested in stem cells and regenerative medicine. The videos feature prominent researchers who moved to Canada to pursue their studies and launch their scientific careers. In FY24 the videos will be rolled out in more than 14 countries including Japan, Brazil, and Kenya.

PLACING CANADIAN RESEARCHERS ON THE INTERNATIONAL STAGE

In this past year, SCN undertook various activities to raise the profile of Canadian RM research on the world stage and help foster an international community of excellence and collaboration.

In 2022, SCN hosted the inaugural **Global Virtual Human Development Meeting** at the Till & McCulloch Meetings. This inaugural workshop was kickstarted by three SCN researchers and drew together 51 researchers and trainees from across Canada and the world, including Japan, Spain, the U.S.A., the U.K., Germany, and Switzerland. At this first meeting, the Virtual Human Development Consortium was born — a group of multidisciplinary, international experts collaborating to create a ‘game-changing’ computer-based simulator of human embryonic development.

SCN has continued its successful partnership with the international journal **Current Protocols in Stem Cell Biology**, highlighting the work and research advances of SCN investigators. In 2022, an additional three

Network investigators submitted articles to the journal, bringing the total submissions to 13. This ongoing partnership with Current Protocols is a valuable opportunity for the Network to share and exchange research protocols and viewpoints at a global level, thereby accelerating growth and discoveries.

SCN is proud to have participated in, and provided expertise to, the **International Society for Stem Cell Research’s Standards Initiative for Pluripotent Stem Cell Research**. This initiative seeks to improve the rigour of stem cell research by developing standards and recommendations for best practices to improve the reproducibility of research. SCN contributed to one of the four working groups comprising 25 experts from 14 countries, including Canada, the U.S.A., the U.K., Japan, and Germany. In October 2022, the groups developed the standards and recently published them for the international community.

Also in 2022, SCN continued engaging in **national and international scientific**

conferences. This not only ensured a flow of new scientific information but also highlighted Canadian expertise internationally and promoted the development of valuable new research collaborations. SCN’s participation included having its members contribute as speakers and its trainees participate in presenting scientific posters.

As the fiscal year came to a close, SCN began laying the groundwork for two additional international collaborations. The first is a virtual trainee speaker series where SCN partners with stem cell and regenerative medicine networks in Australia, Japan, Germany, Belgium and South Korea to profile the research achievements of outstanding trainees. The second collaboration is with the Japan Agency for Medical Research and Development to create a virtual ‘showcase event’ to explore the innovative and impactful stem cell and regenerative medicine research activity in both countries.

FUELLING COMMERCIALIZATION

Over the past two decades, thanks to SCN’s research support, more than 20 biotechnology companies have been spun out or catalyzed in Canada. Today, companies such as Satellos Bioscience and Inspire Therapeutics are pushing forward with novel regenerative medicine therapies. Satellos is focused on developing a drug to address muscle degeneration that promises to benefit thousands of young boys and men living with muscular dystrophies. Meanwhile, Inspire is testing a game-changing gene therapy for the lungs that will benefit premature infants and those struggling with debilitating lung diseases such as Cystic fibrosis. Though SCN is primarily a research and training network, it works to ensure SCN-funded research has a path forward. Accordingly, the Network supports commercialization through several mechanisms, including:

- Providing research funding support through programs such as the Fuelling Biotechnology Partnerships program, which allows academic researchers and emerging Canadian biotechnology companies to partner together to develop or validate intellectual property;
- Allowing investigators to use a portion of their research awards to offset costs associated with IP filings;
- Offering free, bilingual commercialization resources focused on working with technology transfer offices, identifying, protecting, and developing intellectual property; and,
- Delivering training for SCN investigators and trainees interested in commercialization.

Toward the end of the fiscal year, SCN began laying the groundwork for a new partnership — formally announced in May 2023. This partnership leveraged the existing relationship between OBIO (Ontario Bioscience Innovation Organization) and SCN. As a not-for-profit, OBIO has a mandate to further the commercialization of life science innovations. This is achieved through bespoke programs that SCN is utilizing to ensure the outputs of its research foster health and economic benefits for Canada. The focus of the partnership and associated programs is to provide specialized training for Network scientists aspiring to launch companies, SCN trainees wishing to pursue careers in industry, and companies seeking investment and longer-term support.



EDUCATING CANADIANS

SCN has a long and deep history of community outreach and education activities. This past fiscal year was no different. From youth education initiatives, panel discussions, and increasing public awareness of stem cell and RM research through digital media, the Network remained steadfast in its efforts to raise awareness among youth, the general public, and federal decision makers.

INSPIRING CANADA’S FUTURE SCIENTISTS

StemCellTalks is a national outreach initiative that promotes stem cell discovery and dialogue in high- school classrooms across Canada. From March 2022 to March 2023, more than 1,200 high-school students participated in stem cell science learning at eight sites across the country. Made possible through a

partnership between SCN and Let’s Talk Science, StemCellTalks takes the form of a full day (half day when virtual), highly interactive symposium that provides youth with a unique opportunity to connect with experts in the stem cell community and explore fundamental questions such as: What is a stem cell? How are stem cells used? and What constitutes safe, effective, and ethical stem cell therapies?

2022–2023 STEMCELLTALKS SYMPOSIUMS			
Date	Site	Theme	Participants
March 10–11, 2022	Toronto and Hamilton	Stem Cells in Development and Disease	100
March 22, 2022	Guelph	Diabetes and Regenerative Medicine	159
May 13, 2022	Calgary	Stem Cells and Future Careers	475
May 17, 2022	London	Stem Cell Therapies for Vision Loss	117
May 26, 2022	Montreal	Stem Cells Therapy and Translation	98
June 9, 2022	Vancouver	Stem Cells 101	193
March 30, 2023	Ottawa	Clinical Applications of Stem Cells Across Diseases	100
TOTAL			1,242



New to the SCN–Let’s Talk Science partnership this year was the addition of Virtual Symposia to connect high-school students and educators with leading STEM researchers and influencers to discuss the impact of their

research, careers, and relevant global and national issues and emerging topics. The goal of this series is to inspire, fuel critical-thinking, and prepare high-school students to meet the needs of tomorrow. National partners, including

the Canadian Space Agency, ArcticNet, Royal Society of Canada, and Genome Canada, together hosted four virtual symposia — with two focusing on regenerative medicine and SCN investigators.

Date	Topic	Live Youth Interactions	Youth Interactions from Recording
October 20, 2022	Let’s Talk Space Exploration	975	718
November 17, 2022	Parlons d’exploration spatiale	380	290
December 1, 2022	Let’s Talk Misinformation	331	738
February 9, 2023	Let’s Talk the Future of Medicine	408	425
TOTAL		2,094	2,171

December 1: Let’s Talk Misinformation (SCN speaker, **Professor Timothy Caulfield**)
February 9: Let’s Talk the Future of Medicine (SCN speaker, **Professor Molly Shoichet**)



WOMEN SCIENTISTS POWERING RESEARCH

In February 2023, SCN gathered researchers from across Canada to meet with Parliamentarians and share a simple message: *stem cell and regenerative medicine research will change the face of health care while generating economic gains and job creation for Canada. Now is the time to take notice and champion this game-changing field.*

Held on the heels of International Day of Women and Girls in Science, this event showcased the highly skilled and talented women comprising Canada’s stem cell research community. More than 20 women researchers and trainees were officially welcomed by Valerie Bradford, Member of Parliament for Kitchener South–Hespeler and a member of the Standing Committee on Science and Research. Together, they gathered on Parliament Hill to take part

in meetings and events to share how their work is making strides in combating illness and diseases such as type 1 diabetes, muscular dystrophy, sepsis, and blood cancer.

This day on Parliament Hill recognized the important support that governments of all stripes have contributed to Canada’s life sciences community while shining a spotlight on the talented women leading the regenerative medicine field and developing the health innovations of tomorrow. Additionally, having the opportunity to connect directly with researchers and trainees afforded Parliamentarians the opportunity to learn more about the field and the state of research, thereby allowing them to be better informed for conversations with other policy-makers and constituents interested in health research.

CONNECTING WITH CANADIANS

Over the course of the last fiscal year, SCN also worked to connect with the public and federal decision makers to highlight the innovative research being conducted across Canada in stem cell and regenerative medicine. Activities included, for example, participating in events such as the Canadian Science Policy Conference and Game Changer luncheons hosted by Research Canada.

SCN President and CEO, Cate Murray, was also a guest on two podcasts this year discussing advances in regenerative medicine research, the [Unlikely Innovators](#) and [the Raitt Stuff](#). In October 2022, for Stem Cell Awareness Day, SCN launched a new video to explain to the public how researchers use stem cells to find treatments for disease and illness. The campaign was highly successful,

reaching more than 7,000 views online in English and French. Finally, in January 2023, Ms. Murray joined the heads of adMare BioInnovations and Genome Canada at the Canadian Club of Ottawa to discuss Canada’s life sciences ecosystem and how each organization continues making a valuable impact, enabling Canada’s science community to compete on the global stage.



PHOTO CREDIT: Canadian Club of Ottawa



PHOTO CREDIT: Research Canada





TILL & MCCULLOCH MEETINGS

The Till & McCulloch Meetings (TMM), hosted by the Stem Cell Network, is Canada’s premier stem cell and regenerative medicine research event, bringing together our community of stem cell and regenerative medicine scientists, clinicians, bioengineers, and ethicists, as well as representatives from industry and government and the health and non-profit sectors. The event showcases Canada’s place in the global stem cell ecosystem and provides tremendous opportunity for networking and knowledge exchange.

TMM HAS EVERYTHING I WANT IN A CONFERENCE ATMOSPHERE: THE ABILITY TO LEARN, NETWORK, AND MAKE NEW FRIENDS. I AM GLAD I AM NOT ALONE IN THIS; THESE THREE THEMES SEEM TO BE WHY OTHERS LOOK FORWARD TO ATTENDING TMM YEAR AFTER YEAR. BASED ON MY COLLEAGUES GETTING JOB OFFERS THROUGH TMM, IT IS CLEARLY MORE THAN AN EVENT TO SIMPLY SHARE WHAT YOU HAVE BEEN GRINDING AWAY AT IN YOUR LABORATORY. THERE ARE OPPORTUNITIES HERE TO SET UP THE NEXT STAGE IN YOUR CAREER.”

Tyler Wenzel, University of Saskatchewan, Trainee Communications Committee

TMM 2022

In 2022, TMM was held in-person from October 3–5 in Vancouver, with record attendance of more than 500 delegates from across Canada and abroad.

The conference included an exceptional scientific program covering a broad range of areas, including cell therapies for cardiac disease and diabetes, misinformation and public trust in science, and clinical advancement of regenerative medicine therapies. Dr. Catriona Jamieson, from the University of California San Diego and Sanford Stem Cell Clinical Center, gave the keynote address on her discoveries and

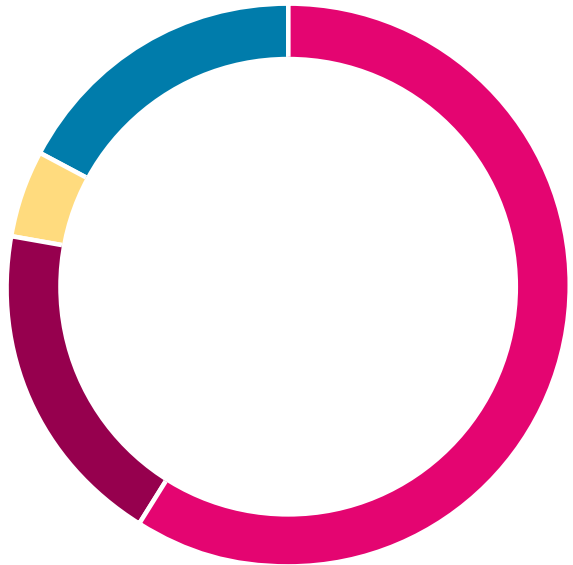
pioneering cancer stem cell research which have informed the development of cancer stem cell targeted therapies for the treatment of leukemia.

TMM delegates also heard from two patient speakers, Eddyson Chery, who spoke about his experience with COVID-19, and Karen Peat, who took part in a stem cell trial focused on type 1 diabetes. Additionally, for the first time, the conference hosted a Talking Circle that explored First Nations and Métis perspectives on tissue engineering and regenerative medicine.



OUR DELEGATES

- Graduate Students and Post-Docs **59%**
- Researchers and Principal Investigators **19%**
- Not-for-Profit Representatives **5%**
- Industry Representatives **17%**



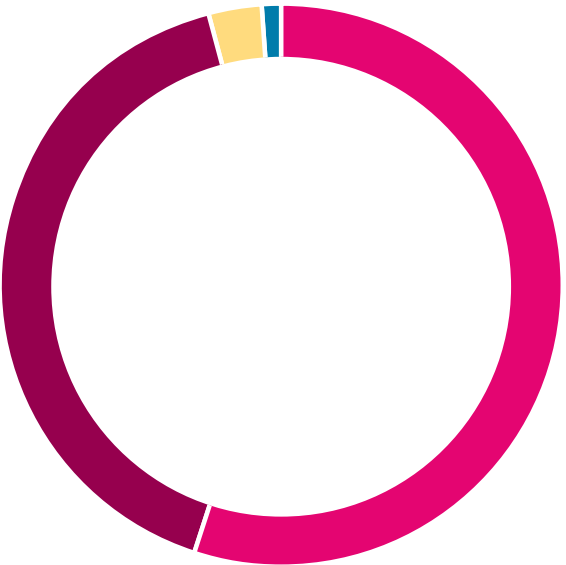
Traditionally, the **Till & McCulloch Award** is presented annually to a Canadian-based researcher who has contributed exceptionally to global stem cell research in that year. In 2022, a special Lifetime Achievement Award was presented to Dr. Connie Eaves of the University of British Columbia and Terry Fox Laboratory in recognition of her longstanding and pivotal contributions to stem cell research and her dedication to training the next generation of scientists. Also recognized for outstanding work in the stem cell and regenerative medicine field was Dr. Tyson Ruetz who received the 2022 **Drew Lyall Award of Excellence**. This award is given annually to the lead trainee author of the highest-ranked abstract.

New to TMM in 2022 was **Career Connect**, an inaugural career expo, connecting TMM delegates with 13 companies and five principal investigators showcasing their organizations, labs, and projects. A major success by all accounts, this event will be held at future Till & McCulloch Meetings.

The 2022 conference was another successful iteration of the Till & McCulloch Meetings. Planning for TMM 2023 is well underway and we are looking forward to connecting with our community from October 23–25 in Toronto.

GENDER BREAKDOWN

- Woman **55%**
- Man **41%**
- Prefer Not to Answer **3%**
- Non-binary **1%**





WHAT I REALLY APPRECIATE IN CANADA AND WITH THE STEM CELL NETWORK IS THE AMOUNT OF DIVERSITY AND EQUITY I EXPERIENCE. I LOOK AROUND AND SEE SO MANY WOMEN WHO ARE SUCCESSFUL PROFESSORS AND ENTREPRENEURS. AS A SCIENTIST IN CANADA, I DON'T HAVE TO THINK ABOUT MY NATIONALITY OR GENDER. I CAN FOCUS ON WHAT I LOVE AND DO BEST — SCIENCE.”

Dr. Anastassia Voronova, University of Alberta

EQUITY, DIVERSITY, & **INCLUSION**

SCN is committed to advancing equity, diversity and inclusion and employs an equity, diversity, and inclusion (EDI) lens in all its activities and programs. For several years, SCN has been working avidly to incorporate EDI considerations in all its activities — including its research, training, and knowledge mobilization programming.

In the Network’s research program, SCN requires EDI plans for all funded research projects and reviews all research applications through an EDI lens, considering geography, career stage, gender, and under-represented groups. In our training program, SCN strives for gender balance and inclusion of under-represented groups in courses, workshops and exchanges. SCN also offers dedicated and targeted training to certain

groups of individuals, such as the Daring to Dare® program with Dr. Sandrine Soubes from Tesselle Development, a specialized career development program for women trainees.

Read on to learn more about the Network’s EDI activities and how SCN is fostering a culture of inclusivity and diversity in all we do.

FOSTERING A CULTURE OF INCLUSIVITY AND DIVERSITY

This past fiscal year, the Network continued its dedicated efforts to advance EDI initiatives, create spaces for under-represented groups, and consider the accessibility of its programming and offerings.

In June 2022, SCN held a half-day session for SCN-funded investigators, Board, and RMC members focused on building inclusive and equitable research environments. This training was delivered by renowned biochemist and EDI expert Dr. Imogen Coe and EDI specialist Ana Sofia Barrows. Attendees were provided with resources and encouraged to take all learnings back to their labs and research teams.

In October 2022, at the Till & McCulloch Meetings, SCN was honoured to be welcomed by Spakwus Slolem, members of the Squamish Nation, who officially opened the conference through traditional dance and storytelling. TMM 2022 also included a special lunchtime Talking Circle focused on Indigenous perspectives on regenerative medicine where delegates heard from academics, medical practitioners, and patients.

Also in the fall, for Round 2 of its funding competition, SCN made purposeful and dedicated changes to its research funding application process to require more comprehensive EDI plans in applications and revising application forms

to incorporate inclusive language and expanded options for self-identification sections (e.g., the inclusion of population groups and pronoun options). Additionally, the Network developed a free web-based resource in English and French for applicants to consider when developing EDI plans for their funding applications. Finally, SCN provided increased support to its Research Management Committee this year by offering guidance for scoring and assessing EDI plans in applications. This also included contracting Dr. Imogen Coe to lead a 90-minute seminar for RMC members in June 2023 to delve deeper into this topic.

SUPPORTING CAREER DEVELOPMENT FOR WOMEN TRAINEES THROUGH DARING TO DARE®

This year, SCN was proud to offer the Daring to Dare® program as part of its training offerings. This specialized program was targeted specifically to women trainees in stem cell and regenerative medicine and focused on career transitions and creating safe spaces to reflect, have conversations with peers, build confidence,

and develop strategies to navigate the complexities of building a career in science. With more than 40 attendees, the program consisted of five virtual half-day workshops held between September 2022 and January 2023 (with coursework between sessions).

As the fiscal year concluded, SCN forged a new partnership with the University of British Columbia and its Faculty of Medicine’s Centre of Excellence for Indigenous Health. This partnership will enable up to 25 Indigenous youth to participate in the 2023 UBC Summer Science Program, many of whom travel from remote areas. As part of the week-long camp, Indigenous high-school

students will dive into several STEM fields, including a dedicated day on stem cell and regenerative medicine led by SCN-funded investigators and trainees.

Finally, SCN remains steadfastly committed to the Government of Canada’s 50–30 Initiative to increase representation and inclusion of diverse groups in workplaces. In the past fiscal year,

46% of SCN’s Board of Directors identify as women, with 31% of directors identifying from equity-deserving groups. Seventy-five percent of SCN’s senior management team identify as women, while 25% of the Network’s 16-member Research Management Committee identify as women.

DID YOU KNOW?

Websites should be designed in a certain way to ensure they are accessible to people with disabilities? In December 2022, with accessibility in mind, SCN updated its website to enhance overall navigation. This included making changes to colours to ensure a contrast ratio of 3:1 between non-text elements and their backgrounds, which helps visually impaired users better perceive graphics and text.





SCN'S BOARDS & COMMITTEES^Δ

BOARD OF DIRECTORS

Declan Hamill, Chair

Vice President, Policy, Regulatory, and Legal Affairs, Innovative Medicines Canada

Nadine Beauger*

Special Advisor, IRICoR

Sharon Colle

Former President & CEO, Fighting Blindness Canada

Julie Fradette

Professor, Université Laval, Researcher, Centre recherche en organogénèse expérimentale (LOEX), at the CHU de Québec-Université Laval

Gail Garland

Former Chief Executive Officer, Ontario Bioscience Innovation Organization (OBIO®)

Deborah Gordon-El-Bihbety***

President & CEO, Research Canada

Michael Kallos

Professor and Head, Biomedical Engineering, University of Calgary

Sharon Louis

Senior Vice President, Research & Development, STEMCELL Technologies

Debra Lynkowski**

Chief Operating Officer, Ottawa Hospital Research Institute

Gordon C. Mccauley

President & CEO, adMare BioInnovations

Stephanie Michaud**

President & CEO, BioCanRx

Tamer Mohamed

President & CEO, Aspect Biosystems Ltd.

Reza Moridi

Senior Fellow, Massey College, University of Toronto

Janet Rossant

President & Scientific Director, Gairdner Foundation; Chief of Research Emeritus, The Hospital for Sick Children

Michael Rudnicki

Scientific Director, Stem Cell Network; Senior Scientist & Director, Regenerative Medicine Program and Sprott Centre for Stem Cell Research, Ottawa Hospital Research Institute

Bernard Thébaud

Associate Scientific Director, Stem Cell Network; Senior Scientist, Regenerative Medicine, Ottawa Hospital Research Institute & CHEO Research Institute Neonatologist, Division of Neonatology, The Ottawa Hospital & CHEO; Professor of Pediatrics, University of Ottawa; University of Ottawa Partnership Research Chair in Regenerative Medicine

^Δ As of March 31st, 2023
*Term began in November 2022
**Term ended in November 2022
***Stepped down from Board in October 2022

A LOOK AHEAD

This year's annual report highlights the many activities that took place in fiscal 2022–2023 and the incredible advancements, research, and partnerships that were Network hallmarks.

Powered by more than two decades of success, SCN has worked tirelessly to build a robust national network through programs that have encouraged collaboration and a multi-disciplinary approach to advancing stem cell science. Knowing the strength and talent of Canada's stem cell and regenerative medicine community, the future looks bright for Canadian achievement and know-how in the field. This potential extends far beyond Canada's borders, as Canadian researchers and innovators continue influencing the global field. Year over year, this dedicated, interconnected SCN community elevates

the field of regenerative medicine and drives innovations forward for a healthier, more prosperous Canada.

Going forward, the plan is to grow the Network based on those principles that have served us so well for more than 20 years, namely: fostering community and collaboration, advancing research, and engaging closely with our partners.

In short, SCN will continue mobilizing the knowledge, ideas, and people at the heart of Canadian research. From innovation to translation, from policy to commercialization, across the entire research continuum, and at all stages of the research pipeline, the Stem Cell Network will continue powering regenerative medicine for the benefit of all.

Stay tuned. There is much more to come.

RESEARCH MANAGEMENT COMMITTEE

Michael Rudnicki, Chair

Scientific Director, Stem Cell Network; Senior Scientist and Director, Regenerative Medicine Program and Sprott Centre for Stem Cell Research, Ottawa Hospital Research Institute

Bernard Thébaud, Vice Chair

Associate Scientific Director, Stem Cell Network; Senior Scientist, Regenerative Medicine, Ottawa Hospital Research Institute and CHEO Research Institute Neonatologist, Division of Neonatology, The Ottawa Hospital and CHEO; Professor of Pediatrics, University of Ottawa; University of Ottawa Partnership Research Chair in Regenerative Medicine

Wing Chang

Director of Tissue Stem Cell Biology, STEMCELL Technologies Inc.

Dean Fergusson

Senior Scientist and Director, Clinical Epidemiology Program, Ottawa Hospital Research Institute; Full Professor, Departments of Medicine, Surgery, and School of Epidemiology and Public Health, University of Ottawa; OHRI/ uOttawa Clinical Epidemiology Program Endowed Chair; Scientific Lead, Ontario SPOR SUPPORT Unit, Government of Ontario and the Canadian Institutes of Health Research

David Glass

Vice-President, Research, Regeneron Pharmaceuticals; Senior Lecturer, Department of Cell Biology, Harvard Medical School; Adjunct Professor, Department of Genetics and Development, Columbia University Vagelos School of Medicine

Samer Hussein

Associate Professor, Université Laval; Researcher, Oncology Division, Centre Hospitalier Universitaire (CHU) de Québec-Université; Laval Research Center

Natasha Kekre

Scientist, Clinical Epidemiology Program, Ottawa Hospital Research Institute; Hematologist, Transplant and Cellular Therapy Program, The Ottawa Hospital; Associate Professor, Faculty of Medicine, University of Ottawa

Gregory Korbitt

Professor, Department of Surgery, University of Alberta; Scientific Director, Alberta Cell Therapy Manufacturing Facility; Director, Alberta Diabetes Institute’s Histology Core Lab

Debra Matthews

Assistant Director for Science Programs, Johns Hopkins Berman Institute of Bioethics; Associate Professor, Department of Genetic Medicine, Johns Hopkins University School of Medicine

M. Cristina Nostro

Senior Scientist, McEwen Stem Cell Institute, University Health Network; Associate Professor, University of Toronto

Chantale Pambrun

Senior Medical Director, Innovation and Portfolio Management, Canadian Blood Services; Adjunct Professor, Department of Pathology and Laboratory Medicine, University of Ottawa

Michael Parr

Director of Formulations and Process Development, Evonik Vancouver Laboratories

Aime Phinney

Senior Director, Program Development and Partnership team, adMare BioInnovations

Cheryle Seguin

Associate Professor, Department of Physiology and Pharmacology, Western University

Leigh Turner

Associate Professor, Center for Bioethics, School of Public Health, and College of Pharmacy, University of Minnesota

Michael Underhill

Professor, Department of Cellular and Physiological Sciences, University of British Columbia

PEER REVIEW COMMITTEE MEMBERS

Ivana Barbaric

Senior Lecturer, Stem Cell Biology, University of Sheffield, U.K.

Andrew Brack

Professor, Orthopaedic Surgery, School of Medicine, University of California San Francisco

Dennis Clegg

Professor and Co-Director, Center for Stem Cell Biology and Engineering, University of California, Santa Barbara; Co-Principal Investigator of The California Project to Cure Blindness

Gay Crooks

Rebecca Smith Endowed Professor, Department of Pathology & Laboratory Medicine and Professor of Pediatrics, David Geffen School of Medicine, University of California, Los Angeles; Director, DGSOM I3T; Director, Cancer and Stem Cell Biology Program, Jonsson Comprehensive Cancer Center, University of California, Los Angeles

Robert Deans

Chief Scientific Officer, Synthego

Brian Diekman

Assistant Professor, Biomedical Engineering, University of North Carolina at Chapel Hill

Brad Doble

Associate Professor & Bihler Chair in Stem Cell Research, University of Manitoba

Rod Dunbar

Professor, Faculty of Science, Biological Sciences, University of Auckland

Stuart Forbes

Director, Institute for Regeneration and Repair and Centre for Regenerative Medicine; Director, UKRMP The Engineered Cell Environment Hub; Professor, Transplantation and Regenerative Medicine, University of Edinburgh

Brigitte Gomperts

Associate Director, Translational Research, UCLA Broad Stem Cell Research Center; Professor, Pediatrics; Pulmonary Medicine, University of California, Los Angeles

Jay Gopalakrishnan

University Professor, Heinrich-Heine-University, Düsseldorf

Emanuela Gussoni

Associate Professor, Pediatrics, Harvard Medical School

Ola Hermanson

Professor, Neuroscience, Karolinska Institutet, Stockholm

Ngan Huang

Associate Professor, Department of Cardiothoracic Surgery, Stanford University

Tilo Kunath

Professor & Chair, Regenerative Neurobiology, University of Edinburgh; Group Leader, Centre for Regenerative Medicine, University of Edinburgh

Jeanne Loring

Professor Emeritus, Department of Molecular Medicine, Scripps Research Institute

Kirstin Matthews

Fellow in Science and Technology Policy, Rice University’s Baker Institute for Public Policy

James McBlane

Preclinical Assessor, Biologicals Unit, Medicines & Healthcare products Regulatory Agency

Hanna Mikkola

Professor, Molecular, Cell and Developmental Biology, Broad Stem Cell Research Center

Mike Paulden

Assistant Professor, School of Public Health, University of Alberta

Martin Pera

Professor, The Jackson Laboratory

Maksim Plikus

Professor, Developmental and Cell Biology, University of California, Irvine

Thomas Povsic

Professor, Medicine, Duke University

Li Qian

Professor, Department of Pathology and Laboratory Medicine, University of North Carolina at Chapel Hill; Associate Director, McAllister Heart Institute, University of North Carolina at Chapel Hill

Pamela Robey

Branch Chief, National Institutes of Health

Pantelis Rompolas

Assistant Professor, Dermatology, Perelman School of Medicine, University of Pennsylvania



Lee Rubin
Professor, Stem Cell and Regenerative
Biology, Harvard Stem Cell Institute

Alessandra Sacco
Director & Professor, Development,
Aging and Regeneration Program,
Sanford Burnham Prebys Medical
Discovery Institute

Lori Sussel
Director of Research, University of
Colorado Anschutz Medical Campus

Ali Tehrani
Venture Partner, Amplitude VC;
Co-founder, former President, and CEO,
Zymeworks (NYSE: ZYME)

Jen Trowbridge
Associate Professor, The Dattels Family
Chair, The Jackson Laboratory

Ludovic Vallier
Professor, University of Cambridge

Marius Wernig
Professor, Departments of Pathology
and Chemical and Systems Biology,
Stanford University

Tracy Young-Pearse
Associate Professor, Ann Romney
Center for Neurologic Diseases,
Brigham and Women’s Hospital

TRAINING & EDUCATION COMMITTEE

Nika Shakiba, Chair
Assistant Professor, School of
Biomedical Engineering, University of
British Columbia

Harold Atkins
Senior Clinical Investigator, Cancer
Therapeutics Program, Ottawa Hospital
Research Institute; Physician, Transplant
and Cell Therapy Program, the Ottawa
Hospital; Associate Professor, Clinical
Hematology, University of Ottawa

Jessica Esseltine
Assistant Professor, Division of
BioMedical Sciences, Cancer and
Development, Memorial University
of Newfoundland

May Griffith
Professor, Department of
Ophthalmology, Faculty of Medicine,
Université de Montréal

Matthew Hildebrandt
Product Manager,
STEMCELL Technologies

Samer Hussein
Associate Professor, Université Laval;
Researcher, Oncology Division,
Centre Hospitalier Universitaire
(CHU) de Québec-Université; Laval
Research Center

Andrew Pepper
Assistant Professor, Department of
Surgery, Division of Surgical Research,
University of Alberta

TRAINEE COMMUNICATIONS COMMITTEE

Priye Iworima, Chair
PhD Candidate, University of
British Columbia

Kevin Robb, Vice Chair
PhD Candidate, University
Health Network

Rasha Al-Attar
Postdoctoral Research Fellow, McEwan
Stem Cell Institute — University
Health Network

Kabita Baral
PhD Candidate, University of Calgary

Jules Granet
PhD Candidate, McGill University

Alex Kozlov
PhD Candidate, Western University

Kieran Maheden
PhD Candidate, University of
British Columbia

Coulter Montague Szakaly
MSc Student, University Health Network

Morten Ritso
Research Associate, University of
British Columbia

Laura Stankiewicz
PhD Candidate, University of
British Columbia

Tyler Wenzel
Postdoctoral Research Fellow,
University of Saskatchewan

Fereshteh Younesi
PhD Candidate, University of Toronto

EARLY CAREER RESEARCHER COMMITTEE

Amy Wong, Chair
Assistant Professor, Laboratory
Medicine & Pathobiology, University
of Toronto; Scientist, Developmental
& Stem Cell Biology, The Hospital for
Sick Children

Natasha Chang
Assistant Professor, Department of
Biochemistry, McGill University

Daniel Coutu
Assistant Professor, Department
of Cellular & Molecular Medicine,
University of Ottawa; Scientist,
Regenerative Medicine Program,
Ottawa Hospital Research Institute;
Research Chair, Regenerative
Orthopedic Surgery, The
Ottawa Hospital

Janelle Drouin-Ouellet
Assistant Professor, Université
de Montréal

Roman Krawetz
Associate Professor, University
of Calgary

Benjamin Lindsey
Assistant Professor, University
of Manitoba

Ly Vu
Assistant Professor, Faculty of
Pharmaceutical Sciences, University of
British Columbia

Ma’n Zawati
Assistant Professor & Executive
Director, Centre of Genomics
and Policy, Faculty of Medicine,
McGill University

Joanna Valsamis
Director, Knowledge Mobilization

The compensation policy for our
staff includes job classifications and
related salary ranges. For positions that
exceeded \$100,000 in the year ended
March 31, 2023, the following were
the annual salary ranges: President/
CEO & Vice Presidents \$145,000–
\$300,000; Managers & Directors
\$70,000–\$145,000.

**Staff Listing as of April 1st, 2023*

STAFF*

Ellie Arnold
Training Coordinator

Rebecca Cadwalader
Manager, Corporate Events
& Governance

Jen Chappell
Digital Communications Specialist

Jon Draper
Vice President, Research & Training

Seohyun In
Accounting Specialist

Eleni Kanavas
Communications & Events Coordinator

Cate Murray
President & CEO

Samantha Rae Ayoub
Vice President, Communications &
Knowledge Mobilization

Melodie Robertson
Executive Assistant

Jonathan Rudnicki
Communications Assistant and Writer

Gustavo Scola
Research and Funding Specialist

Shannon Sethuram
Vice President, Corporate Services

FINANCIAL STATEMENTS

MARCH 31, 2023

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INDEPENDENT AUDITORS' REPORT

To the Members of Stem Cell Network:

Opinion

We have audited the financial statements of Stem Cell Network ("SCN"), which comprise the statement of financial position as at March 31, 2023, and the statements of revenues and expenditures, changes in net assets and cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of SCN as at March 31, 2023, and its results of operations and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations (ASNFPO).

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the *Auditors' Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of SCN in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with ASNFPO, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing these financial statements, management is responsible for assessing SCN's ability to continue as a going concern, disclosing, as applicable, matters related to a going concern and using the going concern basis of accounting unless management either intends to liquidate SCN or to cease operations, or has no realistic alternative to do so.

Those charged with governance are responsible for overseeing SCN's financial reporting process.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.



INDEPENDENT AUDITORS' REPORT (continued)

Auditors' Responsibilities for the Audit of the Financial Statements (continued)

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of SCN's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on SCN's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause SCN to cease to continue as a going concern.
- Evaluate the overall presentation, structure, and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during the audit.

Logan Katz LLP

Chartered Professional Accountants
Licensed Public Accountants

Ottawa, Canada
July 13, 2023

STEM CELL NETWORK

STATEMENT OF FINANCIAL POSITION

AS AT MARCH 31, 2023

	2023	2022
ASSETS		
CURRENT ASSETS		
Cash	\$ 2,257,264	\$ 947,790
Accounts receivable	9,138	178
Harmonized sales taxes recoverable	62,238	41,264
Prepaid expenditures	372,990	249,706
	2,701,630	1,238,938
RESTRICTED CASH EQUIVALENTS (Note 2)	50,000	50,000
CAPITAL ASSETS (Note 3)	34,396	18,935
	\$ 2,786,026	\$ 1,307,873
LIABILITIES AND NET ASSETS		
CURRENT LIABILITIES		
Accounts payable and accrued liabilities (Note 4)	\$ 159,617	\$ 120,593
DEFERRED CONTRIBUTIONS (Note 5)	1,308,525	140,489
NET ASSETS		
Invested in capital assets	34,396	18,935
Unrestricted	1,233,488	977,856
Externally restricted (Note 2)	50,000	50,000
	1,317,884	1,046,791
	\$ 2,786,026	\$ 1,307,873

Commitments (Note 6)
Economic dependence (Note 9)
Financial instruments (Note 10)

ON BEHALF OF THE BOARD:

STEM CELL NETWORK

STATEMENT OF REVENUES AND EXPENDITURES

YEAR ENDED MARCH 31, 2023

	2023	2022
REVENUES		
Innovation, Science and Economic Development Canada Grant (Note 5)	\$ 13,831,964	\$ 5,854,268
Annual conference sponsorship and registration	454,446	162,750
Contributed services in-kind (Note 8)	71,280	71,280
Interest	51,058	3,555
Other	1,200	3,100
	14,409,948	6,094,953
EXPENDITURES		
Administration and general support (Notes 7 and 8)	1,005,134	571,222
Amortization	13,199	13,878
Annual conference (Note 7)	841,546	235,248
Business development	26,897	7,764
Communication and outreach (Note 7)	1,451,558	660,696
Loss on disposal of capital assets	3,572	-
Research programs (Note 7)	10,196,198	4,423,889
SCN board and committees	4,983	-
Training program (Note 7)	595,768	231,424
	14,138,855	6,144,121
EXCESS OF REVENUES OVER EXPENDITURES (EXPENDITURES OVER REVENUES)	\$ 271,093	\$ (49,168)



STEM CELL NETWORK

STATEMENT OF CHANGES IN NET ASSETS

YEAR ENDED MARCH 31, 2023

	2023			2022	
	Invested in capital assets	Unrestricted	Externally restricted	Total	Total
BALANCES AT BEGINNING OF YEAR	\$ 18,935	\$ 977,856	\$ 50,000	\$ 1,046,791	\$ 1,095,959
Excess of revenues over expenditures (expenditures over revenues)	-	271,093	-	271,093	(49,168)
Disposal of capital assets	(3,572)	3,572	-	-	-
Amortization of capital assets	(13,199)	13,199	-	-	-
Acquisition of capital assets	32,232	(32,232)	-	-	-
BALANCES AT END OF YEAR	\$ 34,396	\$ 1,233,488	\$ 50,000	\$ 1,317,884	\$ 1,046,791

STEM CELL NETWORK

STATEMENT OF CASH FLOWS

YEAR ENDED MARCH 31, 2023

	2023	2022
OPERATING ACTIVITIES		
Excess of revenues over expenditures (expenditures over revenues)	\$ 271,093	\$ (49,168)
Adjustments for:		
Amortization	13,199	13,878
Recognition of deferred contributions	(13,831,964)	(5,854,268)
Loss on disposal of capital assets	3,572	-
Net change in non-cash working capital:		
Accounts receivable	(8,960)	1,560
Harmonized sales taxes recoverable	(20,974)	(22,729)
Prepaid expenditures	(123,284)	(71,793)
Accounts payable and accrued liabilities	39,024	(103,359)
	(13,658,294)	(6,085,879)
FINANCING ACTIVITIES		
Proceeds from deferred contributions	15,000,000	6,000,000
INVESTING ACTIVITIES		
Acquisition of capital assets	(32,232)	(11,101)
INCREASE (DECREASE) IN CASH	1,309,474	(96,980)
Cash position at beginning of year	947,790	1,044,770
CASH POSITION AT END OF YEAR	\$ 2,257,264	\$ 947,790

GENERAL

The Stem Cell Network ("SCN") was established on November 19, 2001 as an independent not-for-profit corporation and accordingly, is exempt from income taxes. The mission of SCN is to be a catalyst for enabling translation of stem cell research into clinical applications, commercial products or public policy.

As of March 2022, SCN was approved for Innovation, Science and Economic Development Canada ("ISED") funding of \$45,000,000 for fiscal years 2023 to 2025 inclusive.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

These financial statements have been prepared in accordance with Canadian accounting standards for not-for-profit organizations ("ASNFO") and include the following significant accounting policies:

Revenue Recognition

SCN follows the deferral method of accounting for contributions. Restricted contributions are recognized as revenue in the year in which related expenditures are incurred. Unrestricted contributions are recognized as revenue when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured.

Grants

Grant revenue represents funds received from the federal government for specific initiatives administered by SCN. Grant revenue is recognized as revenue when costs are incurred in relation to the specific initiatives. Grant funds that have not been fully spent at year end are reported as deferred contributions.

Annual conference sponsorship and registration

Registration fees and sponsorships to events and conferences, are recognized as revenue in the year the event is held.

Interest and other revenue

Amounts received for interest income and other revenue are recognized as revenue when received or receivable if the amount can be reasonably estimated and collection is reasonably assured.

Contributed Services In-Kind

Because of the difficulty of determining their fair value, contributed services are not recognized in the financial statements unless a fair value can be reasonably estimated. These services are used in the normal course of operations and the provider of the services has explicitly defined the value of the services to SCN.

Research Programs Expenditures

Costs relating to research programs are recorded as expenditures when the expenditure is incurred.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Research Programs Expenditures (continued)

The research grants are determined to become payable at the time when the board of directors approves the grant and the grant recipient investigator has submitted a signed acceptance of award and related documentation formally acknowledging the grant. Research grants that have been identified as payments in future periods are disclosed as commitments.

Should the recipients of the grants not fulfill their obligations, the funding will need to be returned to SCN. The return of funding is accounted for as a reduction to the research grant expenditure when it is determined by the board to become repayable.

Allocation of Expenditures

SCN allocates subcontractors and salaries and benefits to applicable programs based on an estimate of the percentage of time spent on the program.

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, cash held on deposit with a Canadian chartered bank and highly liquid investments with original maturities of twelve months or less, including cashable guaranteed investment certificates. The fair value of cash equivalents approximates the amounts shown in the financial statements.

Foreign Currency Transactions

SCN uses the temporal method to translate its foreign currency transactions.

Monetary assets and liabilities are translated at the rate of exchange in effect at year end. Other assets and liabilities are translated at their historic rates. Items appearing in the statement of revenues and expenditures are translated at annual average exchange rate. Exchange gains and losses are included in the statement of revenues and expenditures.

Capital assets

Capital assets are recorded at cost. Amortization is provided using the straight-line basis over the following periods:

Computer equipment	3 years
Leasehold improvements	3 years

Amortization of an asset commences in the month of acquisition. No amortization is recorded in the month of disposal.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)Capital assets (continued)

When the SCN observes conditions that indicate that a capital asset is impaired, the net carrying amount of the capital asset is written down to the asset's fair value or replacement cost.

Financial InstrumentsMeasurement of financial instruments

SCN initially measures its financial assets and liabilities at fair value. SCN subsequently measures all its financial assets and financial liabilities at amortized cost.

Financial assets measured at amortized cost include cash, accounts receivable, prepaid expenditures, and restricted cash equivalents.

Financial liabilities measured at amortized cost include accounts payable and accrued liabilities.

Impairment

Financial assets measured at amortized cost are tested for impairment when there are indicators of impairment. The amount of the write-down is recognized in the statement of revenues and expenditures. The previously recognized impairment loss may be reversed to the extent of the improvement, directly or by adjusting the allowance account, provided it is no greater than the amount that would have been reported at the date of the reversal had the impairment not been recognized previously. The amount of the reversal is recognized in the statement of revenues and expenditures. The accounts receivable is netted by an allowance for doubtful accounts of \$Nil (2022 - \$Nil).

Transaction Costs

Transaction costs are financing fees or costs that are directly attributable to the financial assets or financial liabilities origination, acquisition, issuance or assumption. Transaction costs relating to financial assets or financial liabilities that are carried at amortized cost or cost are netted against the carrying value of the assets or liabilities and then recognized over the expected life of the instrument using the effective interest method. All other transaction costs are recognized in the statement of revenues and expenditures in the period incurred.

Use of Estimates

These financial statements have been prepared by management in accordance with ASNFPO and accordingly, require management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of revenues and expenditures during the reporting period. Actual results could differ from these estimates. Significant estimates in the financial statements include the estimated useful lives of capital assets, the potential recovery of research grants awarded, the amount of certain accrued liabilities and the allocation of salaries and benefits to applicable programs. These estimates are reviewed periodically and adjustments are made, as appropriate, in the statement of revenues and expenditures in the year they become known.

2. RESTRICTED CASH EQUIVALENTS

Restricted cash equivalents are amounts invested in a non-redeemable guaranteed investment certificate (GIC) which is held by SCN's bank as collateral for their credit card facility. The non-redeemable GIC bears interest at 1.75% and matures in March 2024.

3. CAPITAL ASSETS

	2023		2022	
	Cost	Accumulated Amortization	Net	Net
Computer equipment	\$ 93,097	\$ 58,701	\$ 34,396	\$ 18,466
Leasehold improvements	8,497	8,497	-	469
	\$ 101,594	\$ 67,198	\$ 34,396	\$ 18,935

4. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

SCN does not have any government remittances owing at year end.

5. DEFERRED CONTRIBUTIONS (CONTRIBUTIONS RECEIVABLE)Innovation, Science and Economic Development Canada ("ISED")

SCN was approved for ISED funding of \$15,000,000 per year under the terms of the ISED program, for a three year term ending March 31, 2025. ISED funds are managed in accordance with the funding guidelines contained in the funding agreement between ISED and SCN, whereby the funding transits directly to SCN.

Changes in the deferred contributions balance for the year are as follows:

	2023	2022
Balance at beginning of year	\$ 140,489	\$ (5,243)
Restricted contributions received	15,000,000	6,000,000
Amount recognized as revenue	(13,831,964)	(5,854,268)
Balance at end of year	\$ 1,308,525	\$ 140,489

STEM CELL NETWORK

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED MARCH 31, 2023

6. COMMITMENTS

SCN has agreed to provide funding for research and grants related to various programs, trials and studies that are not accrued in SCN's financial statements as they are not yet payable. SCN future commitments related to these research grants amount to \$18,903,504 and are scheduled as follows:

	Round 1	Round 2	Total
2024	\$5,033,522	\$4,453,704	\$9,487,226
2025	4,946,578	4,469,700	9,416,278
	\$9,980,100	\$8,923,404	\$18,903,504

7. ALLOCATION OF EXPENDITURES

Salaries and benefits of \$1,944,705 (subcontractors and salaries and benefits 2022 - \$1,041,604) have been allocated as follows:

	2023	2022
Administration and general support	\$ 594,991	\$ 332,051
Annual conference	63,219	48,584
Communication and outreach	904,112	376,891
Research programs	219,662	146,663
Training program	162,721	137,415
	\$ 1,944,705	\$ 1,041,604

8. IN-KIND CONTRIBUTIONS

Under an agreement, the Ottawa Hospital Research Institute ("OHRI") provides administrative support services as well as information technology support, storage space and furniture without charging SCN. The value of the in-kind contributions received for services is estimated to be \$71,280 (2022 - \$71,280) and is included in administration and general support expenditures.

9. ECONOMIC DEPENDENCE

SCN received ISEDC funding under a three year funding agreement, ending March 31, 2025. Revenues pertaining to this grant account for 95% (2022 - 96%) of SCN's revenues.

STEM CELL NETWORK

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED MARCH 31, 2023

10. FINANCIAL INSTRUMENTS

Risks

It is management's opinion that SCN is not exposed to significant credit risk, interest rate risk, liquidity, or concentrations of risk through its financial instruments. The following analysis provides a measure of SCN's risk exposure as at the statement of financial position date:

Currency Risk

Currency risk is the risk that the fair value of future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. SCN holds activities in and incurs expenditures with foreign countries. Consequently, some assets and current liabilities are exposed to foreign exchange fluctuations. As at March 31, 2023 prepaid expenditures of \$54,724 and \$30,825 are carried in US dollars and Pound Sterling, respectively, (2022 - \$20,582 US dollars of prepaid expenditures and accounts payable and accrued liabilities) and converted into Canadian dollars. Any foreign exchange gains and losses on such transactions are recorded with the corresponding expenditure in the statement of revenues and expenditures.

Credit Facility

SCN has access to \$50,000 secured credit on a credit card (note 2), bearing interest at 19.99% per annum, for which the balance is required to be fully paid on a monthly basis. The credit used at March 31, 2023 amounts to \$21,452 (2022 - \$17,948) and is included in the balance of accounts payable and accrued liabilities.

APPENDIX

SCN 2022–2025 ROUND 2 FUNDING RESULTS

The research competition and peer review for Round 2 were held during fiscal 2022–2023. The funding period for Round 2 awards commenced in April 2023 and will conclude in 2025.

CLINICAL TRIALS AWARDS	Supporting early-stage clinical trial projects with high translational potential.		
	Lucie Germain, Université Laval (Québec) Véronique Moulin (Université Laval), Richard Bazin (Université Laval), Isabelle Burnette (Hôpital Maisonneuve-Rosemont), Clara Chan (Toronto Western Hospital—University of Toronto), Jason Guertin (Université Laval), Bartha Knoppers (McGill University Health Centre), Ralph Kyrillos (Université Laval), Mohib-Wadie (Centre de santé et de services sociaux de l’Outaouais, Hôpital de Hull), Michel Ouellet (Université Laval), Allan Zawati (Toronto Western Hospital, University of Toronto), Ma’n Zawati (McGill University)	Clinical trial of cultured epithelial corneal autografts for the treatment of Canadians with limbal stem cell deficiency	\$603,600
	Marc Jeschke, McMaster University (Ontario)	A phase I, single-blind, randomized study of safety of cellularized Integra® using autologous burn-derived MSCs	\$298,000
	Sowmya Viswanathan, University Health Network (Ontario) Tim Dwyer (Women’s College Hospital), Osvaldo Espin-Garcia (The University of Western Ontario), Rajiv Gandhi (University Health Network), Mohit Kapoor (University Health Network), Anthony Perruccio (University Health Network), Lynn Saber (University Health Network), Liz Scheid (University Health Network), Kala Sundararajan (University Health Network), Nick Bansback (University of British Columbia), Jaskarndip Chahal (Women’s College Hospital), Christopher Kim (Toronto Western Hospital), Darrell Ogilvie-Harri (University Health Network)	Autologous Bone Marrow Aspirate Concentrate or Lipoaspirate Concentrate for OsteoArthritis: ABLE OA Clinical Trial	\$750,000

ACCELERATING CLINICAL TRANSLATION AWARDS	Supporting multi-disciplinary research that is moving towards the clinic within five years or is addressing a key research question associated with an ongoing clinical trial.		
	Véronique Moulin, Université Laval (Québec) Lucie Germain (Université Laval), Ma’n Zawati (McGill University), Chanel Beaudoin-Cloutier (Université Laval), Sue-Ling Chang (CHU de Québec - Université Laval)	Allogeneic dermis to accelerate the production of a tissue-engineered skin substitute to treat Canadian burn patients	\$600,000
	Bernard Thébaud, Ottawa Hospital Research Institute (Ontario) Dean Fergusson (Ottawa Hospital Research Institute), Justin Presseau (Ottawa Hospital Research Institute), Hartmut Grasemann (University of Toronto), Matthias Griesse (Ludwig-Maximilians-Universität München, LMU), Manoj Lalu (Ottawa Hospital Research Institute), Hanns Lochmuller (Children’s Hospital of Eastern Ontario Research Institute Inc), Lawrence Nogee (Johns Hopkins University School of Medicine), Maria Pierro (M. Bufalini Hospital Ausl Romagna), Nicolaus Schwerk (Medizinische Hochschule Hannover), Kednapa Thavorn (Ottawa Hospital Research Institute)	AAVenger-B: Adeno-Associated Virus Engineered Gene Epithelial progenitor cell Regeneration for surfactant proteinB deficiency	\$599,800

ACCELERATING CLINICAL TRANSLATION AWARDS	Bruce Verchere, University of British Columbia (British Columbia) Francis Lynn (University of British Columbia), Timothy Kieffer (University of British Columbia), Megan Levings (University of British Columbia)	Genetic engineering of hESC-derived insulin-producing cells to improve graft outcomes in type 1 diabetes	\$600,000
	Juan Carlos Zúñiga-Pflücker, Sunnybrook Research Institute (Ontario) Jonas Mattsson (University Health Network), Donna Wall (The Hospital for Sick Children)	Production of progenitor T cells for immune-reconstitution and targeted immunotherapies (ProTIMM)	\$599,875
	Peter Zandstra, University of British Columbia (British Columbia) Yale Michaels (CancerCare Manitoba), Roser Vento-Tormo (Wellcome Sanger Institute)	PSC-derived immune cells as an advanced delivery vehicle for protein therapeutics	\$400,000

FUELLING BIOTECHNOLOGY PARTNERSHIPS	Supporting academic partnerships with emerging Canadian regenerative medicine biotechnology companies to bring innovative technologies or therapies to the clinic or market.		
	C. Florian Bentzinger, Université de Sherbrooke (Québec)	Mobilizing endogenous repair in muscular dystrophy	\$398,600
	Michael Fehlings, University Health Network (Ontario) Mohammad Khazaei (Inteligex Inc.), Michael Laflamme (University of Toronto — University Health Network)	Translation of cGMP grade oligodenrogenic NPCs (oNPCs) for the treatment of traumatic cervical spinal cord injury	\$400,000
	Massimiliano Paganelli, Centre Hospitalier Universitaire Sainte-Justine (Québec) Christopher Rose (Centre de Recherche du Centre Hospitalier de l’Université de Montréal)	iPSC-derived Encapsulated Liver Tissue: extending the indication to acute-on-chronic liver failure	\$400,000
	Fabio Rossi, University of British Columbia (British Columbia) Bettina Willie (McGill University), Frank Rauch (McGill University)	Bone targeted EP4 agonists as therapeutics for muscular dystrophy	\$399,821

IMPACT AWARDS	Supporting proof-of-principle experiments, including novel therapeutic or technical approach development, that will drive regenerative medicine therapies forward.		
	Yan Burelle, University of Ottawa (Ontario) Gilles Gouspillou (Université du Québec à Montréal), Mireille Khacho (University of Ottawa)	Targeting mitochondrial quality control to promote muscle regeneration	\$224,520
	Colin Crist, Sir Mortimer B. Davis-Jewish General Hospital (Québec) Jonathan Britt (McGill University)	Shining light on muscle regeneration: MuSC mediated delivery of optogenetic contractile properties to skeletal muscle	\$250,000
	Junio Dort, University of Ottawa (Ontario) C. Florian Bentzinger (Université de Sherbrooke)	Novel therapeutic compounds targeting G-coupled receptors to enhance muscle stem cell function in Duchenne muscular dystrophy	\$250,000
	James Ellis, The Hospital for Sick Children (Ontario) Augusto Zani (The Hospital for Sick Children), Karun Singh (University Health Network), Ji-Young Youn (The Hospital for Sick Children), Steven Kushner (Columbia University Irving Medical Center)	Extracellular vesicles transport molecular cargo from stem cell derived healthy astrocytes to rescue Rett syndrome neurons	\$250,000

Kristin Hope, University Health Network (Ontario) Thomas Kislinger (University of Toronto), Eric Lechman (University of Pittsburgh Cancer Institute, Hillman Cancer Center, UPCI), Mark Minden (University Health Network), Eugene Yeo (University of California San Diego)	Harnessing developmentally-guided post-transcriptional HSC drivers to advance in vivo hematopoietic regeneration	\$250,000
Zachary Laksman, University of British Columbia (British Columbia) Gil Bub (McGill University), Craig Simmons (University of Toronto), David Vocado (Simon Fraser University)	Development of high-throughput assays to stratify cardiotoxic drug risk by sex and genotype	\$249,997
Arvind Mer, University of Ottawa (Ontario) Alexandre Blais (University of Ottawa), Fabien Le Grand (Institut National de la Santé et la Recherche Medicale - INSERM DR PARIS VI), Trung Nghia Vu (Karolinska Institutet)	Decoding Alternative Splicing Regulatory Networks in Myogenic Stem Cell Function	\$250,000
Yale Michaels, CancerCare Manitoba (Manitoba) David Knapp (Université de Montréal), Cedric Tremblay (CancerCare Manitoba), Peter Zandstra (University of British Columbia)	Cellular engineering to enhance T cell production from pluripotent stem cells	\$249,957
Shinichiro Ogawa, University Health Network (Ontario) Boyang Zhang (McMaster University)	Sustained liver engraftment with bioengineered functionally complete liver tissues	\$249,233
Martin Post, The Hospital for Sick Children (Ontario) Andras Nagy (Sinai Health System, Mount Sinai Hospital), Ming Tsao (Princess Margaret Hospital)	Enhancing the production of human alveolar-like macrophages for lung cancer therapy	\$250,000

<i>Supporting the knowledge generation and/or translation of regenerative medicine research for targeted stakeholders and/or users.</i>		
Jason Guertin, Université Laval (Québec) Véronique Moulin (Université Laval), Lucie Germain (Université Laval)	Supporting the use of early economic evaluations within the regenerative medicine field	\$200,000
Manoj Lalu, Ottawa Hospital Research Institute (Ontario) Jonathan Kimmelman (McGill University), Dean Fergusson (Ottawa Hospital Research Institute), Agnes Grudniewicz (University of Ottawa), Harold Atkins (Ottawa Hospital), Kevin Hay (University of British Columbia), Natasha Kekre (Ottawa Hospital Research Institute), Lauralyn McIntyre (Ottawa Hospital Research Institute), Kelley Parato (Human Health Therapeutics Research Centre, National Research Council Canada), Duncan Stewart (Ottawa Hospital Research Institute), Bernard Thébaud (Ottawa Hospital Research Institute), David Thompson (University of British Columbia)	Developing guidance to translate promising cell therapies to early phase clinical trials	\$200,000



**Stem Cell
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