

20 years of SCN

**Powering research
for better health**



**STEM CELL
NETWORK**

ANNUAL REPORT 2020/21

SCN BY THE NUMBERS: 2001–2021

\$118 MILLION

direct investment in
research, training & outreach



1,027 patent applications
153 patents issued
111 licences granted



\$125 MILLION

in research partnerships



4,134
trainees & highly qualified
personnel trained



200+ translational research
projects supported



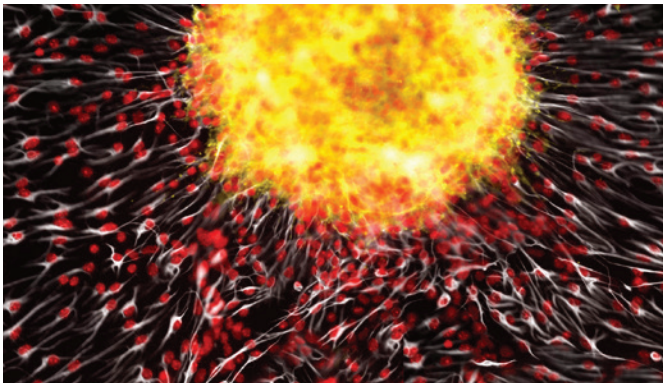
196 research groups
funded

24 clinical trials funded
21 regenerative medicine
biotech companies
catalyzed



ABOUT THE STEM CELL NETWORK

Celebrating 20 years, the Stem Cell Network (SCN) is a national non-profit that supports stem cell and regenerative medicine research, training the next generation of highly qualified personnel, and delivering outreach activities across Canada. SCN's goal is to advance science from the lab to the clinic for the benefit of Canadians. SCN has been supported by the Government of Canada since inception in 2001. This strategic funding, valued at \$118M has benefitted approximately 196 world-class research groups and 4,100 trainees and has catalyzed 24 clinical trials. Powering research for better health. stemcellnetwork.ca



COVER IMAGE: 2020 Cells / See Grand Prize winner

"Cell Supernova" by Danielle Spice, Western University

ARTIST STATEMENT: Shown here are the P19 embryonal carcinoma derived astrocytes migrating away from an embryoid body. Around the embryoid body neurons are also visible.



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A MESSAGE FROM

THE CHAIR OF THE BOARD OF DIRECTORS, SCIENTIFIC DIRECTOR & CEO, EXECUTIVE DIRECTOR & COO



(L) Andrew McKee (C) Dr. Michael Rudnicki (R) Cate Murray

Dear Friends:

What a year it has been. 2020 was a year of unprecedented challenges for countries around the world, and Canada was no exception, as it worked quickly to respond to the global pandemic. There are many lessons to be learned from the COVID-19 crisis, but one that springs to mind immediately is the world-changing impact of health research, as scientists around the globe pulled together to develop the vaccines and therapies that are now saving lives and taking us out of the pandemic. The global threat posed by the pandemic underscored the fundamental importance of supporting health research, which benefits everyone and allows us to thrive.

After the pandemic was declared, the Stem Cell Network moved quickly to make resources available for our community to participate in the response to COVID-19. In early April 2020, SCN launched a new funding competition, the COVID-19 Rapid Response Research Initiative. Interest in the competition was significant, resulting in the submission of more than 20 applications for peer review. The response to the program and the quality of the applications was so strong that the Board of Directors increased the funding envelope of \$500,000 by an additional \$175,000. This permitted us to support three projects, including a clinical trial. The clinical trial, designed to use mesenchymal stromal cells to reduce the impacts of acute respiratory distress due to COVID-19, successfully enrolled nine patients. By spring 2021, the research team was ready to move forward with a multi-site, randomized clinical trial.

This is just one example of the many initiatives through which our community continues to contribute to the COVID-19 response. At the same time, the Network has forged ahead with its important work in bringing forward regenerative medicine approaches that can be used to treat a wide range of diseases, from cancer to diabetes and heart disease. This report highlights many of these key initiatives.

2021 marks the 20th anniversary of the Stem Cell Network! We could not be prouder of what our national community has achieved over the past two decades. Our investigators have kept Canadian stem cell research at the forefront of the field and continue to punch above their weight on the global stage. Investigators from coast to coast have made important contributions in areas such diabetes, multiple sclerosis, and Parkinson's

disease, and has helped to drive innovation in the repair of lung, liver, tissue, and cardiac damage. Moreover, our ethics and policy community have led the world on topics such as governance, commercialization, and regulatory frameworks for biobanking, including stem cell banks, as well as misleading marketing practices associated with unproven stem cell therapies. Their work has also been instrumental in the development of modern regulations and policies needed to address emerging biotechnology products.

SCN has also been helping to build for the future by fostering the careers of early career researchers. Since 2005, we have held six major funding rounds; in each one, an average of 30 per cent of awards has gone to new principal investigators (PI) who had not previously been funded. Of these, an average of 10 per cent were early career investigators. There is so much more to do, and regenerative medicine will be the field that delivers on the promise of personalized medicine.

The field is exploding, and investments are increasing year over year. In fact, the [Alliance for Regenerative Medicine \(ARM\)](#) reported that global financing for the sector soared to just under \$20 billion USD in 2020 – almost double the amount from the previous year. ARM also predicted that 2021 will be another record year for the regenerative medicine sector. Based on a 2020 study by the [Institute of Health Economics](#) commissioned by SCN, Canada is well positioned to capture at least five per cent of the global market in the coming years, adding well over 6,000 highly skilled jobs to the labour force.

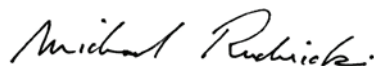
Recognizing the global importance of regenerative medicine, and the opportunity to build on Canada's scientific strength, the federal government closed out the fiscal year with a new investment in SCN – **\$45 million for 2022-2025**. We welcome the support and thank the government for its confidence in SCN. This funding more than doubles the annual budget of the Network and will allow us to further build out our training, research, and outreach programs for years to come. We are excited about the innovative technologies and therapies our community will bring forward. Undoubtedly, they will result in better health for all, and contribute to the economic recovery of Canada.

Finally, we would like to extend our deepest thanks to the SCN staff, Board of Directors, Research Management Committee, and our Training and Education committees for their efforts over the past year. With their support, SCN was able to pivot in the face of a global health crisis, not only contributing to the COVID-19 effort, but also adapting ongoing projects to the challenges posed by the pandemic, successfully delivering on all of its programs. We could not have done it without you!

Sincerely,



Andrew McKee
Chair, Board of Directors



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

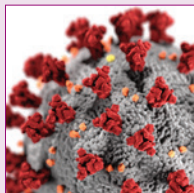


Cate Murray
Executive Director and COO

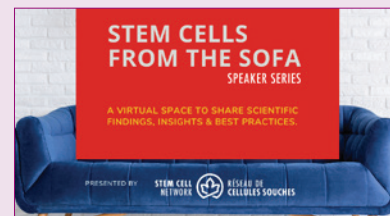
YEAR IN REVIEW

2020/21

APRIL



- Stem Cell Network announces \$675,000 in funding for COVID-19 research.
- Michael Rudnicki is elected as a fellow of the Royal Society.
- ISED launches evaluation of SCN for the 2016-2020 period.
- SCN hosts workshop on *Writing a Scientific Abstract*.
- Online webinar series *Stem Cells from the Sofa* launches.



MAY

- SCN releases Training Tomorrow's Research Leaders, an assessment of the career trajectories of SCN trainees.
- SCN sponsors and participates in ISCT 2020 Paris Virtual Conference.
- SCN makes decision to hold its annual scientific conference, the Till & McCulloch Meetings (TMM), online in October.

JUNE

- SCN sponsors and participates in ISSCR 2020 Virtual Conference.
- SCN presents online training workshop, *Biostatistics for Biomedical Researchers*.
- Peer review of SCN's Round 2 funding proposals commences.

JULY

- SCN provides pre-budget submission to the House of Commons Finance Committee.
- Network holds *RNA-Seq Analysis* training workshop online.
- SCN's Research Management Committee meets to consider Round 2 project proposals.



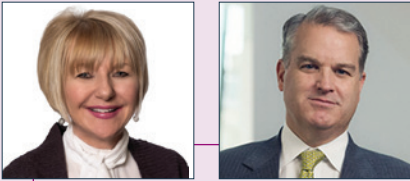
AUGUST

- SCN hosts webinar on *Gene Editing and Human Rights*.
- SCN hosts webinar on *Effective Distance Communications for Science Professionals*, with Anil Dilwari.
- SCN's Board of Directors meets to approve \$4.3M for 16 Round 2 projects.

SEPTEMBER

- SCN and WeCANReg launch new regulatory resource tools for researchers planning to translate discoveries.
- Institute of Health Economics and SCN hold national consultation workshops on potential for regenerative medicine in Canada.
- SCN's Executive Director speaks at BCRegMed Symposium on the future of stem cell research.

OCTOBER



- 400+ attendees gather virtually for the Network's 2020 Till & McCulloch Meetings (TMM).
- **\$4 million for 16 translational SCN-funded research projects** is announced by Will Amos, Parliamentary Secretary (Science) at virtual TMM.
- Bartha Knoppers accepts the 2020 Till & McCulloch Award.
- Sabiha Hacibekiroglu accepts the Drew Lyall Award of Excellence.
- SCN hosts *The Fundamentals of Optical Microscopy* training course online.

NOVEMBER

- Deborah Gordon-El-Bihbety and Gordon C. McCauley are **appointed to SCN's Board of Directors**.
- SCN Executive Director presents on the state of stem cell research to Research Canada's Parliamentary Health Research Caucus.
- SCN holds its Annual General Meeting.
- Board meets to discuss the future of the Network and developing a new strategic plan for 2022 and beyond.
- SCN hosts *Synthetic Biology for Regenerative Medicine* training workshop online.

DECEMBER

- SCN sponsors and participates in the Gairdner Symposium, *Breaking Through: Delivering on the Promise of Gene Therapy*.
- SCN launches community consultations on a new strategic plan.

JANUARY

- SCN launches its 20th anniversary celebration with **20 Questions with 20 Stem Cell Scientists (20Q20)** from across Canada.
- Janet Rossant, SCN Board member, wins the 2021 ISSCR Achievement Award.

FEBRUARY

- Institute of Health Economics releases its report, **Stem Cell/Regenerative Medicine in Canada: Current State and Future Prospects**.
- Selected SCN biotech companies present at the annual OBIO Investment Summit.
- SCN provides pre-budget submission to Finance Canada.
- SCN posts 20Q20 interview with Sepideh Abbasi on International Day of Women and Girls in Science.
- With Biotalent Canada, SCN offers the online series, *Training for Success in Canada's Regenerative Medicine Sector*.



MARCH

- SCN celebrates International Women's Day with 20Q20 profile of Nika Shakiba.
- SCN submits report to ISED for the federal biomanufacturing national stakeholder consultation.
- SCN kicks off its *Early Career Investigator Webinar Series* with partner ThéCell.
- SCN's ELSI community gathers for a workshop on *Unpacking the notion of "serious" disease*.



FEDERAL EVALUATION: 2016-2020

STARTING IN MID-MARCH 2020, the Stem Cell Network underwent an extensive evaluation conducted by Innovation, Science and Economic Development Canada (ISED). The audit covered the five-year period from 2016 to 2020. The evaluators assessed SCN's *relevance, performance and efficiency*. The evaluation, which SCN received in late March 2021, was very positive and deemed SCN to be an efficient, well-performing and highly relevant organization.

QUESTIONS CONSIDERED IN THE 2016-2020 EVALUATION

Relevance

- *To what extent is there a continued need for stem cell research?*
- *To what extent does SCN address a unique need?*

Performance

- *To what extent has SCN contributed to increasing networking and collaboration among researchers from Canada and abroad?*
- *To what extent has SCN contributed to increased breadth and depth of knowledge related to stem cells, including the ethical, legal and social implications of stem cells?*
- *To what extent has SCN contributed to enhancing Canada's international profile and visibility in stem cell research and clinical trials?*
- *To what extent has SCN contributed to Canada having a solid base of researchers that are trained to undertake future stem cell research?*
- *To what extent has SCN contributed to stem cell research being translated into clinical application and commercial products?*

Efficiency

- *To what extent has SCN been an efficient model for supporting stem cell research in Canada?*

The evaluation included qualitative and quantitative research methods such as the review of documents, literature and data, as well as stakeholder interviews. This included interviews of 42 stakeholders from across the Network, representing six different groups: researchers, trainees, management and the Board, companies and health charities, member institutions, and ISED program management. To support the evaluation, SCN provided extensive data, along with the results of a bibliometric analysis, a survey of international stem cell researchers, and an analysis of the career trajectories of trainees.

KEY FINDINGS

Relevance

The evaluators concluded that there is, **a continued need for multidisciplinary and collaborative stem cell research**, due to its potential to treat chronic and degenerative diseases, as well as its potential to deliver economic benefits to Canada.

The report also recognized that SCN is the only national organization in Canada with a sole focus on supporting stem cell research from beginning to end, as well as on the training and development of future stem cell researchers. However, it noted that the

time-limited nature of ISED-SCN funding agreements can impact SCN's ability to secure long-term funding from other sources and to develop longer-term programs with the potential to generate greater benefits.

Performance

The review concluded that SCN has helped to *increase networking and collaboration among researchers domestically and internationally*, particularly through its annual Till & McCulloch Meetings, as well as training and workshop events. In addition, it found that the multidisciplinary requirements of SCN-funded projects enhance networking and collaboration.

Evaluators noted that SCN continues to *expand the breadth and depth of knowledge related to stem cells* and the ethical, legal and social implications of stem-cell research and products, by funding innovative research projects, supporting research publications in high-impact journals, and sponsoring SCN researchers to present their findings at national and international workshops and conferences.

The report also credited SCN with helping to *enhance Canada's international standing and leadership* with respect to fundamental research and translational research. It noted that, in order to further enhance Canada's standing, particularly with respect to clinical trials, more targeted funding for translational research may be needed.

The reviewers concluded that the Stem Cell Network *enables the career development and research opportunities of trainees*, which helps to create and sustain a pipeline of qualified researchers who remain in Canada to pursue higher education and employment positions within all areas of Canada's stem cell and regenerative medicine sector.

Through support and targeted funding for translational research, SCN-funded research has *led to clinical trials, the development of patent applications, and the establishment and enhancement of start-up companies*, the evaluators found.

Efficiency

SCN was described as *an effective and efficient model for supporting stem cell research* and was deemed to have a fair and transparent governance and reporting structure. Early efforts on equity, diversity and inclusion have supported an inclusive delivery model, reviewers observed. Although alternative models of delivering government support to stem cell researchers are possible, the majority of interviewees noted they would not be as effective in supporting national-level research efforts.

CONCLUSION

The evaluators concluded that *SCN is the only national organization of its kind in Canada with a sole focus on supporting stem cell research from beginning to end, as well as the training and career development of future stem cell researchers*. They also recognized that there is an ongoing need for multidisciplinary and collaborative stem cell research, due to its potential to lead to innovative therapies and treatments for chronic and degenerative diseases, as well as its potential to deliver economic benefits to Canada. The positive evaluation of SCN is a credit to the research community and other network stakeholders, who continually punch above their weight and deliver high-quality, internationally impactful research that results in both health and economic benefits for Canada.

RESEARCH PROGRAM

IT HAS BEEN AN EXTRAORDINARY YEAR for the Stem Cell Network's research community, as they worked hard to adapt to conducting research during a pandemic. The research community reported periodic lab shutdowns, recruitment/hiring problems, slow progress on projects due to limited lab access, difficulty sourcing lab supplies and the loss of specialized animal models required to conduct key experiments. The resilience of the community shone through as it took these difficult challenges in stride.

In March 2021, PIs leading clinical trials and research projects funded for the period January 1, 2020 to January 31, 2022 provided their mid-term reports. None were significantly behind and SCN's Research Management Committee recommended the release of the second tranche of funding for all of the projects. In fact, the committee was so impressed by the progress made on two life-saving clinical trials that they recommended that the Board of Directors approve an additional investment in those trials, if funding permitted. The Board agreed and allocated an additional \$800,000 for the period April 1, 2021 – March 31, 2022. The two clinical trials are:

- *UM171 Expanded Cord Blood Grafts for High-Risk Leukemia Patients, led by Dr. Sandra Cohen from the Hôpital Maisonneuve-Rosemont.*
- *Self-Assembly Skin Substitutes for the Treatment of Acute Wounds of Burn Patients, led by Véronique Moulin, Ph.D. from Université Laval.*

During the fiscal year, SCN ran its second peer-reviewed research competition for the period 2019-2022 (Figure 1). The results were announced in October at the annual Till & McCulloch Meetings. In total, the Network provided \$4.3 million for 16 translational stem cell-based research projects. The partner contributions leveraged from this funding amounted to more than \$7 million.

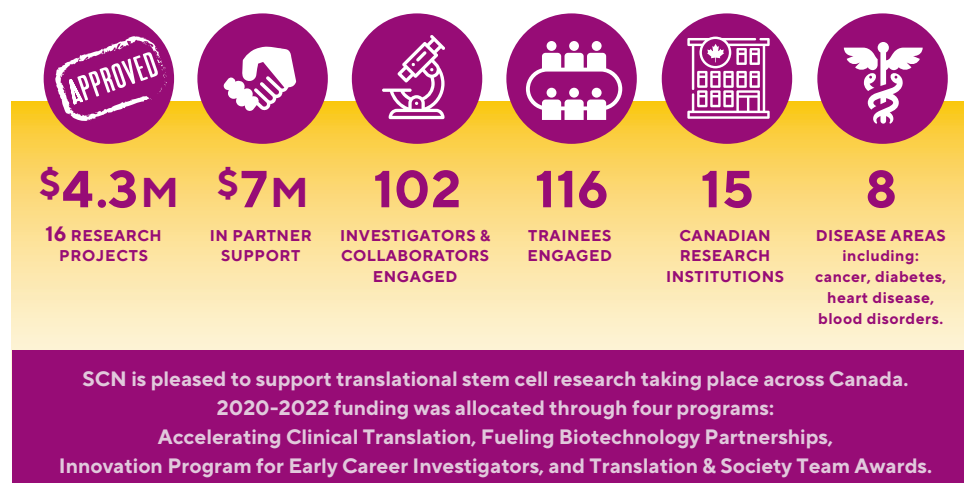


FIGURE 1 : SCN ROUND 2 FUNDING RESULTS 2020-2022

The competition included a new program aimed at early career researchers. Uptake for this program was high, with 23 applications submitted for peer review. Overall, seven awards were issued, totaling more than \$1 million. Notably, all the recipients were women.

One of the award-winners was Jessica Esseltine, Ph.D. from Memorial University of Newfoundland, whose work exemplifies the exciting potential of stem cell research in the treatment of rare diseases. Her research is focused on a rare disease specific to the population of Newfoundland that causes Arrhythmogenic Right Ventricular Cardiomyopathy. Her work is one of nine different stem cell projects focusing on rare diseases that SCN is currently supporting. (See overview of rare disease research below. Full funding details for Round 2 are provided in Tables 1-4 on pages 10-13).



RARE DISEASE RESEARCH SUPPORTED BY SCN, 2019-2022

- *Bronchopulmonary Dysplasia*
- *Catecholaminergic Polymorphic Ventricular Tachycardia (CPVT)*
- *Cystic Fibrosis*
- *Epidermolysis Bullosa*
- *Inherited Arrhythmogenic Right Ventricular Cardiomyopathy*
- *Muscular Dystrophy (3 projects)*
- *Sick Sinus Syndrome*

TOTAL FUNDING FOR 2019-2022

SCN funding for the 2019-2022 has now been fully allocated. (Figure 2) Overall, SCN has invested \$12 million in stem cell research taking place across Canada. This investment has leveraged an additional \$20.4 million in funding from research partners such as industry, academic institutions, and health charities, and supports more than 300 researchers and trainees in 20 different institutions across Canada.

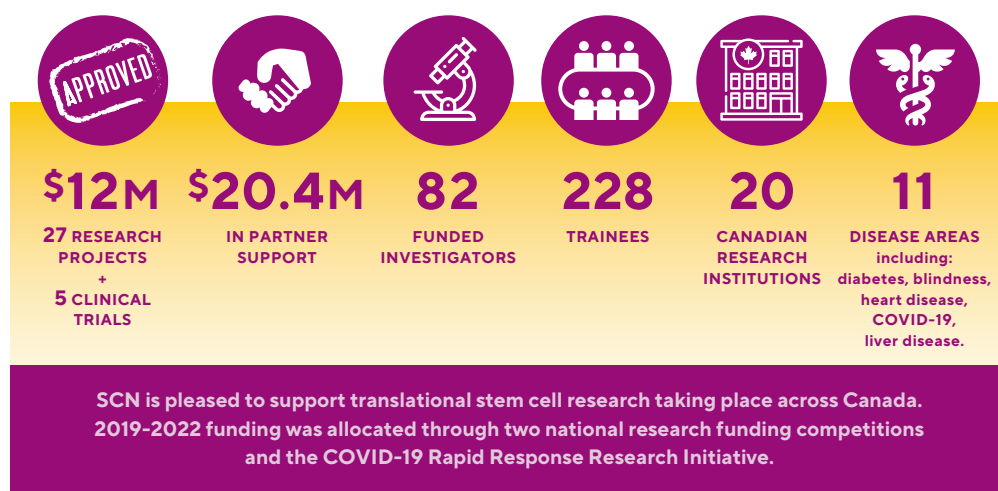


FIGURE 2 : SCN FUNDING RESULTS 2019-2022

*“Since 2005, we have held six major funding rounds.
In each one, an average of 30 per cent of awards has gone to new
PIs who had not been previously funded.
Of these, 10 per cent were early-career investigators, on average.”*

Cate Murray, Executive Director and COO, Stem Cell Network

TABLE 1: SCN 2019-2022 ROUND 2 FUNDING RESULTS | Accelerating Clinical Translation Program

PRINCIPAL INVESTIGATOR PROJECT TITLE WITH SCN FUNDS ALLOCATED	CO-INVESTIGATORS AND COLLABORATORS
LUCIE GERMAIN, Université Laval (ULaval)	
<i>Towards an epidermolysis bullosa clinical trial with tissue-engineered skin after ex vivo gene therapy correction</i>	Manuel Caruso (ULaval), Bartha Knoppers (McGill University), Elena Pope (The Hospital for Sick Children)
\$400,000	
GUY SAUVAGEAU, Université de Montréal (UMontréal), Hôpital Maisonneuve-Rosemont (HMR)	
<i>Bone marrow stem cell expansion with UM171: a better solution for patients and donors</i>	Vincent-Philippe Lavallée (UMontréal), Peter Zandstra (University of British Columbia), Silvy Lachance (HMR)
\$400,000	
JAMES SHAPIRO, University of Alberta (UAlberta)	
<i>Autologous patient-derived Islets from induced Pluripotent Stem Cells (iPSC): the next-generation diabetes therapy</i>	Gregory Korbitt (UAlberta), Patrick MacDonald (UAlberta), Colin Anderson (UAlberta), Jean Buteau (UAlberta), Andrew Pepper (UAlberta), Timothy Kieffer (University of British Columbia)
\$400,000	
GLEN TIBBITS, Simon Fraser University, BC Children's Hospital Research Institute	
<i>Developing a hiPSC-CM based model for personalized treatment of catecholaminergic polymorphic ventricular tachycardia (CPVT)</i>	Filip Van Petegem (University of British Columbia), Shubhayan Sanatani (UBC), Francis Lynn (UBC), SR Wayne Chen, (University of Calgary), Mu Chiao (UBC), Zachary Laksman (UBC)
\$399,950	
ANN YEH, The Hospital for Sick Children (SickKids), University of Toronto	
<i>Pharmacological recruitment of endogenous neural precursors to promote white matter repair in MS</i>	Donald Mabbott (SickKids), Douglas Munoz (Queen's University), Freda Miller (University of British Columbia), David Kaplan (SickKids), Cindi Morshead, (University Health Network), Jing Wang (Ottawa Hospital Research Institute), Paul Frankland (SickKids), Wolfram Tetzlaff (University of British Columbia), Jiwon Oh (St. Michael's Hospital), Giulia Longoni (SickKids)
\$399,997	
J.C. ZÚÑIGA-PFLÜCKER, Sunnybrook Research Institute	
<i>Production of progenitor T cells for immune-reconstitution and targeted immunotherapies (ProTImm)</i>	Donna Wall (The Hospital for Sick Children), Jonas Mattsson (Princess Margaret Cancer Centre)
\$400,000	

TABLE 2: SCN 2019-2022 ROUND 2 FUNDING RESULTS | Fueling Biotechnology Partnerships Program

PRINCIPAL INVESTIGATOR PROJECT TITLE WITH SCN FUNDS ALLOCATED	CO-INVESTIGATORS AND COLLABORATORS
BERNARD THÉBAUD, Ottawa Hospital Research Institute (OHRI), University of Ottawa, Children's Hospital of Eastern Ontario (CHEO)	
<i>AAVenger: Adeno-associated virus engineered gene epithelial progenitor cell regeneration</i>	Sarah Wootton (University of Guelph), Dean Fergusson (OHRI), Rénaud Gilbert (National Research Council Canada), Parminder Chahal (National Research Council Canada), John Bell (OHRI), Amine Kamen (McGill University), Larry Nogee (John Hopkins University School of Medicine), Jeffrey Whitsett (University of Cincinnati), Alice Tarantal (UC Davis School of Medicine), Michael Jamieson (OHRI), Hartmut Grasmann (University of Toronto), Nicolaus Schwerk (Hannover Medical School), Matthias Griesse (Ludwig-Maximilian Universität), Kednapa Thavorn (OHRI)
\$364,000	
PETER ZANDSTRA, University of British Columbia (UBC)	
<i>Enabling a platform for customized pluripotent stem cell derived T-cell therapies</i>	Robert Holt (UBC), David Knapp (Université de Montréal), J.C. Zúñiga-Pflücker (Sunnybrook Research Institute), Christopher Sturgeon (Washington University School of Medicine), Melanie Kardel (Notch Therapeutics), Shreya Shukla (Notch Therapeutics), Timothy Key (Notch Therapeutics), Dan Kirouac (Notch Therapeutics)
\$350,000	

TABLE 3: SCN 2019-2022 ROUND 2 FUNDING RESULTS | Innovative Research Program for Early Career Investigators

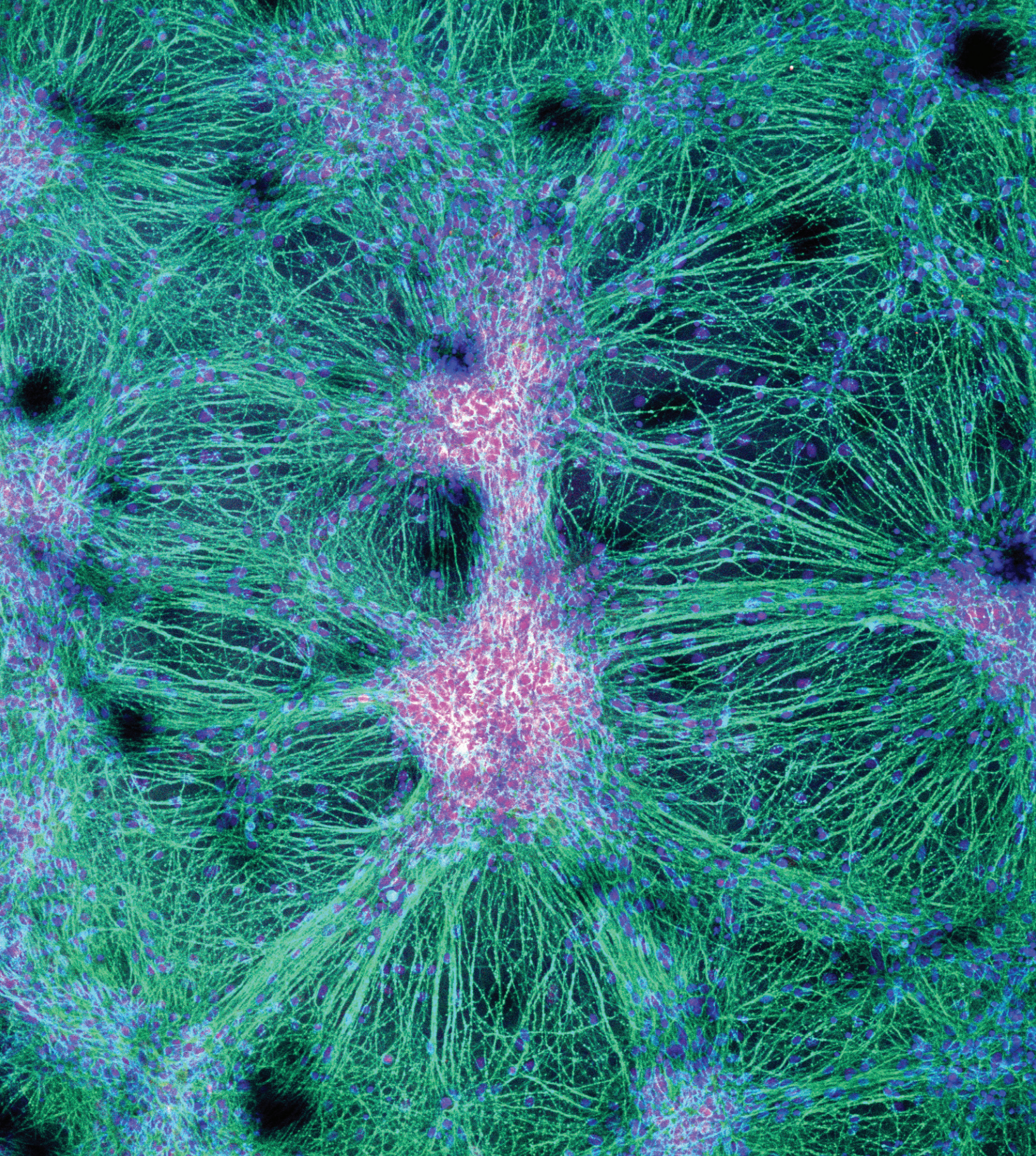
PRINCIPAL INVESTIGATOR PROJECT TITLE WITH SCN FUNDS ALLOCATED	CO-INVESTIGATORS AND COLLABORATORS
NATASHA CHANG, McGill University	
<i>Targeting muscle stem cells to enhance endogenous repair in Duchenne muscular dystrophy</i>	Imed Gallouzi (McGill University), Jerry Pelletier (McGill University), Gerald Pfeffer (University of Calgary)
\$150,000	
JESSICA ESSELTINE, Memorial University of Newfoundland (MUN)	
<i>A personalized, translational approach to understanding inherited Arrhythmogenic Right Ventricular Cardiomyopathy in Newfoundland</i>	Kathleen Hodgkinson (Memorial University of Newfoundland), David Pace (Memorial University of Newfoundland), Terry-Lynn Young (Memorial University of Newfoundland), Darren O'Rielly (Eastern Health Molecular Genetics Lab), Sean Connors (Memorial University of Newfoundland), Bruno Stuyvers (Memorial University of Newfoundland)
\$150,000	

TABLE 3: Continued

PRINCIPAL INVESTIGATOR PROJECT TITLE WITH SCN FUNDS ALLOCATED	CO-INVESTIGATORS AND COLLABORATORS
MIREILLE KHACHO, University of Ottawa (UOttawa)	
<i>Mitochondrial dynamics as a therapeutic target for muscle stem cells in muscle-wasting diseases</i>	Jodi Warman (UOttawa), Mary-Ellen Harper (UOttawa), Julie St. Pierre (UOttawa), Michael Rudnicki (UOttawa), Valentina Perissi (Boston University)
\$150,000	
YUN LI, The Hospital for Sick Children (SickKids)	
<i>Engineering an organoid model of the hippocampal neurogenic niche for basic and translational research</i>	Julien Muffat (SickKids), Michael Wilson (SickKids), Lu-Yang Wang (SickKids)
\$150,000	
STEPHANIE PROTZE, McEwen Stem Cell Institute, University Health Network (UHN)	
<i>Developing stem cell-based biological pacemakers for patients with sick sinus syndrome</i>	Zachary Laksman (University of British Columbia), Michael Laflamme (UHN), Gary Bader (University of Toronto), Igor Efimov (George Washington University)
\$150,000	
JO ANNE STRATTON, McGill University	
<i>Human iPSC ependymal cells: An innovative model to study human brain in health and disease</i>	Tom Durcan (McGill University), Luke Healy (McGill University)
\$150,000	
AMY WONG, The Hospital for Sick Children (SickKids)	
<i>Elucidating the role of CFTR in human fetal lung lineage development</i>	Sidhartha Goyal (University of Toronto), Brent Stead (Specific Biologics Inc.)
\$150,000	

TABLE 4: SCN 2019-2022 ROUND 2 FUNDING RESULTS | Translation & Society Team Awards

	PRINCIPAL INVESTIGATOR PROJECT TITLE WITH SCN FUNDS ALLOCATED	CO-INVESTIGATORS AND COLLABORATORS
	BERNARD THÉBAUD, Ottawa Hospital Research Institute (OHRI), University of Ottawa, Children’s Hospital of Eastern Ontario (CHEO)	
	<i>Clearing up the stem-cell-mess: Delphi-based definition and reporting guidelines to improve transparency in MSC research</i>	Manoj Lalu (OHRI), Kelly Cobey (OHRI), Maxime Le (patient partner)
	\$175,000	



Neural Networks in Living Colour | Photo credit: Nuwan Hettige
2020 Cells / See art contest at the Till & McCulloch Meetings

SPOTLIGHT: SCN'S NATIONAL RESEARCH COMMUNITY



The greatest strength of the Stem Cell Network is its people. We are the only national organization of its kind in Canada, focusing solely on supporting stem cell research from lab bench, to bedside, to the market. This success is made possible through communication and collaboration.

SCN brings people from across Canada together into one community, from Dr. James Till, who proved the very existence of stem cells, to trainees such as **Josh Dierolf**, a Western University PhD candidate and an up-and-coming leader in the stem cell space. SCN is the connective tissue that binds this community together. Both shared their journeys in regenerative medicine with us this year in [SCN's 20Q20 series](#).

SCN thrives because we are continuously growing with and adapting to the needs of the community. SCN funds research projects and supports future researchers through a comprehensive program of training opportunities, underpinning a continuum of research. In the section below, we highlight some of SCN's most notable work in fostering the careers and research of innovative leaders in regenerative medicine from across Canada in 2020.



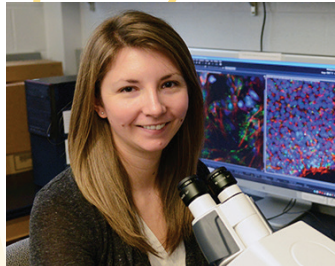
JOSH DIEROLF poses with the Till and McCulloch bronze statues in downtown Toronto. James Till is on the right.

NEW PROGRAM FOR EARLY-CAREER INVESTIGATORS

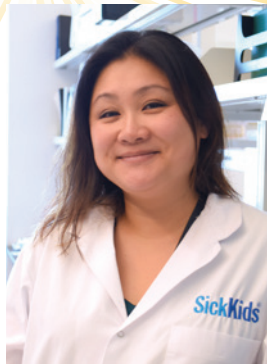
In 2020, SCN provided targeted support for those just starting out in their careers, through the *Innovation Research Program for Early Career Investigators*. This new funding program provided awards to seven exciting young leaders – all of whom are women – driving innovative stem cell-based technologies and therapies forward, including:



JO ANNE STRATTON



JESSICA ESSELTINE



AMY WONG

Jessica Esseltine, Ph.D., from Memorial University of Newfoundland, who is using gene therapy to gain a better understanding of a form of inherited heart disease in Newfoundland, locally known as the Newfoundland Curse;

Jo Anne Stratton, Ph.D., from McGill University, who is using stem cells to develop a tool for researchers to better study both the healthy and the diseased brain; and,

Amy Wong, Ph.D., from The Hospital for Sick Children, who is using stem cells to better understand lung development to find ways for early intervention in the prevention of lung damage from diseases like cystic fibrosis.

EXCITING ADVANCES IN THE QUEST FOR A CURE FOR DIABETES



2021 marks the 100th anniversary of the discovery of insulin. Like the discovery of stem cells, this is a Canadian success story, and stem cell research has been a driver in the quest to find a cure for type-1 diabetes. Thanks to the collaborative cross-Canada efforts of Network researchers, we are getting closer to life-changing therapies for this highly debilitating disease.

In Alberta, **Dr. James Shapiro** and his team are working on a project funded by SCN in 2020 to define pre-clinical, scale-up and good manufacturing processes (GMP) manufacturing advances for autologous iPSC-derived 'islets'



JAMES SHAPIRO
says stem cells are
the next horizon for
diabetes research.



TIMOTHY KIEFFER
believes that diabetes is one of the
diseases poised to benefit the most
from stem cells.

that will accelerate the path to first-in-human pilot clinical testing. The ultimate goal of the project is to find a potential way to treat all forms of diabetes without the need for the chronic anti-rejection therapies necessitated by current approaches. If it succeeds, the transplanted islets will provide a therapeutic supply of insulin for patients, eliminating the need for, and expense of, regular insulin injections or an islet cell transplant.

Concurrently, in British Columbia, Drs. **Timothy Kieffer**, Megan Levings, Francis Lynn, and Bruce Verchere at the University of British Columbia are also working on SCN-funded projects to improve both the quality of the cells for transplant and to refine a method of creating replacement islet tissues using 3D-printing technologies innovated by project partner Aspect Biosystems.

In Ontario, **Cristina Nostro, Ph.D.**, at University Health Network, is working to eliminate the need for daily insulin injections by using iPS cells to create insulin-producing beta cells, in another SCN-funded project. Meanwhile, in Québec, **Corinne Hoesli, Ph.D.**, from McGill University, is using bioengineering to create novel encapsulation technologies to improve the islet transplantation process for diabetes patients, also with support from the Network.

Such advances could not only transform the quality of life for the thousands of Canadians living with diabetes, but also greatly reduce the tremendous economic and health burden that diabetes places on Canada's health care system.

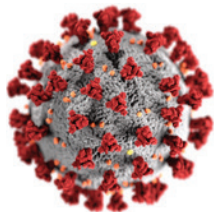


CRISTINA NOSTRO



CORINNE HOESLI

SCN'S COVID-19 RAPID RESPONSE RESEARCH INITIATIVE



Dr. Duncan Stewart, from the Ottawa Hospital Research Institute, has achieved promising results over a short time frame in a COVID-19 clinical trial funded through SCN's *COVID-19 Rapid Response Research Initiative*. The trial was designed to test whether mesenchymal stromal cells from the umbilical cord may be able to help the body's immune system fight COVID-19, dampening down inflammation while reducing damage to vital organs, including the lungs. The first phase, which looked at safety and dosing in nine patients with severe COVID-19, most of whom were in Ottawa, has already been completed. The second phase, which will look at whether stem cells can improve recovery from COVID-19, is getting underway and is expanding to other sites, including Toronto and Montreal.



DUNCAN STEWART
is using stem cells
in a trial to combat
acute symptoms of
COVID-19.

CLINICAL TRIALS DRIVE LIFE-CHANGING THERAPIES

Since Canadian scientists first proved the existence of stem cells in 1961, the field has unlocked immense potential. Just 60 years later, we are taking that basic discovery and applying life-saving treatments to patients through translational research that helps moves Canadian innovations closer to the marketplace.

Over its 20-year history, SCN has funded 24 clinical trials, driving life-changing therapies to address Canada's greatest health challenges. Continuing this tradition of excellence in translational medicine, SCN's Advancing Clinical Trials Program for 2019-2022 funded four successful clinical trials.

Two life-saving trials showed promising results and had high patient demand for access to the trials. As a result, the Board of Directors authorized additional funding in 2021 to enable further translational research and ensure a greater number of people could be enrolled in these promising clinical trials.

TABLE 5: Since 2019, SCN has provided more than \$3.7M in funding to 5 clinical trials.

PRINCIPAL INVESTIGATOR	CLINICAL TRIAL FOCUS
SANDRA COHEN , Hôpital Maisonneuve-Rosemont (HMR)	Treatment for high-risk Leukemia patients
LUCIE GERMAIN , Université Laval (ULaval)	Correcting vision of patients affected by limbal stem cell deficiency
VÉRONIQUE MOULIN , Université Laval (ULaval)	Providing treatment for serious burns
DUNCAN STEWART , Ottawa Hospital Research Institute (OHRI)	Treatment acute symptoms of COVID-19 patients
BERNARD THÉBAUD , Ottawa Hospital Research Institute (OHRI)	Treating underdeveloped lungs of premature babies



GREG KORBUTT



(BL) (C) (TR)
**ALBERTA CELL THERAPY
MANUFACTURING**



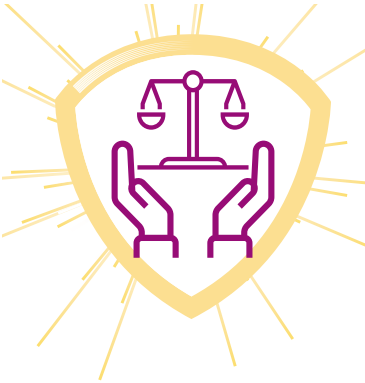
LAURALYN MCINTYRE

Thanks to its broad national reach, SCN is uniquely positioned to foster collaboration among researchers across Canada who are involved in clinical trials, and to enable access to unique facilities and resources. For example, **Greg Korbitt, Ph.D.** from the University of Alberta was a member of the original SCN-funded Edmonton Protocol team that developed a successful islet cell transplant protocol to treat type-1 diabetes. He was able to leverage this early research success to build a state-of-the-art GMP cleanroom facility for cell-based therapy manufacturing for all diseases and conditions. Biomanufacturing is a cornerstone for delivering cell and gene therapies. Today, the [Alberta Cell Therapy Manufacturing \(ACTM\)](#) is the only facility of its kind in Western Canada and offers its services

to researchers and industry worldwide. Located at the University of Alberta, the ACTM is now supporting several clinical trials, including an SCN-funded trial aimed at treating sepsis, led by **Dr. Lauralyn McIntyre**, from the Ottawa Hospital Research Institute which was first funded in 2016.

These clinical trials and other SCN-funded efforts are delivering leading-edge treatments to patients across the country: since 2019, more than 100 patients who participated in an SCN trial have received life-saving, life-altering treatments. Sixty years after the discovery of stem cells, such initiatives will undoubtedly continue to see Canada's research community deliver even more advances for the benefit of all in the years to come.

PROTECTING THE RIGHTS AND INTEREST OF RESEARCH PARTICIPANTS



Bartha Maria Knoppers, Ph.D. was awarded SCN Round 1 funding (2019-2022) for her project examining the social, ethical and legal issues raised by the use of internet-based Direct-to-Participant (DTP) recruitment. By the project's mid-point, her research team had completed a comprehensive literature review that identified key social, ethical and legal matters, including matters of consent (especially in the paediatric context) and privacy/confidentiality. The review also examined research ethics across multiple jurisdictions, as well as differences in cultural norms and local laws and regulations. The team also conducted a comparative analysis of the different legal, regulatory and policy systems in place in Canada, Italy and Israel. For the second half of the project, the team will develop guidelines and best practices that will provide clear direction on the roles and responsibilities of Canadian researchers and research ethics boards (REB) in protecting the rights and interests of both national and international research participants (adult and paediatric) when using this emerging recruitment strategy.



TRAINING THE NEXT GENERATION

FOR TWO DECADES, the Stem Cell Network has been training the next generation of highly qualified personnel (HQP), providing opportunities to more than 4,000 trainees who are powering Canada's stem cell and regenerative medicine research field.

During fiscal 2020/21, SCN continued to deliver training based on the three key areas identified in SCN's strategic plan for 2019-2022. These areas are: Advanced Scientific and Core Skills; Commercialization and Industry Integration; and Clinical Translation. In 2020/21, SCN provided 873 training opportunities (see Table 6, pages 22-24), which included online workshops, conferences and webinars in all three streams, despite program changes due to COVID-19. An additional 222 trainees received hands-on job experience working on SCN funded projects. (Figure 3).

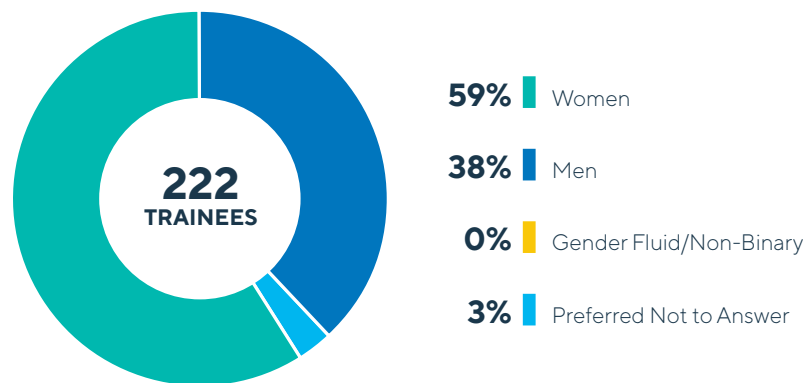


FIGURE 3: SCN TRAINEES BY GENDER

TRAINING COMMUNICATIONS COMMITTEE

SCN engages with trainees through the Trainee Communications Committee (TCC) to gain input and plan future training activities. In 2020/21, the 12-member committee was chaired by Joshua Dierolf from Western University and, more recently, The Hospital for Sick Children. The TCC plays a vital role in developing important trainee workshops at the annual Till & McCulloch Meetings, Canada's largest stem cell and regenerative medicine research conference. A list of the committee members can be found below, under Boards and Committees (page 39).

TRAINING WORKSHOPS AND OPPORTUNITIES SUPPORTED BY SCN

In 2020/21, SCN and its partners helped to fund and organize 12 workshops, seminar series, courses and other events, providing 873 training opportunities for 550 individual trainees. During this fiscal year, due to restrictions imposed by the COVID-19 pandemic, SCN was unable to provide travel awards to enable Canadian HQP to participate in international conferences.

TABLE 6: Training Workshops and Opportunities Supported by SCN

TRAINING EVENT, DESCRIPTION AND PARTNERS	DATE	ATTENDEES
STEM CELLS FROM THE SOFA WEBINAR SERIES	2020-2021	349
SCN's new speaker series, "Stem Cells from the Sofa," offers a virtual space to share scientific findings, insights and best practices related to stem cells and regenerative medicine. Presentations were broadcast as live webinars and included Q&As with the guest speakers (see page 27 for more details).		
CAREER SPEAKER SERIES	2020	125
The Career Speaker Series featured speakers with a graduate degree who have built interesting careers in regenerative medicine. They spoke about the challenges and opportunities of navigating a career in this emerging industry without a road map.	Medicine by Design	
TRANSLATION TALKS WEBINAR SERIES	2020	48
Attendees participated in a seven-week series that provided an in-depth look at key concepts in the translation and commercialization of regenerative medicine. Each webinar gave graduate students, postdoctoral fellows and scientific/research associates the opportunity to learn from experts in clinical translation and commercialization and make connections with other emerging researchers.	Medicine by Design, CCRM	
ABSTRACT-WRITING WEBINAR	April 30, 2020	21
SCN's Trainee Communications Committee hosted a skills development webinar led by Geoff Hicks, Ph.D. (University of Manitoba) that focused on improving abstract-writing ability. Dr. Hicks provided insights and tips on writing a good abstract and answered attendee questions.	SCN's Trainee Communications Committee	

TRAINING EVENT, DESCRIPTION AND PARTNERS	DATE	ATTENDEES
BIOSTATISTICS FOR BIOMEDICAL RESEARCHERS ONLINE WORKSHOP This workshop provided biomedical researchers with an introduction to basic statistical concepts and methods relevant to designing and analysing experiments. The workshop also included a good foundation in the use of discovery tools provided by a data analysis and visualization software program.	June 24-25, 2020	20
RNA-SEQ ANALYSIS WORKSHOP Participants gained a more in-depth understanding of the design and analysis of OMICS projects by focusing on RNA-Seq, which is being widely adopted in the stem cell community.	July 27-30, 2020	16
COMPELLING COMMUNICATIONS WORKSHOP This event for trainees encompassed three increasingly critical areas of scientific communication: the graphical abstract, the elevator pitch, and how to prepare/write a review article. The event aimed to prepare trainees to excel in areas of communication for which academic institutions rarely provide in-depth instruction.	October 25, 2020	49
LEADERSHIP BOOTCAMP WORKSHOP Attendees expanded their understanding of the importance of a team and team dynamics in the context of project management. They learned how to build more effective collaboration in a team setting, as well as foundational project management principles, and gained hands-on experience in project planning.	October 25, 2020	36
2020 TILL & McCULLOCH MEETINGS Trainees learned about the latest techniques and trends in the field from accomplished Canadian and international speakers. Thirteen students had the opportunity to share their work in oral presentations judged by senior researchers, with the top presenters winning prizes. More than 160 trainees presented their abstracts in a poster contest, with prizes available for the best presentations.	October 25-28, 2020	160
FUNDAMENTALS OF OPTICAL MICROSCOPY In seven online sessions, attendees learned about the concepts required to design and carry out fluorescence experiments, including image formation, the selection of filters and objectives, and best practices for image acquisition. Attendees also reviewed case studies and presented an imaging experiment directly related to their research.	Oct 8 – Nov 19, 2020	14

TRAINING EVENT, DESCRIPTION AND PARTNERS	DATE	ATTENDEES
SYNTHETIC BIOLOGY FOR REGENERATIVE MEDICINE	Nov 24 – Dec 8, 2020	18
Participants attended an online, three-day workshop focused on synthetic biology. The workshop introduced researchers to the background, technical skills, potential applications, and ethical considerations of synthetic biology. The workshop included talks by experts in the field, as well as group discussions and coursework.		
TRAINING FOR SUCCESS IN CANADA'S REGENERATIVE MEDICINE SECTOR	February 2 – 26, 2021	25
The courses provided trainees with an introduction to the best practices and quality monitoring standards that are required for cell and gene therapy manufacturing and subsequent clinical translation. Attendees also participated in an interactive session with industry and academic experts, who provided career insights, discussed what they look for in new hires, and answered career-related questions.		
	BioTalent Canada	

SUPPORTING SCN'S EARLY CAREER INVESTIGATORS

It is worth noting that, coming out of the success of an Early Career Investigator (ECI) special session held at TMM, SCN designed a four-part series for ECIs that took place in March and April 2021, which was sponsored by ThéCell. Defined as individuals who are in the first five years of an academic appointment, ECIs encounter a lot of new challenges as they navigate their new role and responsibilities as well as the administrative hurdles they face while establishing their research programs. To support our new ECI members, SCN established this series to address some of the common challenges and pitfalls, inviting established PIs from across the country to share their expertise in four panel sessions. The session topics were:

- Establishing Your Lab
- The Art of Funding Your Research
- Building Your Research Reputation
- Building National and International Networks and Collaborations

The series also included a keynote address from US-based Canadian researcher Jeff Karp, Ph.D., who shared his expertise in bringing his innovations to the market. All four sessions were fully subscribed, with 38 registered participants from seven provinces attending. The feedback was overwhelmingly positive: in a survey of participants, the series was ranked as high quality (78 per cent strongly agreed and 22 per cent agreed), and an overwhelming majority ranked the topics as high relevant and useful.

ENGAGEMENT WITH OUR PARTNERS

Partnerships continue to be an important factor in our continued success. The Stem Cell Network's research projects include partners from industry, academia, the charitable sector and, of course, research institutions and academic hospitals. For the 2020-2022 period, SCN's research projects included almost 50 partners. (Figure 4 provides a breakdown of the partnerships, based on category.)

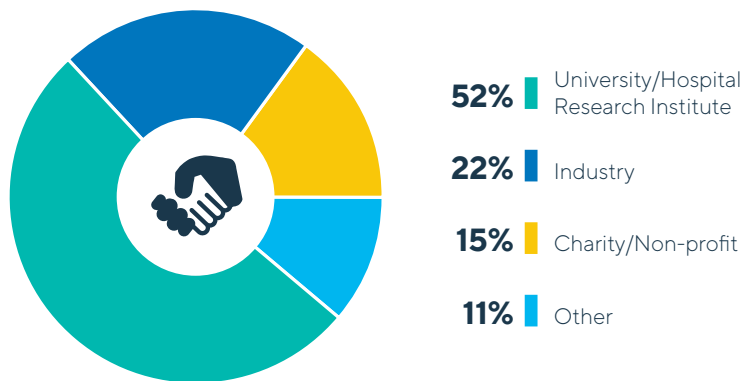


FIGURE 4: SCN PARTNERSHIPS BREAKDOWN

SCN has also collaborated in a number of organization-to-organization partnerships over the past year that helped to enhance SCN's core research, training and outreach programs. Some of these partnerships are highlighted below.

BIOTALENT CANADA In spring 2020, SCN established a new partnership with BioTalent Canada. This partnership provided upwards of 50 SCN trainees with access to BioTalent's Essential Skills Fundamentals Courses and Technical Skills Fundamental Courses. The topics offered in these courses provide trainees with core skills needed to work in biomanufacturing roles in industry and academia. More specifically, they provided fundamental instruction relevant to good laboratory practices and good manufacturing practices, good clinical practice, quality assurance, and quality control. As an add-on to the program, SCN offered an interactive session with industry leaders (including representatives from BlueRock Therapeutics, STEMCELL Technologies and Notch Therapeutics) and academic experts who provided career advice for working in Canada's growing regenerative medicine field.

OBIO For the second year in a row, SCN teamed up with the OBIO (Ontario Bioscience Innovation Organization) on its national investor summit. The summit provides biotech representatives from the health sciences sector with a chance to meet with investors and angel funders to discuss opportunities for collaboration and investment.

The summit, hosted each February, was held virtually on February 10-11, 2021. SCN was proud to have three companies from the Network taking part: Axolotl Biosciences, Inspire Biotherapeutics, and Mesentech. Representatives had an opportunity to pitch their companies and regenerative medicine products to investors from organizations such as Quark, Lumira, Amgen, and Bloom Burton & Co. The event also provided SCN with the opportunity to share information with participants about the Network and the value it brings to Canada's regenerative medicine research community. SCN's Scientific Director, Dr. Michael Rudnicki, also participated in a panel discussion, where he discussed the intersection of science and commercialization and the lessons he has learned as a scientific entrepreneur.

WeCANReg To support SCN-funded investigators who are looking to translate their research into clinical trials, SCN partnered with WeCANReg. This company specializes in supporting academic researchers and companies as they navigate Canada's regulatory system. SCN provided an opportunity for its funded investigators to meet with experts from WeCANReg to discuss their regulatory pathway and get advice about how best to move forward. More than six SCN teams met with WeCANReg to begin planning for the next stages of their research. In addition, SCN and WeCANReg collaborated on the development of regulatory resource products that SCN's research community can access, free of charge and in both official languages, on SCN's website. To ensure the community was aware of these new tools, SCN hosted an online Stem Cells from the Sofa session with WeCANReg's Principal, Patrick Bedford. The online webinar had been viewed 109 times as of April 30, 2021.

SCN values its many partners, who help to strengthen the Network and ensure the strength of Canada's regenerative medicine ecosystem. Moving forward, SCN will look not only to retain and foster its existing partnerships, but also to build new ones that will offer important value for the community.

INTERNATIONAL SYMPOSIUM ON HPSC BEST PRACTICES, MANUFACTURING AND BANKING

In fall 2020, SCN and two international partners – the International Stem Cell Initiative and the International Stem Cell Banking Initiative – hosted a one-day event that brought together 64 experts from 11 countries to discuss best practices in the use of hPSCs (human pluripotent stem cells). Fourteen speakers from around the world covered a wide range of issues, including the impact of genetic and epigenetic changes on the safety and efficacy of hPSCs in clinical applications.

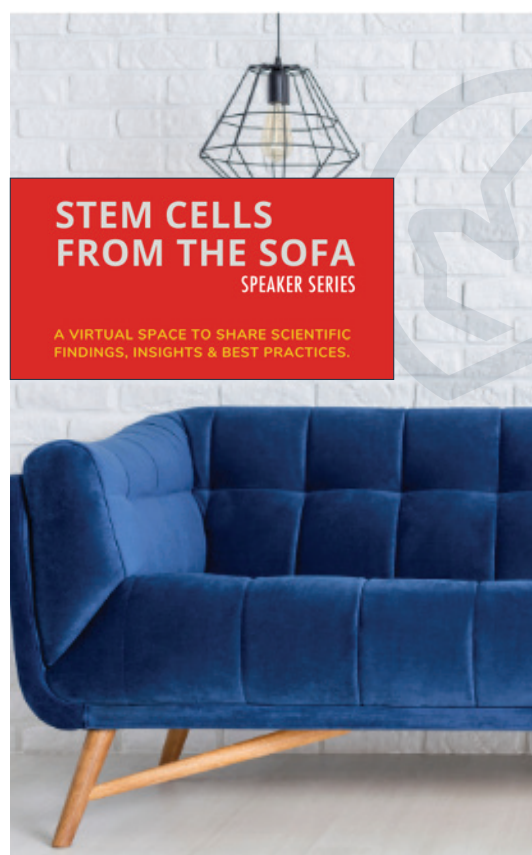
A survey after the event showed that 97 per cent of the attendees found the workshop to be high quality and rated the event as a valuable and impactful experience.

COMMUNITY OUTREACH

Community outreach and knowledge mobilization are essential components of the Stem Cell Network's mandate. SCN actively engages in and supports community outreach and education activities by communicating with the research community and, more broadly, with Canadians about the latest advances in stem cell and regenerative medicine research.

STEM CELLS FROM THE SOFA

At the onset of the global pandemic, SCN launched a new speaker series, *Stem Cells from the Sofa*, to provide a virtual space where researchers could connect to share scientific findings, insights and best practices related to the stem cell and regenerative medicine field. All presentations were broadcast live as webinars, and recordings of the sessions were made available on SCN's YouTube channel for those who could not attend the live events.



14 webinars

Guest speakers from around the world

600+ participants attended live

2,359 YouTube views (post event)

Michael Rudnicki

Molecular regulation of muscle stem cell function

April 8, 2020 | 214 views

Josef Penninger

Soluble ACE2 as a rational therapy for COVID-19

April 22, 2020 | 441 views

Cristina Nostro

Modelling human pancreatic development with embryonic stem cells

May 6, 2020 | 169 views

Jim Woodgett

My dog wants to know when I can expect to return to my real day job in research

May 13, 2020 | 197 views

Véronique Moulin

Treating burn patients despite the COVID-19 pandemic and social distancing rules

June 3, 2020 | 66 views

**Julien Muffat,
William Stanford
and Duncan Stewart**

SCN's COVID-19 Rapid Response Initiative projects

June 17, 2020 | 197 views

Katie Cockburn

Seeing is believing: Understanding stem cell decisions in the skin through live imaging

July 2, 2020 | 67 views

Bernard Thébaud

How the "INCuBAToR" gave birth to "HULC-1", a phase I trial of cord-derived mesenchymal stromal cells for neonatal lung disease

July 28, 2020 | 77 views

Bartha Knoppers

Gene editing and human rights

August 5, 2020 | 118 views

Anil Dilawri

Effective distance communications for science professionals

August 12, 2020 | 265 views

Peter Zandstra

Making T-cells from stem cells

August 27, 2020 | 198 views

Freda Miller

Making neurons from neural stem cells during normal and pathological brain development

September 9, 2020 | 98 views

Patrick Bedford

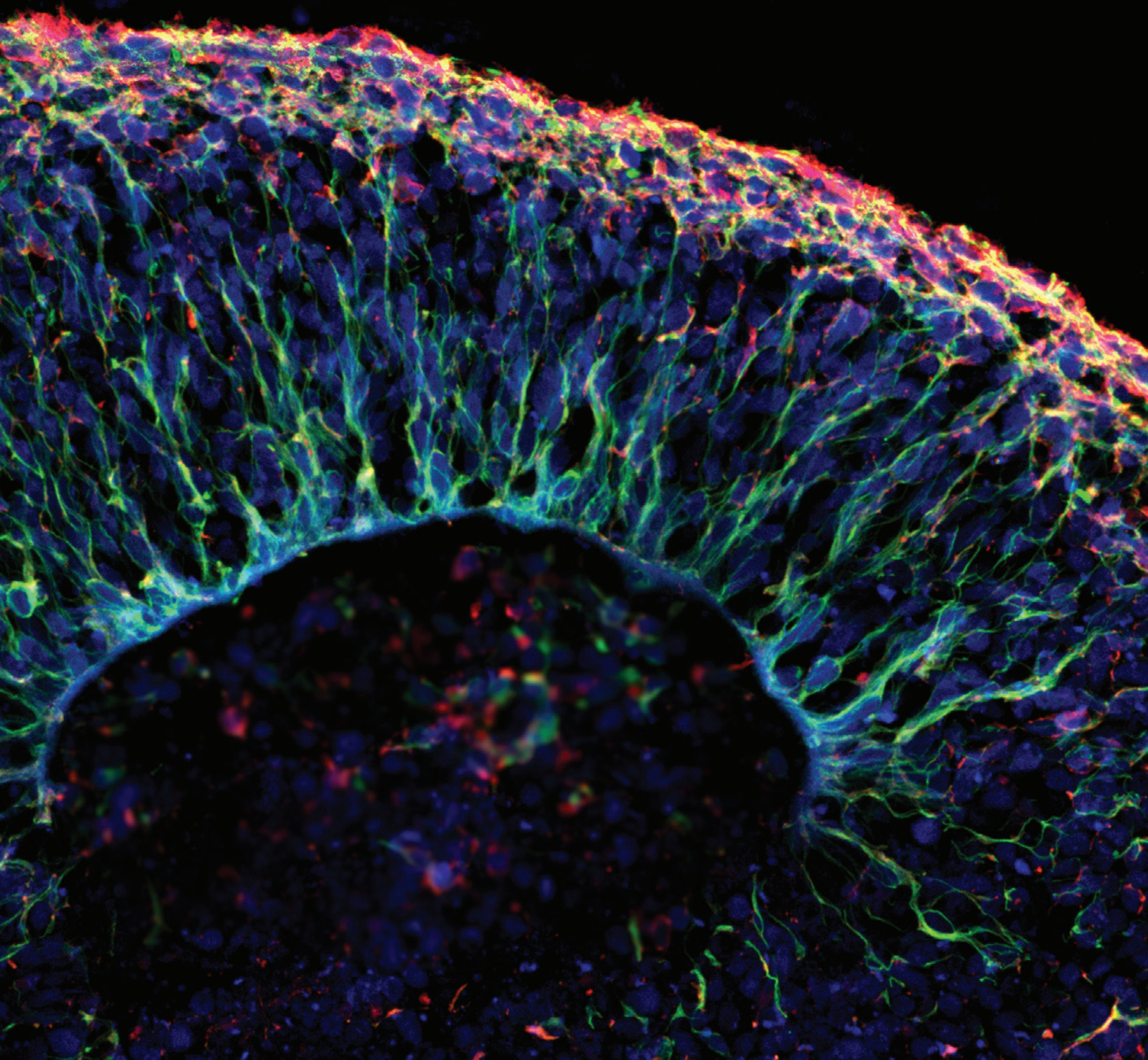
Cell therapy development for academics: the when, what and how to regulatory DIY

September 23, 2020 | 107 views

**Jim Woodgett,
Marissa Lithopoulos,
Zachary Laksman
and Kristin Hope**

An optimist's guide to overcoming pandemic impacts

March 18, 2021 | 145 views



Neural Canopy | Photo credit: Valerie Watters, Université Laval

Winner of the People's Choice Award, 2020 *Cells* / See art contest at the Till & McCulloch Meetings

TILL & McCULLOCH MEETINGS (TMM)

The Till & McCulloch Meetings (TMM), hosted by the Stem Cell Network, are Canada's premier stem cell and regenerative medicine research conference. The annual conference gathers national and international stem cell scientists, clinicians, bioengineers and ethicists, as well as representatives from the industry, government, and health NGO sectors. On October 25-28, 2020, more than 440 attendees gathered virtually, with support from 22 sponsors.



KEVIN BOLUSI
Patient Representative

"I have always had the goal of being an aerospace engineer. Weirdly, I feel like the accident motivated me to get my grades up and meet the application requirements. So many people got me to this point – all these organizations, doctors and therapists – so I felt like I kind of owed it to them to at least try and make a worthwhile difference in the world."

The program offered sessions on a broad range of topics, including future technologies in stem cell and regenerative medicine research, the legal and regulatory context for clinical translation and policy development, and bioengineering advancements and commercialization. Delegates also heard from **Kevin Bolusi**, a patient who shared his personal experience as a participant in an SCN-funded clinical trial, led by **Veronique Moulin, Ph.D.**, that successfully used a tissue-engineered skin substitute to treat his third-degree burns. Kevin was seriously injured after an accident in which more than 25,000 volts of electricity went through his body. He was left with third degree burns over more than 75 per cent of his body, had a leg amputated, and spent more than a year recovering in hospital. He received this stem-cell based experimental treatment, which created new skin, using his own stem cells. He is now a full-time student studying aerospace engineering.

[\(View the full interview with Kevin Bolusi.\)](#)



VÉRONIQUE MOULIN
Leads the
SCN-funded clinical
trial on acute burn
wounds.

Each year at TMM, two prestigious awards are given to outstanding researchers in the field. The Till & McCulloch Award was created in honour of Drs. James Till and Ernest McCulloch and is presented annually to a Canadian-based researcher who has made an exceptional contribution to global stem cell research in that year. The Drew Lyall Award of Excellence is presented annually to the author of the best abstract submitted by a graduate student.



BARTHA KNOPPERS

On October 28, 2020, Bartha Knoppers, Ph.D., Director of the Centre of Genomics and Policy at McGill University, received the 2020 Till & McCulloch Award for her exceptional article, *Biotechnologies nibbling at the legal "human"*. The paper, which focused on the ethical, legal and social implications of stem cell research, was published in December 2019 in the journal, *Science*.



SABIHA HACIBEKIROGLU

Sabiha Hacibekiroglu, Ph.D., a postdoctoral fellow at the Lunenfeld-Tanenbaum Research Institute, received the fifth annual Drew Lyall Award of Excellence in recognition of her top-ranked abstract, *Engineered safe and immune-tolerant 'designer' RPE cells towards the treatment of Age-related Macular Degeneration*.



The 2021 Till & McCulloch Meetings will mark the 10th annual convocation of Canada's largest stem cell and regenerative medicine research conference. Due to the uncertainty of the global pandemic, once again the meetings will be held virtually November 15-17, 2021. tillandmcculloch.ca

CELEBRATING 20 YEARS OF SCN



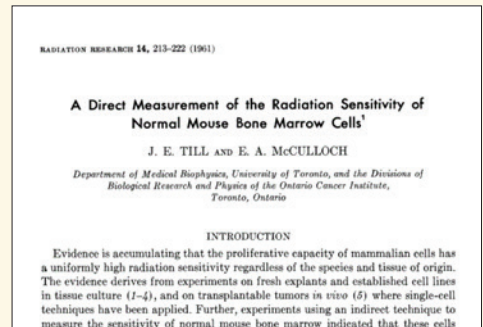
1961 – 2001 – 2011

2021 is a banner year for the Canadian stem cell community,
as we celebrate three major milestones:

60-20-10.

60

YEARS AGO, in February 1961, Canadian researchers James Till and Ernest McCulloch made history when they published their seminal paper in the journal *Radiation Research*. This work proved the existence of hematopoietic stem cells and ultimately changed the landscape of scientific discovery, unlocking the potential to tackle some of our greatest health challenges and establishing Canada as a global leader.



RON WORTON
Founding Scientific
Director of the
Stem Cell Network

20

YEARS AGO the Stem Cell Network was created, as leading Canadian scientists in the stem cell research space joined forces to form a new community of researchers. After a successful application for federal funding, SCN was officially incorporated on November 19, 2001, as part of the Networks of Centres of Excellence Program. The goal was to tackle several of the most pressing questions in the field, a task that could best be done by bringing the sharpest minds together.

SCN was the first network of its kind in the world. And over the past 20 years, it has grown to become one of the most respected stem cell

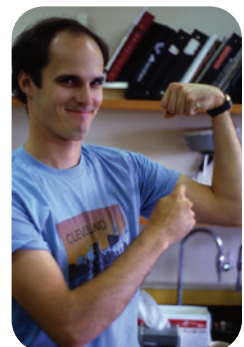
and regenerative medicine research networks worldwide. SCN has built a strong, vibrant and innovative community, funding ground-breaking translational research, training next generation leaders, fostering partnerships, and powering Canada's stem cell and regenerative medicine sector.



As part of this legacy, SCN is also celebrating the **10TH ANNIVERSARY** of the annual Till & McCulloch Meetings, Canada's largest gathering for stem cell science. Over the years, we have brought together hundreds of Canada's leading and up-and-coming stem cell researchers, industry partners, legal and ethical scholars, together with members of the global community, to share discoveries, network, establish new collaborations and ultimately advance stem cell research and regenerative medicine.



In order to showcase stem cell research in Canada, we are celebrating our people and the amazing achievements that have served to solidify our position as global leaders. Through our **20Q20** interview series we asked 20 of Canada's leading and up-and-coming stem cell scientists 20 questions — about their life, their work, and their views on the stem cell sector. We are also celebrating our history and accomplishments through social media, highlighting key events on social platforms through the #MilestoneMonday hashtag and other key social media markers and health awareness events.

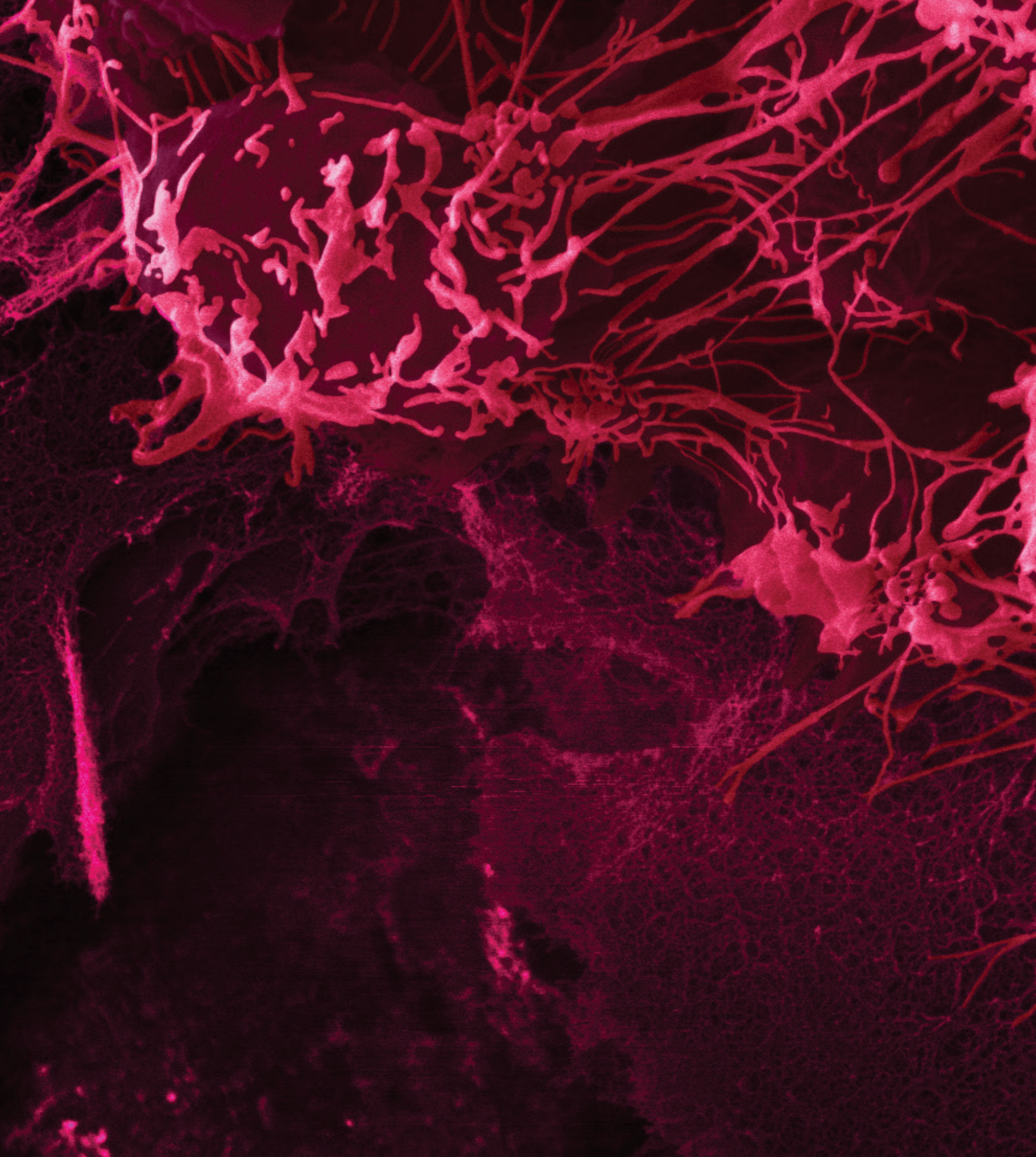


A LOOK AHEAD



This year's annual report highlights the significant amount of activity that took place throughout 2020, and the incredible efforts of our community to keep their research moving forward in the face of a global pandemic.

As we look ahead, there is great excitement about the future as we continue to develop a new strategic plan for 2022-2025 that will grow the Stem Cell Network and help our community continue to drive forward the field of regenerative medicine. SCN intends to launch an ambitious and effective strategic plan that will see tens of millions of dollars invested in research and training in the coming years. We look forward to working with our partners in academia, industry and the charitable sector to support our country's economy as we build back better in the wake of the pandemic, and to ensure that Canadians benefit from made-in-Canada innovations that have the potential to revolutionize health care in the 21st century.



Human Stem Cells Bridging the Gap | Photo credit: Maryam Dadabhoy
2020 Cells I See art contest at the Till & McCulloch Meetings

SCN BOARDS AND COMMITTEES

BOARD OF DIRECTORS

ANDREW McKEE, CHAIR

Co-Founder,
5514 Km Canada Wide – Children's Gear

DECLAN HAMILL, VICE CHAIR

Vice-President, Legal, Regulatory and
Compliance, Innovative Medicines Canada

MICHAEL RUDNICKI

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

SHARON COLLE

Former President and CEO,
Fighting Blindness Canada

JULIE FRADETTE

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

GAIL GARLAND

President and CEO, Ontario Bioscience
Innovation Organization (OBIO)

DEBORAH GORDON-EL-BIHBETY

(start date: November 20, 2020)
President and CEO, Research Canada

SHARON LOUIS

Vice-President, Research and Development,
STEMCELL Technologies

DEBRA LYNKOWSKI

Chief Operating Officer, Ottawa Hospital
Research Institute

GORDON C. McCAULEY

(start date: November 20, 2020)
President and CEO, adMare BioInnovations

STEPHANIE MICHAUD

President and CEO, BioCanRx

TAMER MOHAMED

President and CEO, Aspect Biosystems Ltd.

JANET ROSSANT

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

FABIO ROSSI

(end date: November 20, 2020)
Co-Director, Biomedical Research Centre and
Professor, University of British Columbia

RESEARCH MANAGEMENT COMMITTEE

MICHAEL RUDNICKI, CHAIR

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

DEAN FERGUSON

Senior Scientist and Director, Clinical Epidemiology Program,
at the Ottawa Hospital Research Institute;
Full Professor, Departments of Medicine, Surgery,
and of the School of Epidemiology and Public Health,
University of Ottawa

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Senior Lecturer, Cell Biology, Harvard Medical School

JOHN A. HASSELL

Professor, Biochemistry and Biomedical Sciences
Department, McMaster University

GREGORY KORBUTT

Professor, Division of Surgical Research in the Faculty of
Medicine and Dentistry, University of Alberta

M. CRISTINA NOSTRO

Scientist, McEwen Stem Cell Institute,
University Health Network

CHANTALE PAMBRUN

Director, Centre for Innovation, Canadian Blood Services;
Adjunct Professor, Department of Pathology and Laboratory
Medicine, University of Ottawa

MICHAEL PARR

President and Chief Scientific Officer, Sitka Biopharma

DENIS-CLAUDE ROY

Director, Cellular Therapy Laboratory and Scientific
Director, Centre de recherche Hôpital
Maisonnette-Rosemont; Professor, Université de Montréal

CHERYLE SÉGUIN

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Pharmacology, University of Western Ontario

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CHEO Research Institute; Professor of Pediatrics,
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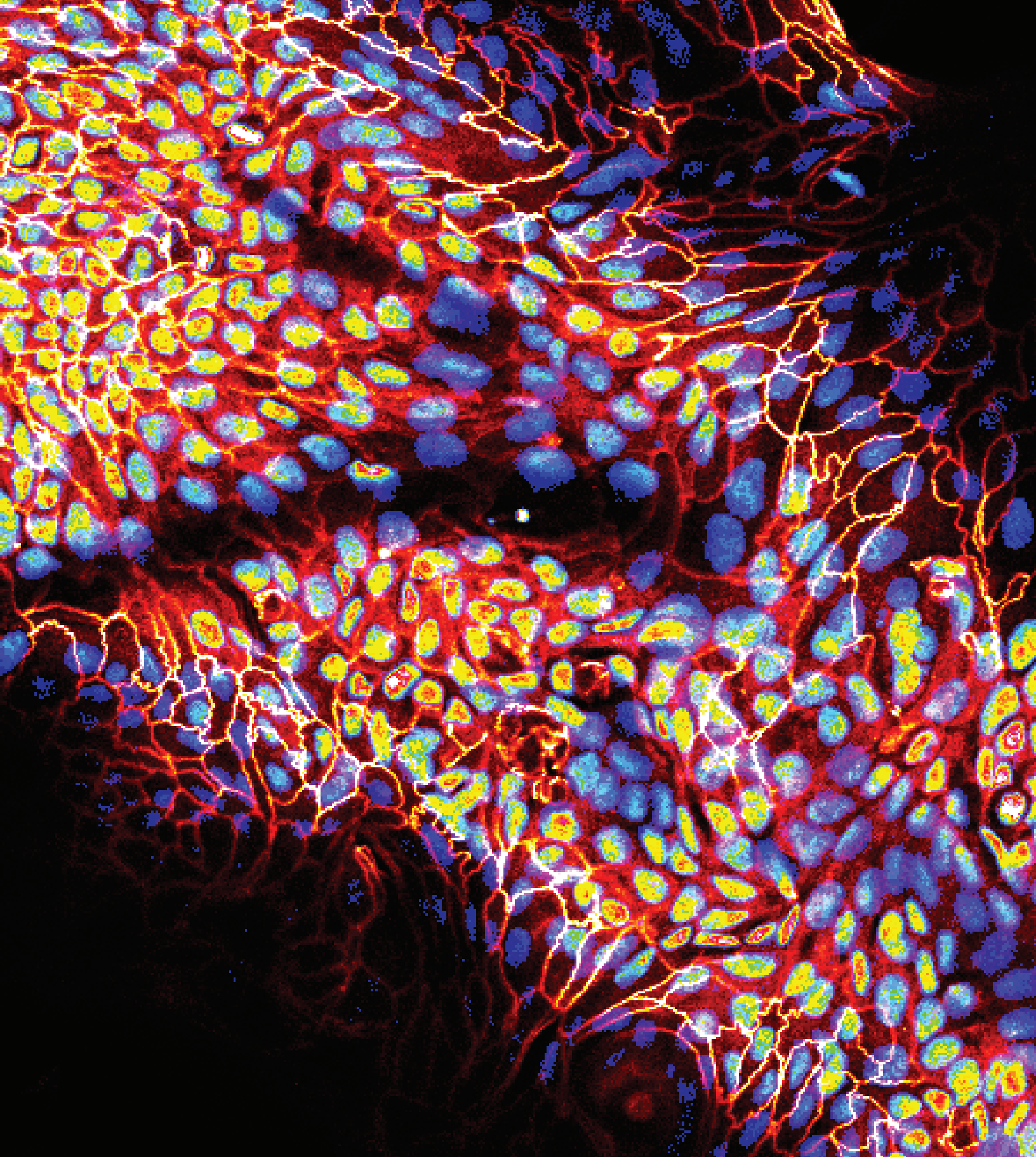
Principal Scientist, STEMCELL Technologies

ERIKA KLEIDERMAN

Academic Associate, Centre of Genomics and Policy at McGill University and PhD candidate, Université de Montréal

KELLY McNAGNY

Professor, University of British Columbia



Lazy River | Photo credit: Ilina Co and Judy Xia
2020 Cells / See art contest at the Till & McCulloch Meetings

FINANCIAL STATEMENTS MARCH 2021

STEM CELL NETWORK

FINANCIAL STATEMENTS

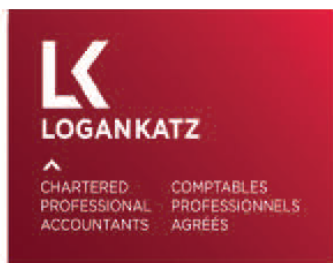
MARCH 31, 2021

STEM CELL NETWORK

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MARCH 31, 2021

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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 (the "SCN"), which comprise the statement of financial position as at March 31, 2021, 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 the SCN as at March 31, 2021, 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 (ASNFPPO).

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 the 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 ASNFPPO, 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 the 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 the SCN or to cease operations, or has no realistic alternative to do so.

Those charged with governance are responsible for overseeing the 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 the 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 the 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 the 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
June 23, 2021

STEM CELL NETWORK

STATEMENT OF FINANCIAL POSITION

AS AT MARCH 31, 2021

	2021	2020
ASSETS		
CURRENT ASSETS		
Cash	\$ 1,044,770	\$ 1,055,713
Accounts receivable (Note 5)	6,981	35,372
Harmonized sales taxes recoverable	18,535	23,992
Prepaid expenditures	177,913	78,589
	1,248,199	1,193,666
RESTRICTED CASH EQUIVALENTS (Note 2)	50,000	50,000
PROPERTY AND EQUIPMENT (Note 3)	21,712	17,601
	\$ 1,319,911	\$ 1,261,267

LIABILITIES AND NET ASSETS		
CURRENT LIABILITIES		
Accounts payable and accrued liabilities (Note 4)	\$ 223,952	\$ 42,870
Deferred revenue	-	5,000
	223,952	47,870
DEFERRED CONTRIBUTIONS (Note 5)	-	77,527
NET ASSETS		
Invested in property and equipment	21,712	17,601
Unrestricted	1,024,247	1,068,269
Externally restricted (Note 2)	50,000	50,000
	1,095,959	1,135,870
	\$ 1,319,911	\$ 1,261,267

Commitments (Note 6)
Economic dependence (Note 9)
COVID-19 (Note 11)

ON BEHALF OF THE BOARD:

STEM CELL NETWORK

STATEMENT OF REVENUES AND EXPENDITURES

YEAR ENDED MARCH 31, 2021

	2021	2020
REVENUES		
Innovation, Science and Economic Development Canada Grant (Note 5)	\$ 6,082,770	\$ 6,163,997
Annual conference sponsorship and registration	184,700	494,882
Contributed services in-kind (Note 8)	71,280	71,280
Interest	7,271	63,254
Other	1,500	-
	6,347,521	6,793,413
EXPENDITURES		
Administration and general support (Notes 7 and 8)	471,845	493,807
Amortization	10,927	8,196
Annual conference (Note 7)	254,479	693,437
Business development	3,239	11,322
Communication and outreach (Note 7)	599,431	556,530
Research programs (Note 7)	4,881,821	4,364,273
SCN board and committees	21,497	76,842
Training program (Note 7)	144,193	248,556
Workshops	-	4,387
	6,387,432	6,457,350
EXCESS OF (DEFICIENCY) REVENUES OVER EXPENDITURES	\$ (39,911)	\$ 336,063

STEM CELL NETWORK

STATEMENT OF CHANGES IN NET ASSETS

YEAR ENDED MARCH 31, 2021

	2021				2020	
	Invested in Property and Equipment	Unrestricted	Externally Restricted	Total	Total	
BALANCES AT BEGINNING OF YEAR	\$ 17,601	\$ 1,068,269	\$ 50,000	\$ 1,135,870	\$ 799,807	
Excess of (deficiency) revenues over expenditures	-	(39,911)	-	(39,911)	336,063	
Amortization of property and equipment	(10,927)	10,927	-	-	-	
Acquisition of property and equipment	15,038	(15,038)	-	-	-	
BALANCES AT END OF YEAR	\$ 21,712	\$ 1,024,247	\$ 50,000	\$ 1,095,959	\$ 1,135,870	

STEM CELL NETWORK

STATEMENT OF CASH FLOWS

YEAR ENDED MARCH 31, 2021

	2021	2020
OPERATING ACTIVITIES		
Excess of (deficiency) revenues over expenditures	\$ (39,911)	\$ 336,063
Adjustments for:		
Amortization	10,927	8,196
Recognition of deferred contributions	(6,082,770)	(6,163,997)
Changes in non-cash operating working capital:		
Accounts receivable	33,634	8,372
Harmonized sales taxes recoverable	5,457	12,639
Prepaid expenditures	(99,324)	157,043
Accounts payable and accrued liabilities	181,082	30,062
Deferred revenue	(5,000)	5,000
	(5,995,905)	(5,606,622)
FINANCING ACTIVITIES		
Proceeds from deferred contributions	6,000,000	6,000,000
INVESTING ACTIVITIES		
Acquisition of property and equipment	(15,038)	(11,137)
(DECREASE) INCREASE IN CASH	(10,943)	382,241
Cash position at beginning of year	1,055,713	673,472
CASH POSITION AT END OF YEAR	\$ 1,044,770	\$ 1,055,713

STEM CELL NETWORK

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED MARCH 31, 2021

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 19, 2019, SCN was approved for Innovation, Science and Economic Development Canada ("ISED") funding of \$18,000,000 for fiscal years 2020 to 2022 inclusive. As part of the Federal budget announcement on April 19, 2021, SCN was approved for additional 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 ("ASNFPO") 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, including the conference, 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, the 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 they become payable.

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STEM CELL NETWORK

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED MARCH 31, 2021

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 average year rates. Exchange gains and losses are included in the statement of revenues and expenditures.

Property and Equipment

Property and equipment are recorded at cost. Amortization is provided using the straight-line basis over the following periods:

Computer equipment	3 years
Furniture and fixtures	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.

STEM CELL NETWORK

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED MARCH 31, 2021

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Financial Instruments

Measurement 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, 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 (2020 - \$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. The significant estimates in the financial statements include the estimated useful lives of property and equipment, allowance for doubtful accounts, the potential recovery of research grants awarded, the amount of certain accrued liabilities and the allocation of salaries and benefits to applicable programs.

STEM CELL NETWORK

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED MARCH 31, 2021

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 account. The non-redeemable GIC bears interest at 0.1% and matures on March 19, 2022.

3. PROPERTY AND EQUIPMENT

	2021			2020	
	Cost	Accumulated Amortization	Net	Net	
Computer equipment	\$ 59,890	\$ 44,550	\$ 15,340	\$ 4,819	
Furniture and fixtures	10,356	7,285	3,071	6,648	
Leasehold improvements	8,497	5,196	3,301	6,134	
	\$ 78,743	\$ 57,031	\$ 21,712	\$ 17,601	

4. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

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

5. DEFERRED CONTRIBUTIONS

Innovation, Science and Economic Development Canada ("ISED")

SCN was approved for ISED funding for \$6 million per year commencing fiscal 2020 under the terms of the ISED program, ending March 31, 2022. 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.

The changes in the deferred contributions balance for the year are as follows:

	2021	2020
Balance at beginning of year	\$ 77,527	\$ 241,524
Restricted contributions received	6,000,000	6,000,000
Amount recognized as revenue	(6,082,770)	(6,163,997)
Balance at end of year	\$ (5,243)	\$ 77,527

The ending balance of \$5,243 is included in accounts receivable.

STEM CELL NETWORK

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED MARCH 31, 2021

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 \$4,165,998 for the 2022 fiscal year.

7. ALLOCATION OF EXPENDITURES

Subcontractors and salaries and benefits of \$953,415 (2020 - \$900,568) have been allocated as outlined below. SCN did not incur any subcontractor costs during the year (2020 - \$10,914).

	2021	2020
Administration and general support	\$ 303,007	\$ 314,435
Annual conference	45,451	27,348
Communication and outreach	346,684	331,713
Research programs	130,825	111,339
Training program	127,448	115,733
	\$ 953,415	\$ 900,568

8. IN-KIND CONTRIBUTIONS

Under an agreement, the Ottawa Hospital Research Institute ("OHRI") provides administrative support services as well as office space and furniture without charging SCN. The value of the in-kind contributions received for services is estimated to be \$71,280 (2020 - \$71,280) and is recorded in administration and general support expenditures.

9. ECONOMIC DEPENDENCE

SCN received ISED funds under a three year funding agreement. Revenues pertaining to this grant account for 96% (2020 - 91%) of SCN's revenues.

STEM CELL NETWORK

NOTES TO FINANCIAL STATEMENTS

YEAR ENDED MARCH 31, 2021

10. FINANCIAL INSTRUMENTS

Risks

It is management's opinion that SCN is not exposed to significant credit risk, interest rate risk 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 foreign countries and as such is exposed to the fluctuations of foreign and Canadian currencies.

Liquidity Risk

Liquidity risk is the risk that an entity will encounter difficulty in meeting obligations associated with financial liabilities. SCN is exposed to this risk mainly in respect of its accounts payable and accrued liabilities. SCN manages its liquidity risk by monitoring its requirements through use of budgets and cash forecasts.

Credit Facility

SCN has access to \$50,000 secured credit on a credit card, 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, 2021 amounts to \$1,290 (2020 - \$14,093) and is included in the balance of accounts payable and accrued liabilities.

11. COVID-19

In March 2020, the World Health Organization declared the COVID-19 coronavirus outbreak to constitute a pandemic, with rapid developments thereafter. Measures taken by various governments to contain the virus have affected economic activity. Management has taken measures to monitor and mitigate the effects of COVID-19, and continues to follow the various government policies and guidelines, to ensure the safety and health of its vendors, attendees, and employees.

Business operations and results have not been significantly impacted by COVID-19 for SCN. SCN launched a new research program this year for COVID-19 related research, funding three research projects directly related to studying the effects of COVID-19 and potential treatments. Management has not accessed various government assistance programs to obtain economic relief during this period as it was not financially required by SCN. Staffing levels have remained steady, with all staff working remotely to ensure safe working conditions.

These financial statements, prepared as of and for the year ended March 31, 2021, reflect the impacts resulting from COVID-19 to the extent known at the reporting date. The exact impact on SCN's activities thereafter cannot be predicted.

