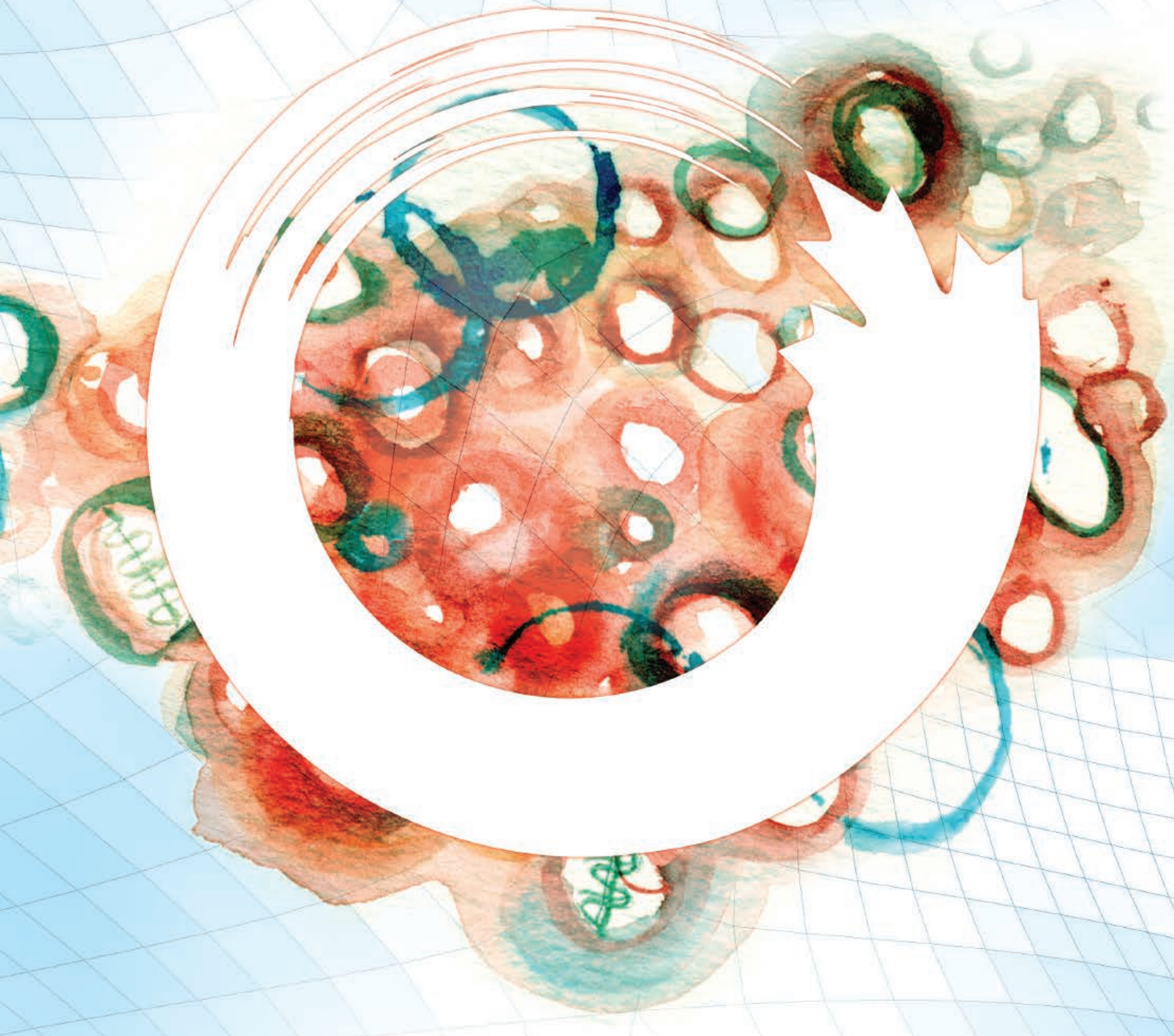
BUILDING A LEGACY



Stem Cell Network **2011–2012** Annual Report

Stem Cell Network 2011–2012 Annual Report

Government of Canada
Networks of Centres of Excellence

Gouvernement du Canada
Réseaux de centres d'excellence

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Directors' Message

Message from SCN's Board Chair, Scientific Director, and Executive Director

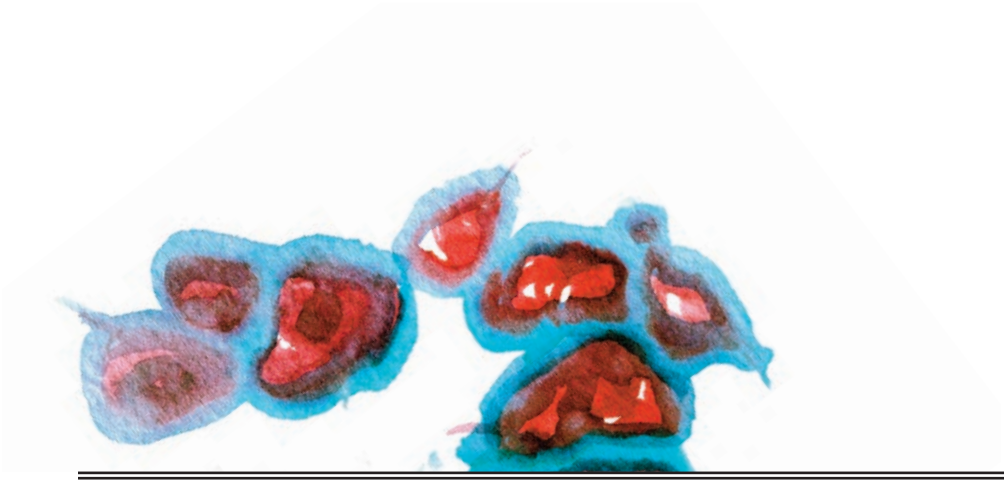
It's year 12. On paper, the Stem Cell Network has entered its sunset years, but we're not ready to rest on our laurels just yet. On the contrary, we're as busy as we've ever been – busy building on the momentum we've already established and leveraging it into new success stories and exciting new knowledge that will one day help ordinary Canadians cope with devastating illnesses. This is an exciting time to be a stem cell scientist in Canada and the pages of this report provide a glimpse of some of the reasons why.

A few short years ago, the Stem Cell Network made a strategic decision to invest in a research program focused on drug discovery. We were among the first to do so, and it is why Canada is now leading the way in this rapidly expanding area of research. At the heart of much of this research is a robotic technique, known as high-throughput screening, which tests new and established drug compounds for their potential as novel treatments. SCN investigators Dr. Aaron Schimmer, Dr. David Kaplan and Dr. Mick Bhatia are a few of those at the forefront of this research, and all have recently published promising findings to treat blood and solid tumour cancers.

Dr. Denis-Claude Roy is another SCN researcher taking advantage of the potential of high-throughput screening, using the technique to power his research into cellular therapy treatments for blood cancers at the University of Montréal. Dr. Roy's project, funded at various stages by SCN, is a prime example of how our research program enables scientists to translate their basic research towards therapeutic commercialization and, eventually, public availability.

Commercializing these and other advances will require collaboration with industry partners. In recognition of this, SCN developed a one-of-a-kind post-doctoral fellowship opportunity in conjunction with Pfizer Neusentis and we were pleased to award the first two grants in this program in 2011. Dr. Corinne Hoesli, whose work seeks to engineer artificial blood vessels, was an invited speaker at the 2012 Till & McCulloch Meetings in Montréal, where she showcased her research.

"As SCN continues to mature, we're seeing some of our projects step on the far side of that metaphorical 'translational gap' and moving into the clinical trials stage."



The Till & McCulloch Meetings themselves are another SCN success story that flows from the open, collaborative research environment SCN has created since 2001. One of SCN's most notable achievements has been the development of its annual scientific meeting, an event that received praise both nationally and internationally. The meeting is viewed by the Canadian research community as one of our most important legacies, and in recognition of the need for such an event to continue, SCN brought together four key groups — SCN, the Centre for Commercialization of Regenerative Medicine, the Ontario Stem Cell Initiative and Québec's ThéCell — to launch the Till & McCulloch Meetings in 2012. The Meetings, held April 29-May 2 in Montréal, attracted over 450 attendees from academia, industry, and government sectors. Like the previous SCN conferences, the Till & McCulloch Meetings featured a strong roster of Canadian and international speakers, excellent networking opportunities and an array of professional development events, all of which will help to build the Till & McCulloch Meetings into a self-sustaining entity with what we hope will be a long future.

As a network of researchers, SCN owes our success to the people around us, and these are only some of the programs the SCN community has built and supported in recent years. Each of them is a necessary piece, a truckload of soil, if you will, that fills the "valley of death" — the critical gap that exists in translational research. As the Network continues to mature, we're seeing some of our projects step on the far side of that metaphorical valley, as is the case with some of the projects outlined above. To further propel us forward, we recently launched a new research program that seeks to advance Canada's capacity in stem cell manufacturing, and to support the associated implementation of cell-based trials. The *Cellular Therapy Program* will award up to $1.5 million in grants in two streams of research, and we expect to announce the winning applications early in 2013.

Although dividends from SCN's investments have been coming in over the entire life of the Network, they're becoming more frequent and significant today with a decade of effort behind them. What's more, that pace will almost certainly continue to accelerate through the coming years.

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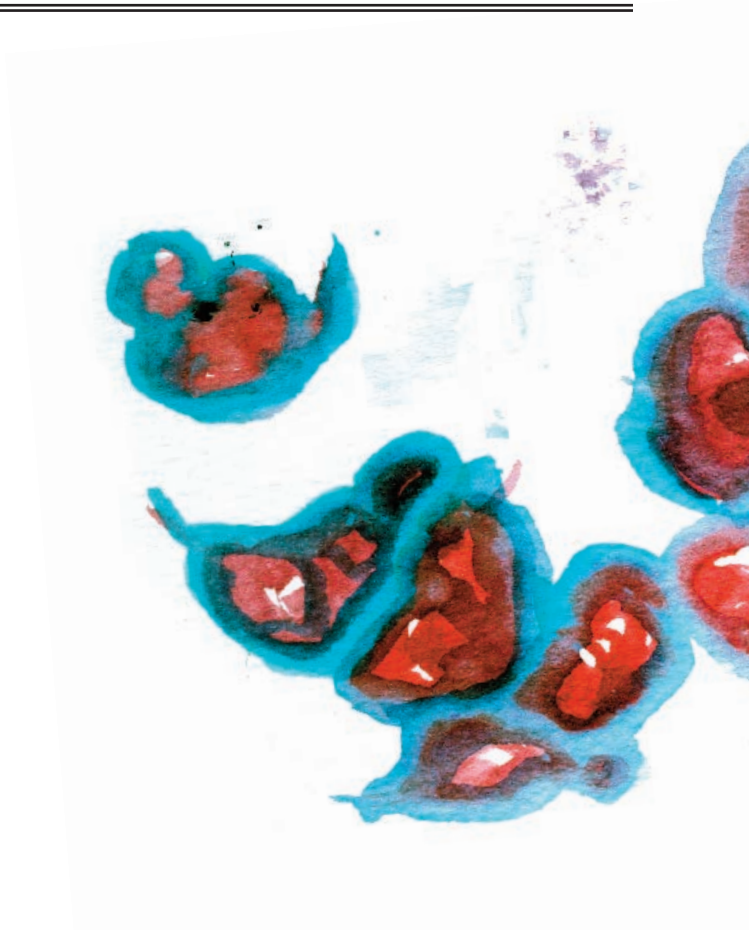
"This is an exciting time to be a stem cell scientist in Canada and the pages of this report provide a glimpse of some of the reasons why."



Bridging The Translational Gap

Some call it the translational gap, while others call it the valley of death, but no matter what you call it, it's the biggest hurdle in turning basic science into real treatments for human patients.

Catalyzing research—supporting scientists and clinicians who build on the work of basic researchers and translate those preliminary findings into commonly available therapies (to traverse the translational gap, so to speak) has been a mandate of the Stem Cell Network since the organization began. Although the Network is supporting a variety of projects that are currently in the process of crossing this gap, this role can be illustrated most aptly by the Network's long-standing Stem Cell Expansion Initiative.

Current stem cell-based cancer treatments—including those for leukemia, lymphoma, myeloma and Hodgkin's disease—require high-dose chemotherapy followed by an injection of hematopoietic stem cells (HSCs, or blood stem cells) back into the patient in order to restore his or her blood system. In some cases, a person's own stem cells are used to re-populate the system (known as an autologous stem cell transplant), but some patients don't have enough cells to do so. Finding a way to expand the HSCs in the laboratory is a way to avoid this problem, and that's something that over a dozen Stem Cell Network researchers have been collaborating on with Network support since 2001.

The years of hard work are paying off. Researchers have identified a number of biological factors and culture methods that together show an ability to expand clinical-grade blood stem cells for

> **“Clinical studies are on the verge of starting in Montréal, Vancouver and Toronto, with the expectation that patients are going to see improvements as a direct result of these new cellular therapy techniques.”**

transplantation into humans. Clinical studies are on the verge of starting at the Maisonneuve-Rosemont Hospital in Montréal, the Vancouver General Hospital and the University of Toronto, with the expectation that patients are going to see improvements as a direct result of these new techniques.

HSC expansion is also paying dividends in approaches aside from autologous blood-based cancer treatments. Given the difficulty of finding stem cell donors who match the patient, an alternative technique that is commonly used is the injection of a much larger number of stem cells from a mismatched family member, such as a parent to a child, or vice-versa. Because parents only share half the genetic material of their children (a situation known as a haplotype mismatch), clinicians are required to transplant a larger number of purified blood stem cells to improve the chances that these mismatched cells will be accepted by the patient. A way to successfully and safely expand stem cells in a lab means that fewer cells would be required from the donor.

The same expansion techniques can also expand stem cells retrieved from umbilical cord blood, a promising and easily obtained source that is useful because the increased number of stem cells in the graft would help obviate rejection and promote engraftment. In addition, the relative immaturity of cord blood cells' immune system may improve the chances that the transplanted cells will not reject the patient.

Peripheral blood stem cells also hold the potential to treat a broad spectrum of diseases, including cardiovascular problems, diabetes and cancer, but the amount that can be collected is relatively small. The ability to expand peripheral blood stem cells in a lab could accelerate the development of this therapeutic approach.

From the very beginning the cell expansion project, the Stem Cell Network's support has been unwavering. Over the past 11 years, the Network has funded half a dozen collaborative projects involving over 14 different Canadian researchers whose work ranges from discovery-based through translational research and, presently, into clinical trials.

The Stem Cell Network's investment in cell therapy continues as well. Funding opportunities worth a total of $1.5M have recently been announced, which will enable cell-manufacturing facilities to accelerate the implementation of clinical trials in their facilities, with the ultimate goal of propelling new cell therapies into the clinic. The Network is also actively engaged in building a national organization called CellCAN that will coordinate Canada's many cell manufacturing facilities into a unified consortium. Through the managerial expertise passed down from the Stem Cell Network, CellCAN aims to establish a sustained, integrated and accelerated approach to the evaluation, approval, execution and financing of early phase stem cell-based clinical trials.

This cell expansion project is just one example among many that illustrates the Stem Cell Network's commitment to building capacity in Canada and enabling researchers to translate their promising discoveries into exciting therapies.

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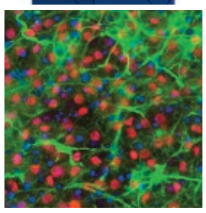
Snapshot: Blood stem cell expansion projects 2001-2015



2001-2005

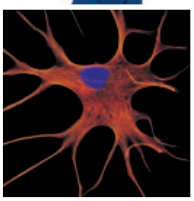
Adult Stem Cell Plasticity

The project led to the purification and characterization of novel adult stem cell populations. Furthermore, the work buttressed the emerging view that many types of adult stem cells are not pluripotent, but rather have limited differentiation potentials and are capable of fusing with differentiated cells.

2001-2003

Therapeutic Approaches with Hematopoietic Stem Cells

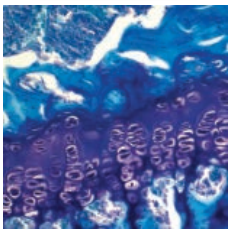
This project resulted in the successful isolation and characterization of two potential adult stem cell populations for use in autologous cellular gene therapy: bone marrow stromal cells and blood outgrowth endothelial cells.

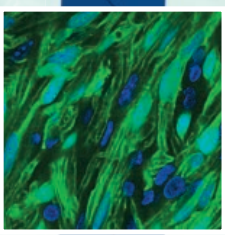


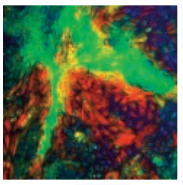
2003-2005

HOXB4 Target-Genes Specifying Hematopoietic Stem Cell Self-Renewal

This project showed that the protein HOXB4 can contribute to the expansion of hematopoietic stem cells, which could result in a significant improvement in the outcome of patients suffering from diseases such as leukemias and lymphomas, as well as aplastic and sickle cell anemia.



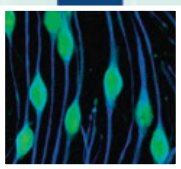




2007-2008

Production and Validation of Recombinant Proteins for Pre-clinical Studies Which Involve Hematopoietic Stem Cell Expansion

This project validated the use of HOXB4 as a compound with the ability to expand hematopoietic stem cells from patients without sufficient stem cells to do an autologous transplant.



2010-2011

Recombinant TAT-HOXB4 protein for ex vivo expansion of hematopoietic stem cell: characterization of protein and cellular product for clinical application

The goal of this project was to launch a phase I clinical trial of blood stem cell expansion in patients suffering from hematologic malignancies which currently do not benefit from autologous transplantation.

2011-2015

Novel strategies to expand human hematopoietic stem cells for clinical use

This project will utilize a number of recently identified genes, proteins, small molecules and culture methods that enable hematopoietic stem cells to be expanded in a clinical-grade environment. Moreover the basic and preclinical discoveries arising from this multidisciplinary project will be integrated with the focus of launching early phase clinical trials using the expanded human blood stem cells.

In Profile

Dr. Denis-Claude Roy

Director, Research Centre & Cellular Therapy Laboratory, Hôpital Maisonneuve-Rosemont

The most gratifying thing is when you see a patient who otherwise would have died from his leukemia five years after the transplant and he's alive; just that moment is worth the years of effort. I'm very fortunate to do what I do. – *Denis-Claude Roy*

Clinical trials represent the final steps on the road to finding new ways to treat illness and disease, which helps to explain why they're generally viewed with a great deal of excitement. But as exciting as they are, clinical trials are still experimental and there is no guarantee of success. Patients who enter the trials are in a delicate situation, and it can be very difficult for the researchers, as well. So one would expect a researcher who spends much of his time in the clinic to have an especially deep appreciation for the patients willing to undergo these treatments in order to further the science, and that's exactly the case with Dr. Denis-Claude Roy of Hôpital Maisonneuve-Rosemont and the University of Montréal.

"It's extremely encouraging to meet patients who are very willing to participate in clinical trials," Roy said. "Many say, 'Well, if it doesn't benefit me, it will benefit others,' and that's very important. We need patients to be participating in these studies; it may not always work for them, but it will bring additional information we can use in order to come up with effective treatments."

The willingness and generosity of patients to contribute to the clinical trials process energizes Roy; in his words, his patients "are the most wonderful people."

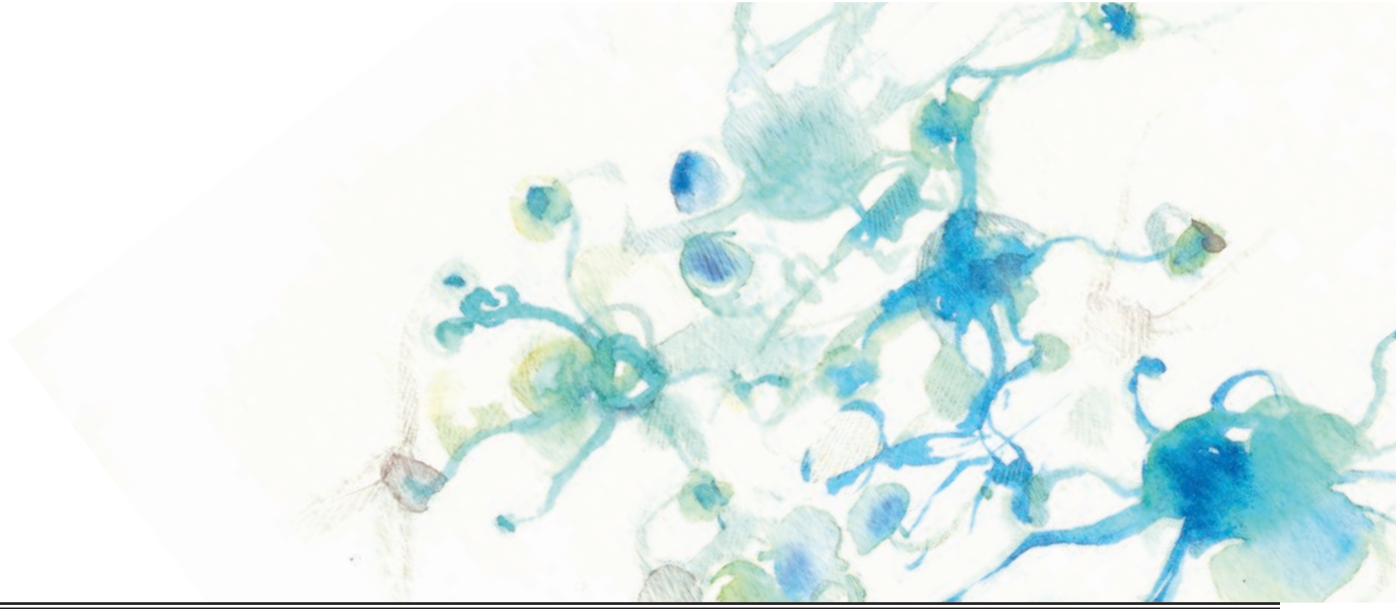
"In the end, we're doing this to help patients," Roy said. "That's the real motivation, and that's what gets us up in the morning. The most gratifying thing is when you see a patient who otherwise would have died from his leukemia five years after the transplant and he's alive; just that moment is worth the years of effort. I'm very fortunate to do what I do."

The High-Throughput Revolution

When talking about scientific progress, milestones tend to fall on major discoveries and the researchers responsible for them. Rarely does a particular technique or equipment become the focus of attention; after all, such technologies are merely the tools.

But within the world of stem cell research, there's a revolution, of sorts, going on. It's being driven by the need for scientists to get to discoveries faster and aided by a technology that for years had been a mainstay of the pharmaceutical industry. Only now, this technology is finding unprecedented use in academic labs — and Stem Cell Network researchers are among those leading the way.

The technology is high-throughput screening (HTS) — a robotic machine that can apply up to a few thousand different drug compounds to a selection of stem cells, patient cells, or cells modeled from diseases — in order to then assess the reaction of those cells to the compound. SCN researchers have been using HTS for a technique commonly referred to as drug repositioning because it provides a quick way of testing the vast libraries of already approved drugs for their potential benefits outside their current



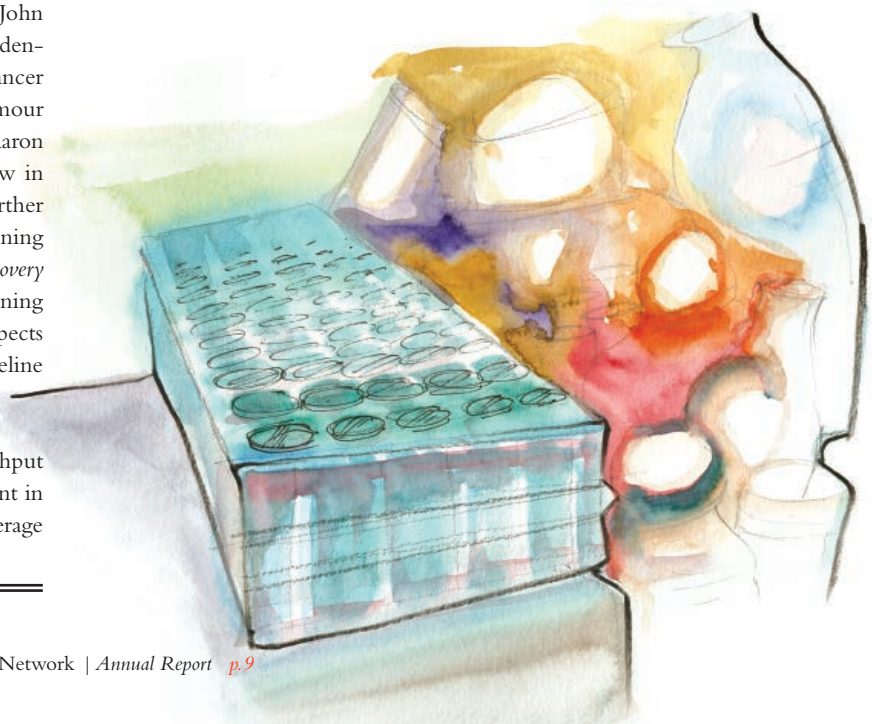
therapeutic use. It's the perfect marriage between robotics, biology, chemistry and statistics. Since adopting the screening technologies, many branches of molecular and cell biology have made astounding leaps in a very short time. The key is the ability to combine functional experiments, allowing researchers to dissect vast signaling networks that are involved in a complex cellular behaviour.

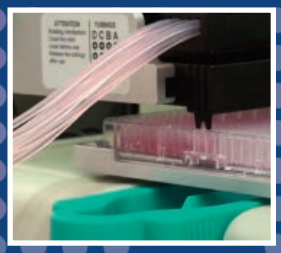
Until recently, this kind of work was not possible, in part because the ability to reliably culture diseased cells was not advanced enough, nor was there enough basic knowledge about cell composition, function and behaviour whose changes are the key indicators of success. However, recent advances and a growing list of positive results to date suggest that such a technique is gaining widespread adoption in the field. Such a revolution holds great promise in the fights against a host of illnesses, such as cancer, ALS, or diabetes.

As early adopters and innovators of high-throughput technology, SCN scientists have established themselves as world leaders. As early as 2005, the Network saw the potential in using human stem cells as disease relevant models in high-throughput screening campaigns, and began funding projects with extensive HTS components. Through projects led by Drs. David Kaplan, John Hassel, Aaron Schimmer, SCN-funded research led to the identification of a number of compounds that aggressively kill cancer stem cells without harming normal human cells (solid tumour and leukemia; an example of the latter is described in Dr. Aaron Schimmer's profile, page 11). Three of these drugs are now in clinical trial, with another three trials in development. To further capitalize on the success of early high-throughput screening campaigns, in 2011 SCN launched the *Stem Cell Drug Discovery Program*, a funding stream to accelerate the drug repositioning strategy. Through this program, the Stem Cell Network expects to propel additional compounds through the discovery pipeline and into clinical trials.

As a further testament to the importance of high-throughput technology in today's translational research, it is a component in all three of SCN's Global projects, which will collectively leverage

"High-throughput screening is the perfect marriage between robotics, biology, chemistry and statistics: The robotic machine can apply up to a few thousand different drug compounds to cells modeled from diseases to find new treatment options."





What is high-throughput screening?

High-throughput screening (HTS) involves the use of robotic equipment to deliver different drug compounds to cells growing in a dish in a completely automated manner. Once the drug is added to the cells, specialized equipment measures the biological response of the cells to the drug. Because the entire process is automated, scientists can rely on their machines to do the heavy lifting, and screen several thousand compounds in a short period of time. Not every drug will yield the desired biological response, but the beauty of high-throughput screening is that it doesn't have to — by screening vast libraries of drugs, it's a game of numbers, and by the end of a well-designed screen, scientists are bound to find a few compounds to move forward with.

"Since adopting the screening technologies, many branches of molecular and cell biology have made astounding leaps in a very short time."

close to $16 million in dedicated funds over the next three years. The Cell Expansion Initiative (which is described in greater detail on page 4), led by Dr. Guy Sauvageau (University of Montréal) has used high-throughput screening to test new drug compounds for their ability to expand hematopoietic stem cells and to probe the common pathways inherent in disease development for their response to therapeutic targets.

Dr. Freda Miller (Hospital for Sick Children) is also using drug-screening technologies to inform and enhance her work to stimulate endogenous tissue repair. Her Global project, the Endogenous Regeneration Initiative, is leveraging earlier results that identified drug compounds with the ability to activate adult stem cells in the skin and brain to conduct targeted studies—the ability of drugs to enhance anatomical and behavioural recovery in stroke patients and to promote skin maintenance and repair.

But by far the greatest reliance on the drug repositioning strategy is seen in the Anticancer Stem Cell Drugs Initiative, led by Dr. David Kaplan (Hospital for Sick Children). This project builds on the previous seven years of SCN funding to continue a world-leading investigation into drugs that selectively target cancer stem cells while leaving healthy cells intact. As part of this project, 80 human glioblastoma (brain tumour) stem cell lines will be systematically screened with potential anticancer drugs with an aim to identify subclasses of patients that respond to particular drugs or drug combinations.

There are several advantages to high-throughput screening, particularly with a drug repositioning strategy attached to it. First, there's speed: most screens take less than a week, meaning thousands of compounds can be tested very quickly. Second, accuracy: assuming the cell cultures are uniform, drugs applied with high-throughput robotics can be levied in exact (or varying, if assessing optimization) doses. Finally, and perhaps most critically for patients, the approach can bring therapies to the clinic in less time: using already approved drugs can shave years of pre-clinical, and sometimes early phase clinical testing from the time of first identification to the goal of clinical implementation.

If improved human health is the outcome of a high-throughput revolution, then it's one whose time has come.

End of article

In Profile

Dr. Aaron Schimmer

Staff physician and Scientist, Ontario Cancer Institute/ Princess Margaret Hospital

Drugs such as tigecycline block the energy production capability of leukemic cells, offering potential for reducing relapse rates in leukemia patients.

In recent years, our knowledge of cells and stem cells has contributed greatly to the fight against cancer. For example, we now know that leukemic and leukemic stem cells differ from regular cells in the way they metabolize energy, a difference that scientists are seeking to capitalize on as a way to treat the disease.

Dr. Aaron Schimmer is one such scientist. A researcher-clinician at Toronto's University Health Network, Schimmer is looking for ways to disrupt the diseased cells' ability to produce energy in order to kill them off entirely. Doing so could reduce the chances of relapse for leukemia patients, which currently stands at about 80 per cent. One of his approaches, supported by the Stem Cell Network, is to seek drugs that block the metabolism of the leukemic cells, and his research identified one very promising candidate: tigecycline, an already FDA-approved antibiotic, is now being tested as a drug-based leukemia treatment in a Phase 1 clinical trial.

"Tigecycline appeared to work by essentially shutting down the energy supply of the leukemia cells and stem cells," said Schimmer. "Essentially it is like producing a selective power outage in leukemia cells but not normal cells."

His team identified the drug using high-throughput screening (see page 8). The team's research, published in 2011 in the journal *Cancer Cell*, outlined his approach and the drug's preclinical effectiveness, and earned him the 2012 Till & McCulloch Award. Schimmer notes that the award was a great honour, which has garnered him additional recognition, particularly in Canada. But he's not one to rest on his laurels— he continues to investigate leukemia in hopes of finding additional drugs and other mechanisms that could one day be effective treatments for the deadly disease.

See The Potential: An Industry–Academia Hybrid

One opportunity, the best of both worlds.

Sometimes it seems like there's an impassable rift between stem cell researchers working in industry and those working in academia. Priorities in the two professions tend to be rather different, which naturally has an impact on the work done. However, in order to translate basic research into therapeutic properties, collaboration between the two sides is very important, and the Stem Cell Network has been working diligently, developing programs that enable researchers on either side of the industry-academia divide to work together.

One program the reflects this commitment on the part of SCN is the *See The Potential* post-doctoral fellowship, an elite three-year training program, which recruits the top young scientists in Canada and internationally, and gives them an opportunity to split their time between a goal-oriented academic setting and an open and progressive industrial partner. Essentially, it's the best of both worlds.

See The Potential is an SCN-led opportunity, with partnership from Neusentis and Pfizer Canada (Research Alliances). The partnership stands to co-fund six postdoctoral fellowships by the time it is completed in 2015. An international recruitment phase seeks applications from high-calibre stem cell researchers who show early potential for independent research in academia or industry; applicants must also possess the ability to establish collaborations with Canadian laboratories and develop new stem cell interest areas with an emphasis on stem cell application for Neusentis. Selected fellows receive a grant of $50,000 per year for up to three years, with the majority of the time spent in a Canadian academic laboratory and up to six months at the Neusentis research lab in Cambridge, United Kingdom.

In other words, it's not quite an academic fellowship: the research is very much goal-oriented as identified by the researcher in

“By injecting an industrial mindset into an academic setting, SCN has created a program that harnesses the speed and efficiency of industry and tethers it to the collaborative academic environment.”

collaboration with his or her academic supervisor. But the research is also required to have industrial relevance—the unique feature of the program is that it offers valuable industrial experience to post-doctoral fellows who might otherwise have had difficulty finding it. The fellowship also comes with resources beyond those typically available in an academic setting, including access to advanced mechanical and robotic devices at the Neusentis facility in Cambridge.

Yet it's not a conventional industrial internship, either. A common, and often valid, assumption made by academic researchers when considering industry-funded research and development is that the research will be proprietary: i.e. owned by the company, not the researcher, leaving little opportunity to publish critical work. Such is the case with most other industrial fellowships, but not with *See The Potential*—in this program, it's not just possible to publish, it's encouraged. As Dr. Corinne Hoesli, one of the first fellows to be selected for the *See The Potential* fellowship program, discovered, the atmosphere at the Neusentis facility is collaborative and free — exactly the opposite from what one might expect.

“I was surprised at how open and communicative they were at Neusentis,” Hoesli said (read more about Dr. Hoesli's work page 14). “I was expecting a bit more secrecy, a bit more reluctance, but it was a very free exchange of ideas, similar to academia. There's a different mentality, in some ways, but I was really impressed with how free the flow of ideas was when I was over there talking to them.”

By injecting an industrial mindset into an academic setting, SCN has created a program that harnesses the speed and efficiency of industry and tethers it to the collaborative academic environment. The end result will be real progress in the development of stem cell-based therapies. But for the Fellows involved, it also represents a valuable career opportunity, regardless of which direction they expect to take upon completion of the fellowship. The industrial component can represent worthwhile experience for a prospective future academic, but it also offers a gradual transition period for fellows interested in pursuing a career in industry.

The first two researchers selected for the *See The Potential* fellowship were announced in early 2012. Dr. Hoesli, from Laval University in Québec City, proposes to conduct research related to engineering artificial blood vessels, while Dr. Reaz Vawda from University Health Network in Toronto is undertaking comparative investigations on the therapeutic repair function of mesenchymal stromal cells in the treatment of spinal cord injury.

Applications are already in for the 2012 competition, which will lead to another cohort of researchers taking part in this innovative training program. It remains early in the process, but the potential is clearly visible.

End of article

In Profile

Dr. Corinne Hoesli

Post-doctoral Scientist, Université de Laval

In order to be a good mentor and a good teacher, I felt I definitely needed industrial experience.

– Corinne Hoesli

Bioengineers play a pivotal role in determining the mechanics of disease and other biological conditions, and it's one that Dr. Corinne Hoesli—a post-doctoral fellow participating in the Stem Cell Network's *See The Potential* program—embraces. Her current research is split between the Université de Laval and Pfizer-Neusentis' laboratories in Cambridge, UK, and is focused on developing a platform to model vascular regeneration *in vitro* and contribute to a greater understanding of how to treat cardiovascular disease.

"There's a lack of a suitable *in vitro* platform to screen angiogenic and vasculogenic drugs in a realistic system that would try to replicate what's occurring *in vitro*, which is pretty complex," Hoesli said. "For pharmaceutical companies, access to *in vitro* platforms that are more predictive of expected *in vitro* results is important in order to minimize drug development time and cost." As an industry partner in the *See the Potential* post-doctoral program, Pfizer Research Alliances Canada and Pfizer research unit-Neusentis are supporting Dr. Hoesli's research, up to six months of which will be conducted in the Cambridge facilities of Neusentis.

Dr. Hoesli is fairly unique among her peers, though, in one other way: she's hoping to use the industrial experience she gains through the *See The Potential* program in order to inspire future bioengineers.

"As an engineer, I felt I was somewhat lacking industrial experience, because most engineering graduates move on to industry," Hoesli said. "In order to be a good mentor and a good teacher, I felt I definitely needed industrial experience. It's really important to show students other options as you're teaching, especially in engineering, because 90 per cent of students are not going to academia."

Before getting back into an academic setting full-time, though, Dr. Hoesli is taking her modelling platform to the next level. She's already shown the promising possibilities of the system, and it's caught the eye of an industrial partner. The best is yet to come.

A Research Conference Built by the Community

We did it right, from the very beginning. And though it started small, the Stem Cell Network's Annual General Meeting has grown along with the community of researchers to whom it belonged. By staying true to its roots and purpose—to provide a forum for Canadian stem cell researchers and trainees to meet and to share their findings, ideas and, yes, even a drink or two — SCN's annual meeting became a highlight on the calendar. Innumerable associations and collaborations have been formed during the session and coffee breaks, many of which led to new projects. Over time, the AGM became the most anticipated stem cell conference in the country, also drawing notice and respect internationally. It's safe to say that the AGM has been among the Network's most important undertakings.

As the Stem Cell Network began marking down its final years, however, it became increasingly clear to the research community that a strategy to sustain and build on the success of the AGM was needed. The AGM was deemed to be one of the most important legacies of the Stem Cell Network and a number of researchers, led by SCN Scientific Director Michael Rudnicki, came forward to formulate a plan for its continuation post-Network. From their meetings and discussions, the annual Till & McCulloch Meetings — Canada's premier stem cell research event—were born.

With a nod to Canadian stem cell pioneers Dr. James Till and the late Dr. Ernest McCulloch, it's fitting that the Till & McCulloch Meetings were launched during celebrations commemorating the 50th anniversary of their historic contribution to the field.

“The Till & McCulloch Meetings are Canada’s premier stem cell research event, and represent a key networking opportunity for trainees, researchers and industrial partners.”

For the inaugural Till & McCulloch Meetings from April 29-May 2, 2012 in Montréal, the Stem Cell Network engaged three partner organizations, including the Centre for Commercialization of Regenerative Medicine (CCRM), the Ontario Stem Cell Initiative and Québec’s ThéCell, to begin transitioning the Meetings into a self-sustaining entity. In this first iteration, the Meetings were very much a Stem Cell Network-led undertaking, but as SCN’s term approaches, partner organizations — most especially CCRM — will become more active in the management of the conference. CCRM, which has the potential for funding until 2021, is well-positioned to assume this leadership role once the Stem Cell Network sunsets.

By all measures, the Meetings were an incredible success. Three full days of plenary sessions, poster presentations, side meetings and other networking events plus a full day of pre-conference career development workshops meant it was our most exhaustive annual meeting to date. Over 450 attendees from academia, industry, not-for-profit, and government sectors, made it the largest conference ever hosted by the Network. Finally — and importantly, as the Meetings work toward becoming a self-sustaining entity — more sponsors than ever before, representing Canadian and international companies, provided financial support and participated in the meeting.

Despite its evolution into a new event, the Meetings retained some of the key qualities that made its predecessor so vibrant: namely, a size that provides meaningful networking opportunities, thereby strengthening the community, and exceptional presentations, often of unpublished data. As a result, the event is popular with academics and industrial partners alike. Among the first sponsors to commit their support each year is Vancouver-based STEMCELL Technologies, Inc. Dr. Allen Eaves, president and CEO of STEMCELL Technologies, makes a point of attending to connect with researchers and to deliver an average of eight poster and oral presentation awards to trainees each year.

“The Till & McCulloch Meetings are at the top of our list of must-attend conferences,” said Dr. Eaves. “The scale of the meeting is ideal for networking, and the presence of renowned scientists as well as trainees gives us ample opportunity to meet with different people. The fact that Canada’s best and brightest trainees congregate at the Meetings presents a forum to meet people who may be looking for a career in industry, which is very important for a growing company like STEMCELL Technologies.”

As the field of stem cell research matures, it’s becoming increasingly important to focus on translation and commercialization—and on industrial partnerships. The Stem Cell Network has identified this reality and has been a catalyst in that maturation. Collaboration with CCRM in the Till & McCulloch Meetings brought a sharper focus on commercialization, with more speakers and sessions dedicated to this subject. This new focus will bring with it new opportunities for stem cell researchers who are becoming increasingly concerned with the translation and commercialization of their work.

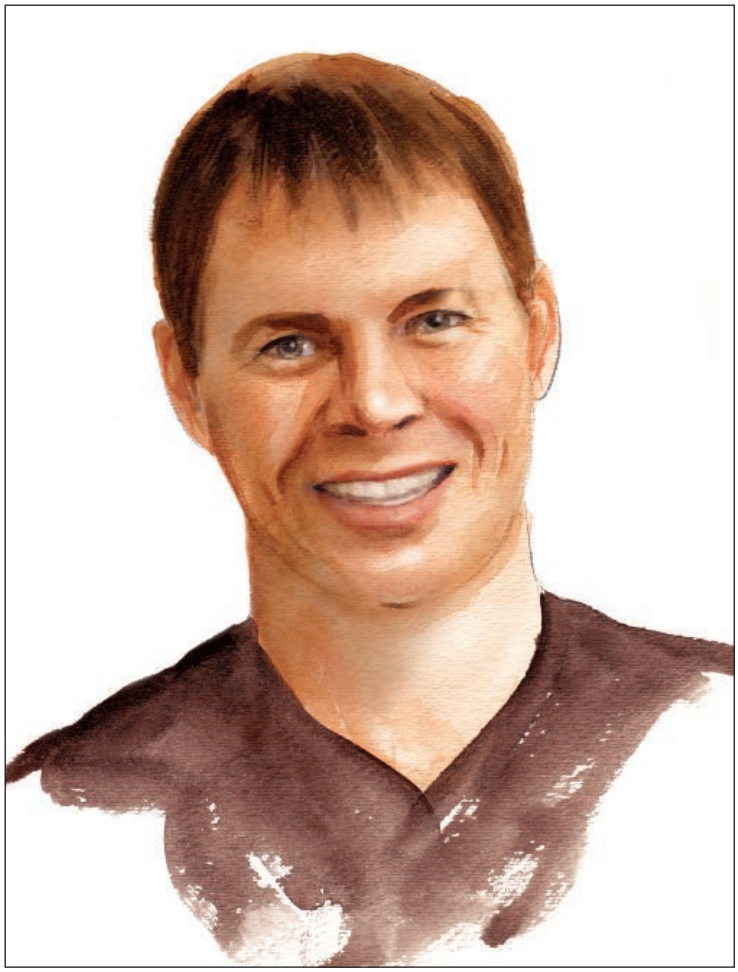
It is that work—and the stem cell and regenerative medicine community — which continues to define the Till & McCulloch Meetings. As the field continues to evolve, so the Meetings must, as well. In recognizing this, by allowing the researchers to help define the scope of the Meetings, and by initiating a partnership with CCRM, SCN helped to ensure the Meetings have a future even brighter than their past.

End of article

In Profile

Dr. Peter Zandstra

Chief Scientific Officer, Centre for Commercialization of Regenerative Medicine



The complexity of taking a discovery and turning it into something that can have an impact on patients is incredible, and no one person or one lab can do this. – *Peter Zandstra*

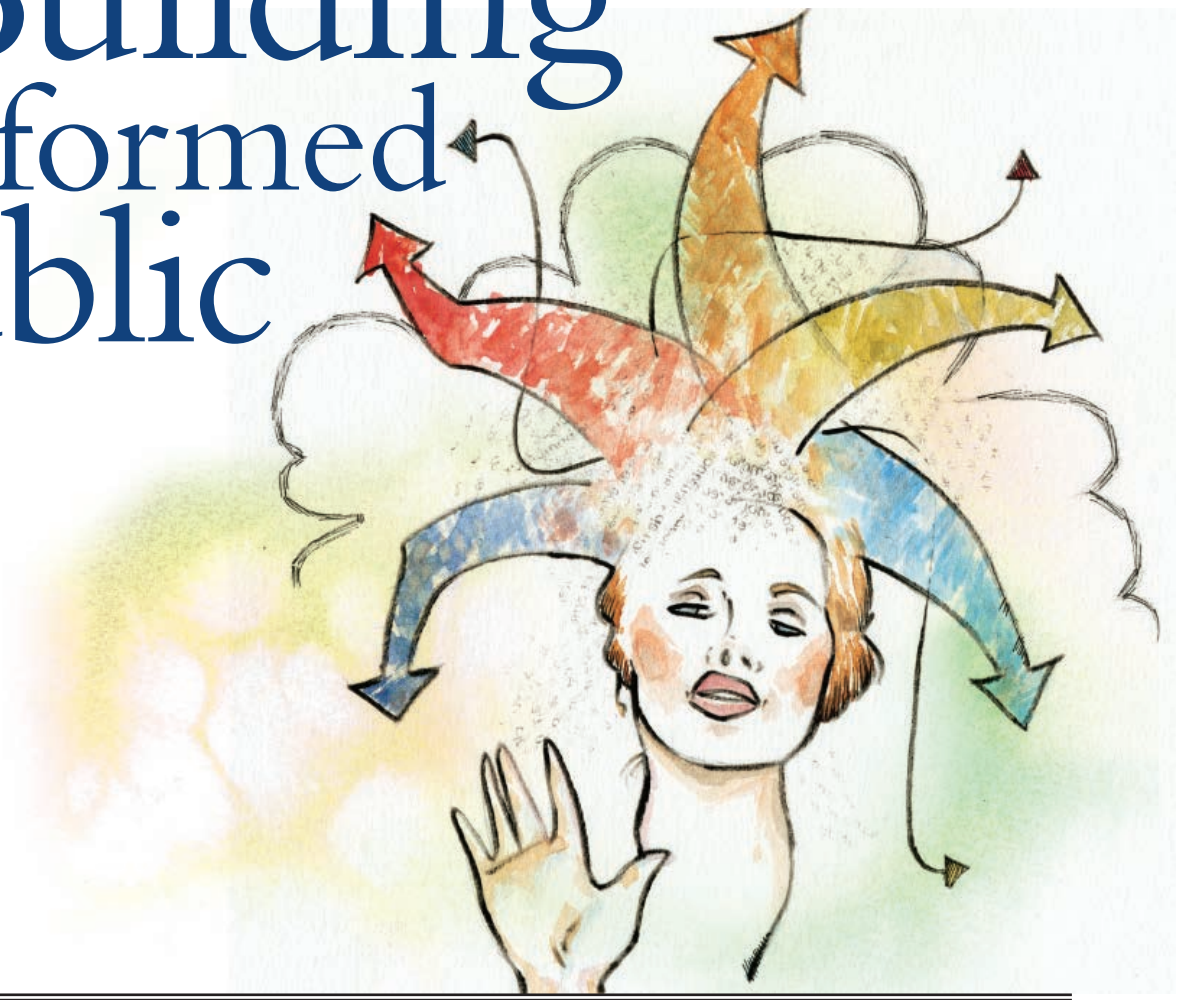
Scan any issue of a scholarly journal about stem cells and you're likely to find at least one set of research findings with promising possibilities about using the body's building blocks to treat one disease or another. As difficult as that basic research is, however, finding a way of translating those findings to a real-world treatment is another challenge altogether.

To address that challenge, the team of innovators at the Centre for Commercialization of Regenerative Medicine (CCRM), including Chief Scientific Officer (and Stem Cell Network researcher) Peter Zandstra are working with scientists and industry to enable product development and build on the research conducted by our top scientists.

"The complexity of taking a discovery and turning it into something that can have an impact on patients is incredible, and no one person or one lab can do this," Zandstra explained. "We need to work together both at the basic science level to bring together bioengineers and stem cell biologists, but we also need to start including aspects of commercialization, whether it's business development or product development teams, especially as these technologies start to mature."

One of the most effective ways of encouraging this collaboration between bioengineers, biologists and industry partners is by literally bringing these groups together, which is why the Stem Cell Network and CCRM have teamed up to co-present the Till & McCulloch Meetings (see story, page 15). By working together to present the Meetings, SCN and CCRM are building on each other's successes to help researchers translate their research into results.

Building an Informed Public



The public has long taken a keen interest in stem cell research, due in part to much-publicized controversies at the heart of many national and international policy discussions, as well as the immense therapeutic promise such research holds. Over its 11-year history, the Stem Cell Network has taken an active role in sharing reliable information to ensure that such discussions accurately reflect the science and what the future holds.

Reaching audiences is not as simple as putting up a website or buying adspace. The "build it and they will come" mentality rarely works in today's fractured media landscape. In evaluating the traffic and most common requests received at the SCN offices, it was clear that the people with the most interest formed three different audience groups: patients (and, by extension, their families and physicians), students (typically between the ages of 12-17) and those with some knowledge or interest in the latest findings (primarily industry, researchers and the media). Each of these groups needs to be approached in a unique way, so the Stem Cell Network has undertaken multiple approaches to communicating our work. Below are just a few of those approaches.

Patient-focused summaries

As early as 2005, the Network began publishing a series of summaries on our website examining ongoing research in stem cells and regenerative medicine for a range of different diseases and conditions. Indeed, this work predated much of the current emphasis on the phenomenon of stem cell tourism, where patients, predominantly from developed nations, pay large sums of money for unproven therapies pandered by clinics operating in countries where regulatory loopholes exist. At the time, these summaries were some of the few to accurately portray the findings and challenges of stem cell and regenerative medicine therapies for the conditions, and as a result, the pages were often linked to, re-published on other sites, adapted and/or translated for different foreign audiences. They have consistently been the most visited pages on the Network website (see page 20) and over the past year, the Network has been updating and expanding the summaries, from the initial six to the current roster of 14, with several more in development. These summaries will form a critical part of a strategy to better reach out to Canadian physicians and family doctors in the coming years.

Blogging latest trends and research

Research is anything but a static endeavour. While the summaries noted above provide a good starting point for specific approaches toward combatting disease, in today's information-rich world, audiences demand access to the latest research outcomes as well as interpretations of their potential benefits and impact. In recognition of this, the Stem Cell Network developed a progressive online communications strategy, incorporating blogging and social media as key methods to disseminate Network and non-Network news and opinions. The blog (initially launched in 2009 as the *SCN Blog* and recently renamed *Signals*; www.signalsblog.ca) is the main focus of the strategy, offering between 60-70 articles per year, most written by SCN trainees with backgrounds in basic biology, clinical applications, biotechnology, ethics and law and regenerative medicine. It has attracted notice from scientists, industry, media and the general public alike. In the science arena, there was a decided lack of information about stem cell research written by scientists and *Signals* quickly became one of the leading blogs in the space, collecting several independent awards in the process. In 2011, the blog had an annual readership of over 27,000 – an increase of more than 10,000 over the year before and five times the distribution of the paper-based newsletter the blog replaced. The reach is extended through other social media platforms such as Twitter, Facebook and LinkedIn, where the Stem Cell Network also maintains an active presence.

Young, Enquiring Minds

In collaboration with the Ontario Science Centre in Toronto, the Stem Cell Network created two separate science exhibits that ran during the summer seasons in 2010 and 2011. The 2010 exhibit, "The Beauty of Stem Cells", featured images from SCN's popular Cells I See art contest and received such a positive response that a larger exhibit, "Super Cells" was created for the museum's *!dea Gallery* in 2011. Super Cells was targeted at older students (Grades 6-12) and was unique in that the visual content was created by students enrolled in various art and science illustration programs at post-secondary institutions in the Greater Toronto Area. Each class of students received images, written material and lectures on stem cells as inspiration for their work, and the best were selected to be included in the exhibition. Museum visitors responded favourably to this exhibit as well, particularly school groups who were able to take advantage of enhanced special programs such as daily science demonstrations and live webcasts with stem cell researchers. The exhibitions complement the Stem Cell Network's ongoing support of the StemCellTalks symposia, in which Grades 10-12 students obtain more in-depth information on topics of current interest within stem cell research.

Owing to the success of the museum exhibit model, the Stem Cell Network is currently working to launch a large science exhibit that will begin traveling to Canadian and international science museums in 2014.

"Over its 11-year history, the Stem Cell Network has taken an active role in sharing reliable information to ensure that discussions accurately reflect the science and what the future holds."

End of article

Reaching out

“In 2011, the blog had an annual readership of over 27,000 — an increase of more than 10,000 over the year before and five times the distribution of the paper-based newsletter the blog replaced.”

Signals Blog:
April 1, 2011–March 31, 2012

27,843 visits

34,783 pageviews

from **144** countries

Stem Cell Network website:
April 1, 2011–March 31, 2012

74,549 visitors

174,972 pageviews

from **173** countries

25 of top 50 visited pages are those written for public audiences *(including summaries for patient audiences)*

Number of visitors to Ontario Science Centre during run of two SCN stem cell exhibits:

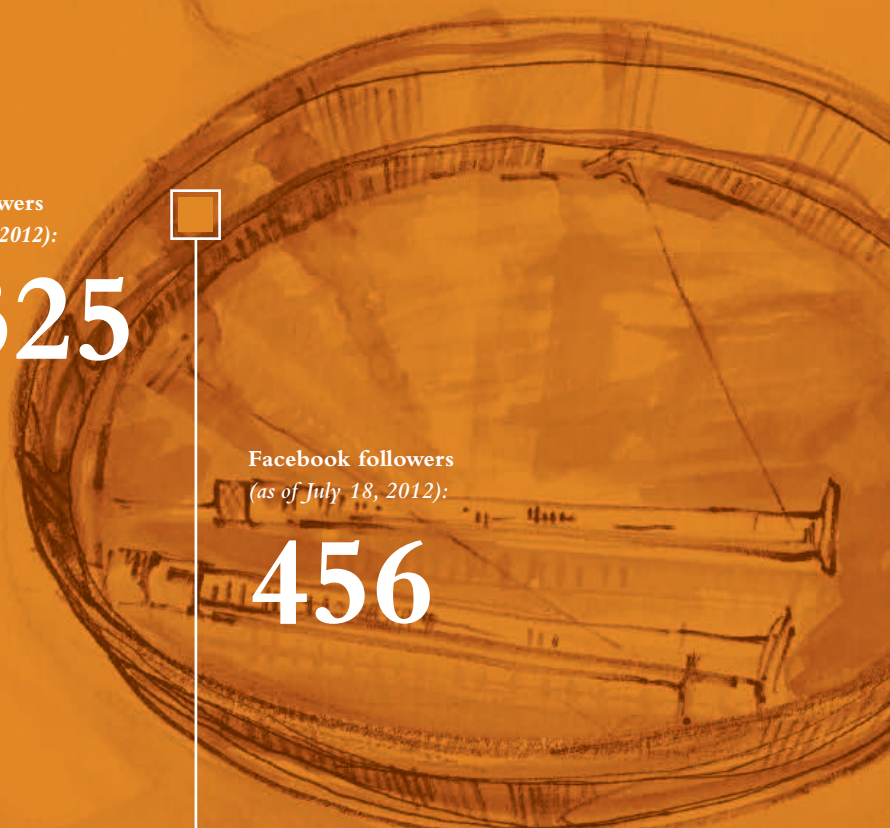
500,000

Twitter followers *(as of July 18, 2012)*:

3,325

Facebook followers *(as of July 18, 2012)*:

456



In Profile

Angela McDonald

PhD candidate, Hospital for Sick Children

I actually think it's an unwritten part of our job description, as scientists, to participate in public outreach.

– Angela McDonald

It's easy to get caught up in the hype when reading media stories about stem cell research. Every research article published is a step towards treatments, but rarely is the magnitude of that step reported, even if it's a relatively minor one on the journey. That's why Angela McDonald, a PhD Candidate at the Hospital for Sick Children, thinks it's integral for scientists to be active participants in a dialogue about their research.

"I actually think that it's unwritten but part of our job description, as scientists, to participate in public outreach," McDonald said. "It's important, especially as our society becomes more technological and more advanced in medicine. People need to understand what they're seeing in the media or reading in popular science magazines–particularly an area that's in the media fairly regularly, such as regenerative medicine and stem cells. It's our duty to help the public understand the realities of what we're doing and where we're at in the field."

McDonald doesn't just talk the talk; she walks the walk when it comes to public outreach. Not only is she a member of the Stem Cell Network's Public Outreach Committee, but she is also a co-creator and current advisory board member for the StemCellTalks national science education program and is among the most regular contributors to *Signals*, the Network's award-winning blog. All of it is done in her spare time, in addition to her PhD commitments.

"There are many ways to integrate yourself into public science education," McDonald is quick to point out; it's not just going into high school science classes and making presentations. Finding a way to incorporate the process into your hobbies is key for effective outreach, and it doesn't have to be entirely altruistic; as McDonald aptly demonstrates, sometimes, it's just fun.

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Chief of Research, Hospital for Sick Children

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Natalie Farra
(Trainee Representative)
PhD student, University of Toronto

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Jacques Drouin

International Collaboration On Repair Discoveries (ICORD)
Wolfram Tetzlaff

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Lawrence Rosenberg

McMaster University
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Jon Draper
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Sheila Singh

Montréal Heart Institute
Hung Ly

Mount Sinai Hospital (Samuel Lunenfeld Research Institute)
Andras Nagy
Ian Rogers
Jeff Wrana

Ontario Cancer Institute, Princess Margaret Hospital
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Benjamin Blencowe
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Denis Grant
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Jason Moffat
Cindi Morshead
Vince Tropepe
Rachel Tyndale
Derek Van der Kooy
Peter Zandstra

University of Waterloo
Eric Jervis

University of Western Ontario
Cheryle Seguin

Collaborating Institutions (49)

Canada (16)
Dalhousie University
McGill University
McMaster University
Memorial University of Newfoundland
Queen's University
Simon Fraser University
Université de Montréal
Université Laval
University of Alberta
University of British Columbia
University of Calgary
University of Lethbridge
University of Ottawa
University of Saskatchewan
University of Toronto
University of Waterloo

Australia
Swinburn University

Finland
University of Helsinki

France
University of Poitiers

Germany (2)
Max-Delbrrueck Centre for Molecular Medicine
University of Bonn

Sweden (2)
Linkoping University
Lund University

Taiwan
National Chengchi University

United Kingdom (8)
Durham University
Imperial College London
University College, London
University of Edinburgh
University of Leeds
University of Oxford
University of Sheffield
University of the West of England

United States (17)
American University
Baylor College of Medicine
Case Western Reserve University
Georgetown University
Harvard University
Indiana University
Massachusetts Institute of Technology
Northwestern University
Stanford University
University of California
University of Kansas
University of Maryland
University of Massachusetts
University of Minnesota

University of North Carolina
University of Southern California
University of Wisconsin

Government Departments and Agencies (15)

Federal (9)
Canada Foundation for Innovation
Canadian Institutes of Health Research
Canadian Intellectual Property Office
Department of Foreign Affairs & Intl. Trade
Department of National Defence
Genome Canada
Health Canada
National Research Council of Canada
Intra-Agency Secretariat on Research Ethics

Provincial (6)
Alberta Innovates
Genome Alberta
Ministry of Economic Development, Innovation and Exports
Michael Smith Foundation for Medical Research
Ontario Ministry of Research & Innovation
Ontario Institute for Cancer Research

Industry (25)

American Fluorseal Corp
Amorchem
Astellas
BD BioSciences
Beckman Coulter
Betalogics
BioE
Carl Zeiss Inc
Cormex Research
Deloitte Touche
Donaldson International Livestock Inc.
Fate Therapeutics Inc.
GE Healthcare
Miltenyi Biotech
Novartis
Northern Therapeutics Inc.
Octane Inc
Organogenesis
Perkin Elmer
Pfizer Canada
Reveille
STEMCELL Technologies
Stem Cell Therapeutics
Tissue Regeneration Therapeutics
Thermofisher

Health Institutes, NGOs and Others (82)

ALS Association
Art Gallery of Alberta
BC Cancer Agency Foundation
British Columbia Cancer Agency
Brown Foundation Institute of Molecular Medicine
Calgary Firefighters Burn Tissue Society
California Institute of Regenerative Medicine
Canadian Association of Research Ethics Boards
Canadian Breast Cancer Foundation
Canadian Stem Cell Foundation
Cancer Stem Cell Consortium
Centre for Commercialisation of Regenerative Medicine
Centre for Drug Research & Development
Chelsea Art Museum
College of Physicians and Surgeons of Alberta
Creative Commons
European hESC Registry
Foundation Fighting Blindness (Canada)
Genetics Policy Institute
Heart & Stroke Foundation of Canada
INSERM
Institut de recherches cliniques de Montréal
International Consortium of Stem Cell Networks
International Society of Stem Cell Research
International Stem Cell Banking Initiative
International Stem Cell Forum
Interstate Alliance for Stem Cell Research
IRICoR
Irish Stem Cell Foundation
John Hopkins Medical Centre
John P. Robarts Research Institute
Juvenile Diabetes Research Foundation
Lawson Health Institute
Let's Talk Science
Leukemia & Lymphoma Society
MaRS Innovation
Massachusetts Human Stem Cell Bank
McEwen Centre for Regenerative Medicine
McMaster Museum of Art
Medical Research Council
Montreal Heart Institute
Motor Neurone Disease (UK)
Mount Sinai Hospital
National Cell Therapy Network of Brazil
National Institutes of Health
NeurodevNet
Neuroscience Canada
New York Stem Cell Foundation
North East England Stem Cell Network
Ontario College of Art & Design
Ontario Consortium for Regeneration Inducing Therapies
Ontario Science Centre
Oregon Biomedical Research Institute
Organization for Economic Cooperation and Development
Ottawa Hospital Research Institute
Princess Margaret Hospital Foundation
Rick Hansen Man in Motion Foundation
Royal College of Physicians and Surgeons
Sam's Day Fund
Science Media Centre of Canada
Scottish Stem Cell Network
Sheridan College
SickKids Foundation
Sir Mortimer B. Davis Jewish General Hospital
Solving Kids Cancer
Spanish National Stem Cell Bank
Spanish Stem Cell Bank
St. Michael's Hospital
Stem Cell Network of North Rhine Westphalia
Stem Cells Australia
Sunnybrook and Women's College Health Sciences Centre
Swartout Centre Fund
Terry Fox Research Institute
The Hospital for Sick Children
The James Birrel Fund for Neuroblastoma Research
TheCell Research Network
Three-to-Be
Toronto General and Western Hospital Foundation
UK Stem Cell Bank
University Health Network
Vancouver General Hospital
WiCell Research Institute

2011-12 Financial Statements

McLarty & Co
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Chartered Accountants/
comptables agréés

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Independent Auditor's Report

To the Members of
Stem Cell Network

We have audited the accompanying financial statements of Stem Cell Network, which comprise the statement of financial position as at March 31, 2012, and the statements of operations, changes in net assets and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements
Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian generally accepted accounting principles, 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.

Auditor's Responsibility
Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Network's preparation and fair presentation of the financial statements 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 Network's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion
In our opinion, the financial statements present fairly, in all material respects, the financial position of Stem Cell Network as at March 31, 2012, and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

Ottawa
July 6, 2012

McLarty & Co Professional Corporation
(Authorized to practice public accounting by the Institute of Chartered Accountants of Ontario)

Stem Cell Network

Statement of Operations

For the year ended March 31,	2012	2011
Revenue		
Networks of Centres of Excellence grant (note 7)	**$ 5,257,972**	$ 6,249,658
Services in-kind (note 8)	**66,000**	66,000
Other contributions (note 8)	**55,000**	55,000
Other research grants (note 7)	**39,783**	37,500
Interest	**1,910**	986
AGM Sponsorship/Registration	**-**	103,353
Other	**-**	2,500
	5,420,665	6,514,997
Expenses		
Mission Fulfillment		
Research programs (note 6)	**4,071,090**	4,533,246
Communications and outreach (note 6)	**250,733**	183,782
HQP programs (note 6)	**218,510**	239,842
Foundation initiatives (notes 6 and 8)	**171,006**	408,824
International initiative	**138,246**	32,528
Business development	**40,888**	46,043
Annual conference (note 6)	**21,042**	431,378
Commercialization	**8,897**	4,384
International partnership initiative	**-**	6,976
	4,920,412	5,887,003
Governance and Administration		
General and administration (note 6)	**507,995**	499,442
SCN board and committees	**82,269**	38,110
Professional and consulting fees	**46,101**	53,063
Amortization	**13,113**	13,065
	649,478	603,680
Excess of revenue over expenses (expenses over revenue)	**$ (149,225)**	$ 24,314

See accompanying notes to the financial statements

Stem Cell Network

Statement of Changes in Net Assets

For the year ended March 31, 2012

	Invested in capital assets	Unrestricted	**Total 2012**	Total 2011
Balance, beginning of year	$ 23,085	$ 255,624	**$ 278,709**	$ 254,395
Excess of revenue over expenses (expenses over revenue)	(13,113)	(136,112)	**(149,225)**	24,314
Purchase of capital assets	925	(925)	**-**	-
Balance, end of year	**$ 10,897**	**$ 118,587**	**$ 129,484**	$ 278,709

See accompanying notes to the financial statements

Stem Cell Network

Statement of Financial Position

March 31,	**2012**	2011
Assets		
Current		
Cash and cash equivalents	**$ 3,209,487**	$ 1,952,743
Restricted cash (note 4)	**50,000**	50,000
Grants receivable	**139,200**	-
Other receivables	**41,333**	7,233
Prepaid expenses	**54,147**	26,354
Total current assets	**3,494,167**	2,036,330
Capital assets (note 5)	**10,897**	23,085
	$ 3,505,064	$ 2,059,415
Liabilities		
Current		
Accounts payable and accrued liabilities	**$ 82,837**	$ 83,533
Research commitments payable	**464,641**	135,900
Contributions received in advance (note 7)	**2,663,518**	1,561,273
Deferred revenue from AGM sponsorship and registration	**164,584**	-
	3,375,580	1,780,706
Net assets		
Invested in capital assets	**10,897**	23,085
Unrestricted	**118,587**	255,624
	129,484	278,709
	$ 3,505,064	$ 2,059,415

Commitments (note 9)

Approved by the board:

_____ Member

_____ Member

See accompanying notes to the financial statements

Stem Cell Network

Statement of Cash Flows

For the year ended March 31,	2012	2011
Operating activities		
Excess of revenue over expenses (expenses over revenue)	**$ (149,225)**	$ 24,314
Item not affecting cash		
Amortization	**13,113**	13,065
	(136,112)	37,379
Change in non-cash working capital items		
Grants receivable	**(139,200)**	690,333
Other receivables	**(34,100)**	59,018
Prepaid expenses	**(27,793)**	4,641
Accounts payable and accrued liabilities	**(696)**	(62,671)
Research commitments payable	**328,741**	88,060
Contributions received in advance	**1,102,245**	112,842
Deferred revenue from AGM sponsorship and registration	**164,584**	-
	1,257,669	929,602
Investing activity		
Purchase of capital assets	**(925)**	(5,389)
Increase in cash and cash equivalents	**1,256,744**	924,213
Cash and cash equivalents, beginning of year	**2,002,743**	1,078,530
Cash, end of year	**$ 3,259,487**	$ 2,002,743
Cash consists of:		
Cash and cash equivalents	**$ 3,209,487**	$ 1,952,743
Restricted cash	**50,000**	50,000
	$ 3,259,487	$ 2,002,743

See accompanying notes to the financial statements

Stem Cell Network

Notes to the Financial Statements

For the year ended March 31, 2012

1. Nature of operations

The Stem Cell Network (the "Network") was established in 2001 as an independent not-for-profit corporation. The mission of the Stem Cell Network is to be a catalyst for enabling translation of stem cell research into clinical applications, commercial products or public policy.

It is one of Canada's Network Centres of Excellence ("NCE"). The NCE program is administered and funded by the Natural Sciences and Engineering Research Council ("NSERC"), the Canadian Institute of Health Research ("CIHR"), and the Social Sciences and Humanities Research Council ("SSHRC"), in partnership with Industry Canada. The goal of the federal NCE program is to mobilize Canada's research talent in universities, industry and government to create new economy jobs, stimulate growth and improve the quality of life for Canadians.

The Network has been approved for $6.4 million in funding per year for the years ending March 2013 to March 2015.

2. Significant accounting policies

The following is a summary of the significant accounting policies used by management in the preparation of these financial statements.

(a) Revenue recognition

The Network follows the deferral method of accounting for contributions, which include government grants. Funds are received from the Canadian federal government as well as private and public sector partners.

Grants and other contributions which have external restrictive covenants governing the types of activities that they can be used to fund are deferred until such time as the actual spending is incurred. Consequently, unspent grants having restrictions will be recognized as revenue in future periods when the spending occurs. Grants approved, but not received at the end of the accounting period, are accrued.

AGM sponsorship and registration are deferred until they are recognized as revenue in the year in which the related expenses 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.

(b) Contributions and services in-kind

Many organizations and individuals contribute a significant amount of volunteer effort in each year. The fair value of these services is often difficult to determine. Contributed services are not recognized in the financial statements unless a fair value can be reasonably estimated, such services are used in the the normal course of operations and the provider of the services has explicitly defined the value of the services to the Network. The Network is dependent on such contributors to appropriately report the value of all contributions and services in-kind to its administrative centre.

Stem Cell Network

Notes to the Financial Statements

For the year ended March 31, 2012

2. Significant accounting policies (continued)

(c) Research programs expenses

Research programs expenses are recorded as expenses when they become payable. Research grants that will become payable in future periods are summarized and disclosed as commitments in the notes to the financial statements.

(d) Income taxes

The Network is not subject to income taxes.

(e) Cash equivalents

All highly liquid investments with original maturities of three months or less, including all cashable guaranteed investment certificates, are classified as cash and cash equivalents. The fair value of cash equivalents approximates the amounts shown in the financial statements.

(f) Capital assets

Purchased capital assets are recorded at cost. Donated capital assets are recorded on the balance sheet at their estimated fair value at the contribution date, and recognized in the statement of operations based on their related amortization policy.

Capital assets are amortized on a straight-line basis using the following annual rates:

Office equipment	20% Straight-line
Computer equipment	33% Straight-line
Computer software	100% Straight-line

(g) Financial instruments

The Network has previously adopted Section 3861 -" Financial Instruments - Disclosure and Presentation". The Network has chosen not to adopt the new sections - Section 3862- "Financial Instruments - Disclosures" and Section 3863 - "Financial Instruments - Presentation". Not-for-profit organizations are permitted to adopt these new sections but are not required to do so.

(h) Use of estimates

The preparation of financial statements in conformity with Canadian generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the balance sheet date and the reported amounts of revenues and expenses during the year. Items requiring the use of significant estimates include useful lives of property, plant and equipment and allocation of salaries and benefits expenses. Actual results could differ from those estimates.

2. Significant accounting policies (continued)

(i) Allocation of expenses

The Network allocates salaries and benefits based on an estimate of the percentage of time each person typically spends on each area. The Network has applied this on a consistent basis.

3. Future changes to significant accounting policies

The Accounting Standards Board has approved a new framework that is based on Canadian generally accepted accounting principles and incorporates the existing accounting standards which relate to situations unique to not-for-profit organizations (NFPO). The new NFPO standards were released as of December 1, 2010 as Part III of the CICA Accounting Handbook and are effective for years beginning on or after January 1, 2012. NFPO's that adopt Part III of the Handbook also adopt the standards for private enterprises in Part II of the Handbook to the extent that the Part II standards address topics not addressed in Part III.

NFPOs have the option to adopt International Financial Reporting Standards as an alternative to the above.

The Network is currently in the process of assessing the impact of the new standards on its financial statements.

4. Restricted cash

Restricted cash is invested in a non-redeemable GIC and is held by the Network's bank as collateral for their Visa account. The non-redeemable GIC bears interest at 1% and matures on March 19, 2013.

5. Capital assets

			2012
	Cost	Accumulated amortization	Net book value
Office equipment	$ 11,643	$ 7,363	$ 4,280
Computer equipment	72,830	66,213	6,617
Computer software	7,468	7,468	-
	$ 91,941	$ 81,044	$ 10,897

Stem Cell Network

Notes to the Financial Statements

For the year ended March 31, 2012

5. Capital assets (continued)

			2011
	Cost	Accumulated amortization	Net book value
Office equipment	$ 11,643	$ 5,478	$ 6,165
Computer equipment	71,905	54,985	16,920
Computer software	7,468	7,468	-
	$ 91,016	$ 67,931	$ 23,085

6. Allocation of expenses

Salaries and benefits of $784,458 (2011 - $980,613) have been allocated as follows:

	2012	2011
Salaries and benefits:		
General and administration	**$ 395,764**	$ 390,355
Communications and outreach	**140,904**	109,540
Foundation initiatives	**100,913**	318,509
Research programs	**66,213**	71,004
HQP programs	**66,213**	71,004
Annual conference	**14,451**	20,201
Total	**$ 784,458**	$ 980,613

7. Contributions received in advance

	2012	2011
Networks of Centres of Excellence (NCE) Funds		
Balance, beginning of year	**$ 1,521,490**	$ 1,371,148
Contributions from the Networks of Centres of Excellence	**6,400,000**	6,400,000
Less: amount recognized as Networks of Centres of Excellence grant revenue	**(5,257,972)**	(6,249,658)
	2,663,518	1,521,490
Other funds		
Balance, beginning of year	**39,783**	77,283
Less: amounts recognized as other research grants revenue	**(39,783)**	(37,500)
	-	39,783
	$ 2,663,518	$ 1,561,273

See accompanying notes to the financial statements

7. Contributions received in advance (continued)

NCE funds are managed in accordance with the funding agreement between the granting councils, the University of Ottawa and the Stem Cell Network. A copy of the funding guidelines can be found on the NCE website: www.nce.gc.ca.

8. Related party transactions

The Network is related to the University of Ottawa ("the University") by virtue of the fact that the University is its host institution under the Networks of Centres of Excellence program.

Under an agreement, the University provides accounting and administrative support services as well as office space and furniture without charge to the Network. The value of the in-kind contributions received for services in fiscal 2012 is estimated to be $66,000 (2011 - $66,000). As of July 2008, the Network, the University and the Ottawa Hospital Research Institute (OHRI) have an agreement that the OHRI provides the Network with office space and information technology support services.

Included in other contributions revenue is $55,000 (2011 - $55,000) from the University.

During the year ending March 31, 2009, as part of its mandate to catalyze new models for partnering and engage the public and philanthropic community in stem cell research, the Network supported the establishment of the Canadian Stem Cell Foundation (CSCF), a not-for-profit corporation and registered charity. The CSCF has the following specific objectives:

(a) To conduct or commission research on stem cells, regenerative medicine and associated technologies, and the clinical applications thereof for the prevention, diagnosis and treatment of diseases, and to communicate the results thereof to interested individuals, groups, organizations, academics, industries, governments and the public at large.

(b) To provide educational programs to educate the public about the benefits and advances in Stem Cell Research.

The Network is related to the Canadian Stem Cell Foundation by virtue of the fact that for a portion of the year it has seconded one executive and one staff member to the Canadian Stem Cell Foundation (CSCF) to support its start-up activities at no charge to the Foundation. Until December 3, 2011, the Network paid for half of the executive's salary and benefits and the rest was supported by CSCF. Furthermore, at March 31, 2012, a member of the Network's board of directors' and an executive of the Network are two of the seven directors of the Foundation.

During the year ending March 31, 2012, the Network expensed $52,146 (2011 - $20,738) of unrestricted funds in support of the governance and operations of CSCF. It also incurred a further $17,947 (2011 - $69,576) of restricted funds in direct costs on Foundation-related activities that fall within the mandate of the Network. These expenditures are included as Foundation initiatives expenses on the statement of operations. Additionally, the Network provided management, staff and other in-kind support valued at $100,913 (2011 - $318,510) to the Foundation at no charge. From this amount, $86,397 (2011 - 318,510) is paid out of restricted funds and is included in Foundation initiatives expenses on the statement of operations.

With the exception of the in-kind contributions from the University which are reported at fair value, the transactions between related parties are recorded at the exchange amount, which is the amount established and agreed to between the parties.

Stem Cell Network

Notes to the Financial Statements

For the year ended March 31, 2012

9. Commitments

At March 31, 2012, the Network has specifically committed to the future research grants and training programs set out below that are not accrued for in the Network's financial statements as they are not yet payable. The future commitments for the Network to be funded by the contributions received in advance and to be received in the future are as follows:

	2013	2014	2015
Approved research grants	**$ 3,696,352**	$ 3,075,009	$ 2,837,079
Approved training programs	**133,500**	76,000	-
	$ 3,829,852	$ 3,151,009	$ 2,837,079

10. Capital management

The Network considers its capital to consist of contributions received in advance and unrestricted net assets.

	2012	2011
Contributions received in advance	**$ 2,663,518**	$ 1,561,273
Unrestricted net assets	**118,587**	255,624
	$ 2,782,105	$ 1,816,897

The Network receives the majority of its funding from the Networks of Centres of Excellence (NCE). NCE funds are managed in accordance with the funding agreement between the granting councils, the University of Ottawa and the Network. The funding is restricted and is to be used as a catalyst for enabling the translation of stem cell research to clinical applications, commercial products, or public policy. A copy of the funding guidelines can be found on the NCE website: www.nce.gc.ca. As at March 31, 2012 management asserts that the Network is in compliance with the funding guidelines.

Unrestricted net assets are principally used to support those networking, partnering and commercialization objectives of the Network that are ineligible for reimbursement under the NCE program guidelines.

11. Financial instruments

The carrying amount of the Network's financial instruments, consisting of cash and cash equivalents, restricted cash, grants receivable, other receivables, accounts payable and accrued liabilities, research commitments payable and contributions received in advance, approximate their fair value unless otherwise noted.

It is management's opinion that, unless otherwise noted, the Network is not exposed to significant interest rate, currency or credit risks arising from these financial instruments.

12. Comparative amounts

The financial statements have been reclassified, where applicable, to conform to the presentation used in the current year. The changes do not affect prior year earnings.

See accompanying notes to the financial statements

www.stemcellnetwork.ca