Celebrating a Decade of Innovation

2021 ANNUAL REPORT

CELEBRATING 10 YEARS CCRM

CCRM is a Canadian, public-private partnership supporting the commercialization of cell and gene therapies with strategic investment, dedicated infrastructure and specialized business and scientific expertise. By partnering with leading research institutions to launch new ventures, enabling industry by providing innovative contract development and manufacturing organization (CDMO) services, and scaling emerging companies by catalyzing investment, CCRM is accelerating the translation of promising technologies, processes and therapies into life-changing health outcomes for patients.

OUR PURPOSE

CCRM is revolutionizing health care by solving the big problems in regenerative medicine.

OUR VISION

To be the preferred global destination for the best people, technologies, clinical trials, companies and investments in regenerative medicine.

To be the premier global enabler of clinically-tested, revolutionary new medical therapies and foundational technologies.

Contents

"Learning and innovation go hand in hand. The arrogance of success is to think that what you did yesterday will be sufficient for tomorrow." – William Pollard

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The CCRM story has been 10 years in the making. Join us as we look back at a decade of successes and progress in building Canada's regenerative medicine ecosystem.

10TH ANNIVERSARY

When CCRM launched in 2011, one journalist wrote: "CCRM: A new chapter in Ontario's stem cell story."

The prologue to the story is that back in 2010, when we decided to submit a proposal to the federal government for funding, with the support and encouragement of the Stem Cell Network and leading scientists in the community, Canada was already a leader in stem cell research, but not fully translating its capabilities and intellectual property into economic and health benefits.

We love reminding everyone that Canada's leadership in regenerative medicine (RM) can be traced back to the seminal work of Drs. James Till and Ernest McCulloch, Toronto researchers who, in the 1960s, defined the hallmark properties of stem cells: the ability to self-renew and differentiate. Their award-winning and much-lauded discovery helped transform RM into a global multibillion-dollar industry that raised US$20 billion this year by Q3,[1] with nearly 1,200 RM and advanced therapy[2] developers worldwide in 2021.[3]

This annual report is a celebration of a decade's worth of efforts to:

- Establish key stakeholder networks to engage leading researchers, companies and investors, making CCRM a global nexus of RM and cell therapy commercialization;
- Enable unique translational platforms that address the key bottlenecks in RM and cell therapy translation, in particular process development and GMP-compliant clinical cell manufacturing;
- Integrate Canada's strength in stem cell science with dynamic business leadership, empowering CCRM to launch emerging companies and scale others with seed investments;
- Enhance Canada's reputation globally through participation in international initiatives and industry meetings; and,
- Train hundreds of emerging "leaders of tomorrow" by exposing them to the interface between academia, industry and investment.

Delivering on our foundational efforts has allowed us to leverage our reputation, capabilities and resources to look forward to the next five years, when we will demonstrate sustainability on a number of fronts:

- Sustainability of our core operations through contract services, company

[1] https://alliancerm.org/sector-report/q3-2021-trend-talk/

[2] Advanced therapies include gene therapy, cell therapy and tissue engineering

[3] https://alliancerm.org/sector-report/h1-2021-report/

1 CCRM staff, December 2019. We have doubled in size since then!

exits and management of investment funds;

- Sustainability of the ecosystem by growing our manufacturing capability, catalyzing access to capital, providing specialized training, and re-investing in the academic discovery pipeline; and,
- Sustainability of the CCRM model by establishing hubs across Canada and the world to scale activities and demonstrate Canadian leadership.

There are so many individuals and organizations to thank for the success of CCRM that we do not have space to do so properly here. Nevertheless, we must acknowledge the foundational support from the Government of Canada and its various agencies, which have provided funding from day one and continue to support our current efforts in making CCRM – and Canada – a leader in manufacturing cell and gene therapies. Thank you also to the Government of Ontario for its funding over the years.

Thank you to our employees for their passion, expertise, dedication and hard work, and for living CCRM's vision.

A number of them have been with us since the early days and have shaped the organization into what it is today. Many of those who have moved on have taken up leadership positions within the industry, and we are proud of their achievements and success.

Our academic network, and university and hospital partners, provided credibility, insight and advice as we were getting established, along with funding support. (A big thank you to the University of Toronto, our institutional host.) Today, they continue to be crucial stakeholders.

We have significant business partners who enable our work, without which we would be unable to support the ecosystem. They are Cytiva, University Health Network and MaRS Discovery District, and the dozens of industry customers and partners, and the investors who have invested alongside us.

We have worked closely with Canadian centres of excellence, accelerators, innovation hubs and associations. At the end of this report many of them are listed, along with the names of our board members and advisors from 2011 to 2021. As you turn the pages of the annual report, think of the years as chapters in our story. We would like our epilogue to recognize the impact we have had on patients, company and job creation in Canada, economic benefits and helping to raise Canada's leadership in regenerative medicine globally.

To quote Janet Rossant, President of the Gairdner Foundation and a long-time advisor: "So the baby is now 10 years old. What will the teenage years bring?"

Keep following CCRM to find out!

Michael H. May
President and CEO

Peter Zandstra C.M.
Chief Scientific Officer

2021

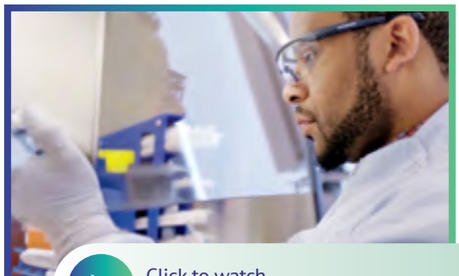
This is the year that CCRM Enterprises debuted.

CCRM Enterprises, the for-profit investment arm of CCRM, made investments into Mediphage Bioceuticals in December, Exacis Biotherapeutics, announced in October, and Notch Therapeutics, announced in February. Mediphage is a preclinical, genetic medicine company developing a novel non-viral gene therapy platform. Exacis is a development-stage immuno-oncology company working to harness the immune system to cure cancer. CCRM will provide expertise and know-how in induced pluripotent stem cell-based manufacturing to support its product development activities. Notch is a company developing renewable, stem cell-derived immunotherapies, with an initial focus on cancer. CCRM Enterprises participated in Notch's US$85 million Series A financing, believed to be the largest in Canadian history. In addition to investing in Notch, the company was established at CCRM. In total, CCRM Enterprises has been involved in 14 ventures so far.

To close the training gap that exists in Canada, CCRM and CellCAN, a knowledge mobilization network in cell and gene therapies, announced the launch of the Canadian Advanced Therapies Training Institute (CATTI) in July. CATTI offers e-learning courses for highly qualified personnel to obtain certification under Good Manufacturing Practices (GMP) and qualify to work under aseptic conditions to manufacture cancer immunotherapies, cell and gene therapies, vaccines and other biotherapeutic applications. Hands-on, in-person training courses, with access to clean rooms, are in development.

This year welcomed many new hires across the organization, especially in the Centre for Cell and Vector Production (CCVP). CCVP added 60+ employees (taking the team to approximately 100 from 40 in 2020), primarily in operations and quality assurance/quality control. CCVP has been operational since 2019, and there is a great demand to work with our GMP-compliant team and fill our 10 clean rooms, two of which are dedicated to viral vector production. We expect the busy pace to be maintained in 2022.

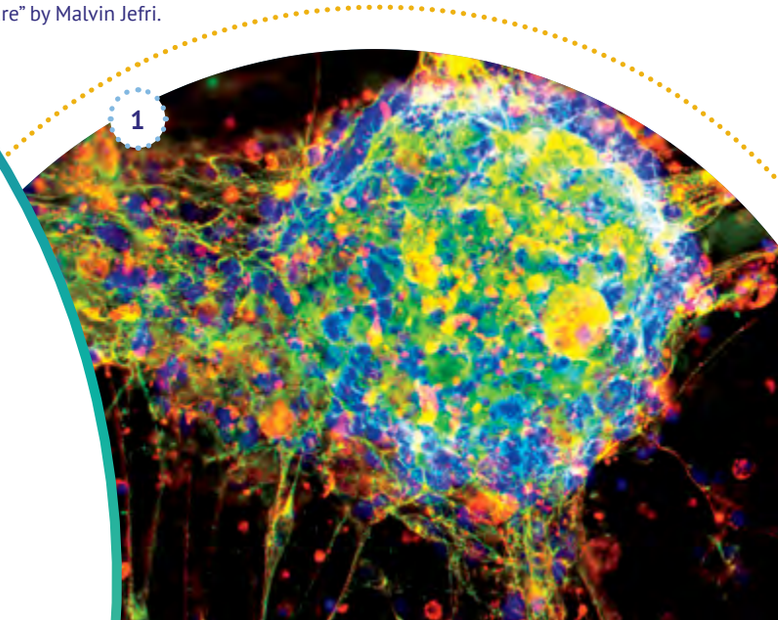
Celebrating CCRM's 10th Anniversary



Click to watch
CELEBRATING CCRM'S 10TH ANNIVERSARY

As part of CCRM's 10th anniversary celebrations, we have produced a special video that features messages from leaders in the field.

1 Cells I See: "J.A.R.V.I.S in culture" by Malvin Jefri.



Current and Former* Portfolio Companies

Aspect biosystems
AVROBIO*
endogena
EXACIS BIOTHERAPEUTICS
EXCELLTHERA
FELDAN THERAPEUTICS
iVexSol
KisoJi
MEDIPHAGE BIOCEUTICALS
Mesentech
MORPHOCELL technologies™
Notch THERAPEUTICS
panCELLa

2021

January

CCRM launches a 12-month social media campaign – #CCRM10Years – to celebrate our 10th anniversary through photos, milestones and key events.

April

CCRM and Amgen announce a multi-year fund for early-stage regenerative medicine-based technologies and therapies to benefit patients and the health-care system.

May

CCRM signs six alliance agreements with Canadian and international institutions to support promising regenerative medicine discoveries, wherever they originate.

June

CCVP is a key partner in a first-in-Ontario surgery at UHN for chronic pancreatitis.

July & September

CCRM receives two awards from the Canadian Public Relations Society for its COVID-19 internal communications excellence.

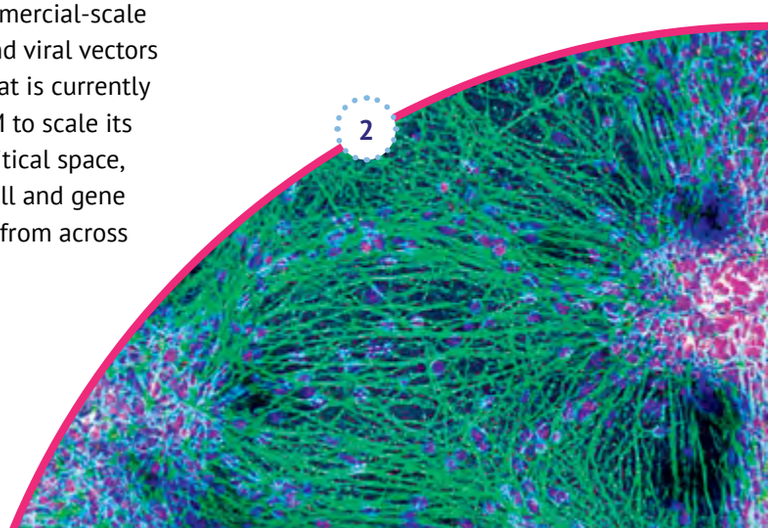
2020

We were delighted when Cytiva agreed to renew its collaboration in the Centre for Advanced Therapeutic Cell Technologies (CATCT), in June, with a further funding commitment of $15 million over three years. Our ongoing partnership means that our co-located team of CCRM and Cytiva scientists and engineers will continue to tackle the cost of goods in manufacturing by developing, optimizing, and integrating processes and tools. We remain grateful to the Federal Economic Development Agency for Southern Ontario for contributing $20 million in 2016 to help establish CATCT.

Other big news in 2020 included the announcement, in November, that CCRM and McMaster Innovation Park executed a letter of intent to partner in the development and operation of a biomanufacturing campus in Hamilton, Ontario. Since then, the partners have developed a business case around the construction and operation of what is on track to become Canada's largest and most advanced Contract Development and Manufacturing Organization (CDMO). The new 120,000 sq. ft. facility will provide Phase III and commercial-scale manufacturing for cells and viral vectors in Ontario – something that is currently lacking. It will allow CCRM to scale its operations and provide critical space, services and support to cell and gene therapy-focused ventures from across Canada and the world.

1 This is an artist's rendering of the CDMO to be built at McMaster Innovation Park in Hamilton, Ontario.

2 Cells I See: "Neural Networks in Living Colour" by Nuwan Hettige.



2020

January

CCRM and CellCAN co-host Supply Chain & Logistics for Cell & Gene Therapies, which would turn out to be our only in-person event in 2020/21.

Platelet BioGenesis, CCRM and Cytiva announce they are working together to develop customized media formulations that will enable efficient differentiation of stem cells to platelet-based therapeutics, thereby avoiding the reliance on blood donors in the future.

March

CCRM and Avectas enter into a collaboration to accelerate the translation of Avectas' non-viral cell engineering platform (Solupore®) into the clinic.

April

panCELLa and CCRM announce a collaboration to develop iPSC master cell banks to accelerate the development of novel cell therapies to benefit academia and industry.

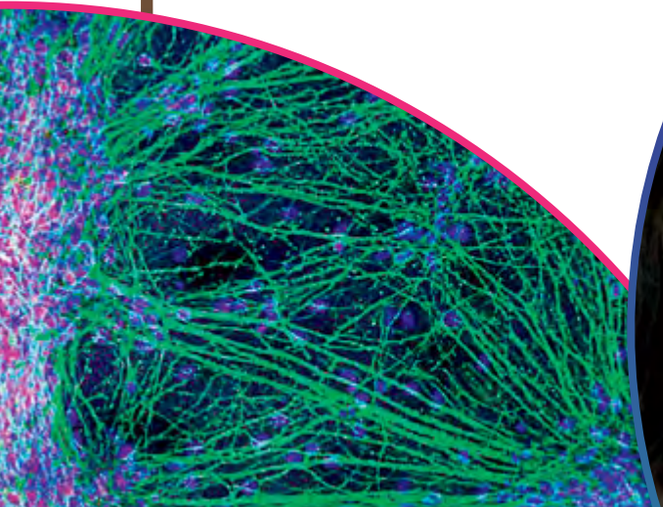
In response to the coronavirus pandemic, MaRS Discovery District launches the Innovation Economy Council (IEC). The IEC is a group of partners that collaborate on data-driven research projects, delivering insights that drive growth and prosperity. CCRM joins, along with other Canadian innovation hubs, institutions, entrepreneurs, corporate partners and investors committed to seeing Canada's tech companies succeed. To date, IEC has produced white papers, articles and free public webinars to share information and thought leadership.

The Equality, Professionalism, and Inclusiveness Council, known as E.P.I.C., is created to bring staff together to celebrate diversity and community in meaningful and impactful ways.

E.P.I.C. has three main objectives:

1. **Celebrate** and recognize the great diversity of individuals within our organization.
2. **Help** all individuals, especially those in underrepresented groups, to grow professionally.
3. **Empower** individuals to make a contribution at work and in their communities.

3 Avectas' non-viral cell engineering platform (Solupore®).



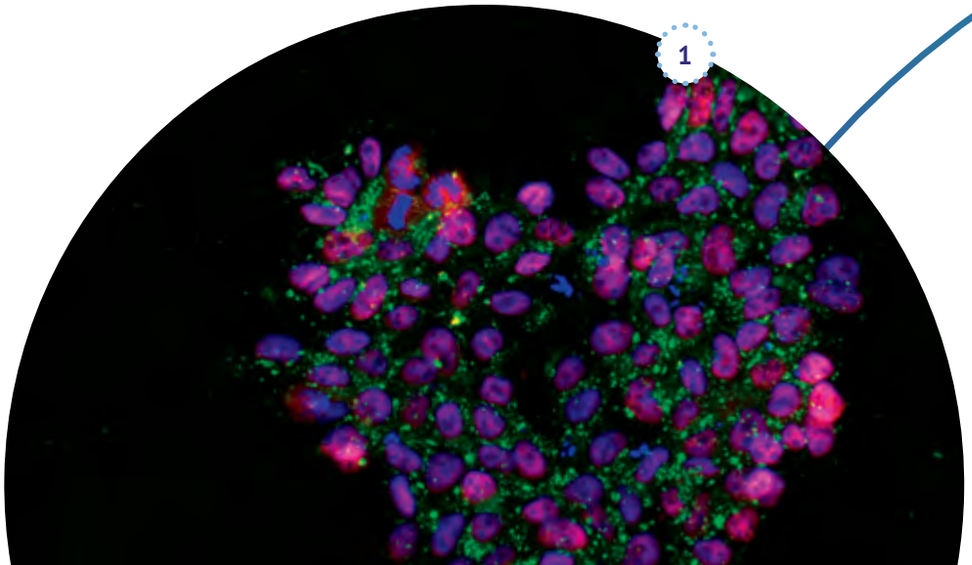
CCVP video

The Centre for Cell and Vector Production (CCVP) is a secure facility where we manufacture cells and viral vectors following Good Manufacturing Practices. The CCVP video describes the work taking place in eight cell therapy clean rooms and two viral vector suites. It offers a virtual tour of the very photogenic space with views of Queen's Park (the home of the Ontario government), the University of Toronto and the world-class hospitals along University Avenue. As most people are not allowed access to CCVP, consider this video your invitation to visit virtually, anytime!

Click to watch
THE CENTRE FOR CELL AND VECTOR PRODUCTION: A LOOK INSIDE

2019

With great anticipation, Notch Therapeutics launched onto the Canadian cell therapy scene in November. Notch was created to commercialize a revolutionary technology: the work of Drs. Juan Carlos Zúñiga-Pflücker (Sunnybrook Health Sciences Centre) and Peter Zandstra (University of British Columbia). Notch creates allogeneic (donor) gene-edited T cells from stem cells on an industrial scale, efficiently making T cell therapies that are clinically robust and of consistently high quality. Right out of the gate, Notch announced it received a starting, upfront payment of US$10 million, collaborating with Allogene Therapeutics to research and develop induced pluripotent stem cell (iPSC)-derived allogeneic therapies for hematologic cancer indications. Notch is the first company to graduate from CCRM's incubation program. Alongside CCRM, Toronto Innovation Acceleration Partners (TIAP) is also a founder of Notch Therapeutics, and Lumira Ventures is an investor.



1 Cells I See: "Cell Love" by Lilit Antonyan.

2 Investor event panel.

2019

April

CCRM hosts its first event dedicated exclusively to investing in cell and gene therapies. While the event was a huge success, the coronavirus pandemic prevented us from hosting planned follow-up events in 2020 and 2021.

A video about CCVP, produced with Big Red Oak, wins the 2019 Videographer Award of Excellence from the International Association of Marketing and Communication Professionals in the dotCOMM Awards.

June

CCRM begins to publish an educational blog about Contract Development and Manufacturing Organization (CDMO) issues. It contains tips, explains terms and answers questions about working with a CDMO, helping therapy developers to make informed decisions.

July

CCVP has its first manufacturing run to create a working cell bank, supporting a longer-term manufacturing project with a client. The aim of this engineering run is to fine-tune processes and ensure manufacturing consistency and quality before proceeding to full-scale commercial manufacturing to GMP standards.

Inside the Lab video

The Centre for Advanced Therapeutic Cell Technologies (CATCT) houses our process development, and cell engineering and reprogramming experts. The carefully-designed space is where we conduct pre-clinical to commercial-ready cell and gene therapy process optimization and scale-up.

The video features some of our team, our work and our equipment, and provides a glimpse into our state-of-the-art space that was developed with $40 million in funding (see page 16). Watch the video to learn how scientists and engineers are automating and closing cell manufacturing to bring down costs and increase efficiency.

2018

1

Another big year for CCRM saw the launch of the Centre for Cell and Vector Production (CCVP), a Good Manufacturing Practices (GMP)-compliant facility. Built in partnership with University Health Network (UHN) and operated by CCRM, CCVP serves local academics and industry, from Canada and abroad, seeking the manufacture of cells and viral vectors for early phase clinical trials.

In October, we held a grand opening ceremony in the MaRS atrium, with distinguished guests on stage and in the audience. Afterwards, VIPs were given tours of the facility – the first of its kind in Toronto. It cost an estimated $25 million for construction, equipment and operations. The Canada Foundation for Innovation, the Government of Ontario, the Federal Economic Development Agency for Southern Ontario, and other partners, including private donors through the Toronto General & Western Hospital Foundation, provided financial support.

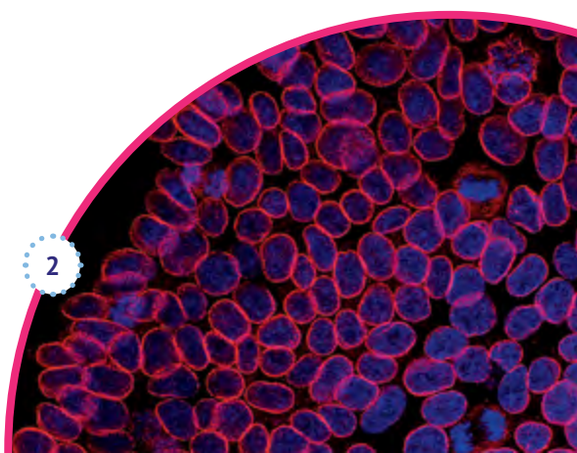
In July, CCRM received another $15 million from the Government of Canada's Networks of Centres of Excellence (NCE) program to continue with our efforts to generate sustainable health and economic benefits for Canadians through global collaboration in regenerative medicine-based technologies, and cell and gene therapies.

"CCVP will fill a much-needed gap for the thriving regenerative medicine industry in Toronto. Cell and gene therapy products hold tremendous potential for many diseases with unmet clinical need — from cancer to heart disease — and this new facility will accelerate the development of these transformative health care solutions for patients." [...] "Toronto is now uniquely positioned to become a global leader in this area."

– Dr. Bradly Wouters, Executive Vice President, Science and Research at UHN.

1 Speakers at CCVP Grand Opening, 2018.

2 Cells I See: "Loop through the cells" by Radhika Rao.



2

"We're thrilled to support CCRM as they continue to integrate Canada's strength in stem cell research and bioengineering with dynamic leadership. Since the NCE first funded CCRM in 2011, we have watched with pride as they excelled in their pursuit to accelerate promising and potentially life-saving technologies to reach the market. We look forward to seeing the ongoing impacts of their work as a premier global enabler of regenerative medicine commercialization."

– Jean Saint-Vil, Associate Vice-President, Networks of Centres of Excellence.

"The University of Toronto has been pleased to support CCRM for the last seven years and we are delighted that its funding will continue with this new grant from the NCE. While the university community has benefited directly from CCRM's presence, we also recognize that CCRM has helped to raise Canada's global profile in regenerative medicine and cellular therapies. We look forward to continuing our partnership role as CCRM positions Canada as a global leader in cell manufacturing, while also launching companies and creating new jobs."

– Vivek Goel, Vice-President, Research and Innovation, University of Toronto.

3 NCE funds CCRM for a second time. Funding announcement July 30, 2018.

4 Audience at CCVP Grand Opening in the MaRS atrium.

2018

February

CCRM receives ISO 9001:2015 certification indicating that its quality management system meets all applicable statutory and regulatory requirements.

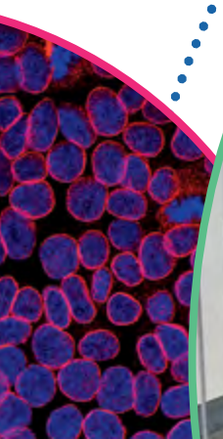
May

DiscGenics, CCRM and Cytiva announce they will be working together to support DiscGenics' efforts to scale and optimize manufacturing of its homologous, allogeneic (off-the-shelf), injectable cell therapy to treat degenerative disc disease.

September

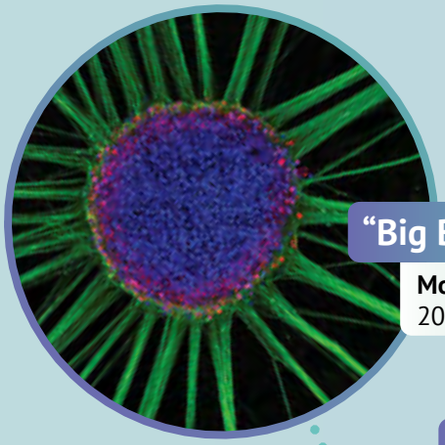
CCRM receives funding through FACIT's Prospects Oncology Fund to develop a universally compatible source for the next generation of CAR-T therapies.

We sign an MOU with the Japanese Society for Regenerative Medicine (September) and one with CCRM Australia and Stem Cells Australia (December) to advance regenerative medicine discoveries.



CELLS I SEE

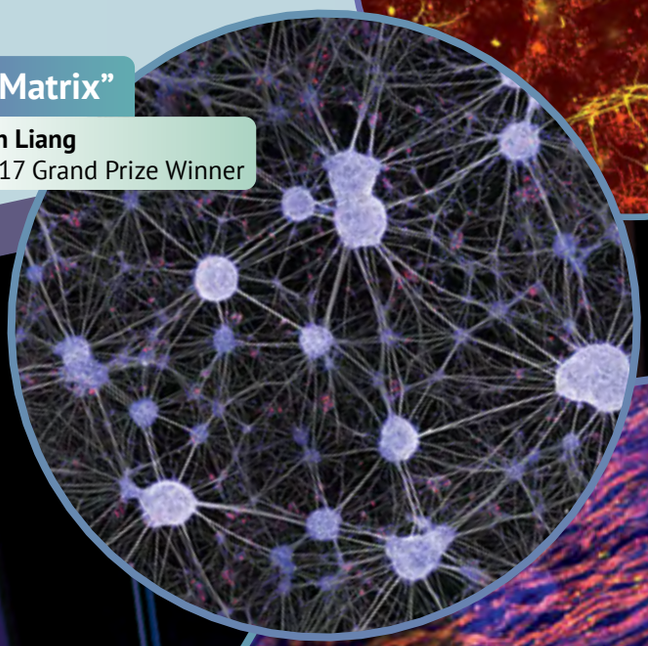
CCRM's favourite "SciArt" contest takes place every September when the public is asked to choose their favourite image. Later in the fall, the stem cell community crowns a winner at the annual Till & McCulloch Meetings.

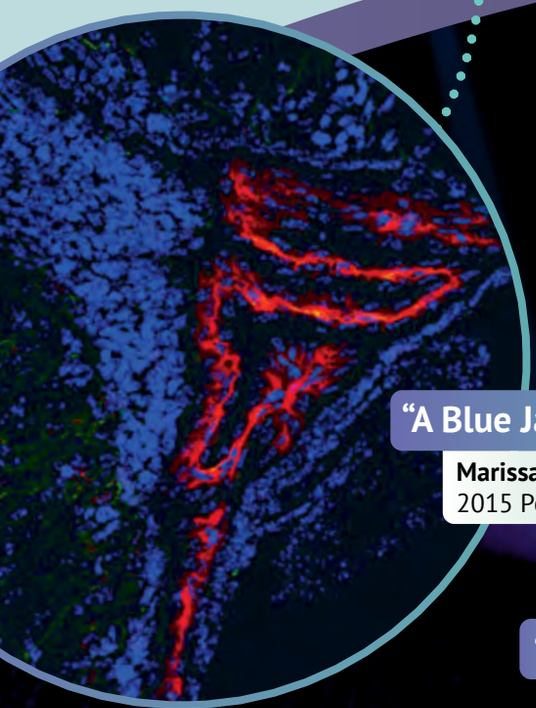


"Big Bang"
Mohsen Afshar
2015 Grand Prize Winner

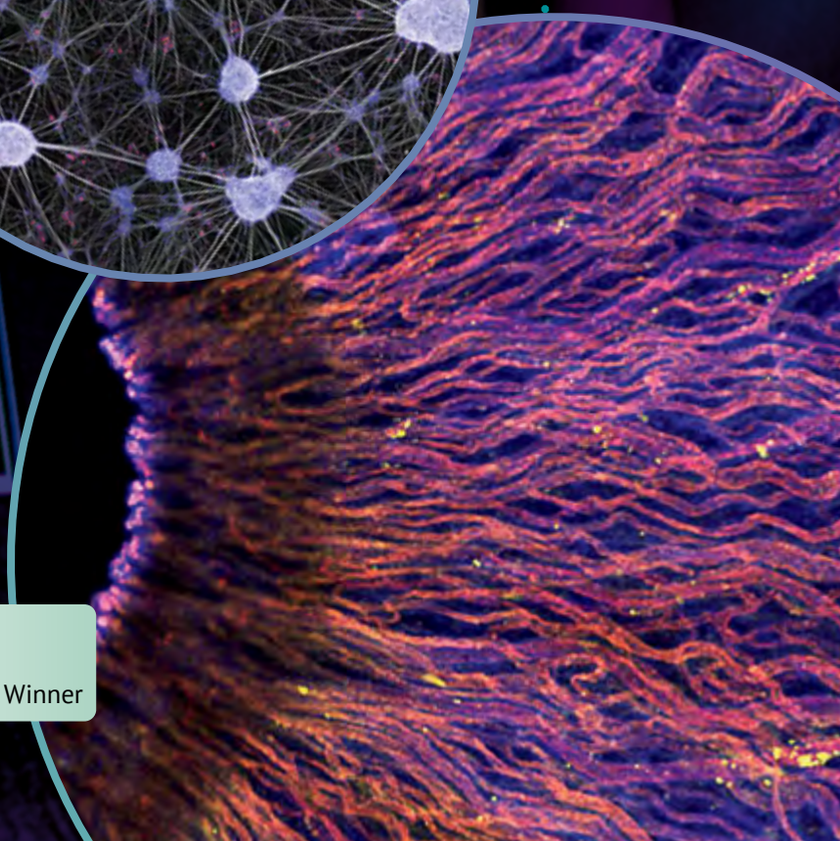
"Supernova Tango – The Dance of the Cosmos"
Marissa Athena Lithopoulos
2017 People's Choice Winner

"The Matrix"
Qin Liang
2017 Grand Prize Winner

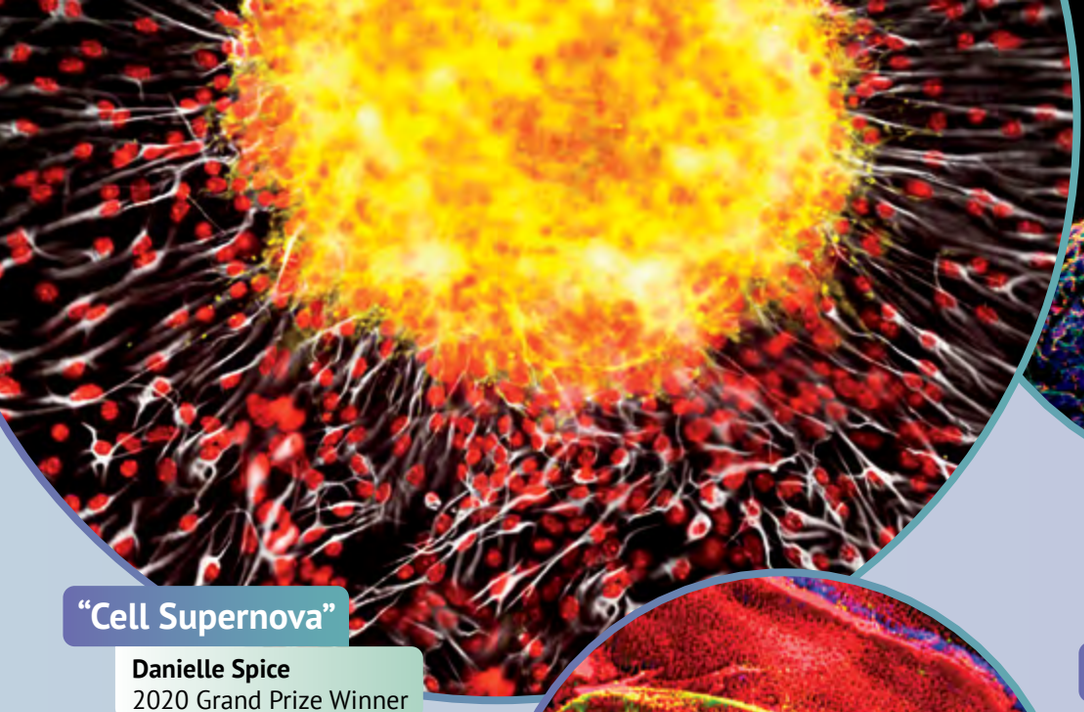




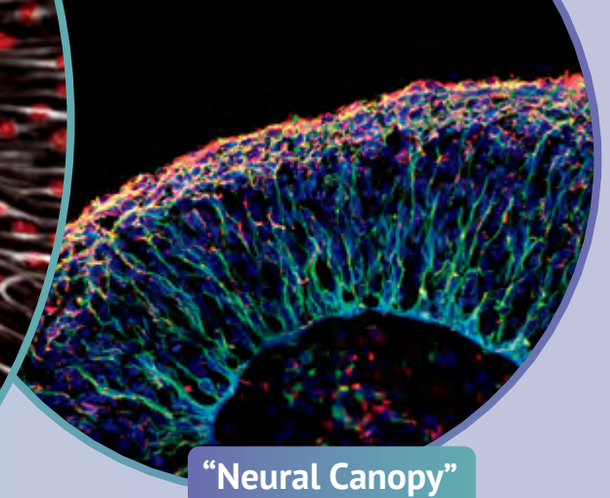
"A Blue Jay All Fired Up"
Marissa Athena Lithopoulos
2015 People's Choice Winner



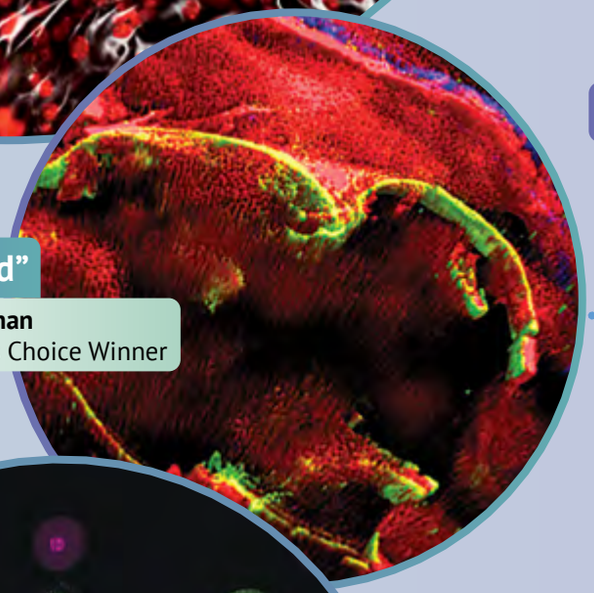
"Iris"
Sabiha Hacibekiroglu
2016 Grand Prize &
2016 People's Choice Winner



“Cell Supernova”
Danielle Spice
2020 Grand Prize Winner

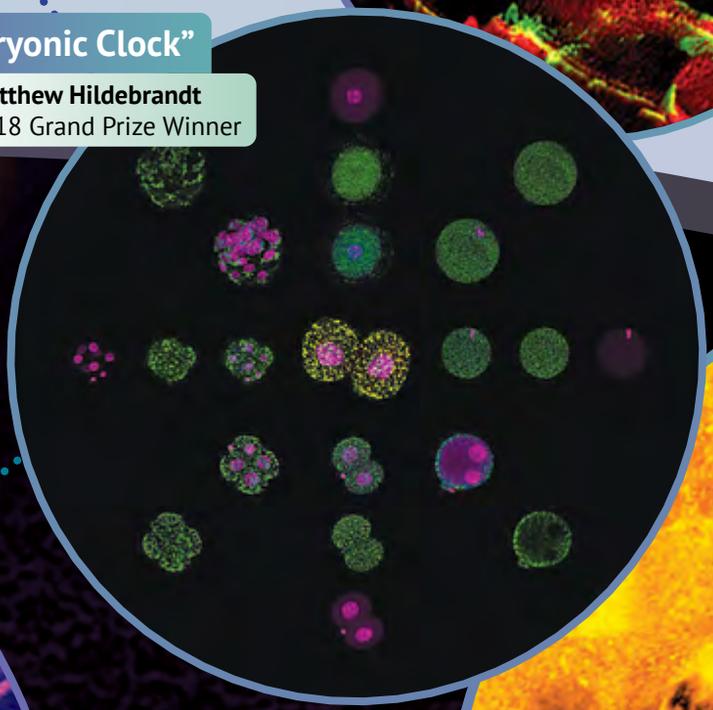


“Neural Canopy”
Valérie Watters
2020 People’s Choice Winner

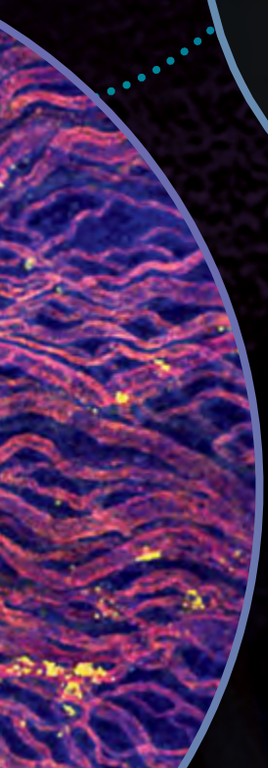


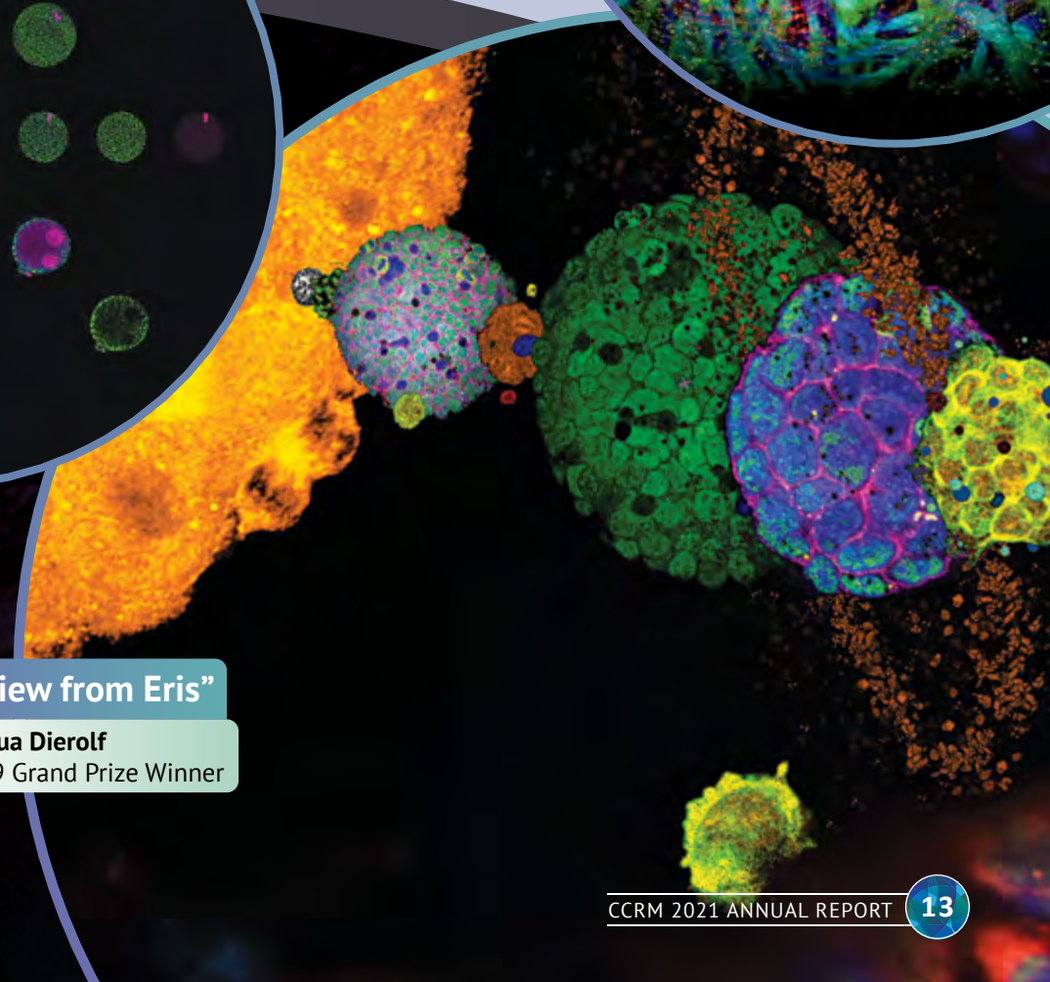
“Heart of Gold”
Hesham Soliman
2018 People’s Choice Winner

“Rainbow Heart”
Hesham Soliman and Elena Groppa
2019 People’s Choice Winner



“Embryonic Clock”
Matthew Hildebrandt
2018 Grand Prize Winner





“The View from Eris”
Joshua Dierolf
2019 Grand Prize Winner

1

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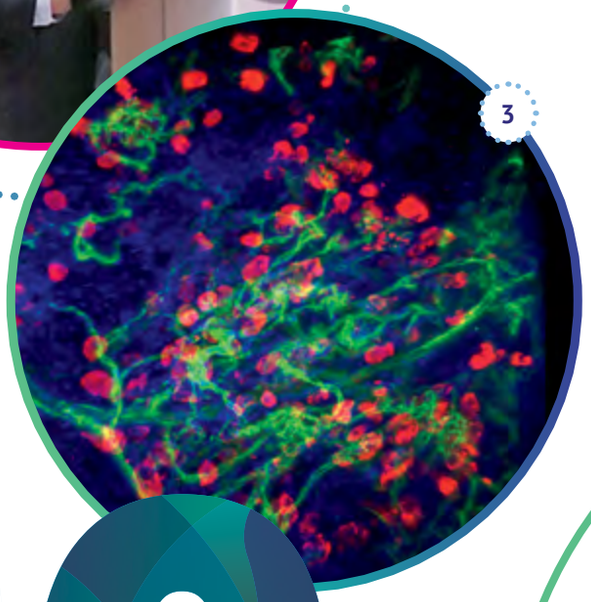

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2017

2017 was a transformational year for CCRM. In February, we moved into a custom-designed space in the MaRS Discovery District. The move enabled CCRM to continue its work in a new, state-of-the-art, 40,000 sq. ft. facility, marking an exciting new chapter for our team.

In September, we held a grand opening event in the MaRS atrium. Guests listened to remarks from CCRM's President and CEO, and invited speakers.

As part of the event, we featured a new video about CCRM that would go on to win an industry award in 2018.

Click to watch
CCRM'S CORPORATE VIDEO

GRAND OPENING 2017 – SPEAKERS:

- MPP Daiene Vernile, Parliamentary Assistant to the Minister of Research, Innovation and Science
- Dr. Ger Brophy, General Manager, Cell Therapy, GE Healthcare
- James Meddings, President of the Federal Economic Development Agency for Southern Ontario
- Dr. Vivek Goel, Vice President, Research and Innovation, University of Toronto
- Dr. Duncan Stewart, President and Scientific Director, Ontario Institute for Regenerative Medicine (OIRM)

1 Grand Opening of CCRM at MaRS, Sept. 2017.

2 Dr. Michael May speaking at the Grand Opening of CCRM at MaRS, Sept. 2017.

3 Cells I See: "Revascularized Pseudo-islet" by Alex Vlahos and Ben Kingston.

Following the speeches, the guests moved outside for a special ceremony where we unveiled a statue, sculpted by artist Ruth Abernethy, depicting Drs. James Till and Ernest McCulloch. A plaque and bronze statue sit outside MaRS on College St. to recognize Till and McCulloch's immense contribution to the stem cell field. Dr. Allan Eaves, Chairman, President and CEO of STEMCELL Technologies, commissioned the statue and was on hand for the unveiling, along with Dr. Till and his family. The special event wrapped up with tours of our facility.

Also in 2017, we partnered with BioCanRx and others to launch the Clinical Translation Education Group (CTEG) and hosted the first of three annual events with the intent to provide an introduction to clinical translation of biotherapeutics for scientists. Along with CellCAN, the Ontario Institute for Regenerative Medicine, the Ontario Institute for Cancer Research, Stem Cell Network and The Foundation Fighting Blindness, we trained hundreds of graduate students, postdoctoral fellows and others who attended in person or watched video recordings of the events.

To learn more, watch "Bench to Bedside for Biotherapeutics" (2017), "Intellectual Property and Entrepreneurship" (2018) and "Current Trends and Innovations" (2019).

Click to watch
BENCH TO BEDSIDE FOR BIOTHERAPEUTICS (2017)

Click to watch
INTELLECTUAL PROPERTY AND ENTREPRENEURSHIP (2018)

Click to watch
CURRENT TRENDS AND INNOVATIONS (2019)

4 Dr. Jim Till at the unveiling of a statue of his likeness, along with Dr. Ernest McCulloch.

2017

April

ExCellThera, CCRM's first spin-off, is a winner at the 2017 MaRS HealthKick Challenge. The $20,000 prize was given to Dr. Peter Zandstra, Co-Scientific Founder and Chief Technology Officer at ExCellThera (and Chief Scientific Officer of CCRM), following his pitch to global investors.

July

Twelve emerging researchers from universities around the world meet in Toronto for Summer by Design, a month-long pilot program hosted by Medicine by Design in collaboration with CCRM and the Rotman School of Management. It would be repeated in 2018 and 2019, and held virtually in 2020 during the coronavirus pandemic.

CCRM, in partnership with Rotman, hosts the 10th Business of Regenerative Medicine conference in Toronto. The event has its largest audience, with more than 150 people eager to hear from experts and entrepreneurs on how to launch a company.

September

CCRM and Affigen announce a partnership to advance the creation and commercialization of a closed platform for the production of individualized, tumour-identifying therapeutics for the treatment of a variety of incurable cancers.

October

We launch "CCRM Goes Live" on Facebook to interview local academics and industry leaders to discuss their work and careers.

2016

In 2016 we had the distinct pleasure of hosting a small group of very special guests at CCRM, including Prime Minister Justin Trudeau, Navdeep Bains, Minister of Innovation, Science and Economic Development, and Chrystia Freeland, Minister of International Trade and MP University-Rosedale. They were given a tour of our lab in the Banting Institute, our home from 2010 to 2017, then with the Prime Minister's security, University of Toronto VIPs and GE Healthcare leaders, we crossed College St. and made our way to the 10th floor of the MaRS West Tower.

In our pre-construction space, and before guests and members of the media, Prime Minister Trudeau, his ministers, and the CEOs of CCRM and GE Canada joined him at the podium to announce funding for a unique public-private partnership to tackle the challenges of manufacturing cells and viral vectors for use in patients. The Centre for Advanced Therapeutic Cell Technologies (CATCT) received $40 million to develop solutions to solve manufacturing bottlenecks and make cell therapy affordable, available and scalable. GE Healthcare (now Cytiva) and the Federal Economic Development Agency for Southern Ontario were equal contributors to the build and establishment of CATCT.

The event made a huge splash in Canada and internationally. Below is the CATCT announcement media coverage, by the numbers:

514,473,368
media impressions

429
distinct media sources

90
global media outlets

18,733
views of CATCT news release one day after the announcement

1 Speakers and VIPs from the Government of Canada and GE Heatlhcare at CATCT funding announcement.

2016

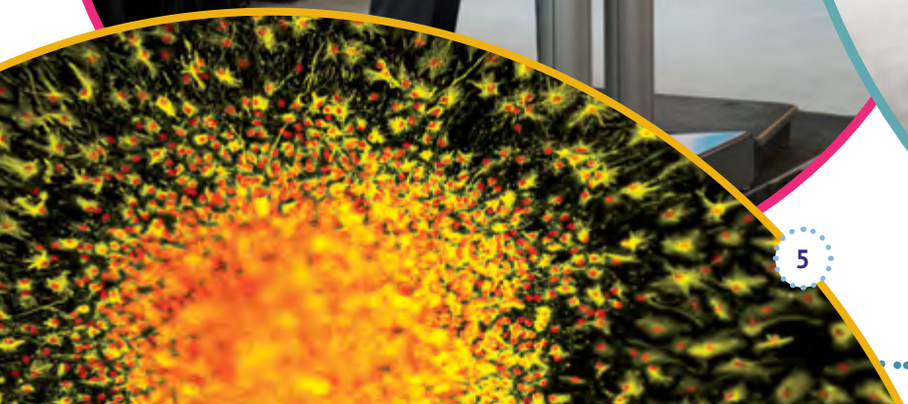
October

Monash University, the Australian Regenerative Medicine Institute and the Commonwealth Scientific and Industrial Research Organisation launch CCRM Australia, the pilot in CCRM's strategy to create hubs around the world.

December

BlueRock Therapeutics launches as the result of an investment of US$225 million from Bayer AG and Versant Ventures. The company opens a Toronto office, in part to benefit from CCRM's manufacturing expertise and future facilities. This significant investment was one of the largest-ever initial venture capital financing deals for a biotech start-up, at that time.

UniQuest and CCRM sign an international deal to develop a treatment for neutropenia, which can cause life-threatening infections in patients following chemotherapy.



2 BlueRock announcement with VIPs.

3 Government dignitaries tour CCRM's lab.

4 Dr. Michael May at CATCT announcement.

5 Cells I See: "Astrocyte Astronomy" by Ahmad Galuta.

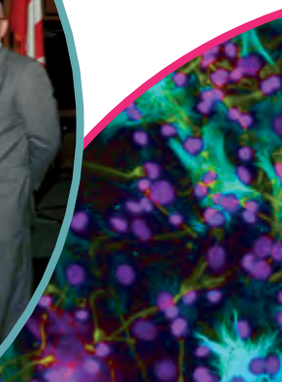
THE EARLY YEARS

Early on, people noticed we were doing something special. *Nature Biotechnology* wrote a feature profiling us along with the California Institute for Regenerative Medicine (CIRM) and the UK's Cell and Gene Therapy Catapult. We were all government-funded accelerators striving to build an ecosystem in our nation's backyards. The difference was that CIRM started with US$3 billion, Catapult launched with £150 million, and we had $15 million to last five years.

1 CCRM's first Board of Directors.

2 CCRM's original logo.

3 CCRM's funding announcement in 2010.



Centre for Commercialization of **Regenerative** Medicine

4

5

réunions Till & McCulloch meetings

"Our approach is to leverage Canada's investment in fundamental engineering and biological discovery by enabling product development. To do this, CCRM will support the operation of platforms focused on stem cell generation, cell manufacturing and engineered tissue."

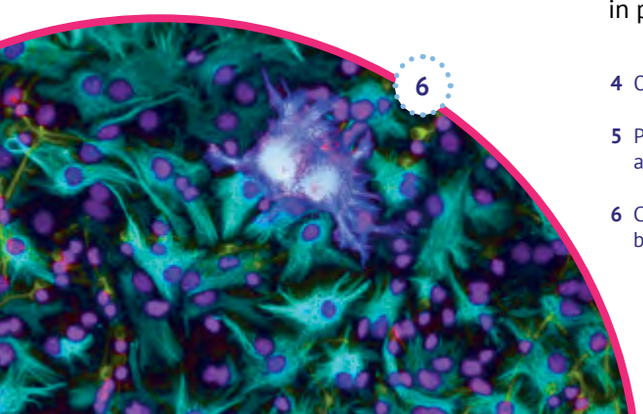
– Peter Zandstra, CSO, June 13, 2011.

On June 14, 2011, the Centre for Commercialization of Regenerative Medicine (CCRM), led by Drs. Peter Zandstra, Chief Scientific Officer, and Michael May, Chief Executive Officer, officially opened its doors as a hub of regenerative medicine commercialization. The initial $15 million in funding came from the Government of Canada's Networks of Centres of Excellence (NCE) to operate as a Centre of Excellence for Commercialization and Research (CECR).

CCRM began with a vision to move regenerative medicine from bench to bedside by supporting the development of technologies that reduce the cost and increase the efficiency of regenerative medicine-based technologies and therapies. We would be a global hub for the commercialization of regenerative medicine by engaging industry partners and attracting investment to Ontario.

Our activities included coordinating the sourcing and diligence of intellectual property; accelerating technology development; supporting clinical translation; and incubating new companies built around strong bundles of technologies. These activities resided within three key product development and commercialization platforms: cell reprogramming, cell manufacturing, and biomaterials and tissue mimetics.

A major focus of those early years was on building a team of smart and enthusiastic scientists, engineers and business people, equipping our development facility in the University of Toronto's Banting Institute, and establishing an industry consortium to be receptors of technologies and partners in co-development work. Also a priority was forging national and international networks of business and scientific leaders, and putting operational, governance and financial processes in place.



6

4 OIRM funding announcement 2015.

5 Peter Zandstra at Medicine by Design announcement.

6 Cells I See: "This Is Your Brain On Stem Cells" by Samantha Yammine.

2012

CCRM and Stem Cell Network rebrand the "Stem Cell Network Blog" as "Signals." In 2015, CCRM becomes the sole publisher of *Signals*. Happy 10-year anniversary, *Signals*!

Stem Cell Network partners with CCRM to rebrand its Annual General Meeting as the Till & McCulloch Meetings. Together we host the first conference in Montreal.

2013

CCRM establishes an ethics unit to promote responsible research, led by McGill University's Centre of Genomics and Policy.

2014

CCRM and the Ontario Stem Cell Initiative collaborate to establish the Ontario Institute for Regenerative Medicine (OIRM), with seed funding from the Government of Ontario.

2015

OIRM, operating in partnership with CCRM, receives $25 million from the Government of Ontario.

The University of Toronto is awarded $114 million from CFREF to establish Medicine by Design, with Dr. Peter Zandstra as its inaugural executive director and CCRM as its commercialization partner.

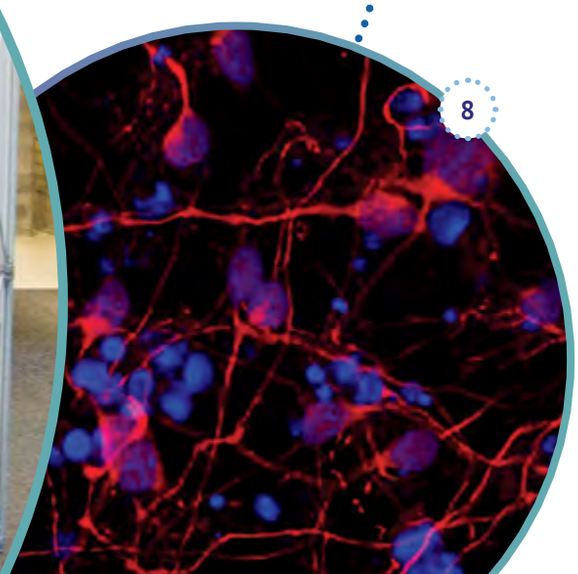
CCRM announces its first spin-off company, ExCellThera, launched in partnership with IRICoR.

Once the team was in place, we began working with industry partners on projects. For example, our first one was with EMD Millipore in March 2012. It involved translating 2D tissue-culture vessels into 3D tissue bioreactors to facilitate the large-scale cultivation of stem cells. We also developed a rubric to assess technologies and conducted due diligence on over 100 discoveries that came to us through our institutional partners. In April 2012, we launched an innovation fund with Pfizer Canada to accelerate regenerative medicine-based technologies for drug screening and therapeutic applications. A few months later, in August, we established a commercialization impact prize with the McEwen Centre for Regenerative Medicine to address the challenges of scaling the production of stem cell-based products for clinical use and high-throughput drug screening. In September, we launched our first fee-for-service offering. Throughout those early years, we were building international awareness of our efforts and our commercialization model, and acting as regenerative medicine ambassadors for Canada on the global stage.

"If we are to maximize returns on the investment made in basic research & development and drive paradigm-shifting new regenerative medicine products to market, we need to find ways to translate early-stage discoveries with even more capital efficiency. Our plan is to coordinate academic infrastructure into platforms, resourced with CCRM personnel, which target bottlenecks in product development and thus enable commercialization. By enabling product development, integrating business leadership with our scientific excellence, and engaging industry to balance technology push with market pull, we will achieve our mission of being a global nexus of regenerative medicine commercialization."

– Michael May, CEO, June 13, 2011.

7



8

7 CCRM's first employees.

8 Cells I See: "Axonal Web" by Anthony Flamier.

KEY FUNDERS

NCE RCE

Federal Economic Development Agency for Southern Ontario

Agence fédérale de développement économique pour le Sud de l'Ontario

Ontario

FOUNDING INSTITUTIONAL MEMBERS

UNIVERSITY OF TORONTO

UHN Toronto General Toronto Western Princess Margaret Toronto Rehab Michener Institute

SickKids

The Ottawa Hospital Research Institute | L'Hôpital d'Ottawa Institut de recherche

ASSOCIATE INSTITUTIONS

LUMC

McMaster University

MONASH University

Mount Sinai Hospital
Sinai Health System
Joseph & Wolf Lebovic Health Complex

UBC THE UNIVERSITY OF BRITISH COLUMBIA

CURRENT AND FORMER* PORTFOLIO COMPANIES

Aspect biosystems

AVROBIO*

endogena

EXACIS BIOTHERAPEUTICS

EXCELLTHERA

FELDAN THERAPEUTICS

iVexSol

木曽印路 KisoJi

MEDIPHAGE BIOCEUTICALS

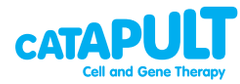
Mesentech

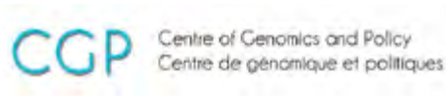
MORPHOCELL technologies™

Notch THERAPEUTICS

panCELLa

COLLABORATIVE PARTNERS





INDUSTRY CONSORTIUM

CCRM has established a consortium of more than 100 companies that represent key sectors of the regenerative medicine industry, including therapeutics, devices, reagents, and cells as tools. These companies range from multinational corporations, to small-medium enterprises, to emerging start-ups. They have utilized the translational platforms developed by CCRM to enable new opportunities and address real-life bottlenecks in their businesses.

CCRM would like to acknowledge the valuable relationships that have been fostered with these companies.

BOARD OF DIRECTORS

From the outset, CCRM has been governed by a Board of Directors that would be the envy of most organizations. Experienced and engaged, the business and scientific leaders who have served on our Board share a commitment to revolutionizing health care for patients by advancing promising discoveries to the market. From venture capitalists to successful stem cell entrepreneurs to executives from major institutions, CCRM's Board unites leaders to chart our path to regenerative medicine's bright future.

CO-CHAIRS

Gregory A. Bonfiglio
Proteus Venture Partners,
(2011–2018)

Michael Nobrega
IBI Group,
(2019–present)

BOARD

Lalit Aggarwal
Manor Park Holdings,
(2016–2019)

Reni Benjamin
JMP Securities LLC,
(2019–present)

Dianne Carmichael
Carmichael Worldwide Inc.,
(2017)

Allen Eaves
STEMCELL Technologies, Inc.,
(2011–2018)

Catarina Flyborg
Cytiva,
(2020–present)

Vivek Goel
University of Waterloo,
University of Toronto,
(2015–2020)

Rafi Hofstein
Independent Consultant,
(2011–2017)

Sven Kili
Sven Kili Consulting Ltd.,
Antion Biosciences SA,
(2017–present)

Peter Lewis
University of Toronto,
(2011–2014)

Geoff MacKay
AVROBIO,
(2011–2018)

Michael May
CCRM,
(2011–present)

Stephen Minger
SLM Blue Skies Innovation Ltd.,
(2011–2016)

Gail Naughton
Histogen Inc.,
(2014–2020)

Lita Nelsen
Consultant,
(2011–2012)

Christopher Paige
University Health Network,
(2011–present)

Edward (Ted) Sargent
University of Toronto,
(2020–present)

Joan Sheehan
STEMCELL Technologies,
(2019–present)

David Smith
Healios K.K., Akron Biotech,
(2012–2019)

Susan L. Solomon
New York Stem Cell Foundation,
(2013–2015)

Duncan Stewart
Ottawa Hospital Research Institute,
(2011–2016)

Philip Vanek
Gamma Biosciences,
(2015–present)

Donna Wall
SickKids Hospital,
(2017–present)

Rebecca Yu
Takeda Canada,
(2019)

Peter Zandstra
CCRM, University of British Columbia,
(2011–present)

Claudia Zylberberg
Akron Biotechnology,
(2019–present)

Ruth McKernan
Retired,
(2011–2012)

Melissa Carpenter
ElevateBio,
(2011–2012)

FOUNDERS ADVISORY BOARD

The early years of a new organization are notoriously make or break. Thankfully, CCRM has been in safe hands from the outset. Our Founders Advisory Board were — and in many cases continue to be — CCRM's trailblazers and mentors. They are leading Canadian researchers in the field who have kept CCRM's development scientists and technicians abreast of the latest scientific trends. Troubleshooting during those crucial early days when we were a small team of just a dozen employees, this group generously donated time and knowledge to establish and advance the activities of CCRM.

CHAIR

Peter Zandstra
CCRM, University of British Columbia,
(2011–present)

MEMBERS

Mick Bhatia
McMaster University,
(2011–present)

James Ellis
SickKids Research Institute,
(2011–present)

Armand Keating
Princess Margaret Hospital,
Krembil Research Institute,
(2011–present)

Gordon Keller
McEwen Stem Cell Institute,
University Health Network,
(2011–present)

Andras Nagy
Lunenfeld-Tannenbaum Research Institute,
Mount Sinai Hospital,
(2011–present)

Janet Rossant
SickKids Research Institute,
(2011–present)

Michael Rudnicki
Ottawa Hospital Research Institute,
(2011–present)

Paul Santerre
Institute of Biomedical Engineering,
University of Toronto,
(2011–present)

Molly Shoichet
Institute of Biomedical Engineering,
University of Toronto,
(2011–present)

William L. Stanford
Ottawa Hospital Research Institute,
(2011–present)

STRATEGIC ADVISORY BOARD

Our Strategic Advisory Board members are the rock stars of regenerative medicine: world-leading experts in stem cells and biomaterials who help us to plan our activities and benchmark us against the best regenerative medicine ecosystems in the world. This international group contributes their guidance and expertise to CCRM. Their collective wisdom and advice have been and continue to be a tremendous asset to CCRM.

CO-CHAIRS

Janet Rossant
SickKids Research Institute,
(2011–2017)

Peter Zandstra
CCRM, University of British Columbia,
(2011–2017)

HONORARY MEMBER

Shinya Yamanaka
Centre for iPS Cell Research and Application,
(2011–2017)

MEMBERS

George Daley
Children's Hospital Boston,
Harvard Medical School,
(2011–2016)

Jeffrey Hubbell
The University of Chicago,
(2011–2017)

Gordon Keller
McEwen Stem Cell Institute,
University Health Network,
(2015)

Douglas Lauffenburger
Massachusetts Institute of Technology,
(2011–2017)

Chris Mason
University College London, AVROBIO,
(2011–2017)

Shin-Ichi Nishikawa
Riken Centre for Developmental Biology,
(2011–2014)

Kathrin Plath
University of California,
(2011–2017)

Michael Sefton
University of Toronto, Medicine by Design,
(2011–2017)

Toshio Suda
National University of Singapore,
(2014–2017)

Jakub Tola
University of Minnesota,
(2014–2017)

Fiona Watt
King's College London, EMBO,
(2011–2017)

COMMERCIALIZATION REVIEW COMMITTEE

After putting discoveries through a rigorous due diligence process, promising technologies were presented to CCRM's Commercialization Review Committee. This committee provided an external perspective from individuals with diverse areas of expertise – business, product development, regulatory and finance, to name a few. The Committee was comprised of select individuals from CCRM's Industry Consortium, the Board of Directors, partner Technology Transfer Offices (TTOs) and experts drawn from the wider community. Those who served on this committee were critical players in taking innovation to the market, where it belongs.

CHAIR

Devyn Smith
Arbor Biotechnologies,
(2011–2015)

MEMBERS

Dolores Baksh
Akron Bio,
(2011–2013)

David Brener
David.Brener & Associates Inc.,
(2011–2013)

Melissa Carpenter
ElevateBio,
(2011–2013 & 2015)

Terry Donaghue
Mount Sinai Hospital,
(2011–2013)

Roseita Esfand
CardioMed Device Consultants,
(2011–2015)

Anouk Fortin
Ottawa Hospital Research Institute,
(2011–2015)

Barry Frankel
MICREOS,
(2011–2015)

Jennifer Fraser
University of Toronto,
(2011–2015)

Benjamin Fryer
Pluristyx, Inc.,
(2011–2015)

Armand Keating
Princess Margaret Hospital,
Krembil Research Institute,
(2011–2015)

Michael May
CCRM,
(2014–2015)

Stephen Minger
SLM Blue Skies Innovation Ltd.,
(2011–2015)

Parimal Nathwani
Toronto Innovation Acceleration Partners,
(2011–2015)

Lita Nelsen
Consultant,
(2011–2015)

Donna Parr
Crimson Capital,
(2011–2015)

Martha Rook
Sigilon Therapeutics, Inc.,
(2011–2013)

Timothy Smith
Octane Medical Group,
(2011–2015)

Jamie Stiff
Genesys Capital,
(2011–2015)

Terry Thomas
STEMCELL Technologies, Inc.,
(2011–2015)

Arlene Yee
Commercialization Consultant,
(2011–2015)

ACADEMIC AMBASSADORS COMMITTEE

The newest group of advisors to CCRM, the Academic Ambassadors Committee, helps extend CCRM's efforts in the identification of new regenerative medicine technologies and cell and gene therapies with commercialization potential. It is comprised of leading Canadian experts from our partner institutions. Working closely with CCRM's team responsible for identifying and developing promising technologies and nurturing them to the company creation stage, this committee advises, informs and connects us with promising new research.

Corinne Hoesli,
McGill University,
(2020–present)

David Juncker,
McGill University,
(2020–present)

Michael Kallos,
University of Calgary,
(2020–present)

Allison McGuigan,
University of Toronto,
(2020–present)

Nicholas Pineault,
Canadian Blood Services,
(2020–present)

Nika Shakiba,
University of British Columbia,
(2020–present)

Stephanie Willerth,
University of Victoria,
(2020–present)

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