Fall 2012

The CCRM Niche

Enable. Integrate. Engage.

News, updates and events for our partners

CCRM a Founding Member of New International Consortium

Six translation centres from Spain, Germany, The Netherlands, the United States and Canada have launched an international consortium in Europe to develop new regenerative medicine (RM) therapies faster and more cost-effectively, in collaboration with industry partners. The Centre for Commercialization of Regenerative Medicine (CCRM) has joined the Regenerative Medicine Coalition (RMC) to lend its expertise to accelerate the delivery of new and safe RM solutions to patients.

Minister-Counsellor **Thomas Marr,** who attended the launch event on behalf of the Canadian Embassy, had the following to say about CCRM's involvement: "I am delighted that a Canadian group working in regenerative medicine has been invited to play a guiding role in the RMC. Canada is a recognized world leader in the field of stem cells and regenerative medicine research, and CCRM is an ideal founding centre for the RMC with its network of academic and industry partners, and focus on RM commercialization."

The founding members of the RMC.

Michael May, CEO of CCRM, was present at the launch. Dr. May believes CCRM's involvement will reflect well on Canada. "Developing strong ties internationally benefits the stem cell community here in Canada and CCRM is pleased to participate in this worthwhile initiative."

Greg Bonfiglio, Managing Partner of Proteus Venture Partners and Chair of CCRM's Board of Directors, has been chosen as the inaugural Chair of RMC's Board.

The RMC launched in May 2012 in Berlin, Germany.

Read the full news release, including the names of the founding partners, at ccrm.ca/media-room.

Upcoming Events

IBBME's 50th Anniversary Celebrations. On October 10th, IBBME will celebrate 50 years of biomedical engineering innovation with presentations by local and international experts in neuroscience and neurobiology.

Chestnut Conference Centre
Toronto, Ontario
8 a.m. to 6 p.m.

CCRM and its industry partners will be featured over lunch at "Tomorrow's Technology Showcase" from 12:30-2:00 p.m.

We look forward to seeing you there!
ibbme.utoronto.ca

CCRM
Centre for Commercialization of Regenerative Medicine

Open For Business

CCRM is pleased to announce that its Cell Reprogramming and Engineering Platform is now offering fee for service induced pluripotent stem cell (iPSC) line generation for academia and industry. The service was launched in September 2012 and offers reprogramming of somatic cell types to iPSCs. We specialize in non-integrative strategies, including Sendai virus infection and episomal transfection of the four reprogramming factors, Oct4, Sox2, Klf4 and c-Myc. We accept cryopreserved vials of low passage primary fibroblasts, freshly collected blood samples or frozen buffy coat.

The cost to reprogram a sample is $10,000 CAD. This includes delivery of three karyotyped and fully characterized iPSC lines. Investigators affiliated with CCRM's member institutions are eligible for subsidies totaling $2,500 CAD/iPSC sample derived.

Additional services being offered include the following:

- Mycoplasma testing
- Immunohistochemistry
- Flow cytometry
- qPCR
- DNA fingerprinting (STR analysis)
- Quality analysis and quantification of DNA, RNA and Protein
- Media testing
- Embryoid body or directed differentian assays
- Cell stock expansion
- Controlled-rate cell freezing

Please contact **Dr. Kamal Garcha** to discuss your specific project needs. He can be reached at kamal.garcha@ccrm.ca or 647-242-7745. Please visit CCRM's website at ccrm.ca/fee_for_service for more information about the iPSC line generation services that CCRM provides.

New Fund to Support Toronto RM Research

Helping to move new discoveries in regenerative medicine (RM) from the bench to the bedside is CCRM's *raison d'être*. CCRM is following up on its Pfizer-CCRM Innovation Fund (you can read about that announcement on the media page of CCRM's website) with the establishment of the McEwen Centre - CCRM Commercialization Impact Prize.

The McEwen Centre - CCRM Commercialization Impact Prize will provide up to $600,000 over two years, to support the work of up to two research projects originating from the McEwen Centre for Regenerative Medicine. The McEwen Centre has 15 scientists based at the University of Toronto and five Toronto hospitals. They are all working in the field of RM to develop more effective treatments for conditions such as diabetes, heart and respiratory disease, and spinal cord injury. The Commercialization Impact Prize will offer financial support for research that has commercialization potential.

"This private-public funding partnership is an important step forward to accelerating the advance of a discovery from a lab bench to the patient and onto the global market. Scientists at the McEwen Centre are making significant progress towards finding a cure for diseases such as Type 1 diabetes and heart disease. Collaborative partnerships are the key to discovering the cures sooner!" says **Rob McEwen**, co-founder of the McEwen Centre, and Chief Owner, McEwen Mining.

The deadline for submissions is October 15, 2012. Visit ccrm.ca/commercialization-impact-prize for forms.

Disclosing the Process

When CCRM receives a disclosure, it is evaluated using a robust assessment process that examines the technology from two key perspectives to determine whether it can be advanced to a defined marketable product: Market Readiness and Commercial Strength. CCRM assesses the market potential and competitive landscape for the envisioned product(s); identifies potential licensees from our 20+ member industry consortium; determines the strength of the current IP position and opportunity for further IP generation; and, evaluates licensing revenue potential.

In addition to product strength, CCRM then assesses the technology from an Enabling Perspective that considers the following: the breadth of the technology (e.g. how many products could it potentially enable); internal development time required to reach key commercial milestones; anticipated return on investment; and, the ability of the technology to strengthen internal capabilities at CCRM.

See the chart on Page 3.

Random Blebs

The CCRM Niche is pleased to introduce this new section to the newsletter that is the layperson's equivalent of "bits and bobs" or "a bit of this, a bit of that."

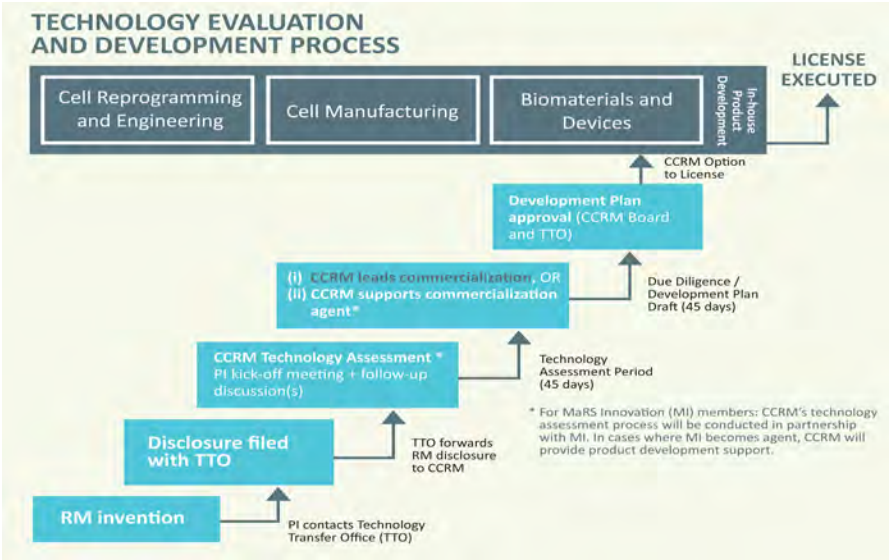
For those readers unfamiliar with the term bleb, it is an irregular bulge in the plasma membrane of a cell (that occurs during cell death) caused by localized decoupling of the cytoskeleton from the same membrane (i.e. when a cell breaks off pieces of its membrane). Blebs vary greatly in growth rates, size, contents, and actin (a protein) content.

- CCRM congratulates **Dr. Peter Zandstra**, CSO of CCRM, on being named one of the 2012 Inventors of the Year by the University of Toronto.

- If you haven't already, click over to SignalsBlog (accessible through CCRM's website homepage) to see a new collaboration from Stem Cell Network (SCN) and CCRM. The new name and branding for SCN's award-winning blog came about to capitalize on the expertise available at both organizations and to collaborate rather than compete in this space. You can read the introductory post at signalsblog.ca/welcome-to-our-new-niche/ and then catch up on any blogs that you've missed at signalsblog.ca.

- **Dr. Michael May**, CEO of CCRM, was this year's invited speaker for the Ernest C. Mercier Lecture in Entrepreneurial Science at York University on May 9th. His presentation, "Me, Myself and My Network: The Importance of Collaboration to Entrepreneurship in a Capital-Limited Environment", was very popular and provoked many questions and discussion afterwards. One audience member was inspired to blog about his presentation. Read her thoughts here: http://bizstrategist.ca/?p=47

- Did you read about CCRM in Toronto Life or the Financial Post, or catch **Peter Zandstra** on Canada AM? It's not too late. Catch up on CCRM's media exposure at ccrm.ca/media-room.



Getting to Know
Ruth McKernan
Board of Directors, CCRM

Ruth McKernan is Senior Vice President of Pfizer, President of Icagen Inc., and Chief Scientific Officer of Pfizer's Cambridge-based Neusentis Unit. The Unit is a consolidation of Pfizer's Pain & Sensory Disorders and Regenerative Medicine & Epigenetics units.

Dr. McKernan joined Pfizer after 17 years at Merck. She graduated from the University of London in biochemistry and pharmacology and obtained her PhD at London's Institute of Psychiatry where she studied the mechanism of action of antidepressant drugs. Dr. McKernan is also a Fulbright Scholar and she attended the University of California in San Diego.

Dr. McKernan is well known in the scientific world for her neuroscience research on ligand-gated ion channels and she has over 130 publications and 15 patents to her name. She sits on several scientific advisory boards, including the British Neuroscience Association and the Cambridge Stem Cell Centre. She is a trustee with the International Spinal Research Trust (ISRT). She also serves as a visiting professor at Kings College, London and Dr. McKernan is a member of the Medical Research Council and Trustee of the International Spinal Research Trust.

Dr. McKernan has just completed her term as a member of the board and CCRM thanks her for her contributions.

New faces at CCRM

CCRM is happy to welcome some new faces to its Cell Manufacturing Platform. Working alongside **Drs. Nick Timmins**, Platform Director, and **Céline Bauwens**, Development Scientist, they're sure to bring a wealth of experience to the team.

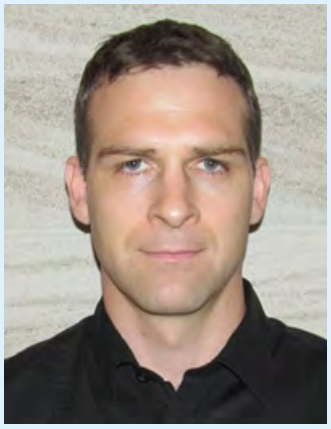
Magdalena Mahlstedt is joining CCRM as a Development Scientist. Magdalena obtained her BSc and MSc in Biotechnology from the Mannheim University of Applied Sciences in Germany, and her PhD from the University of Nottingham in the United Kingdom. Dr. Mahlstedt previously held an Engineering and Physical Sciences Research Council (EPSRC) post-doctoral fellowship at the Wolfson Centre for Stem Cells, Tissue Engineering and Modelling (STEM) at the University of Nottingham. She has experience in developing culture systems for maintaining hESC pluripotency as well as robotic scale-up technologies. Dr. Mahlstedt brings valuable international experience gained at research labs in Heidelberg, Mannheim, and Palo Alto.

Ricardo Baptista is a Development Scientist who recently completed his second Postdoctoral Fellowship with **Dr. Peter Zandstra's** group at the University of Toronto. Dr. Baptista completed his PhD in Biotechnology and Biochemical Engineering at Instituto Superior Técnico (IST) at the Technical University of Lisbon. During his PhD, he worked on protein stabilization by medium engineering, in collaboration with Aalborg University in Denmark. During his first Postdoctoral Fellowship, at IST, Dr. Baptista developed a bioreactor platform for the production of recombinant human LIF and Activin A to support **Drs. Joaquim Cabral** and **Peter Zandstra**. The Cell Manufacturing Platform will benefit from Dr. Baptista's skills and knowledge gained from his years working in bioengineering.

Manuel Alvarez will be working as a Development Technologist with CCRM. Mr. Alvarez obtained his BSc in Biology from the University of Windsor and then went on to get an MSc in Pathology from the University of Western Ontario. From there, he worked with Drs. Peter Zandstra and **Derek van der Kooy**, at the University of Toronto, as a research technician. Mr Alvarez's area of expertise is hESC technologies, gained from years of work in the field. As a member of the Cell Manufacturing Platform, he brings important technical knowhow.

To read complete bios, please visit http://www.ccrm.ca/ccrm_team

Meet the CCRM Team
Nick Timmins, Director
Cell Manufacturing Platform



Nick Timmins is the Director of Cell Manufacturing at CCRM, leading the organization's efforts in developing processes and technologies for the efficient production of pluripotent stem cells (PSC) and their derivatives, as well as somatic progenitor cells and other cell types for cellular therapy and drug development. He ensures that the Platform is pursuing technologies that meet the market needs of CCRM's industry consortium members and the research needs of academic partners.

Dr. Timmins works closely with Platform directors **Drs. Gary Skarja** and **Kamal Garcha**, and currently leads a team of four scientists (see New faces at CCRM).

Previously Team Leader for Cell Therapies at the Australian Institute for Bioengineering and Nanotechnology, Dr. Timmins focused on the development of scalable bioprocess technologies for stem cell derived cellular therapies. He completed a Postdoctoral Fellowship at the University Hospital Basel, Switzerland, and has a PhD in Chemical Engineering from the University of Queensland, Australia.

The CCRM Niche

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