



CELLines

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StemNetCo becomes Aggregate Therapeutics

By Dauphine Dunlap
SCN Communications Intern

It's official: More than two years after the idea of national effort to collectively commercialize Canadian technology from academic research was proposed by the Stem Cell Network, **Aggregate Therapeutics** has been incorporated.

Formation of the company is the result of an unprecedented agreement among leading Canadian university- and hospital-based research institutions, says the SCN's James Price, who has been seconded to Aggregate to act as its Vice-President, Corporate Development.

Aggregate continues under the leadership of interim CEO Dr. Annemarie Moseley, a respected biotech executive.

The initiative has been endorsed by Network investigators across the country.

For the past year, the company has been known conceptually as StemNetCo, but with seed funding now secured and a core management team in place, it was time to give the effort its own identity.

Aggregate means to align or unite in a collective. The compa-



ny's objective is to be a globally competitive biotechnology company, sustainably commercializing Canadian technologies and creating value for its shareholders, including researchers and institutions.

The logo, aside from being a graphically enhanced letter A, represents parts coming together to build a greater whole.

The logo can also be seen as an inverted funnel. Its pieces—technology from leading scientists—were developed in this funnel and come together to create commercial opportunity, represented by the gold peak.

The Aggregate management team is already down to business.

The commercialization model has been refined. Working with some 25 PIs, the team has now reviewed more than 20 different technologies. In the coming weeks, the IP tool kit sub-committee of the TTO Working Group will be finalizing the standard IP transfer agreements for the company.

Industry Canada recently orga-

nized a meeting between Aggregate and five federal funding agencies, including CIHR, NSERC, Western Economic Diversification, CED-Q, and ACOA.

Aggregate's Moseley, Price and Kevin McDuffie along with Angus Livingstone, Chair of the Tech Transfer Working Group, Frank Gleeson, Chair of the SCN Board Commercialization Committee, and Drew Lyall, SCN Executive Director, were on hand to update agencies on the company's progress.

Since the meeting, "We've gotten very positive feedback, and expect to announce additional funding by the summer," James says.

If you have any questions regarding Aggregate, or would like to have your technology reviewed, please contact James at the SCN office, james@stemcellnetwork.ca, or (613) 562-5114.

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Research News

Study identifies how genes regulate cell behaviour

LONDON, ON (May 2, 2005)—A comprehensive study from the Krembil Centre for Stem Cell Biology at Robarts Research Institute has pinpointed two genes that shed significant light on why stem cells divide and develop less vigorously as we age.

Led by Dr. Mick Bhatia and published in this month's issue of the journal



Developmental Cell, this research is the first to provide an explanation of how a range of genes regulates human stem cell behavior — and the first to suggest that this behavior may be regulated by genetic mechanisms found in most human cells. "The current thinking is that there must be some unique 'stemness' gene that no other cell expresses, but what we found is that what makes stem cells special — their ability to renew themselves and differentiate into other tissue types may be attributed to fundamental mechanisms of cell physiology common to all cells," said Dr. Bhatia, Director of the Krembil Centre at Robarts, and Canada Research Chair in Stem Cell Biology and Regenerative Medicine at The University of Western Ontario's Schulich School of Medicine.

"The difference between those robust, self-replicating young

See ROBERTS on page 4

Call for nominations : Interagency Advisory Panel on Research Ethics

Deadline: June 6, 2005

The Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council (NSERC), and the Social Sciences and Humanities Research Council (SSHRC) are pleased to invite nominations of potential members to serve on the Interagency Advisory Panel on Research Ethics (PRE).

Type of expected nominations:

For this round of nominations, the Agencies particularly encourage nominations from individuals with:

- 1) ethics experience, expertise and knowledge in the humanities and/or the social sciences
- 2) ethics experience, expertise and knowledge in health research
- 3) ethics experience, expertise and knowledge in natural sciences and/or engineering research involving humans

- 4) research participant and/or community perspectives
- 5) expertise and/or experience in research involving humans or research ethics
- 6) expertise and/or experience in ethics of research involving humans from the francophone community.

Please send your nomination form, curriculum vitae and statement of interest by e-mail, fax or letter to:

**Call for Nominations,
Interagency Advisory Panel on
Research Ethics
Secretariat on Research Ethics
350 Albert Street, Ottawa ON
K1A 1H5
Fax: (613) 996-7117
E-mail:
secretariat@pre.ethics.gc.ca
Information: Secretariat at (613)
996-0072**

International Stem Cell Meetings

3rd Annual Meeting of the International Society for Stem Cell Research

June 23-25, 2005
San Francisco Marriott
San Francisco, California USA
Early Registration Deadline: May
12

Human Embryonic Stem Cells—Progress Towards Cell Therapy

July 8, 2005
The Centre for Stem Cell Biology,
University of Sheffield

15th International Society of Developmental Biologists Congress

Sept. 3-7, 2005
Sydney, Australia

Fourth Annual Meeting of the Society for Molecular Imaging

Sept. 7-10, 2005
Cologne, Germany
Abstract Deadline: May 31, 2005

Stem Cells, Senescence and Cancer (Keystone Symposium)

Oct. 25-30, 2005
Abstract Deadline: July 25, 2005
Singapore

Calendar

May 29 - Full proposals for SCN research funding are due

Important

What: SCN AGM

Where: Hyatt Regency, Calgary

When: Nov. 23-25, 2005

From the TAC

Technology Commercialization: An Exciting Alternative to R&D for Ph.D. Graduates

By Sarah J. Lord, Ph.D.

*AHFMR Technology
Commercialization Intern
Ceapro Inc.*

This past January I finished my Ph.D. program in Experimental Surgery at the University of Alberta.

My thesis was on experimental islet cell transplantation for the treatment of type 1 diabetes, supervised by Drs. Ray Rajotte and Greg Korbutt of the famed Edmonton Protocol.

I always knew I would do something non-traditional with my Ph.D. credentials but wasn't sure exactly what that would be.

I knew I had a passion for helping people with diabetes and an interest in business. I also wanted to explore avenues outside of the lab and try something different with more real-world application.

Armed with this knowledge, I started talking to people around me about what I was interested in doing in the future.

The majority of people I talked to in research had no idea how to help someone wanting to leave the academic environment to go into business. Frankly, they didn't seem to understand why anyone would want to!

But one individual knew exactly what I was talking about: Dr. Diana Shaw, manager of business development for Ceapro Inc., an Edmonton-based biotechnology company.

Diana had completed a post-doctoral fellowship in Dr. John Elliott's lab in Medical Microbiology and Immunology at the University of Alberta.

One of Diana's old lab mates told me I should talk to her.

After working in the Elliott lab, Diana was accepted as a technology commercialization intern with Westlink Innovation Network, an internship program active in Western Canada. Now she was working for Ceapro Inc. as project manager of a new diabetes screening technology called

"I'm learning that technology commercialization is a real alternative for individuals wanting to "get out of the lab" and work more on the business end of commercializing a health-related product."

CeaProve™.

The internship program through Westlink provided Diana the experience she needed to enter into the business world.

Technology transfer and commercialization refers to taking ideas from basic science research labs and further developing the concepts or materials into profitable real-world applications that are ready for the market.

For example, one of the original inventors of the CeaProve™ diabetes test meal technology was a researcher, Dr. Thomas Wolever, at the University of Toronto.

Dr. Wolever determined that this standardized test meal gave more reproducible rises in blood glucose levels in subjects with known diabetic status than the liquid glucose drink that is currently used in diagnostic laboratories.

The technology was patented and Ceapro Inc. has focused on bringing the product to market as a new screening tool for diabetes.

The real advantage of this technology is that it is more accurate than current diagnostics at picking up pre-diabetes, a condition that often leads to diabetes and heart disease if left untreated.

It is estimated that 40% of the American population have pre-diabetes but the majority are unaware of their condition until they have diabetes or complications thereof such as a heart attack.

See TRAINEE on page 3

Briefs

ISSCR

A SCN booth will be on display at the International Society for Stem Cell Research (ISSCR) in San Francisco, June 23-25. If you plan on attending, please contact us, or drop by the booth!

Catalyst Grants

Seven Catalyst Grants were submitted to the SCN, which the RMC will be reviewing Friday, May 13.

New Investigator Award

On May 16, two grants will be evaluated for the SCN and MDC partnered New Investigator Award.

University of Ottawa to host research forum

The University of Ottawa will be hosting a stem cell research forum entitled *The Stem Cell Battle: Life in the Balance A Forum on Ethical, Legal and Scientific Issues*. The forum, which will take place May 17, 2005, at 550 Cumberland St., in Tabaret Hall, Room 112, is open to the public, and admission is free.

Guidelines Recommended for hESC research

The U.S. National Academies of Science developed guidelines for human embryonic stem cell research in April. Their new report advises institutions conducting stem cell research to establish oversight committees to make sure the guidelines will be followed. For information, please visit <http://www.nationalacademies.org/morenews/>

Institute of Circulatory and Respiratory Health seeks Scientific Director

Deadline Date for Application: May 13, 2005

Position Title: Scientific Director, Institute of Circulatory and Respiratory Health
Competition Open To: The general public

Duration: The initial appointment is for a four year term, with the possibility of up to a three year extension.

Location: It is expected that the Scientific Director will remain at their current location.



Arrangements will be negotiated with your host institution.

Organization: Canadian Institutes of Health Research
Language Requirements: Proficiency in both official

languages is an asset

Security: Secret security clearance
For more information regarding the competition, please visit: <http://www.cihrirsc.gc.ca/e/27825.html>.

Trainee: Lab skills valuable in business world

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Programs such as Westlink, AHFMR, onSETT (Ontario), and NTAtlantic (East) allow people from a variety of backgrounds to learn aspects of business and technology commercialization in order to further promote the marketability and profitability of Canadian innovation.

The technology commercialization programs are not post-doctoral fellowships. They are rather the equivalent of a working MBA and provide participants a whole different skill set much needed in today's high tech society.

The internships last one to two years and interns learn about: technology transfer and commercialization, venture capital, high tech/spin-off companies, biotechnology management, and often regulatory affairs.

The technology commercialization internship programs connect technical experts with business experts to help grow business opportunities for Canadian compa-



nies.

Through talking to Diana I found out that Ceapro Inc. was looking for candidates as they had funding approved through the AHFMR technology commercialization program, provisional on finding a suitable intern.

I applied for the position and was successful at becoming an AHFMR technology commercialization intern with Ceapro and am now working with Diana and the other

Upcoming SCN Meetings

May 13: Research Management Committee Teleconference

June 9: Research Management Committee

June 15: Audit and Finance Committee

June 22: External Grant Review Panel

June 28: Board of Directors

team members on the development and commercialization of CeaProve™. I feel like a valued part of the team and that I am really contributing to the success of the company, a very rewarding feeling.

My background in diabetes has been a perfect fit for the project and the knowledge I am gaining in the area of technology transfer, commercialization, and small business will make me extremely marketable in the future.

I've always known I would do something non-traditional with my Ph.D. but now I'm learning that technology commercialization is a real alternative for individuals wanting to "get out of the lab" and work more on the business end of commercializing a health related product.

The SCN is currently negotiating with Westlink to establish a more formal partnership, providing additional opportunities for trainees.

Robarts: Effect of specific genes boosts activity of stem cells in early development

Continued from page 1

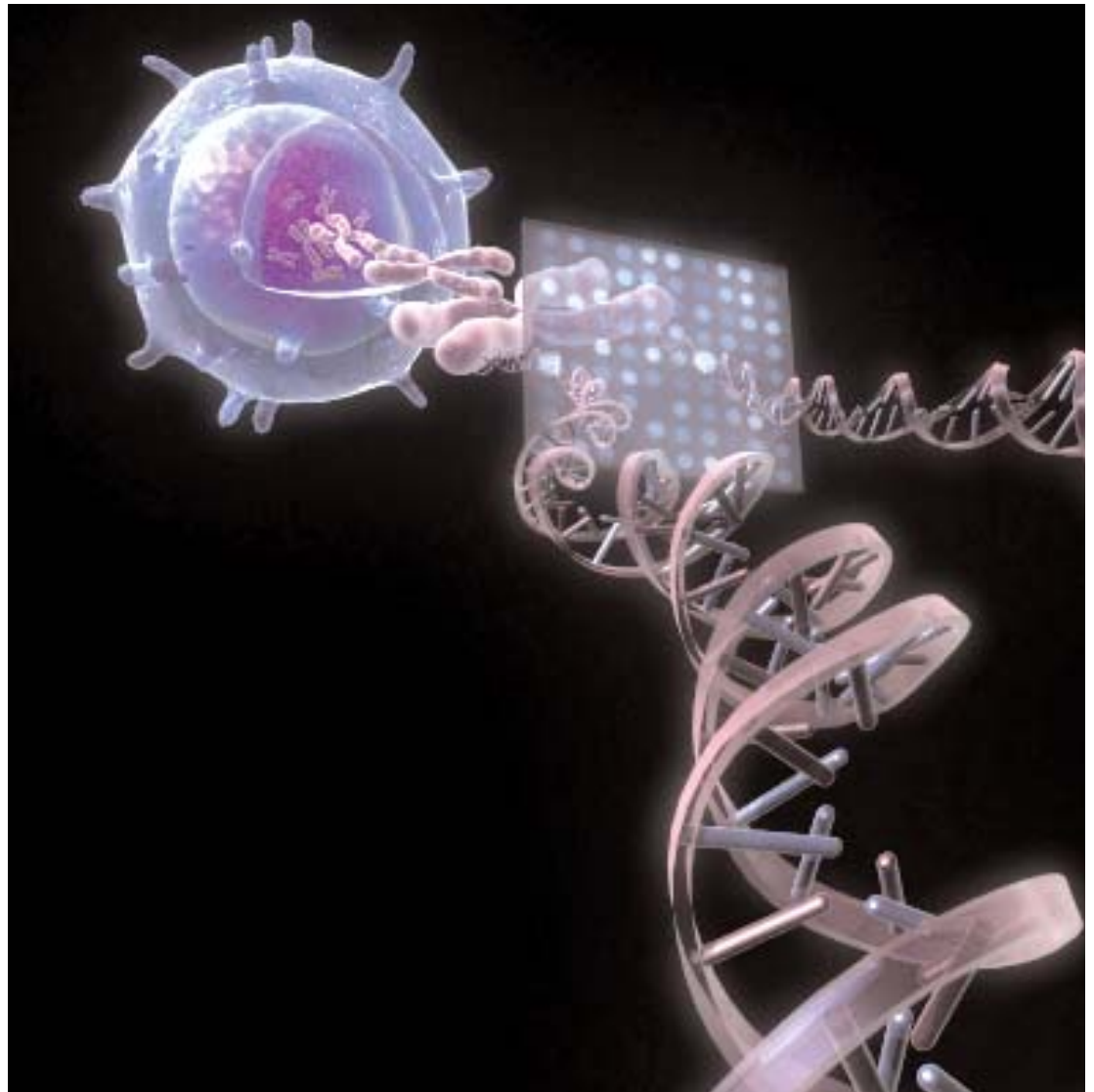
hematopoietic (blood-forming) stem cells and older cells appears to be the degree of expression of these two regulatory genes governing fundamental cell physiology. This basic biological understanding is of critical importance as we explore ways to safely and effectively harness the clinical potential of these cells to repair and regenerate damaged tissue.”

Using leading technology in cell purification, genomics and bioinformatics, Dr. Bhatia’s team compared the genetic profiles of 112 individual samples of highly purified populations of human blood-forming stem cells found in early gestational blood, umbilical cord blood and adult bone marrow samples collected and meticulously analyzed over the past seven years.

Among their broad research questions: What it is that gives young stem cells their ability to divide and develop so vigorously? What causes this activity to drop off over time, such as in the adult bone marrow where blood cells are renewed more slowly as we age?

The team honed in on two regulatory genes — called HES-1 and HLF — that function in high gear in the developing embryo to drive the complex cellular processes that form the human blood system. The expression of these genes drops off significantly as blood-forming stem cells age in adulthood.

Surprisingly, each gene uses a different mechanism to regulate



human stem cells: HES-1 activates signals that cause stem cells to divide more often; HLF turns on other signals that prevent stem cells from dying. The effect of each boosts the number and activity of stem cells early in human development.

“Up until now I’d say we were merely testing candidate genes and trying to pinpoint which of these could be responsible for regulating the behavior of human hematopoietic (blood-forming) stem cells,” Dr. Bhatia said.

“This study allows us to say: ‘Here’s what genes really impact the stem cells that form the human blood system’. Now we need to look at what it is that is turning on these two regulatory genes and what genes they in turn regulate.”

Funding and support for this research was provided by the National Cancer Institute of Canada, Canadian Institutes of Health Research, the National Centre of Excellence Program, Stem Cell Network-Stem Cell Genomics/Genome Canada, the

London Regional Genomics Centre, the Krembil Foundation, the Canada Research Chair program and a postgraduate scholarship award from the Ontario Graduate Society.

For more information or to arrange an interview, please contact Linda Quattrin, Robarts Director of Communications, at (519) 663-3021 or lquattrin@robarts.ca

Contact us

The SCN welcomes your suggestions for future **CELLlines**.

Contact Communications Director Cathy Campbell at cathy@stemcellnetwork.ca

or call Cathy Campbell at 613-562-5696

or contact Dauphine Dunlap, SCN Communications Intern at dauphine@stemcellnetwork.ca