



CELLines

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Strachan to develop commercialization initiative

By Dauphine Dunlap
SCN Summer Intern

The Stem Cell Network is pleased to announce that **Graham Strachan**, Principal of GLS Business Development Inc, will be joining the SCN to further develop the Network's commercialization strategy.

Strachan, who will work for the Network on a contract basis for three months, will review the IP inventory and follow up with PIs to investigate "specific product opportunities which could be the basis of the company business plan," says Network Executive Director Drew Lyall.

Strachan has also been asked by the SCN board to establish a review panel consisting of investors and people with experience in the biotechnology industry, to review the most promising opportunities.

For those who do not know him, Strachan has been involved in the Canadian Bio sector since its inception twenty five years ago. He was one of the founders of Allelix in 1982 and served as President and Chief Executive Officer from 1986 through 1999.

At GLS Business Development Inc., Strachan provides management and business development services to companies and public sector organizations.

Strachan has been a founder of several life science companies and serves on the Board of Directors of a number of public companies including Cytovax Inc., IBEX Biotechnologies Inc.,

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Network hires new science manager

Sophie Chargé to oversee Scientific Affairs and Training

By Dauphine Dunlap
SCN Summer Intern

The Stem Cell Network has hired **Sophie Chargé** to assume the position of Manager of Scientific Affairs and Training.

Chargé, who will be joining the Network full time in September, is currently completing her postdoctoral fellowship with Michael Rudnicki at the Ottawa Health Research Institute (OHRI).

"I am looking forward to joining the SCN team and to working with a group of leading scientists encompassing the scope of stem cell research," says Chargé.

Chargé, who is originally from France, began her career in the scientific field as a research assistant in the Diabetes Research Laboratories in Oxford (UK).

There, her main interest was the regulation of islet amyloid deposition and its implications in the development of Type II diabetes.

Chargé continued her research to

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- Sophie Chargé*



Dr. Sophie Chargé

complete a PhD at King's College in London (UK), where she studied skeletal muscle development.

Following the completion of her PhD, she joined **Michael Rudnicki's** laboratory at the OHRI Ottawa.

In the Rudnicki lab, she pursued her research in the field of muscle biology, particularly in the movement of molecular and cellular mechanisms that regulate muscle regeneration.

Chargé looks forward to joining the Stem Cell Network team as Manager of Scientific Affairs and Training.

She is working with the Network on a part time basis, as she completes papers from her research.

SCN issues call for new members

Information available for application

Stem Cell Network Executive Director Drew Lyall has announced the much anticipated call for new members.

Application information is set out on the Network web site and submissions are due by September 16, 2004.



"While the Call will be distributed to all major universities and hospitals through the usual Granting Council mechanisms, we expect the primary source of applications

see Members on page 3

AGM UPDATE Registration to begin

Online registration for the 2004 Stem Cell Network Annual General Meeting, taking place November 3 through 5 in Montréal, will begin on July 16. Please register early. Online abstract submissions will begin July 26 and close on September 10th.

MOLECULAR BIOLOGY: Consortium Tackles Mouse Regulome

By Wayne Kondro
Science, May 2004

OTTAWA, CANADA--Dozens of the world's leading molecular biologists have banded together to map out the biochemical instructions that allow organisms to make all the types of cells they need. The Canada-based effort, called the International Regulome Consortium, hopes to raise \$100 million in public funding for what organizers are calling "the third generation of genomics."

The new consortium proposes to characterize and tag the 1486 known transcription factors in the mouse genome, as well as an estimated 600 coregulators that work together to control cellular and biological functions through networks called regulons. The entire suite of actors is known as the regulome. Understanding the processes by which a set of genes is regulated during development of an organism, or during its disease states, "will revolutionize our understanding of how cells function," says Michael Rudnicki, senior scientist at the Ottawa Health Research Institute, who is chairing a steering committee that will manage the effort.

Roughly 75 researchers from six nations (Canada, the United States, the United Kingdom, France, Italy, and Singapore) began sketching the parameters of their plan during a founding workshop held here 3 to 5 May. They focused on the technologies needed to purify the complexes, identify and tag the transcription factors, and eventual-

ly construct databases to store results in standardized formats. "The idea is to apply some very state-of-the-art genomic and proteomic technology to the biology of stem cells," says Kevin Struhl, a professor of biological chemistry and molecular pharmacology at Harvard Medical School in Boston. They also hope to identify the complete set of DNA binding sites and corresponding target genes for the regulons in embryonic stem cells and a subset of the cells they differentiate into.

The mouse is the obvious choice to focus on, says William Skarnes, senior scientist at the Wellcome Trust Sanger Institute in Cambridge, U.K., given the vast amount of data already available on the animal and its similarity to humans. The group's initial work with mouse stem cells "is not going to tell us everything about all aspects of mammalian biology," acknowledges University of Toronto professor Jack Greenblatt, but he and others hope it will yield important principles that would apply to other types of cells and processes.

Still, the genetic homogeneity of largely inbred mouse strains may be misleading when it comes to understanding human stem cells, cautions Peter Andrews, professor of biomedical science and co-director of the Centre for Stem Cell Biology at the University of Sheffield, U.K. "In the human, every embryonic stem cell that we're working with that comes from a different person is genetically different," says Andrews. "We don't know, at the moment, what significance that genetic heterogeneity will have. It may very well be that the behavior of different embryonic stem cells varies because of their different genotype."



Model for regulation. An ambitious plan to map the genome's regulatory elements will focus first on mouse embryonic stem cells.

CREDIT: MICHAEL RUDNICKI/OTTAWA HEALTH RESEARCH INSTITUTE

ally different," says Andrews. "We don't know, at the moment, what significance that genetic heterogeneity will have. It may very well be that the behavior of different embryonic stem cells varies because of their different genotype."

Consortium members hope that governments will provide support to help the group get organized as well as for ongoing operations and research. The Canadian participants are looking to a combination of federal and provincial funding

agencies, including Genome Canada, the Canadian Institutes of Health Research, and the Ontario Research & Development Challenge Fund, to contribute about half the total needed.

Wayne Kondro writes from Ottawa.

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CME Telematrix, Lorus Therapeutics and VIVUS Inc, as well as several private companies.

Over the years he has actively participated in organizations dedicated to fostering the growth of the bio sector, including The Canadian Genetics Diseases Network, where he was Chair from 1992- 1999, and BIO, where he was president

from 1990-1992.

Mr. Strachan is a Chemistry Graduate from the University of Glasgow, a registered Patent Agent and a Fellow Emeritus of the Intellectual Property Institute of Canada. His specific interest is in assisting life science companies grow and prosper.

Contact Us

The SCN welcomes your suggestions for future editions of *CELLlines*.
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Members: application process to begin

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will once again be based on active recruitment of new members by existing Network PIs," says Lyall,

In that context, he offered the following observations from the previous competition which he would expect to hold true again.

"The most effective applications came with two very strong letters of support from Network PIs, and a thoughtfully crafted letter by the applicant outlining the relevance of their research program to the Network's goals.

All other things being equal, applicants who brought new areas of expertise and disciplines to the Network, were viewed more favorably than those who replicated skills and talents that already existed; and,

The competition was extremely competitive with only 12 of the 41 applications being accepted."

A summary of the call

The Network is now inviting new applications from Canadian researchers who share the goals and objectives of the SCN, to fill a limited number of openings for new Network Principal Investigators (PIs).

Network PIs are eligible to receive peer-reviewed research funds from the SCN, to access core facilities funded by SCN, to apply for trainee awards, to participate in the Annual Scientific Meeting, and to attend all relevant Network events. Network PIs are expected to take an active role in developing and realizing large projects, in training students and post-doctoral fellows, in sharing their unpublished findings and reagents with other Network PIs and in developing partnerships and liaisons with other funding agencies, policy makers and the private sector.

The Network's research program is organized according to four themes.

To be eligible for nomination, an Investigator must:

Hold (by October 1, 2004) a full-time faculty position (minimum of



Some of last year's new members, Valerie Wallace, Kelly McNagny, Cindi Morshead, and Jason Robert

Assistant Prof. level or its equivalent) at a Canadian University or Research Hospital/Institute.

Established ability to attract national level funding is not a prerequisite, although information about successful experience in obtaining such funds will be requested and considered in the assessment; or:

Have a history as a distinguished stem cell researcher and be able to add value to the Network as a result of this experience.

Employees of Canadian Corporations who do not meet either of these criteria may still participate in the Network as collaborators on Network projects, if a project specific agreement is executed between the institutions involved in that project, the Network, and the corporation.

Applications must be submitted electronically to Karen@stemcellnetwork.ca and

include the following information to arrive before 3pm EST Sep. 16, 2004:

1. Letters of nomination from two SCN PIs, only one of whom may be from an institution/organization in the same city as the nominee.

2. A statement (maximum 2 pages single spaced font 12) from the applicant describing:

a. why he/she wishes to join the Network;

b. which research Theme(s) the applicant's work would be most relevant to;

c. an overview of the applicant's current research program, and how it relates to the Network's goals;

d. the potential for collaborations with other Network Investigators; and,

e. the contribution the applicant expects to make to the Network

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New publication in molecular therapy published by Ellis team

Stem Cell Network PI **James Ellis**, and a team of researchers recently published a paper in *Molecular Therapy*, which is available online as of May 18.

"It has been known for many years that retrovirus vectors are often transcriptionally silenced or turned-off in embryonic and adult stem cells. What we have been doing is trying to understand the mechanism of this silencing. This work demonstrates for the first time that the universal mark of silenced retrovirus vectors in mouse embryonic stem cells is condensed chromatin, while DNA methylation is not essential for silencing. Our experiments show that lentivirus vectors are also subject to the same silencing mechanisms that act on retrovirus vectors, and suggest that expressing vectors are most likely to have integrated into or very near genes while silent vectors are distant from any gene. These findings have important implications for insertional mutagenesis or activation of endogenous genes during gene therapy of stem cells, and suggest that lentivirus vectors may also be subject to silencing in some adult stem cell types. They also provide insight into the epigenetic causes of vector silencing, and into potential strategies to design vectors that consistently express in adult and embryonic stem cells," says Ellis.

The reference of the publication is as follows:

Yao, S., Sukonnik, T., Kean, T., Bharadwaj, R. R., Pasceri, P., & Ellis, J. (2004). Retrovirus silencing, variegation, extinction, and memory are controlled by a dynamic interplay of multiple epigenetic modifications. *Molecular Therapy*, 10(1), 27-36.

RFA

Request for Applications: Regenerative Medicine and Nanomedicine: Innovative Approaches in Health Research.

CIHR has issued a request for applications for Regenerative Medicine and Nanomedicine: Innovative Approaches in Health Research. It is being offered as a Team Grant Program and High-Risk Seed Grants.

The deadlines for the Team Grant Program applications are :
Letter of Intent Deadline:
November 1, 2004
Application Deadline: May 1, 2005

The deadlines for the New Discoveries and High-Risk Seed Grants are:
Registration Deadline: April 1, 2005
Application Deadline: May 1, 2005

The request for applications is sponsored by CIHR. For more information, please visit www.cihr.ca.

SUMMARY:

With the help of leading health research organizations, who have come together with the Canadian Institutes of Health Research (CIHR) to create a national funding framework, this RFA announcement provides expanded research support in the areas of Nanomedicine and Technology Development, Gene Therapy, Stem Cells, Tissue Engineering, and Rehabilitation Sciences.

Examples of supported research under this initiative could include cellular and molecular imaging, biophotonics, drug delivery and targeting, development of novel vectors for gene therapy, bioengineering and tissue replacement,

and integration of social, cultural, ethical and health services perspectives of human health within these domains, among others. Key to this initiative is a multi-disciplinary commitment to addressing the larger health issues and questions within this emerging field. The long-term goal is to develop innovative and socially validated treatment approaches based on the science of regenerative medicine and nanomedicine that will ultimately result in improved quality of life for afflicted individuals, populations and their families.

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3. Full Curriculum Vitae (Granting Council CV module or common CV)

Applications will be assessed according to:

The relevance of the applicant's research program to the stem cell field;

The fit of the applicant's research program to the Network's goals;

The applicant's potential for promoting new collaborations within the Network;

The potential contribution of the applicant to the Network, and Network projects; and,

The expertise and credentials of the applicant.

Applicants will be notified concerning their membership applications by Oct. 11, 2004. Note that in order to be accepted for membership, both the applicant and his or her institution or corporation must sign the Network Agreement. Applicants who are successful will be invited to attend the Network's Annual Scientific Meeting which is being held in Montreal, QC on Nov 3-5, 2004. Details can be obtained from Karen McPherson at (613) 562-5826.

As a reminder, the following is a list of all current Stem Cell Network Investigators who have confirmed their desire to continue

in the Network through 2008:

Jane Aubin
University of Toronto

Francoise Baylis
Dalhousie University

Leo Behie
University of Calgary

Mick Bhatia
John P. Robarts Research Institute

Tim Caulfield
University of Alberta

James Cross
University of Calgary

John Dick
Princess Margaret Hospital

Connie Eaves
BC Cancer Agency

James Ellis
Hospital for Sick Children

Jacques Galipeau
McGill University

Alain Garnier
Université Laval

May Griffith
University of Ottawa Eye Inst.

John Hassell
McMaster University

David Hill
Lawson Health Research Institute

Keith Humphries
BC Cancer Agency

Norman Iscove
University Health Network

Eric Jervis
University of Waterloo

Frank Jirik
University of Calgary

Tim Kieffer
University of British Columbia

Bartha Knoppers
Université de Montréal

Greg Korbutt

University of Alberta

Peter Lansdorp
BC Cancer Agency

David Lillicrap
Queen's University

Ian Lorimer
Ottawa Regional Cancer Centre

Bernard Massie
Conseil national de recherche

Michael McBurney
Ottawa Regional Cancer Center

Rod McInnes
Hospital for Sick Children

Kelly McNagy
University of British Columbia

Lynn Megeny
OHRI

Ivar Mendez
Dalhousie University

Freda Miller
Hospital for Sick Children

Cindi Morshead
University of Toronto

Makoto Nagano
Royal Victoria Hospital

Andras Nagy
Mount Sinai Hospital

Jamie Piret
University of British Columbia

Derrick Rancourt
University of Calgary

Jason Robert
Dalhousie University

Lawrence Rosenberg
Montreal General Hospital

Jane Roskams
University of British Columbia

Janet Rossant
Mount Sinai Hospital

Fabio Rossi
University of British Columbia

Mike Rudnicki
OHRI

Luc Sabourin

University of Ottawa

Guy Sauvageau
IRIC/University of Montreal

André Schuh
University of Toronto

Ruth Slack
OHRI

William Stanford
University of Toronto

Jim Till
Ontario Cancer Institute

Jacques Tremblay
Université Laval

Michael Underhill
University of British Columbia

Derek van der Kooy
University of Toronto

Valerie Wallace
OHRI

Samuel Weiss
University of Calgary

Ronald Worton
OHRI

Peter Zandstra
University of Toronto