



CELLines

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Viswanathan assumes key post

Sowmya Viswanathan was recently named the Stem Cell Network's Manager of Scientific Affairs and Training, replacing Barb Beckett who moved to CIHR in the fall.

Sowmya is a familiar face to many members of the Network. Last fall, she won the prize for the best oral presentation at the Stem Cell Network AGM. In December, she completed her PhD in Peter



Viswanathan

Zandstra's lab at the University of Toronto. Recently, she wrote a humorous and personal account of life as a PhD student for the

member's portion of the Stem Cell Network website (see What's New/Winter 2003 archives.)

Sowmya has strong academic and technical skills – and a passion for research.

Her doctoral thesis focused on investigating cytokine-mediated regulation of embryonic stem cell responses with special emphasis on engineering-type approaches and analyses.

"After Barb's departure, we felt it was really important to have another scientist working full-time at Network headquarters," says Drew Lyall. "It helps to constantly remind us why we're here and it ensures we guide our actions to the benefit of researchers and their projects."

The Network is thrilled to have Sowmya on the team. "It speaks to what we have, collectively, established here that a talented and dynamic young scientist would come to the Network and take on these responsibilities," Drew says.

Sowmya can be reached at sowmya@stemcellnetwork.ca

Network establishes program to support co-op trainees

The Stem Cell Network has created a **Co-op Trainee Support Program** to promote opportunities for students to gain meaningful experience in stem cell research at the undergraduate level.

Ultimately, the program should increase the number of highly qualified graduate school applicants and provide opportunities for the recruitment of these students into stem cell research programs.

"A lot of credit goes to Theme III investigator Eric Jervis, of the University of Waterloo, for pushing this idea," says Executive Director Drew Lyall.

The Network's Co-op Trainee Support Program will provide ten awards annually of up to \$10,000 each.

Application forms are available on the member's portion of the Stem Cell Network website.

The awards are to support two four-month work terms (which may be contiguous), and include coverage for six months stipend and a contribution to the cost of supplies.

The investigator must contribute



The intent of this award is to enable undergraduate students to obtain significant experience in stem cell research through co-op work term placement under the supervision of a Stem Cell Network investigator.

the first two months stipend.

The award will be paid in two stages: \$3,500 for the first work term, and \$6,500 for the second work term. At the conclusion of the placement, the student will be expected to submit a short description of the experience and its impact on their career choice. Supervisors will be eligible for future awards only if the trainee has filed the report with the Network.

Co-op placements may be applied for in any of the training award competitions, and will not be considered part of the \$20,000 limit per investigator per year for training awards.

Network Members may only propose one Co-op student in any competition, and funding will be limited to one student per Member during the year of the program.

Inside

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UK brings Stem Cell Mission to Toronto in March

The UK is bringing a mission of stem cell experts from government and industry to Canada next month to promote research in the field of stem cells, regenerative medicine and tissue engineering.

Four different sessions will be held during the March 26-27 visit:

Session 1: **R&D issues** looks at: Embryonic or somatic stem cell expansion and differentiation; *in vivo* stem cell performance; tissue engineering; and regenerative medicine.

Session 2: **Scale up and Production** looks at: novel growth techniques; scale up and manufacturing; quality control issues; and regulatory issues.

Session 3: **Clinical indications, cell therapies, active devices** looks at: somatic cell therapies; embryonic cell therapies; and active devices.

Session 4: **Commercial models** looks at: drug discovery; toxicity testing models; growth factor identification; active devices; embryonic stem cell therapies; and somatic stem cell therapies.

The UK mission is looking for Canadian companies, universities and institutes to present in the four



different sessions. Interested individuals should contact Carla Taverniti at the British Consulate General in Toronto. Her phone number is 416-593-1290, ext. 2228. She can also be reached via email at Carla.Taverniti@fco.gov.uk

The meeting will be an opportunity to hear about the latest research, evaluate the possibilities for collaboration and partnering and promote various avenues of research to an international audience.

Stem Cell Network investigators Freda Miller, John Dick, Janet Rossant, Norm Iscove and Jacques Galipeau are among participants, says Ms Taverniti.

UK participants include researchers Ian McKenzie, Nick Hole and Stefan Przyborski, along with established companies Intercytex and Epistem. VC company Catalyst Biomedica will also be involved.

Ms. Taverniti says the Consulate General is in final negotiations on a venue for the meeting. Further details will be available in the March issue of *Cellines*.

Please visit the member's area of our website to learn more about the mission.



Investigators, trainees needed to help plan AGM

As last year, the Stem Cell Network is going to form an AGM planning committee – and participation is being sought from Principal Investigators and trainees, who will help set the agenda for the meeting.

The 2003 AGM will be held in

Vancouver, BC, from Sept. 17 to 20.

A tentative schedule for the meeting is already under development.

Anyone interested in participating should contact Sowmya at sowmya@stemcellnetwork.ca.

Network seeks input on draft strategic plan

The Stem Cell Network has developed a draft business plan – and it's looking for input.

The plan has been posted on the member's section of the website.

"The plan we had doesn't really reflect the current economic and Network environment," says Executive Director Drew Lyall.

Since the initial application to the NCE, financial markets have fallen and so have sources of corporate investment.

Within the Network, large-scale collaborative projects have come together more quickly than anticipated and pending regulation of stem cells has dominated the efforts of the Network and many PIs.

The revised plan was developed in consultation with the Research Management Committee, the board and some health charity partners.

"It's still a first draft and we want input from PIs and trainees to see if it's where we should be going," Drew says.



"We thought it was better to put up a strawman plan and to ask for feed-

back, rather than to ask for feedback in a vacuum."

"Where it still makes sense, we left the plan unchanged and where we needed to change direction we did so," says Drew. The plan can be downloaded from the website.

The plan is meant to be a high-level outline of strategic objectives, rather than a detailed operational document.

In the area of training and commercialization, for example, the document points to work that needs to be done, instead of setting out answers.

If you have any questions or feedback, whether you are a PI or a trainee, please do not hesitate to contact Drew Lyall or James Price, Director of Partnerships and Corporate Development.

Parliament Hill

Forum ponders stem cell research

A group of about 30 people, including MPs, senators, government officials and stakeholders, met for a four-hour round-table discussion on stem cell research on Feb. 5.

The discussion, held in a Senate committee room on Parliament Hill, was sponsored by the Friendship Group of Parliamentarians for UNESCO.

Françoise Baylis addressed the gathering, clearly laying out the arguments for and against embryonic stem cell research, therapeutic cloning and the creation of chimeras.

Michèle Jean, Chairperson of UNESCO's International Bioethics Committee and a former deputy minister at Health Canada, talked about UNESCO's position on the issues.

UNESCO recently produced a

position on stem cells that called for the banning of reproductive cloning in all member countries.

However, UNESCO said that it understands and respects cultural diversity and encourages open debate on stem cell research and the formalization of a policy in each member country.

François Pothier, a professor from Laval University, also presented to the group a clear description of the technical aspects of stem cell research.

MPs and senators on both sides of the issue asked questions and expressed their views during a lively 90-minute discussion.

"Most seemed to get a sense of comfort that scientists were clearly very conscious of the ethical concerns being raised by the research," says Drew Lyall, who attended on behalf of the Network.

TWO VIEWS ON THERAPEUTIC CLONING

Reprinted from *The Hill Times*, Feb. 3, 2003

Cloning for stem cell research is unnecessary and dangerous

Commentary by
FRANÇOISE BAYLIS
and JOCELYN DOWNIE

HALIFAX, N.S.

Just after Christmas, the Raelians announced that they had successfully cloned a human being and that more cloned babies were on the way. In the media frenzy that followed, many academics were interviewed and wrote opinion pieces. Almost all were skeptical about the claims and most condemned the Raelians. We share the skepticism and take no issue with the condemnations.

But some academics also used the opportunity to lobby for changes to the draft legislation that prohibits human cloning. They argued that there are two kinds of cloning and that “reproductive cloning” should indeed be prohibited but “therapeutic cloning” should be permitted. We reject the claim that there are two kinds of cloning and we urge Parliament to retain the proposed comprehensive ban on cloning human cells.

Many use “reproductive cloning” to mean cloning to create new human beings and “therapeutic cloning” to mean cloning to obtain compatible stem cells for transplantation that would not be rejected. But cloning is cloning, whether for reproduction or stem cell applications. There is one technology with two (and possibly more) purposes.

Cloning by somatic cell nuclear transfer involves the removal of a nucleus from an adult body cell and the insertion of this nucleus into an egg which has had its nucleus removed. The egg with the new nucleus (new DNA) is then stimulated to begin dividing. An embryo is created that can either be transferred to a womb to develop into a baby (“reproductive cloning”) or be kept in the lab and used as a source of stem cells (“therapeutic cloning”).

Supporters of cloning to get



Françoise Baylis

human embryonic stem cells say that such cloning will lead to cures for many diseases. For example, take cells from an individual suffering from Parkinson’s disease. Create a cloned embryo, take cells

from the cloned embryo, create stem cell lines, and transplant stem cells into the person

with Parkinson’s. Watch as the Parkinson’s disease is cured. Imagine a world, they suggest, in which Parkinson’s and other diseases such as Alzheimer’s and diabetes are treatable.

This is indeed a wonderful vision. But it comes at a high price and it’s a price we shouldn’t pay.

Cloning may not be necessary to realize the benefits of embryonic stem cell research – we can create stem cell lines from *in vitro* fertilization embryos left over from infertility treatment.

Those who want cloning for stem cell research claim that the marvelous cures will not be possible without cloning. They argue that transplanted stem cells from spare IVF embryos (the alternative to cloned embryos) are likely to be rejected, so there won’t be any cures – the body of the patient who receives a stem cell transplant will destroy the transplanted cells and the disease will not be cured.

See **OPPOSE** on page 4

Reprinted from *The Globe & Mail*, Jan. 4, 2003

Don’t let Raelians scare Canada into inappropriate cloning law

By TIMOTHY CAULFIELD

EDMONTON, AB

If you believe the reports coming from the religious cult known as the Raelians, the first human clone was recently born.

Though I remain skeptical about the truth of this claim – especially because the Raelians are balking on whether to allow genetic testing to confirm that the infant is, indeed, a clone – such stories once again highlight the need to pass laws that govern the entire area of reproductive genetics. And, in fact, Canada

is in the midst of just such a policy-making exercise. Parliament will be debating Bill C-13,

the Assisted Human Reproduction Act, in the very near future.

Legislators, however, need to be careful not to let these spectacular (and grossly unethical) actions deflect from rational policy development. They need to be careful not to conflate the issues associated with reproductive cloning with those associated with the use of cloning technology in other contexts. Reproductive cloning, in general, is condemned by both ethicists and those in the scientific community. There is, however, much less social consensus about “therapeutic cloning” – that is, the use of cloning technology for research purposes, such as the creation of cloned stem-cell lines or, perhaps, human tissue for transplantation.

Taken as a whole, few countries have specific cloning laws. Those that have regulated the area have chosen to ban reproductive cloning. There is, however, a great deal of variation in how countries deal with therapeutic cloning. For example, California, Britain, Singapore and Israel allow thera-



Tim Caulfield

peutic cloning.

A number of countries, such as Ireland and Germany, have long banned all research involving human embryos; these prohibitive laws seem closely tied to a specific cultural or historic context, such as Ireland’s strong Catholic tradition or the memory in Germany of the Nazis’ eugenic policies. Other countries, such as Australia and France, have taken a middle-ground approach, allowing some forms of embryonic stem-cell research but banning therapeutic cloning; if Bill C-13 is passed as is, Canada will adopt such an approach.

Why the great diversity in approaches in such culturally similar countries? Do Canadians really feel so differently about therapeutic cloning as compared to Californians or Britons that a criminal sanction with a heavy prison sentence is required? Indeed, there are few other human activities that have met such different regulatory responses from such similar nations.

Available evidence indicates that most of the public supports the use of cloning technology for research purposes.

A 2002 Ipsos-Reid poll found that six in 10 Canadians approve of the creation of cloned human embryos for collecting stem cells. This seems a significant amount of support given that the controversial terms “embryo” and “cloning” are used and that the survey question makes no mention of potential therapeutic benefit.

See **REGULATE** on page 4

Baylis, Downie: Oppose therapeutic cloning

Continued from page 3

But this is far from clear and to date this idea is not supported by scientific facts. The latest science indicates that rejection may not be a problem. Recent evidence shows that human embryonic stem cells derived from spare IVF embryos may not be rejected upon transplantation. This has been tested using immune cells of different individuals mixed with human embryonic stem cells. Normally the immune cells would be activated, but with the embryonic stem cells, there is no activation. If this is true in human transplantation,



Allowing research to derive stem cells using cloned embryos will directly help the Raelians and others to realize their ambition to clone human beings.

rejection will not occur when using embryonic stem cell from IVF embryos, and therefore cloning to obtain compatible stem cells for transplantation will not be necessary.

Not only is cloning for stem cell research potentially unnecessary, it's also dangerous. Any and all advances in cloning technology help the Raelians and others achieve their goal of cloning human beings. Right now, it appears that a significant barrier for them is a scientific one (they don't actually have the techniques necessary to clone humans). But if human cloning techniques are developed for the purposes of stem cell research, this will help them to move closer to their goal. Allowing research to derive stem cells using cloned embryos will directly help the Raelians and others to realize their ambition to clone human beings.

So in the end we are left with the question, "If the considerable potential benefits of embryonic stem cell research can be achieved without cloning, should we run the very serious risks associated with cloning?" We say no.

Françoise Baylis is a professor at Dalhousie University and Jocelyn Downie is the Canada research chair in health law and policy at Dalhousie University

Caulfield: Carefully regulate therapeutic cloning

Continued from page 3

A study by Pricewaterhouse-Coopers did relate the technique to potential treatments, specifically to the cloning of human organs for transplant, and found that three-quarters of respondents said it was either very or somewhat acceptable. These findings are consistent with opinion research done in other countries, including the United States and Britain.

Despite such support, a sector of the public – about 10 per cent to 20 per cent in Canada – is steadfastly opposed to these activities. For this sector, no amount of scientific or potential therapeutic benefit can justify the research. As such, policymakers are left without a clear public mandate. In July, the U.S. President's Council on Bioethics explicitly noted this lack of consensus; it concluded that a ban on all forms of human cloning was not justified and that a moratorium should be imposed to give time "to seek moral consensus" – a surprising result given the conservative position of the Bush administration.

I believe the international variation in cloning laws is a symptom of the deep moral ambiguity that surrounds reproductive genetics. With so much disagreement about the risks and benefits of cloning technologies, some countries have chosen to simply ban all forms of

cloning involving human tissue. This is a mistake. Policymakers need to recognize that this is an area that will remain clouded by social uncertainty. All laws, especially criminal bans, need clear justifications. As noted in a 1982 federal report, *The Criminal Law in Canadian Society*, criminal law should be an instrument of "last resort" and should only be used to respond to "conduct which is culpable, seriously harmful, and generally conceived of as deserving of punishment." None of these elements are satisfied in the context of therapeutic cloning.

The Canadian government should not let the Raelians scare it into an inappropriate cloning law. Instead, it should amend Bill C-13 to make therapeutic cloning a carefully regulated, rather than banned, activity. Such an approach seems a much better way to recognize and respect the broad diversity of views relevant to this complex area. As recently argued by Australian scholars Brendan Gogerty and Dianne Nicol, "the public tends to demand prohibition of conduct that is universally opposed, but expects issues of moral ambiguity to be regulated."

Timothy Caulfield holds the Canada research chair in health law and policy at the University of Alberta.

Key Dates for Stem Cell Network

Feb. 10: Scientific Grant Review Panel meets in Ottawa to consider research proposals for next two-year funding cycle.

Feb. 11: Research Management Committee meets in Ottawa to consider the recommendations of the Grant Review Panel and formulate a formal recommendation to the Board of Directors.

Mar. 6: Board of Directors meets in Ottawa.

Mar. 7: Training award applications due.

Mar. 10: Network makes grant announcements.

Contact us

The Stem Cell Network welcomes your comments, questions and suggestions for future issues of Celllines.

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