

# RESEARCH



making it real



Canadian Stroke Network

Réseau canadien contre  
les accidents cérébrovasculaires

A white microscope is positioned in the center of the frame, viewed from a slightly elevated angle. The background is a light blue grid pattern, resembling a globe or a technical drawing. The microscope's eyepiece, objective lenses, and base are clearly visible.

## CSN MISSION:

*To reduce the impact of stroke on Canadians through collaborations that create valuable new knowledge in stroke; to ensure the best knowledge is applied; and to build Canadian capacity in stroke.*

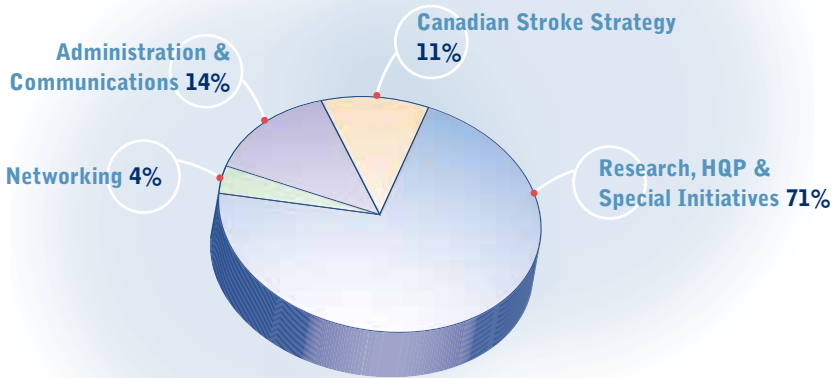
*[www.canadianstrokenetwork.ca](http://www.canadianstrokenetwork.ca)*



# PEOPLE

are at the core of what we do

# Canadian Stroke Network FY08 SPENDING



See the complete CSN financial statements at [www.canadianstrokenetwork.ca](http://www.canadianstrokenetwork.ca)

Look under > *About Us* and > *Annual Reports*

**WHO WE ARE:** The Canadian Stroke Network is an independent, not-for-profit corporation. It was established in 1999 to reduce the burden of stroke through leadership in research innovation. It is made up of more than 100 of the country's best and brightest scientists, clinicians, rehabilitation specialists and knowledge-translation experts from universities across the country. Headquartered at the University of Ottawa, the Canadian Stroke Network brings together partners from government, industry and the non-profit sector.

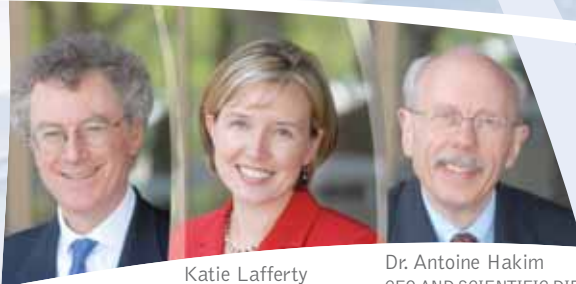
The Canadian Stroke Network is one of Canada's Networks of Centres of Excellence program: [www.nce.gc.ca](http://www.nce.gc.ca).



Networks of Centres  
of Excellence

Réseaux de centres  
d'excellence

## Message from the CSN MANAGEMENT



Eric Elvidge  
BOARD CHAIR

Katie Lafferty  
EXECUTIVE DIRECTOR

Dr. Antoine Hakim  
CEO AND SCIENTIFIC DIRECTOR

**PEOPLE ARE AT THE CORE OF EVERYTHING WE DO.** • They inspire us: • To support new research ideas. • To push research towards discovery. • To move discovery to clinical trials. • To share new evidence. • To change health systems. • To empower communities. • To help people regain their lives. • To reach out across the country and around the world. • To forge new collaborations. • To train new researchers. • To develop new ideas.

This year's annual report focuses on research and how the Canadian Stroke Network is *Making It Real*. We highlight our Top Ten Achievements and encourage you to visit our website [www.canadianstrokenetwork.ca](http://www.canadianstrokenetwork.ca) to get the full story.

We are particularly proud of our science and publications; our efforts to advance the Canadian Stroke Strategy; our international outreach initiatives that put Canada at the forefront; our knowledge-translation efforts that advance prevention, treatment and recovery; the expansion of the Registry of the Canadian Stroke Network; and, most importantly, the dynamic, talented and respected researchers and trainees who are the Network.

With people as the focus, progress continues towards reducing the burden of stroke.

Our aim is summarized in the words of 18<sup>th</sup> century German writer Johann Wolfgang von Goethe:

*“Knowing is not enough; we must apply.  
Willing is not enough; we must do.”*

1 We are a leading funder of multi-disciplinary stroke research in Canada.

2 We are moving research to the bedside.

3 We are transforming patient care in all parts of Canada.

4 We are developing critical tools for researchers and the public.

PEOPLE  
are at the core

5 We are leading efforts in stroke prevention.

6 We are expanding the world's richest stroke database.

7 We are training health professionals.

8 We are mentoring and supporting the next generation of researchers.

9 We are forging national and international collaborations.

10 We are getting the message out.

## We are a leading funder of multi-disciplinary stroke research in Canada.

- From understanding how to prevent brain cell death to developing relevant stroke models to determining what kind of rehabilitation is most effective, the Canadian Stroke Network is **Canada's stroke research champion**.
  - **Our publications prove it:** Nearly a third of the 162 publications produced this year were in top-ranked scientific journals.
  - We direct nearly **\$6 million a year in dedicated research funding** to cutting-edge stroke projects.
  - We secured more than **\$1.5 million in external funding commitments** this year to support initiatives in prevention and training, the Registry of the Canadian Stroke Network and the Canadian Stroke Strategy.
  - A **dynamic new slate of projects** was approved beginning in April 2008.
- View the CSN portfolio by visiting

[www.canadianstrokenetwork.ca](http://www.canadianstrokenetwork.ca)

Look under > Research



*“The findings of the FASTER study are incredibly important because they show a reduction in the occurrence of secondary stroke in those patients receiving treatment within 24 hours of suffering a TIA.”*

DR. MICHAEL HILL, Study co-author, University of Calgary

# 2

## We are moving research to the bedside.

- Through the Canadian Stroke Strategy, a partnership with the Heart and Stroke Foundation of Canada, we developed and disseminated the **Canadian Best Practice Recommendations for Stroke Care**, used by health professionals in all parts of the country. An updated version will be released in fall '08.
- We are chairing the World Stroke Organization's panel on best practices, with a view to **creating global standards**.
- We formed a **partnership with Accreditation Canada** to develop Canada's first disease-specific accreditation program based on the *Best Practice Recommendations*.

Canadian Best Practice Recommendations for Stroke Care are posted at

[www.canadianstrokestrategy.ca](http://www.canadianstrokestrategy.ca)  
Look under > Resources and Tools



*Kingston General Hospital used data from the Registry of the Canadian Stroke Network to strengthen patient care. Pneumonia rates were tracked using the Registry as part of an assessment of the impact of an oral hygiene program introduced to stroke care. A drop in the pneumonia rate was observed following the introduction of the program.*

# 3

## We are transforming patient care in all parts of Canada.

- As part of the Canadian Stroke Strategy, we are **transforming stroke treatment** by working with provincial and territorial governments to improve health-care systems.
- In 2007–08, provincial governments in Nova Scotia, Alberta and British Columbia made **funding commitments to provincial stroke strategies**, and Saskatchewan finalized and released to the public its plan for improved care.

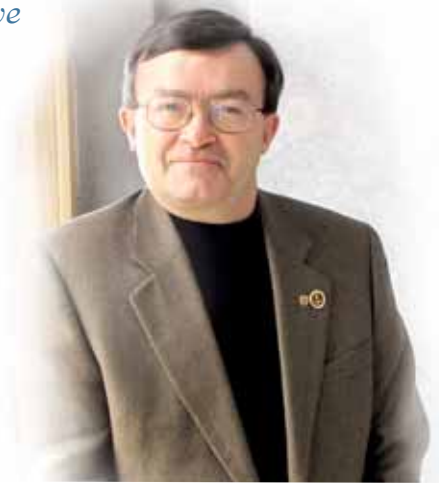
 [www.canadianstrokestrategy.ca](http://www.canadianstrokestrategy.ca)  
Look under > *What's New*



- We are **monitoring and evaluating** the well established Ontario stroke system to help other provinces make the case for restructuring stroke care by providing them with economic data on potential savings in lives and health-care dollars.
- We are developing **community programs** to help people regain their lives after stroke.

*“Simply put, we can’t continue thinking and acting on stroke the same way we have been up until now.”*

DR. JIM THORNHILL at a Feb. 2008 press conference in Regina announcing the need for a Saskatchewan Stroke Strategy.



# 4

## We are developing critical tools for researchers and the public.

- We support the **Evidence-based Review of Stroke Rehabilitation** [www.ebrsr.com](http://www.ebrsr.com) a website that provides rehabilitation professionals with the best research evidence.
- We fund **Stroke Nursing News**, which delivers to frontline health professionals the latest stroke research developments.



- We support **StrokEngine**, a Web tool that reviewers have called “an international treasure.” StrokEngine [www.strokengine.org](http://www.strokengine.org) provides information to the public and health professionals on stroke therapies as well as new e-learning modules to enhance training.
- Our **Viral Vector Core Facility** has in the last six years provided more than 400 viral vectors to our members at cost—1/10 of the price charged by commercial sources.
- We developed the **Toronto Bedside Swallowing Screening Test (TOR-BSST®)** to screen stroke patients for dysphagia because difficulty swallowing is common after stroke.

*“Dear strokengine.org: I think your site is a marvelous tool for all of us to understand my husband’s condition.”*

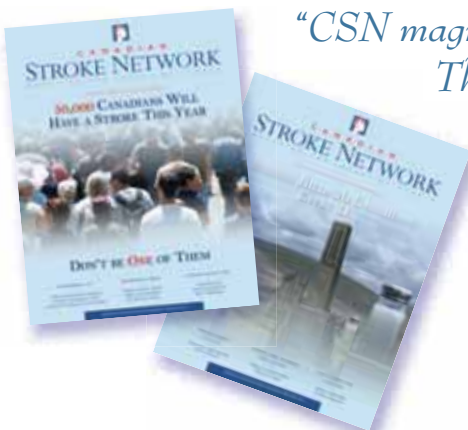


*“Dear strokengine.org: It’s great to find a site which the whole stroke community can access with confidence.”*

# 5

## We are leading efforts in stroke prevention.

- We are working with partners to highlight the link between excessive sodium in the food supply and the incidence of **hypertension**, the No. 1 risk factor for stroke.
- We successfully brought the issue before the media and **generated extensive news coverage**. We presented on the issue at scientific conferences and have been invited to join Health Canada's **Sodium Working Group**.
- We developed a website, which pulls together the latest relevant information on the health impact of sodium [www.sodium101.ca](http://www.sodium101.ca) and distributed more than 10,000 fridge magnets to all parts of Canada to help guide people to make healthy food choices.
- We provided funding for the second phase of an international project, called FASTER, to test combinations of drugs to determine what is most effective in **secondary stroke prevention**.
- In partnership with Merck Frosst Canada and the Heart and Stroke Foundation of Manitoba, we're piloting two **secondary stroke prevention clinics** in Manitoba and measuring the results.
- We're funding a major **international study of risk factors** for stroke in different countries and ethnic groups.
- We're testing methods of **better detecting and treating atrial fibrillation**, an important risk factor for stroke.



*"CSN magnets and magazines are popular. The information is not too technical and helps reinforce the sodium risks to patients."*

SANDY ACHESON, RN BSN, Rehab unit, Penticton Regional Hospital, Penticton, B.C.

# 6

## We are expanding the world's richest database on stroke.

- The **Registry of the Canadian Stroke Network** added a new Web-based system called SPIRIT, enabling health-care centres to collect information and confidentially compare their performance to others.
- Our Registry data led to a number of **powerful publications** in 2007–08, including one that showed that integrated stroke units result in a 10-fold improvement in post-stroke survival rates.
- We are now in talks to export the Registry software and design to other countries.

▶ [www.rcsn.org](http://www.rcsn.org)

*Nine out of 10 in-hospital deaths could be prevented within the first week following stroke by putting in place organized care, according to startling new research from the Registry of the Canadian Stroke Network presented today at the International Stroke Conference.*

NEWS REPORT, Feb. 22, 2008  
New Orleans, LA



From left, Chelsea Hellings, Patrice Lindsay and Annette Robertson of the Registry of the Canadian Stroke Network.

# 7

## We are training health professionals.

- We co-sponsored with the Canadian Stroke Consortium and industry partners the annual **National Stroke Conference**, bringing together emergency room (ER) physicians, internists and neurologists to hear about the latest research in stroke care and find out about best practices.
- We co-sponsored an annual **review course for neurology residents** and a conference on aphasia.
- We co-sponsored the **National Stroke Rehabilitation Conference**, which in 2007 brought together more than 350 rehabilitation specialists for an intensive three-day course on the latest stroke research.
- We sponsored the **National Stroke Nursing Council**, which promotes research and education among frontline workers.

Members of the National Stroke Nursing Council.



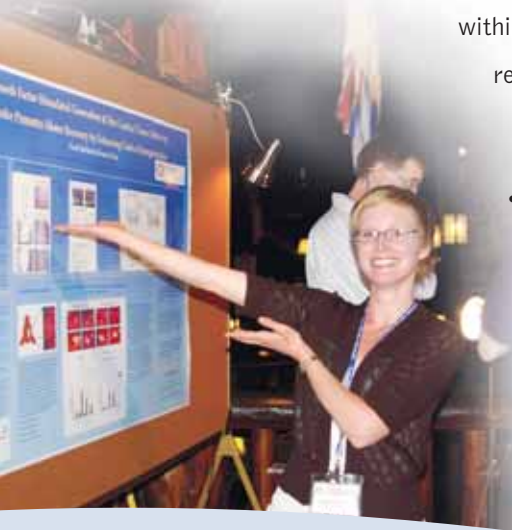
*The National Stroke Nursing Council is reaching nurses across the country, promoting best practices and sharing available tools so that health professionals can apply the latest research to patient care.*

CINDY BOLTON  
Editor, Stroke Nursing News  
Co-chair, National Stroke Nursing Council



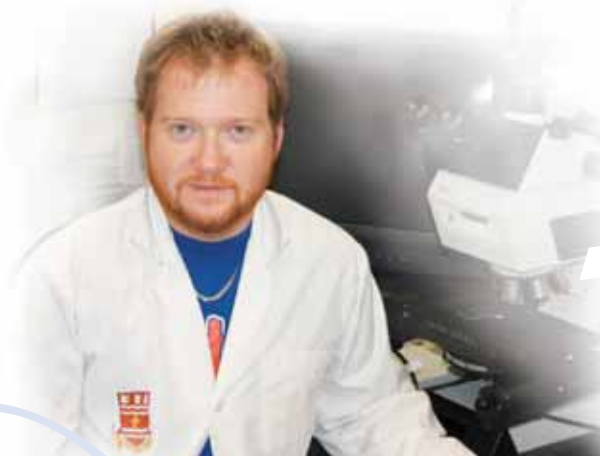
## We are mentoring and supporting the next generation of researchers.

- Our popular annual meeting includes **seminars and workshops** for trainees.
- We award **summer studentships** every year in stroke research labs across Canada. Since 2001 over \$350,000 has been invested.
- With our partners, we support the award-winning **Focus on Stroke** training program, which has funded 116 doctoral, post-doctoral and new-investigator awards with a total investment of \$9.5 million.
  - Our newly formed trainee association—**Canadian Stroke Network Trainee Association (CSNTA)**—is working to strengthen visibility of trainees within the CSN through sponsoring learning events; providing representation at CSN meetings; encouraging collaboration; and developing core competencies.
- We are working with an industry partner to develop a new **post-doctoral training program**.
- We had a record response to our 2008 **Request for Research Proposals** and, following a rigorous review, welcomed many scientists and clinicians who were previously not associated with stroke into the field.



*“The Canadian Stroke Network has an outstanding group of trainees who are outgoing, enthusiastic and committed to stroke research.”*

JARED CLARKE, PhD candidate, Memorial University of Newfoundland, founding member of CSNTA and the Networks of Centres of Excellence Trainee Association.



# 9

## We are forging national and international collaborations.

- We presented the framework for our Network and its research activities to the **2<sup>nd</sup> Russian International Congress: Cerebrovascular Pathology and Stroke** in St. Petersburg in Sept. 2007.
- At the 2008 **European Stroke Conference**, we were described as the model for a new European Stroke Network. Our Scientific Director will head its External Research Review Committee.
- We were invited to deliver a keynote address at the 2008 **World Stroke Congress** in Austria: "The Experience of the Canadian Stroke Network—Bringing Knowledge to Practice."
- We signed a collaboration agreement with the **U.S. National Institutes of Health** to work together on emerging stroke research.
- Our research was widely featured at the U.S.-based **International Stroke Conference**.
- Our Scientific Director was invited to participate in the prestigious **Princeton Conference** in the U.S.
- Our spinoff company, Phoenix BioPharm Inc., began **publicly trading** on the U.S.-based "Pink Sheets" electronic over-the-counter market and selected its first drug to reprofile.



# 10

## We are getting the message out.

- We regularly **meet with politicians, policymakers, partners and media** to highlight stroke as a major public health issue in Canada and to re-define it as a preventable, treatable and repairable condition.
- We participate in **national boards and committees** to ensure the issue of stroke is considered in the broader context of chronic disease.
- We deliver an **annual public lecture on stroke**, named in honour of founding CSN board member and former Governor General Ray Hnatyshyn. The lecture is held in a different Canadian city every year.
- We widely disseminate a **bi-annual magazine** that highlights our research efforts to media, politicians, health-care workers and the public.
- We participate in **international conferences** to showcase the work of Canada's research community.
- We strengthen links among stroke researchers through a monthly **electronic newsletter, regular workshops, think-tanks and seminars**.
- We work with other **Networks of Centres of Excellence** on initiatives that highlight our common interests.
- We maintain **four dynamic websites**:

▶ [www.canadianstrokenetwork.ca](http://www.canadianstrokenetwork.ca)

▶ [www.canadianstrokestrategy.ca](http://www.canadianstrokestrategy.ca)

▶ [www.sodium101.ca](http://www.sodium101.ca)

▶ [www.rcsn.org](http://www.rcsn.org)

Dr. Mayo is pictured here with Mrs. Gerda Hnatyshyn, right.

*“Stroke is for life and persons with stroke need life-long programs.”*

PROF. NANCY MAYO of Montreal's McGill University, delivering the CSN's 2007 Ramon J. Hnatyshyn public lecture on stroke in Winnipeg, Sept. 13, 2007



# New Board Members

## In 2007–2008

This year the Canadian Stroke Network welcomed to its Board of Directors:

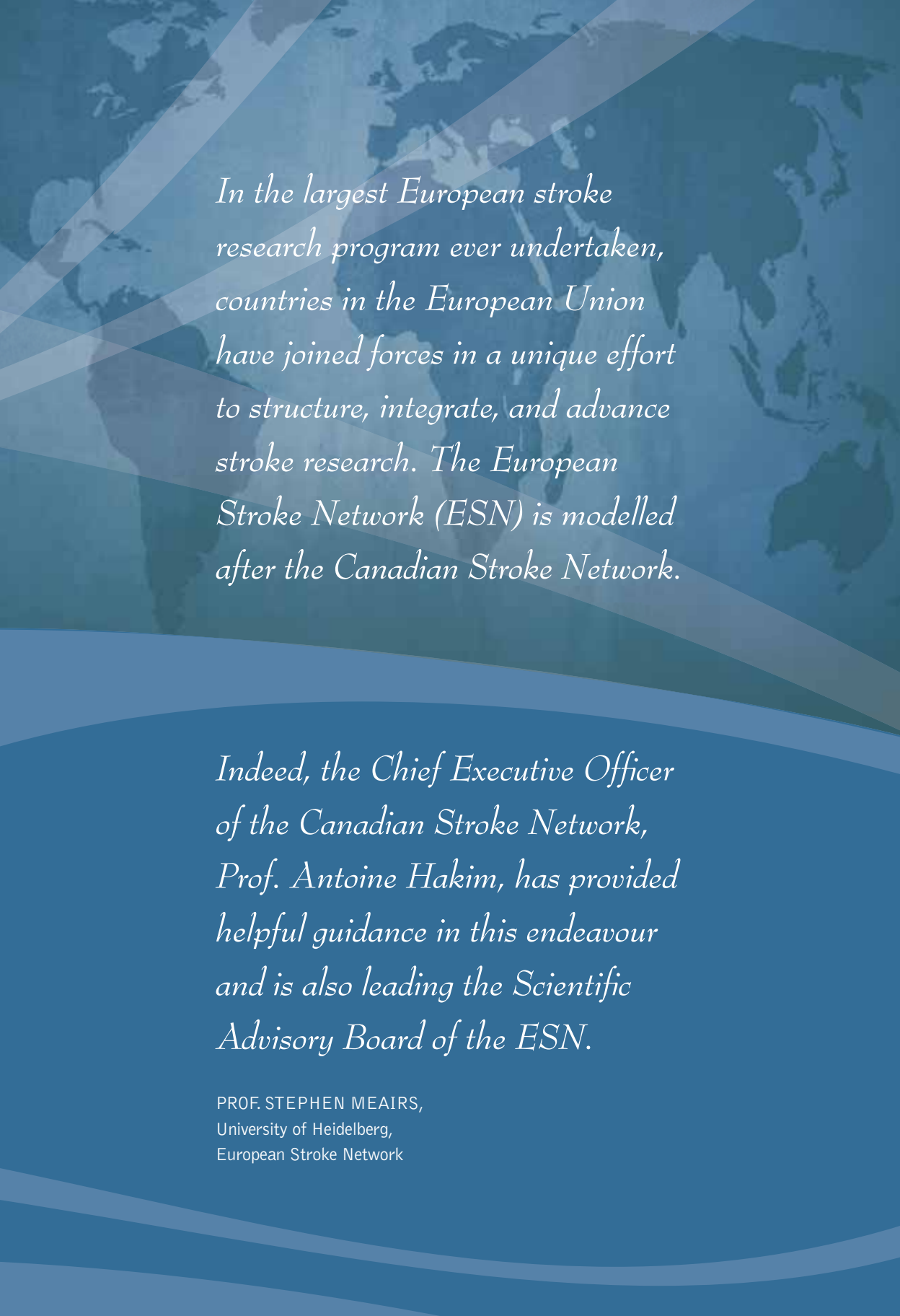
- esteemed heart surgeon and founder of the University of Ottawa Heart Institute **Senator Wilbert Keon**
- head of the U.S. National Institutes of Health stroke program  
**Dr. Tom Jacobs**
- Halifax lawyer and business person **Diane Campbell**
- geneticist, cardiac researcher and Vice-President, Research, at the University of Ottawa **Dr. Mona Nemer**
- Montreal neurologist and Heart and Stroke Foundation partner  
**Dr. Robert Côté.**

Full lists of CSN researchers, board members, committee members, partners and affiliated institutions are available on the CSN website at

[www.canadianstrokenetwork.ca](http://www.canadianstrokenetwork.ca)

Look under > *About Us* and > *Our Partners* and > *Our People*

Senator Wilbert Keon   Dr. Tom Jacobs   Diane Campbell   Dr. Mona Nemer   Dr. Robert Côté



*In the largest European stroke research program ever undertaken, countries in the European Union have joined forces in a unique effort to structure, integrate, and advance stroke research. The European Stroke Network (ESN) is modelled after the Canadian Stroke Network.*

*Indeed, the Chief Executive Officer of the Canadian Stroke Network, Prof. Antoine Hakim, has provided helpful guidance in this endeavour and is also leading the Scientific Advisory Board of the ESN.*

PROF. STEPHEN MEAIRS,  
University of Heidelberg,  
European Stroke Network