



**Networks of Centres  
of Excellence of Canada**

**Réseaux de centres  
d'excellence du Canada**

# The Networks of Centres of Excellence of Canada 1999–2000 Annual Report

Powerful Partnerships for Innovation

**Canada**

# Eighteen Networks of Centres of Excellence

AquaNet	Network in Aquaculture
CAN	Canadian Arthritis Network
CBDN	Canadian Bacterial Diseases Network
CGDN	Canadian Genetic Diseases Network
CANVAC	Canadian Network for Vaccines and Immunotherapeutics
CIPI	Canadian Institute for Photonic Innovations
CITR	Canadian Institute for Telecommunications Research
CSN	Canadian Stroke Network
GEOIDE	Geomatics for Informed Decisions Network
HEALNet	Health Evidence Application and Linkage Network
IRIS	Institute for Robotics and Intelligent Systems
ISIS	Intelligent Sensing for Innovative Structures
MITACS	Mathematics of Information Technology and Complex Systems
Micronet	Microelectronic Devices, Circuits and Systems
PENCE	Protein Engineering Network
SFM	Sustainable Forest Management Network
TL - NCE	TeleLearning Network of Centres of Excellence
Wood-Pulps	Mechanical Wood-Pulps Network

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## Message from the Chair

## Message from the Chair

The fiscal year 1999-2000 was a period of unprecedented growth for the Networks of Centres of Excellence (NCE) Program.

A \$30 million budget increase made it possible to fund a new network, to launch a competition that led to the establishment of three other new networks, and to start the competition process in four target areas of strategic importance to Canada. The details are given on page 17.

One key to this success was the enthusiastic participation of the university research community and our industrial, government and other sector partners who put forward innovative proposals and invested immense amounts of talent, time, money and effort in the two competitions this year.

We've also had effective co-operation and assistance from the universities and research hospitals of Canada, as well as from the Natural Sciences and Engineering Research Council (NSERC), the Medical Research Council (MRC), the Social Sciences and Humanities Research Council (SSHRC), and Industry Canada.

The granting agencies and Industry Canada provide the base funding while the Canadian universities provide the R&D staff and the pool of students, as well as the infrastructure that enable NCEs to forge innovative partnerships between industry, government and the non-profit sectors.

The NCE peer review process ensures that the selected NCE projects are both excellent and important to society and the economy. All funding decisions are based on an arm's length assessment of applications by Expert Panels and recommendations of international calibre



*Photography by Tony Scullion*

Selection Committees. The membership of those committees is given on pages 18 to 19.

I am happy to say that in his 1999 report, the Auditor General recognized that the NCEs are well-managed. Some excerpts from it are given on the following page.

Statistics, too, can tell a story and those in the Tables and Illustrations of this annual report demonstrate just how successful the NCEs have been.

I would like to conclude by thanking the Honourable John Manley, Minister of Industry, the Honourable Allan Rock, Minister of Health and the Honourable Ron Duhamel, Secretary of State for Science, Research and Development and his successor, the Honourable Gilbert Normand. Their recognition and support have helped ensure that the NCEs continue to grow in importance in Canada's innovation system.

Thomas A. Brzustowski, P. Eng., Ph.D.  
Chair  
NCE Steering Committee



## Excerpts from the 1999 Auditor General's Report

“19.93 In addition to our audit criteria, we assessed the NCE grants using the five selection and evaluation criteria for the program, namely: excellence of the research program, highly qualified personnel, networking and partnerships, knowledge exchange and technology exploitation, and network management.

19.94 We concluded that due diligence had been exercised in the grants we audited under the Networks of Centres of Excellence. We found that for each proposal submitted, there was a complete description of the network and its planned research activities, and the files included all relevant information. Each proposal was assessed by an expert panel and examined by the selection committee for final approval by the steering committee.

19.95 All the networks provide regular reports on the progress of the projects and site visits are done. Every agreement defines intellectual property ownership.

19.96 Finally, a 1997 evaluation concluded that the Networks of Centres of Excellence program had succeeded in all of its objectives. While the report did not consider all of the basic evaluation issues, it suggested that the program will provide substantial net economic benefits.”



# NCE Program at a Glance





## NCE Program at a Glance



## Networks' Competitive Edge in Canada and Abroad

As Canada is a huge country with a small population, our research institutions and resources are widely dispersed. Because our centres of research excellence are spread across the country, we require a network approach to create critical masses of research capacity for dealing with large problems.

At the same time, the NCE Program reinforces the scientific capacity of Canada's regions — a pre-requisite for the development of strong local economies. It allows local companies to draw on engineering and scientific expertise available locally across Canada.

More recently, and from an international perspective, innovation has become critical in the new global, knowledge-based economy. The NCE Program puts research groups at a competitive advantage in Canada while allowing them to link up with their counterparts elsewhere in the world.

These activities respond to Canada's need to compete and co-operate internationally. As the Department of Industry's Advisory Committee on Science and Technology recently stated, "For Canada to take full advantage of this knowledge, talent and

technology in a timely fashion, it is imperative and urgent that Canadian researchers, universities and companies become integral partners in the international effort in S&T."

Most networks are increasingly active

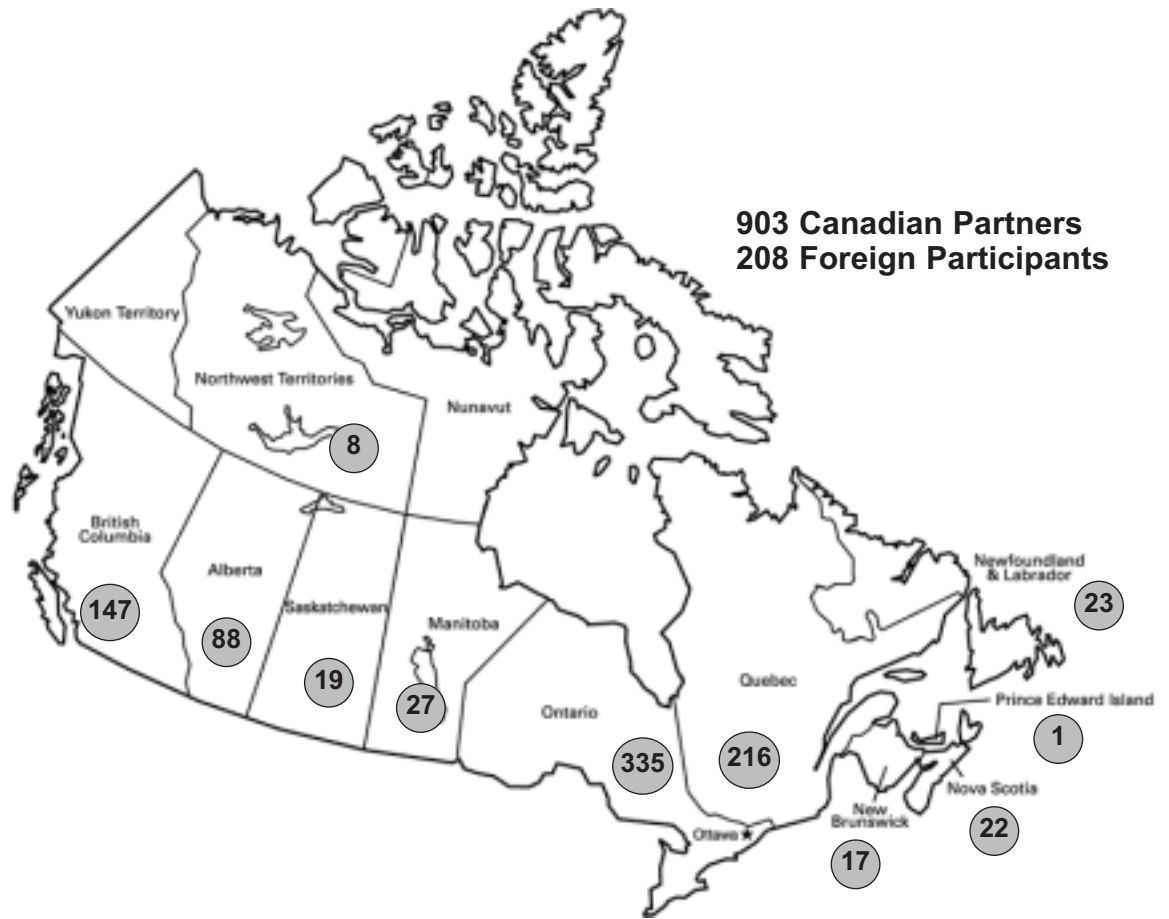
on the international scene and have initiated collaborations with more than 200 organizations from 20 countries in a variety of spheres ranging from post-doctoral exchanges to technology transfer.

***"For Canada to take full advantage of this knowledge, talent and technology in a timely fashion, it is imperative and urgent that Canadian researchers, universities and companies become integral partners in the international effort in S&T".***

Department of Industry Advisory Committee  
on Science and Technology



# NCE Participating Organizations



## Participating Institutions 1999-2000

	Federal	Hospital	Industry	Other	Provincial	University	Total
Northwest Territories	0	0	1	6	1	0	8
British Columbia	5	4	84	30	19	5	147
Alberta	3	0	52	17	12	4	88
Saskatchewan	0	0	4	4	9	2	19
Manitoba	1	0	15	3	6	2	27
Ontario	22	16	180	87	16	14	335
Quebec	8	18	108	46	17	19	216
New Brunswick	1	0	12	1	0	3	17
Nova Scotia	3	1	11	1	2	4	22
Prince Edward Island	0	0	0	0	0	1	1
Newfoundland and Labrador	2	0	8	8	4	1	23
<b>Total Canadian</b>	<b>45</b>	<b>39</b>	<b>475</b>	<b>203</b>	<b>86</b>	<b>55</b>	<b>903</b>
<b>Total Foreign</b>	<b>7</b>	<b>7</b>	<b>88</b>	<b>63</b>	<b>0</b>	<b>43</b>	<b>208</b>
<b>Grand Total</b>	<b>52</b>	<b>46</b>	<b>563</b>	<b>266</b>	<b>86</b>	<b>98</b>	<b>1111</b>

## Multiplying the Benefits of “Discovery” Research

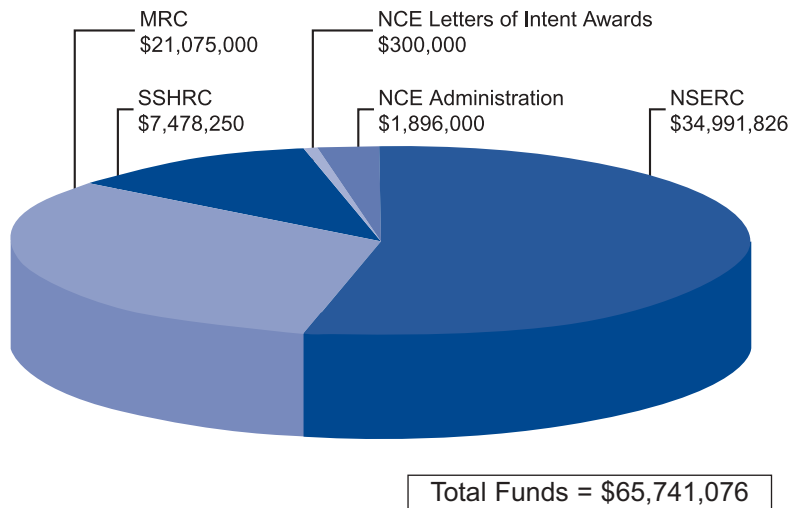
The mission of the NCE program is to mobilize Canada’s research talent in the academic, private and public sectors and apply it to the task of developing the economy and improving the quality of life of Canadians.

How do NCEs fulfil their mission? NCEs conduct pre-competitive or “discovery” research that benefits many organizations in many sectors such as information and communications technology; health and biotechnology; engineering; natural resources and the environment; agri-food; aquaculture, as well as transportation, trade, finance, and commerce. Once the NCE research is sufficiently advanced, outside organizations can use its

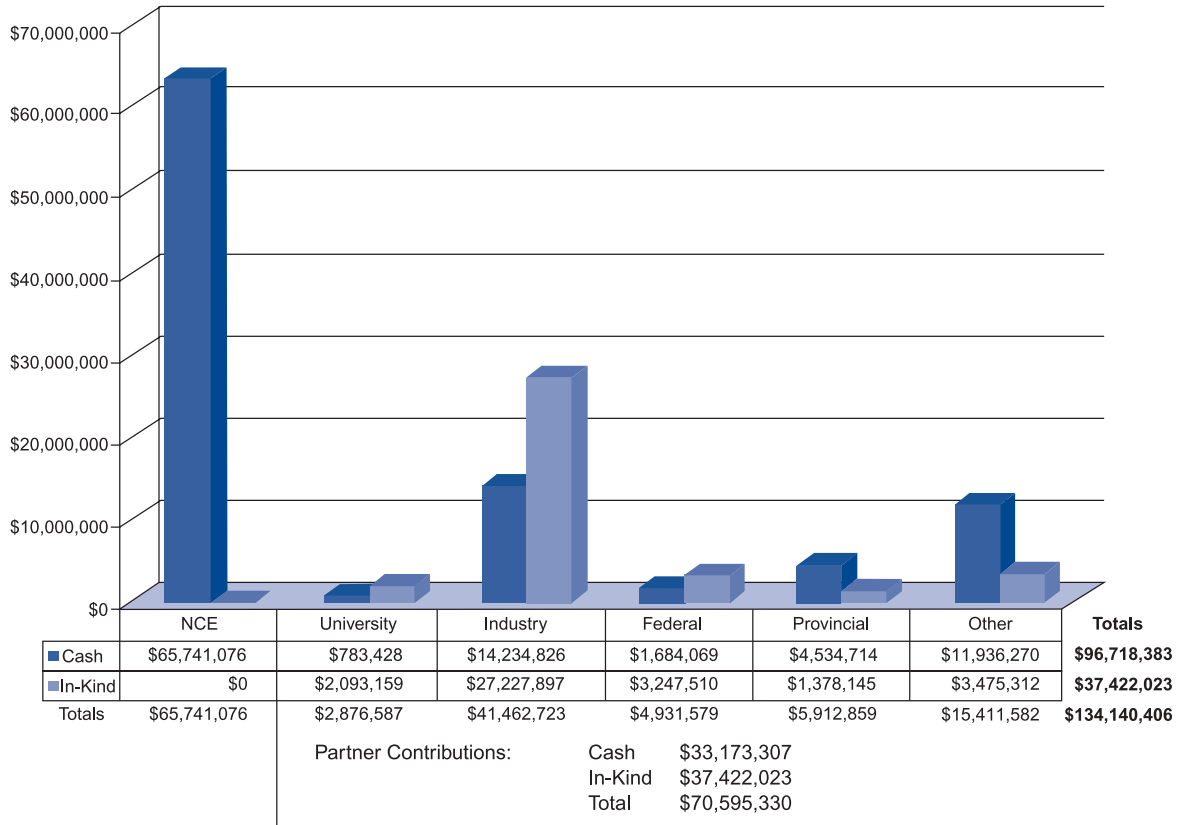
results as the basis for their product and process development activities. Many companies can use the findings of an individual NCE research program thereby multiplying the impact — and benefits — of the original research. Companies are proving willing to finance an appropriate portion of the cost of the discovery research phase, and most or all of the cost of the commercialization phase, in line with the balance between risk and reward.

In 1999-2000, the NCE partners' contributions, both in-kind and in-cash, amounted to more than \$70 million, including more than \$41 million from the private sector.

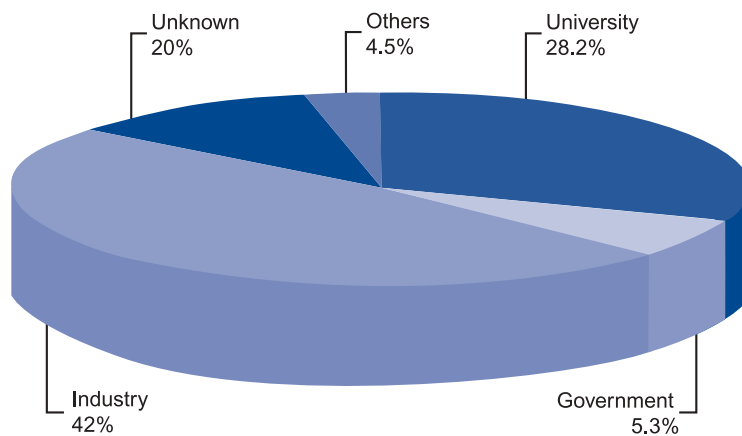
## Paths Through Which NCE Program Funds Flow to the Networks



# Contributions to the NCE Program



# Post Network Employment by Sector

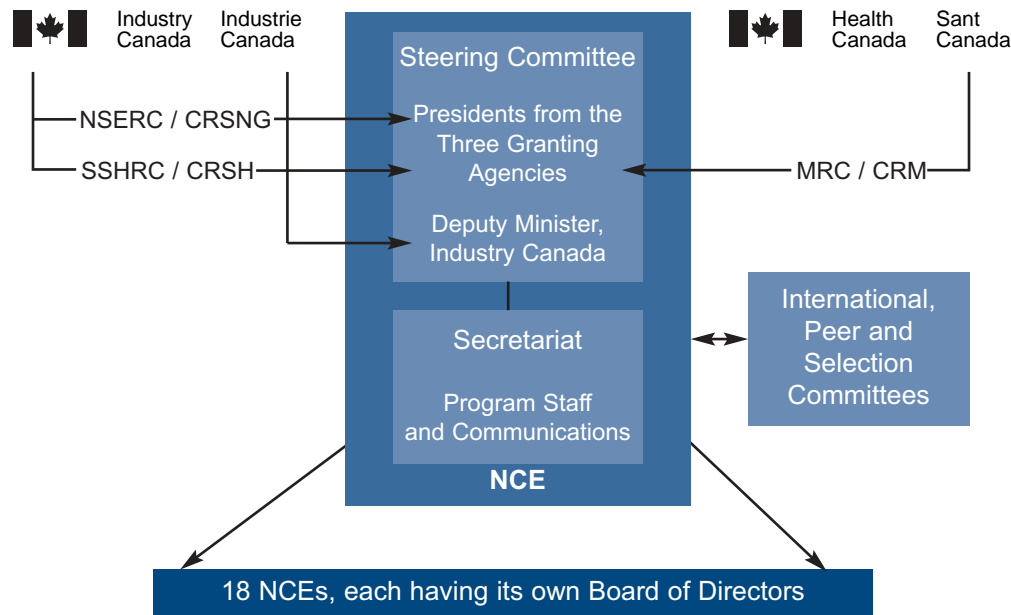


# A Unique Approach to Program Administration

The NCE program is jointly administered by Canada's three granting agencies, the Medical Research Council (MRC), the Natural Sciences and Engineering Research Council (NSERC) and the Social Sciences and Humanities Research Council (SSHRC), in partnership with Industry Canada. The unique relationship with the three granting agencies and Industry Canada helps ensure both the requisite collaborative and responsive features of the NCEs.

The program is managed by a Steering Committee comprised of the three agency presidents and the Deputy Minister of Industry (or their delegates). The NCE Directorate, the majority of whose staff is from the three agencies, undertakes day-to-day program management and communications.

## Governance Structure



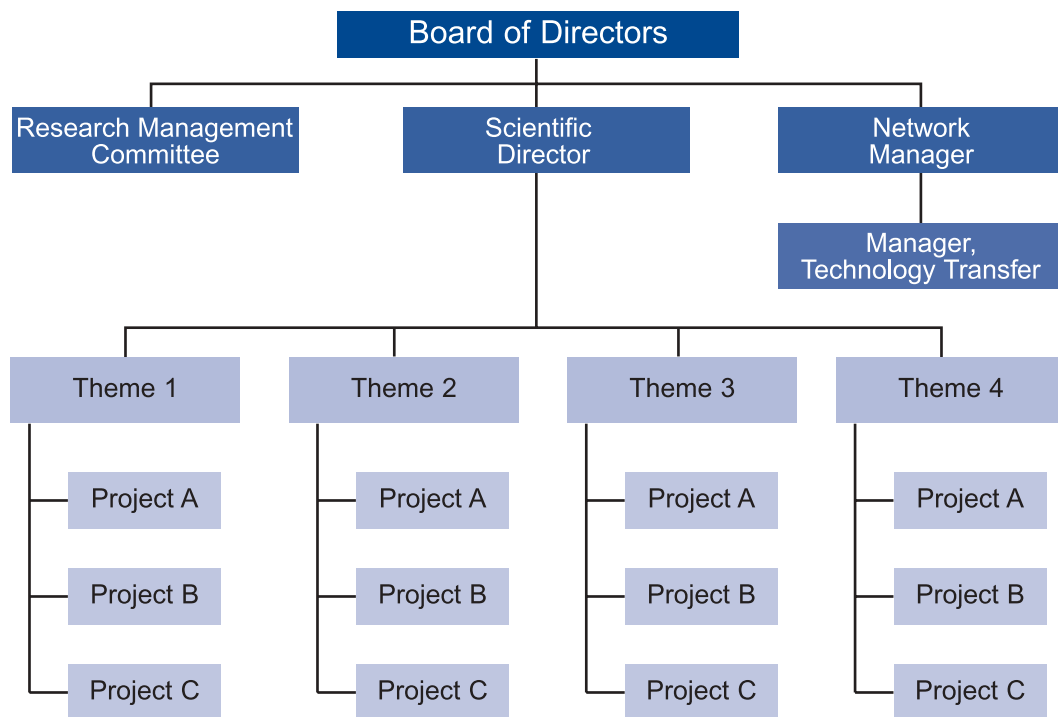
# NCEs Foster Collaborative Management

Networks successfully manage many diverse interests as they form a consortium of researchers, companies, universities, federal and provincial governments, as well as other organizations.

A Board of Directors is responsible for overall policy, management direction, and financial accountability of the network. It is accountable to the NCE Steering Committee.

The Scientific Director provides scientific leadership, promotes collaboration and often chairs the Research Management Committee, amongst various functions. The Network Manager directs daily business, ensuring control and accountability, as well as internal and external communications. The Host Institution, normally a university, hospital or other partner, provides suitable space for the network's Administrative Centre.

## A Typical NCE Organization Chart





Program Highlights for  
1999–2000





Program Highlights for  
1999–2000



## Discovery, Innovation and Training Benefits for Canada

During the fiscal year 1999-2000, the NCE program continued to produce significant research discoveries and innovations, while ensuring their rapid transfer to potential industrial users and public policy-makers in areas of strategic importance to Canada. Indeed, 31 patents were awarded, 71

licences were granted and 14 spin-off companies were created.

Canada has derived both social and economic benefits from the commercialization of specific marketable products and processes originating from the networks.

### Network Accomplishments 1999 – 2000

<b>Patents Filed:</b>	<b>66</b>
<b>Patents Awarded:</b>	<b>31</b>
<b>Licences Under Negotiation:</b>	<b>43</b>
<b>Licenses Granted:</b>	<b>71</b>
<b>Spin-Off Companies Created:</b>	<b>14</b>

The NCEs also effectively facilitated critical public and private sector collaboration. The latter made cash and in-kind contributions in excess of \$41 million of a total \$134 million NCE annual budget. Such private sector financial commitment is critical if Canada is to reach the science and technology goals it has set.

The NCE program is also training young researchers to ensure

Canada's expertise throughout the current century. Of the more than 5,000 personnel involved in the NCE program, 3,600 are research associates, postdoctoral fellows, graduate and summer students. One thousand one hundred and seventy NCE graduates found directly related industry employment. These figures bode well for the future of innovative Canadian research and development.



# Regional Distribution of NCE Researchers, Highly Qualified Personnel and Funds

One thousand five hundred researchers and 98 universities both in Canada and abroad were involved in NCE projects, initiating and augmenting various dynamic synergies.

The 18 networks reported partnerships with 200 foreign organisations from the university, industry, hospital and government and other sectors.

## Regional Distribution of NCE Researchers and Highly Qualified Personnel for 2000–2001

Region	NCE Researchers		NCE supported HQP	NCE HQP supported by other sources	Total personnel
	University	Non-university			
Alberta	122	24	222	201	569
British Columbia	173	25	338	301	837
Manitoba	21	19	50	37	127
New Brunswick	20	2	17	30	69
Newfoundland & Labrador	15	3	3	9	30
Northwest Territories	0	2	0	11	13
Nova Scotia	37	3	25	20	85
Ontario	414	171	661	580	1,826
Prince Edward Island	4	0	0	0	4
Quebec	312	107	484	518	1,421
Saskatchewan	22	3	20	49	94
<b>Total</b>	<b>1,140</b>	<b>359</b>	<b>1,820</b>	<b>1,756</b>	<b>5,075</b>

## Regional Distribution of NCE Personnel and NCE Funds for 2000-2001

Region	NCE Researchers		Highly Qualified Personnel		Total NCE Expenditures by Region	
	# total	Percentage	# total	Percentage	\$ total	Percentage
Alberta	146	9.7	423	11.8	\$6,750,134	15.6
British Columbia	198	13.2	639	17.9	\$9,375,833	21.7
Manitoba	40	2.7	87	2.4	\$1,307,361	3.0
New Brunswick	22	1.5	47	1.3	\$323,979	0.8
Newfoundland & Labrador	18	1.2	12	0.3	\$55,001	0.1
Northwest Territories	2	0.1	11	0.3	\$0	0
Nova Scotia	40	2.7	45	1.3	\$434,695	1.0
Ontario	585	39.0	1241	34.7	\$14,693,332	34.1
Prince Edward Island	4	0.3	0	0	\$10,502	0.02
Quebec	419	28.0	1002	28.0	\$9,437,028	21.9
Saskatchewan	25	1.7	69	2.0	\$757,253	1.8
<b>Total</b>	<b>1499</b>	<b>100</b>	<b>3576</b>	<b>100</b>	<b>\$43,145,118</b>	<b>100</b>

An NCE researcher is a researcher from the academic, public or private sector responsible for certain aspects a network-funded research project.

Highly Qualified Personnel includes research associates, postdoctoral fellows, graduate students and summer students.

The regional Distribution of NCE Funds shows only reported expenditures by each participating institution for 2000-2001.

## A Program That Supports the Best

In open competitions, potential applicants submit proposals in any area. In targeted competitions, a list of relevant and timely topics is approved by Cabinet. In either case, a “blue ribbon” Selection Committee reviews Letters of Intent to determine which applicants should be invited to develop full applications. Only those applicants whose letters of intent demonstrate excellence are asked to develop full proposals.

Other criteria upon which applications are assessed include:

- the ability to develop and retain Highly Qualified Personnel
- the building of critical mass through nation-wide multi-disciplinary and multisectoral university/ industry and government partnerships

- the acceleration of knowledge exchange and technology transfer to the receptor community and
- efficient network management.

The Selection Committee subsequently reviews the full applications taking also into account the reports of Expert Panels, one for each application or target area. This committee makes its funding recommendations to the Steering Committee, which approves them if there is no reason to question the integrity of the evaluation process. All recommendations are subject to funding approval from the Treasury Board of Canada.

Network progress is assessed in the fourth year of operation as a condition of funding. The seven-year period of funding may be extended to fourteen provided the network succeeds in a national competition.

## Innovation in Photonics

The budget increase in February 1999 made it possible to fund another network that had been recommended by the 1998 Selection Committee : the Canadian Institute of Photonic Innovations (CIPI). CIPI is actively harnessing and developing the talents of researchers in 19 universities, 34 industries and 14 government departments and agencies to ensure that Canada is at the forefront of photonic research.

Photonics is associated with generating, transmitting and detecting light. Historically, this new science comes out of the vast field of modern optics that emerged at the beginning of the 1960's after the invention of the laser.

Thus photonics is a broad field encompassing various aspects of optics such as lasers, fibre optics, image and information processing, and ultrashort and ultraintense optical pulses to name a few. It is a field that is revolutionizing communication.



## Three More Networks

In addition to the funding of the new network in photonics, the NCE Program launched a competition for new networks in any discipline.

Twelve groups (from among 45 letters of intent) were invited to submit full applications. After careful deliberation by a Selection Committee, three new networks were announced on February 11, 2000.

## The Best in Aquaculture

**AquaNet's** goal is to help secure the future of the Canadian aquaculture industry by increasing the efficiency of

production through species diversification, biotechnology, environmental sustainability and training of Highly Qualified Personnel.

## Innovative Vaccines and Stroke Treatments

The **Canadian Network for Vaccines and Immunotherapeutics (CANVAC)** specializes in the fields of immunology, virology and molecular biology. In partnership with Canadian biopharmaceutical companies, it aims to develop safe and effective vaccines to protect people from cancer and life-threatening viral infections, such as hepatitis C and AIDS.

The **Canadian Stroke Network (CSN)** aims to break the barriers of stroke treatment by developing innovative prevention and recovery strategies through multidisciplinary and multisectoral research. The network proposes a broad approach which would link education, prevention strategies for recovery and rehabilitation, and research to further our understanding of brain injury, repair and functional recovery after a stroke.

## Looking Ahead

In addition to the open competition, the 1999 NCE budget facilitated a Targeted Competition for up to four new networks. A call for new applications was made January 12, 2000 in the following areas critical to our economic future, the well-being of our children and the safety of our environment:

- the automobile of the 21st century
- genomics technologies and society
- meeting environmental challenges for clean water
- the impact of early child development on society.

# NCE Selection Committees

## Stage 1: Letters of Intent – June 21 and 22, 1999

### Chair

Martin Godbout  
President, Hodran Inc.  
Quebec, PQ

### Members

Ruth Arnon  
Professor, Weizmann Institute of  
Science  
Rehovot, Israel

Bill Cheliak  
Director, Progressive Genetics  
Systems Ltd.  
Ottawa ON

Gérard Duhaime  
Director of GÉTIC, Laval University,  
Beauport PQ

Ian Dowdeswell  
President, Delian Consultants Ltd.,  
West Vancouver BC

Richard Fuchs  
Futureworks Inc.  
Torbay NF

Mark W. Rosenberg  
Professor, Department of Geography  
Queen's University  
Kingston ON

Pierre Tremblay  
President, Tecta Inc.  
Chicoutimi PQ

Eva Turley  
Division of Cardiovascular Research  
The Hospital for Sick Children  
Toronto ON



## Stage 2: Full Proposals – January 13 and 14, 2000

### Chair

Martin Godbout  
President, Hodran Inc.  
Quebec PQ

### Members

Ruth Arnon  
Professor, Weizmann Institute of  
Science  
Rehovot, Israel

Brian Garside  
President, Opto-Electronics Inc.,  
Oakville ON

Richard Fuchs  
Futureworks Inc.  
Torbay NF

Gilles Brassard  
Département d'information et de  
Recherche opérationnelle, Université  
de Montréal  
Montréal PQ

Bruce Smith  
Chairman, Smith Institute  
Guilford SURREY UK

Camille Limoges  
Président, Conseil de la science et de  
la Technologie du Québec  
Sainte-Foy PQ

Bill Cheliak  
Director, Progressive Genetics  
Systems Ltd  
Ottawa ON

Ian Dowdeswell  
President, Delian Consultants Ltd.,  
West Vancouver BC

Mark W. Rosenberg  
Professor, Department of Geography,  
Queen's University  
Kingston ON

Eva Turley  
Division of Cardiovascular Research,  
The Hospital for Sick Children  
Toronto ON

David B. Shindler  
President and CEO, Milestone Medica  
Corporation  
Toronto ON

David Owen  
Director, Industrial Collaboration &  
Licensing, Technology Transfer Group  
Medical Research Council  
London UK

# Eighteen Networks of Centres of Excellence

## Health and Biotechnology

### **Canadian Arthritis Network (CAN)** **[www.arthritisnetwork.ca](http://www.arthritisnetwork.ca)**

Funding Cycle: 1998 - 2005  
NCE Award in 1999 - 2000: \$3.2 M  
Network Researchers<sup>1</sup>: 106  
Highly Qualified Personnel: 174  
Universities<sup>2</sup>: 26  
Industries<sup>2</sup>: 34  
Government departments, agencies  
and others<sup>2</sup>: 49

### **Canadian Bacterial Diseases Network (CBDN)** **[www.cbdn.ca](http://www.cbdn.ca)**

Funding Cycle: 1989 - 2005  
NCE Award in 1999 - 2000: \$3.8 M  
Network Researchers<sup>1</sup>: 27  
Highly Qualified Personnel: 223  
Universities<sup>2</sup>: 18  
Industries<sup>2</sup>: 50  
Government departments, agencies  
and others<sup>2</sup>: 39

### **Canadian Genetic Diseases Network (CGDN)** **[www.cgdn.generes.ca](http://www.cgdn.generes.ca)**

Funding Cycle: 1989 - 2005  
NCE Award in 1999 - 2000: \$4.5 M  
Network Researchers<sup>1</sup>: 50  
Highly Qualified Personnel: 175  
Universities<sup>2</sup>: 11  
Industries<sup>2</sup>: 28  
Government departments, agencies  
and others<sup>2</sup>: 60

### **Canadian Network for Vaccines and Immunotherapeutics (CANVAC)** **[www.canvacc.org](http://www.canvacc.org)**

Funding Cycle: 1999 - 2003  
NCE Award in 1999 - 2000: \$4.7 M  
Network Researchers<sup>1</sup>: 85

Highly Qualified Personnel: 116  
Universities<sup>2</sup>: 13  
Industries<sup>2</sup>: 22  
Government departments, agencies  
and others<sup>2</sup>: 24

### **Canadian Stroke Network (CSN)** **[www.canadianstrokenetwork.ca](http://www.canadianstrokenetwork.ca)**

Funding Cycle: 1999 - 2003  
NCE Award in 1999 - 2000: \$4.7 M  
Network Researchers<sup>1</sup>: 145  
Highly Qualified Personnel: N / A  
Universities<sup>2</sup>: 24  
Industries<sup>2</sup>: 22  
Government departments, agencies  
and others<sup>2</sup>: 39

### **HEALNet – Health Evidence Application and Linkage Network** **<http://healnet.mcmaster.ca/nce>**

Funding Cycle: 1995 - 2002  
NCE Award in 1999 - 2000: \$2.4 M  
Network Researchers<sup>1</sup>: 101  
Highly Qualified Personnel: 122  
Universities<sup>2</sup>: 23  
Industries<sup>2</sup>: 22  
Government departments, agencies  
and others<sup>2</sup>: 81

### **Protein Engineering Network (PENCE)** **[www.pence.ca](http://www.pence.ca)**

Funding Cycle: 1989 - 2005  
NCE Award in 1999 - 2000: \$4.5 M  
Network Researchers<sup>1</sup>: 56  
Highly Qualified Personnel: 153  
Universities<sup>2</sup>: 12  
Industries<sup>2</sup>: 55  
Government departments, agencies  
and others<sup>2</sup>: 24



## Information Technology

**Canadian Institute for Photonic Innovations (CIPI)**  
[www.cipi.ulaval.ca](http://www.cipi.ulaval.ca)

Funding Cycle: 1999 - 2005  
NCE Award in 1999 - 2000: \$5.7 M  
Network Researchers<sup>1</sup>: 80  
Highly Qualified Personnel: 312  
Universities<sup>2</sup>: 22  
Industries<sup>2</sup>: 38  
Government departments, agencies and others<sup>2</sup>: 16

**Canadian Institute for Telecommunications Research (CITR)**  
[www.citr.ece.mcgill.ca](http://www.citr.ece.mcgill.ca)

Funding Cycle: 1989-2002  
NCE Award in 1999- 2000: \$2.5 M  
Network researchers<sup>1</sup>: 57  
Highly Qualified Personnel: 221  
Universities<sup>2</sup>: 18  
Industries<sup>2</sup>: 17  
Government departments, agencies and others<sup>1</sup>: 2

**Geomatics for Informed Decisions Network (GEOIDE)**  
[www.geoide.ulaval.ca](http://www.geoide.ulaval.ca)

Funding Cycle: 1998 - 2005  
NCE Award in 1999 - 2000: \$2.6 M

Network Researchers<sup>1</sup>: 268  
Highly Qualified Personnel: 176  
Universities<sup>2</sup>: 29  
Industries<sup>2</sup>: 33  
Government departments, agencies and others<sup>2</sup>: 28

**Institute for Robotics and Intelligent Systems (IRIS)**  
[www.precarn.ca](http://www.precarn.ca)

Funding Cycle: 1989 - 2005  
NCE Award in 1999 - 2000: \$4.4 M  
Network Researchers<sup>1</sup>: 96  
Highly Qualified Personnel: 255  
Universities<sup>2</sup>: 22  
Industries<sup>2</sup>: 63  
Government departments, agencies and others<sup>2</sup>: 18

**Micronet – Microelectronic Devices, Circuits and Systems**  
[www.micronetrd.ca](http://www.micronetrd.ca)

Funding Cycle: 1989 - 2005  
NCE Award in 1999 - 2000: \$2.3 M  
Network Researchers<sup>1</sup>: 72  
Highly Qualified Personnel: 328  
Universities<sup>2</sup>: 18  
Industries<sup>2</sup>: 42  
Government departments, agencies and others<sup>2</sup>: 3

## Natural Resources

**AquaNet**  
[www.aquanet.ca](http://www.aquanet.ca)

Funding Cycle: 1999 - 2003  
NCE Award in 1999 - 2000: \$3.6 M  
Network Researchers<sup>1</sup>: 72  
Highly Qualified Personnel: N / A  
Universities<sup>2</sup>: 18  
Industries<sup>2</sup>: 26  
Government departments, agencies and others<sup>2</sup>: 12

**Mechanical Wood-Pulps Network**  
[www.ppc.ubc.ca/wood-pulps](http://www.ppc.ubc.ca/wood-pulps)

Funding Cycle: 1989 - 2002  
NCE Award in 1999 - 2000: \$2 M  
Network Researchers<sup>1</sup>: 38  
Highly Qualified Personnel: 96  
Universities<sup>2</sup>: 15  
Industries<sup>2</sup>: 32  
Government departments, agencies and others<sup>2</sup>: 9



**Sustainable Forest Management  
Network (SFM)**

[www.ualberta.ca/sfm](http://www.ualberta.ca/sfm)

Funding Cycle: 1995 - 2002  
NCE Award in 1999 - 2000: \$3 M  
Network Researchers<sup>1</sup>: 103  
Highly Qualified Personnel: 337  
Universities<sup>2</sup>: 26  
Industries<sup>2</sup>: 12  
Government departments, agencies  
and others<sup>2</sup>: 5

## Infrastructure

**Intelligent Sensing for Innovative  
Structures (ISIS)**

[www.isiscanada.com](http://www.isiscanada.com)

Funding Cycle: 1995 - 2002  
NCE Award in 1999 - 2000: \$2.7 M  
Network Researchers<sup>1</sup>: 69  
Highly Qualified Personnel: 189  
Universities<sup>2</sup>: 15  
Industries<sup>2</sup>: 56  
Government departments, agencies  
and others<sup>2</sup>: 25

## Human Resources

**TeleLearning NCE**

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

Funding Cycle: 1995 - 2002  
NCE Award in 1999 - 2000: \$3.7 M  
Network Researchers<sup>1</sup>: 50  
Highly Qualified Personnel: 384  
Universities<sup>2</sup>: 41  
Industries<sup>2</sup>: 29  
Government departments, agencies  
and others<sup>2</sup>: 103

<sup>1</sup> Includes Canadian and foreign researchers from all sectors

<sup>2</sup> Includes Canadian and foreign organizations

