

# Canada Research Chairs



Research at its best



Canada Research  
Chairs

Chaires de recherche  
du Canada

Canada 



## The Canada Research Chairs Program

# Innovation is the lifeblood of

To help our researchers meet the challenges of tomorrow, the Government of Canada has developed an integrated federal innovation strategy. This strategy will double our investment in research and development by 2010, helping to make Canada one of the top five countries in R&D performance in the world.

The Canada Research Chairs Program lies at the cornerstone of our country's new innovation strategy. One of the most ambitious initiatives of its kind in the world, the Chairs Program received \$900 million in funding in Budget 2000 to support the establishment of 2,000 Canada Research Chairs in Canadian universities by 2005.

Thanks to the opportunities provided by the Chairs Program, world-class university researchers in Canada can advance their work and gain access to top graduate students and state-of-the-art research facilities. As a result, our universities are able to retain their best researchers and attract the finest minds from around the world.

The Chairs Program is stimulating and nurturing a culture of innovation throughout the country, creating an enriched university environment, a stronger economy, and a better quality of life for all Canadians.

## What is a Chair?

A Chair is the title granted to scientists and scholars who are at the forefront of their disciplines. The goal of all Chairs is to advance the frontiers of knowledge within their fields, not only through their own work, but also by co-ordinating the efforts of other researchers within their area of research.



# the knowledge-based economy

## Who is eligible?

Universities can nominate researchers in the natural sciences and engineering, health sciences, and social sciences and humanities for Chairs. In keeping with the Program's goal of increasing the overall research excellence of Canadian universities, researchers from all countries are eligible for nominations.

### **There are two kinds of Canada Research Chairs:**

- ▶ Tier 1 Chairs are awarded to experienced researchers whose peers acknowledge them as world leaders in their field. These appointments are worth \$200,000 a year for a period of seven years and are renewable.
- ▶ Tier 2 Chairs are for researchers whose peers acknowledge them as having the potential to be world leaders in their field. These appointments are worth \$100,000 a year for a period of five years, and can be renewed once.

## How does the Program work?

For each Chair, the universities nominate a researcher whose work is consistent with that university's strategic research plan and who meets the rigorous criteria of excellence for either a Tier 1 or a Tier 2 Chair. Three members of a college of reviewers, composed of experts in all disciplines from around the world, assess each nomination and recommend to the Canada Research Chairs Program whether to approve funding.

The number of Chairs a university can nominate is proportional to the funding that researchers affiliated with that university have recently received from Canada's three federal granting agencies: the Natural Sciences and Engineering Research Council of Canada (NSERC), the Canadian Institutes of Health Research (CIHR), and the Social Sciences and Humanities Research Council of Canada (SSHRC). Some Chairs are reserved for smaller institutions, which receive one per cent or less of the funds given out by these agencies.

Chairholders are also eligible for infrastructure support from the Canada Foundation for Innovation. By 2005, the Foundation will have provided \$250 million for leading-edge equipment these Chairholders need to carry out their work. After taking into account the matching funding from other sources, the total infrastructure investment for Canada Research Chairs is \$625 million.

# Canada Research Chairs in Action



## A diet of change

**Dr. Grace M. Egeland**, a world-leading epidemiologist, came to Canada from Norway to take up her Canada Research Chair in Environment, Nutrition and Health at McGill University. She is now collaborating with two top researchers at McGill to study the dietary intake of specific arctic populations, and to assess the risk of diseases with known links to diet and dietary change. "Indigenous peoples worldwide face a common problem – the growing trend of their populations to abandon traditional foods in favour of western market foods. With this shift comes increased health problems, such as diabetes and heart disease," says Dr. Egeland. The efforts of Dr. Egeland and her team promise major, sustainable health benefits for Aboriginal people in Canada and abroad.



## Quantum discoveries

A pioneer in overcoming noise and the destruction of quantum coherence, **Dr. Raymond Laflamme** was born in Quebec and left Canada for Cambridge in 1983 to study with Stephen Hawking. He then moved to New Mexico as an Oppenheimer Fellow and a member of staff at the Los Alamos National Laboratory. He recently returned to Canada to take up the Canada Research Chair in Quantum Information at the University of Waterloo. He has developed error-correcting codes that protect quantum information, proving that quantum computers are possible. "My Canada Research Chair allows me to further my research in developing methods to better understand noise sources in quantum devices and to find the ways to implement error-control methods," says Dr. Laflamme.



## Inspiring creativity

**Dr. Sean Caulfield** has returned to the University of Alberta to take up his Canada Research Chair in Printmaking following two and a half years at Illinois State University where he taught graphic arts. Dr. Caulfield uses classical music and literature, such as Bartok's Bluebeard's Castle and Milton's Paradise Lost, as inspiration for his silkscreens, etchings, or woodcuts that create a visual language that functions poetically. At the same time, Dr. Caulfield is supporting undergraduate and graduate-level students as they explore the boundaries of contemporary printmaking. "The Canada Research Chairs Program is giving me the opportunity to train and mentor young Canadian artists. This will ensure the Printmaking department at the University of Alberta will continue to be a fertile and creative environment," says Dr. Caulfield.

Investing in our Future

# \$900 million in support of the establishment of 2,000 Canada Research Chairs by 2005



## The humanity of genomics

The knowledge gained from mapping the human genome will change the way we prevent, diagnose, and treat disease. **Dr. Bartha Maria Knoppers**, of the Université de Montréal's Centre de recherche en droit public, is ensuring that we do this in a way that respects our values and our humanity by developing an ethical framework through her work as a Chairholder. Through her Canada Research Chair in Law and Medicine, she has recently created the *Institut international de recherche en éthique biomédicale*. "Freedom of research and its contribution to the international community is only possible when the research is adequately funded. This Canada Research Chair makes such freedom possible," says Dr. Knoppers.



## The vision of research

For children, it's a life-long disability; for seniors, it's a frightening risk to their independence. Degeneration of the retina is the leading cause of legal blindness in the developed world, affecting 13 million people in North America alone. The University of British Columbia's **Dr. Robert Molday** is on the hunt for the gene that causes this disease. His work as a Canada Research Chair in Macular Degeneration may lead to early diagnosis of the disease and more effective treatments and cures. "The Chairs Program has allowed me to purchase state-of-the-art instrumentation required to advance our understanding of molecular mechanisms responsible for vision and inherited retinal degenerative diseases and to develop promising new treatments and possible cures for this set of blinding diseases," says Dr. Molday.



## Seeing the forest for the trees

**Dr. Marc-André Villard**, of the Université de Moncton, demonstrated that forest loss and fragmentation influences how migratory birds can persist in patches of uncut forest. Recently, his research on the ecological effects of selection harvesting contributed to the New Brunswick government's review of how hardwood forests are managed on public lands. Professor Villard's research activities are all based on the principle that the study of natural processes goes hand in hand with the study of the impact of human activities on these processes. "Today, as a Canada Research Chair in Conservation of Forests, I am studying human impacts on forest and bog ecosystems to learn how to better manage our natural landscapes," says Dr. Villard.

# Information resources

The Canada Research Chairs Web site ([www.chairs.gc.ca](http://www.chairs.gc.ca)) provides information in the following areas:

## **Universities participating in the Chairs Program**

To see a list of all participating universities, with contact co-ordinates and links to their institutional Web sites.

## **Research priorities at participating universities**

To find the Strategic Research Plan (SRP) summaries prepared by Canadian universities participating in the Canada Research Chairs Program.

## **Nomination forms**

To find electronic versions of nomination forms.

## **Media information**

To find up-to-date information on events, news releases and statistics.

## **Chairholder profile database**

To find profiles of each of the Canada Research Chairs accepted to date.

If you have a specific question not dealt with in the general topics listed here, please email: [information@chairs.gc.ca](mailto:information@chairs.gc.ca).

[www.chairs.gc.ca](http://www.chairs.gc.ca)

