



CANADA FOUNDATION FOR INNOVATION



Canada Foundation for Innovation
Fondation canadienne pour l'innovation



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ISBN 0-9684184-4-9
Cat. No. CFI-7/2002 September 2002

Web site: innovation.ca
CFI e-zine: innovationcanada.ca



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A MESSAGE FROM THE CHAIR

Canada is turning the corner in recognizing the crucial importance of innovation to the future of our society. The commitment to invest in research and development has empowered researchers at our universities and research institutions to reach for the heights of their fields. Today, we can say with conviction that Canada is becoming a place where world-class researchers want to be.

How do we know? Researchers are telling us. They are also staying, returning, and moving to Canada. In fact, according to an independent review, about 40 percent of the 1,200 new researchers benefiting from the CFI's New Opportunities Fund were located outside of Canada prior to accepting their first faculty appointment here.

Since 1997 when the federal government created the Canada Foundation for Innovation, we have invested \$1.7 billion in 1,975 projects at institutions all across the country. In this past year alone, the CFI contributed \$875 million for 799 infrastructure projects, enabling researchers to work with the cutting-edge equipment, laboratories, and facilities they need to excel and lead in their own fields.

The CFI's contribution is just one part of a much larger total investment, which depends on the contributions from many sources, including the national granting agencies, for its overall success. Furthermore, CFI funding of specific infrastructure projects represents only 40 percent of costs. The remainder comes from provincial agencies, not-for-profit institutions, the private sector, and the applicant institutions themselves. The combined contributions from all sources help to secure the dreams of research trainees at all levels. It also assures them that their ambitions are not beyond their grasp.

The CFI's support is critical to ensuring that Canada can retain, bring back, and attract the people who are at the heart of this new climate of innovation. For example, researchers are returning to Canada from Harvard University, and travelling from institutions as far away as Switzerland and South Africa to join our university faculties. They are confident that first-class opportunities exist here in Canada, and that they will be able to find in our research institutions the critical mass of expertise necessary for their success.

The atmosphere of excitement on campuses across the country has been generated not only by CFI contributions, but also by the way that this investment works with the multiple sources of funding that the federal and provincial governments have put in place to support research projects and the indirect costs of research. At the federal level, this includes the Canada Research Chairs, the Canadian Institutes for Health Research (CIHR), the Natural Sciences and Engineering Research Council (NSERC), the Social Sciences and Humanities Research Council (SSHRC), and Genome Canada. Working together, they are helping Canada to achieve the goal of becoming one of the world's most innovative countries by 2010.

Canada has made great strides in reinvigorating the research and development climate. An example? Before the CFI was created in 1997, Canadian high-performance computing sites earned just one mention in the list of top 500

“THIS RESEARCH REACHES INTO ALL ASPECTS OF OUR LIVES, PREPARING STUDENTS FOR HIGH-PAYING, REWARDING JOBS; PROVIDING REVOLUTIONARY TREATMENTS FOR CANCER, DIABETES, AND HEART DISEASE; FINDING NEW SOURCES OF CLEAN ENERGY; AND GENERALLY IMPROVING THE QUALITY OF LIFE FOR ALL CANADIANS.”

—INDUSTRY MINISTER ALLAN ROCK

computer sites presented annually by the University of Mannheim and the University of Tennessee. In 2002, 13 Canadian sites made the list.

Reinforcing and building new capacity for research excellence not only benefits individual colleges, universities, and hospitals, but as Industry Minister Allan Rock noted “this research also reaches into all aspects of our lives...generally improving the quality of life for all Canadians.”

Clusters of excellence in research and development are being reinforced. They're also springing up in the private sector around the exciting and innovative ideas generated in first-class academic institutions. Canada is becoming known as a leader in particular disciplines. We are forging new pathways in areas as diverse as HIV resistance, space research, aboriginal health research, marine environmental prediction and protection, transportation, language acquisition, and nanotechnology to mention just a few. Throughout this report, you will read about some of these inspiring projects. The CFI is committed to encouraging commercialization of the results of research in Canada. Private-sector companies are already seizing the opportunity to invest and apply the benefits of our discoveries.

This is an exhilarating time to be engaged in research and development in Canada. We look forward to working with Industry Canada on the federal government's innovation strategy. On behalf of the CFI, we would like to express our appreciation to the Industry Ministers—Brian Tobin who recently retired from the post, and Allan Rock who has assumed responsibility for this important portfolio.

Finally, the CFI could not function without the support of more than 2,000 volunteers who have served on assessment committees or helped review infrastructure proposals. They uphold the highest ethical standards as they ensure that the investigators and the projects that the CFI funds can truly compete in a global environment. I thank them for their commitment and dedication.

It is a pleasure to express thanks to our colleagues on the CFI Board, our Members, and the superb team who implements the CFI's programs. We all feel it is a privilege to work together on such a worthwhile endeavour. Looking forward, we anticipate another year of progress towards our goals, and a further opportunity to appreciate how truly innovative Canadian researchers and institutions can be.



John R. Evans



A MESSAGE FROM THE PRESIDENT & CEO

Innovation has the power and potential to improve our lives and transform our future. Without it, we risk stagnation. Through innovation, we have endless opportunities to distinguish our country and our role within society.

The Canada Foundation for Innovation is helping to accomplish this, and along the way, shape a truly innovative society. Across the country, in institutions large and small, and throughout disciplines, researchers are using the tools the CFI has helped to provide. They are taking those tools and forging new frontiers in knowledge—seizing opportunities to generate new ideas, processes, products, and breakthroughs in medical treatments, environmental policy, and in many more facets of our lives.

The CFI's investments are paying off—and not just in the success of spin-off ventures and the commercialization of discoveries. Our investments are paying dividends in the calibre of the talent attracted to our universities, colleges, and hospitals, and in the enthusiasm of the people at these research institutions. In turn, the researchers are repaying our investment with real and tangible results. Their groundbreaking discoveries—in everything from spinal cord research to the impact of music therapy—have the power to transform our daily lives in ways we can't yet imagine:

- A project at Dalhousie University will help increase our understanding of the fundamental nature and causes of the anxiety and depression that are often associated with temporal lobe epilepsy. The research could lead to the development of strategies and treatments to improve the well-being and quality of life of many patients.
- At the Vancouver General Hospital site of the University of British Columbia, the ICORD Centre is the first Canadian research facility focused on the interdisciplinary development of therapies for spinal cord injuries. Over 300 researchers at the facility are able to complete innovative programs that could not be achieved by any single discipline.
- A CFI-supported facility at the University of Toronto is enabling a team of scientists to undertake research that could lead to the development of more cost-effective therapies for the successful management of infertility. The research could also lead to the establishment of a new biotech company.
- A research team at the University of Sherbrooke is developing “smart” robots that can gather information from their environment and use what they learn to assist humans in dangerous situations or in locations that are difficult to access. Improving the robots' capability to learn from their environment has the potential to help improve human safety and quality of life—by leading to the development of intelligent wheelchairs or safety devices on cars.



FOR 30 YEARS,
PENNY AND PEARCE GAMBELL
HAVE BEEN GROWING FRUIT
TREES ON THEIR FARM IN
WINFIELD, BRITISH COLUMBIA,
JUST NORTH OF KELOWNA.

Each year, they produce over 400 tonnes of pears, cherries, and apples for distribution all over Canada and around the world. Like thousands of other entrepreneurs across the country, the Gambells must carefully balance a number of factors to stay in business.

And in the area's semi-arid climate, perhaps the biggest factor the Gambells must balance is their reliance on one critical resource: **water**.

BUT AS THE POPULATION GROWS, THE COMPETING NEEDS OF INDUSTRY, FARMERS, RECREATIONAL USERS, AND URBAN RESIDENTS ARE ALL STRAINING THE LIMITED WATER RESOURCES IN KELOWNA AND THE SURROUNDING OKANAGAN VALLEY. THE COMMUNITY IS LOOKING FOR WAYS TO PRESERVE ITS ACCESS TO SAFE DRINKING WATER—NOT TO MENTION ITS ECOSYSTEM AND WAY OF LIFE.



Over the next year, and in the remaining years of the mandate that carries us through to 2010, our staff and multidisciplinary assessment committees will review the infrastructure proposals that come before us and continue to recommend the most promising ones for funding. We will allocate the remainder of the \$3.15 billion with which the federal government has entrusted us. We will continue to support the institutions as they work with partners in the public and private sector to attract the matching funds that will spur more than \$9 billion worth of new research infrastructure at Canadian research institutions. Together, we are challenged to reflect and plan for Canada's longer-term innovation strategy. We will strive to maintain, and even increase, the momentum that's carrying Canada into the ranks of the industrial nations most committed to research and development.

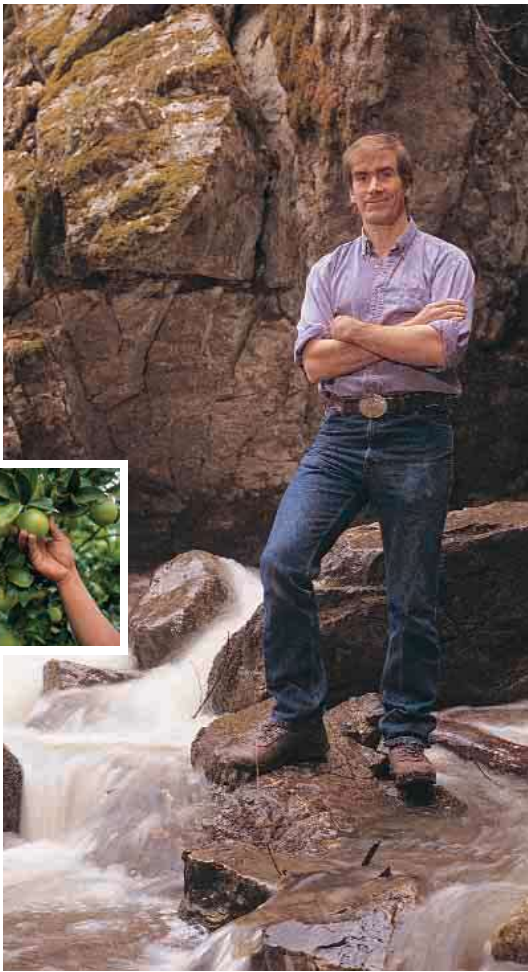
This year, the CFI launched its Infrastructure Operating Fund, which contributes to the incremental operating and maintenance costs associated with infrastructure projects funded by the CFI. It is intended to maximize the efficient use of CFI-funded research infrastructure. It is also intended to help universities and research institutions offer a high-quality research and training environment.

The CFI welcomes the support and suggestions of all Canadians, whether relayed through parliamentary representatives, directly to staff members via our Web site (innovation.ca), or in person. In February 2002, we launched **Innovation Canada** (innovationcanada.ca), a new on-line magazine that showcases many of the projects that are funded by the CFI. The magazine is already helping to raise public awareness at home and abroad about research that improves the lives of Canadians.

We are also committed to the highest possible standard of ethics and transparency in managing our public funds. In this annual report, we are pleased to include the result of independent reviews. These reviews have confirmed what we already know—that the positive effects of CFI programs will be felt in Canada for years to come.

Like Dr. Evans, I am grateful for the interest and support of our volunteers, and I thank them for their commitment to the CFI and Canada's research community. I would also like to thank the CFI staff for their dedication and professionalism. We couldn't do it without them. I look forward to working alongside these individuals as we face the new horizons and exciting challenges ahead.

David W. Strangway



AT KELOWNA'S OKANAGAN UNIVERSITY COLLEGE, **JEFF CURTIS**, A BIOGEOCHEMIST, IS DEDICATED TO FINDING WAYS TO IMPROVE WATERSHED MANAGEMENT.

Jeff Curtis is investigating how water quality is related to the function of ecosystems. His goal is to provide Canadians with a frame of reference to assess the quality of their drinking water. In fact, Curtis hopes to guide livestock, forestry, recreation, and agricultural practices that affect the watershed in B.C.'s interior. "Nobody wants to degrade water," the researcher says. "All the stakeholders need to know how best to preserve a safe, healthy drinking supply—especially as the area's population booms."

With the help of a contribution from the CFI, Curtis has equipped a state-of-the-art analytical laboratory to support research on watersheds, including his examination of the ability of organic matter to absorb trace metals, lessening their toxicity. He also purchased a number of vehicles that will take him to previously inaccessible places in B.C.'s rugged Interior. There, he and his team will trace the way the appearance and quality of water changes as it flows from the highlands, down streams, and into lower valley lakes and reservoirs.

THE OKANAGAN UNIVERSITY COLLEGE RESEARCHERS WILL PROVIDE THE SCIENCE AND INFORMATION THAT POLICYMAKERS AND STAKEHOLDERS—including fruit farmers like the Gambells—need to better understand the impact of human activity on their environment, and to help preserve Canada's supply of drinking water.

"THE GOVERNMENT HAS ALREADY INVESTED BILLIONS IN RESEARCH AND KNOWLEDGE THROUGH THE CANADA FOUNDATION FOR INNOVATION, THE CANADIAN INSTITUTES OF HEALTH RESEARCH, AND THE FEDERAL GRANTING COUNCILS. THOSE INVESTMENTS ARE PAYING OFF."

—FORMER INDUSTRY MINISTER BRIAN TOBIN

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* Term ended in January 2002

** Term ended in October 2001

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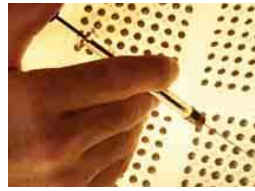
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*** Term ended in March 2002

**** Term began in March 2002



THE YEAR IN REVIEW 2001-2002

NEW LAUNCHES

8 CFI

International Funds

Two major initiatives launched this year—the International Joint Ventures Fund and the International Access Fund—are helping to place Canada among the world's most innovative nations. Both are \$100-million funds designed to foster collaboration among world-class researchers at Canadian universities and institutions abroad. By working together, unrestricted by borders, researchers are deepening their knowledge and dealing with the critical issues that challenge all countries. And by pooling resources and sharing information and technology, these researchers are also raising Canada's profile internationally.

The International Joint Ventures Fund will finance up to four world-class projects, and establish partnerships with leading facilities in other countries, that will bring significant benefits to Canada. The International Access Fund provides Canadian researchers with access to unique programs, equipment, and facilities in other parts of the globe. Neither fund requires institutions to find matching partners for the Canadian portion of the awards.

After calling for project outlines, the CFI received 72 submissions proposing projects worth a total of \$1 billion. The number and quality of the submissions are representative of the enthusiasm and dedication at Canada's institutions, and demonstrate the confidence they have in their ability to be key players in the global knowledge community. The proposals also demonstrate the international networks in which our researchers are participating, and showcase our presence in the best international research circles. The CFI Board of Directors selected 18 proposals for further evaluation—based on the recommendation of a multidisciplinary assessment committee made up of international experts.

Infrastructure Operating Fund

2001-2002 was also the first year for the \$400-million Infrastructure Operating Fund. The fund helps to finance the operating and maintenance costs associated with new infrastructure projects that the CFI already supports. It does this by allocating 30 percent of the cost of the initial CFI contribution to projects approved since July 2001. Innovative in its own right, the fund is designed to give hospitals, universities, colleges, and not-for-profit institutions flexibility to manage their CFI-supported research facilities. So far, the CFI has committed \$184 million under this fund.



FLASH FIRES.
THEY ARE THE OIL AND
GAS INDUSTRY'S
WORST NIGHTMARE.

In September 2001, the nightmare became reality when one of Imperial Oil's plant operators found himself trapped in a flash fire.

The fire started when one of the pipes carrying methane gas through a heater failed. The gas ignited. "It was a substantial fire," says Dave Fennell, senior safety advisor for Imperial Oil Resources. The fire damaged the equipment, the support structures, the metal, and the piping.

FORTUNATELY, THE OPERATOR WAS WEARING FULL FLAME-RESISTANT COVERALLS, LEATHER BOOTS, GLOVES, A HARDHAT, AND SAFETY GLASSES. THE PROTECTIVE CLOTHING SAVED HIS LIFE. "IF HE HAD NOT BEEN WEARING THE FIRE-RETARDANT CLOTHING," SAYS FENNEL, "WE'RE NOT SURE HE'D BE AROUND TODAY TO TALK ABOUT IT."



THE CFI INVESTMENT CUMULATIVE

| Fund | No. Received | No. Awarded | \$M Requested | \$M Awarded |
|-----------------------------------|--------------|--------------|---------------|----------------|
| Canada Research Chairs | 406 | 402* | 68.5 | 58.6 |
| College Research Development | 76 | 40 | 33.9 | 15.9 |
| Innovation | 1,223 | 586 | 3,034.9 | 1,318.9 |
| New Opportunities | 981 | 830* | 156.4 | 136.1 |
| Research Development (University) | 175 | 117* | 49.3 | 34.5 |
| Infrastructure Operating | n/a | n/a | n/a | 184.0 |
| Total | 2,861 | 1,975 | 3,343 | 1,748.0 |

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THE CFI INVESTMENT FISCAL 2001-2002

| Fund | No. Received | No. Awarded | \$M Requested | \$M Awarded |
|-----------------------------------|--------------|-------------|----------------|--------------|
| Canada Research Chairs | 367 | 362* | 62.8 | 53.1 |
| Innovation | 440 | 208 | 1,225.5 | 598.5 |
| New Opportunities | 240 | 220* | 40.4 | 37.4 |
| Research Development (University) | 9 | 9* | 2.4 | 1.7 |
| Infrastructure Operating | n/a | n/a | n/a | 184.0 |
| Total | 1,056 | 799 | 1,331.1 | 874.7 |

* Under these funds, each institution receives a budget envelope against which they submit applications. Using its three selection criteria, the CFI reviews applications that are pre-selected by the institutions based on their own research priorities.



DOUG DALE

BETTY CROWN

AT THE UNIVERSITY OF ALBERTA'S PROTECTIVE CLOTHING AND EQUIPMENT RESEARCH FACILITY, PROFESSOR **BETTY CROWN** AND HER TEAM ARE DESIGNING AND TESTING THE MATERIALS THAT WILL ENSURE THAT PROTECTIVE CLOTHING AND EQUIPMENT DO THEIR JOB.

They're also developing the best practices and designs to ensure that the clothing is comfortable—so workers will actually wear it. “There’s no point in developing protective clothing if people won’t put it on,” says Crown.

The facility—the only one of its kind in Canada—helps Crown and her team develop performance standards for protective clothing. With a contribution from the CFI, the researchers will be able to further their research by exposing mannequins dressed in protective clothing to flash fires and more extreme heat exposure. Rigged with sensors, the mannequins transmit data describing the degree of heat transfer through the clothing, and the level of burns that a real person is likely to receive.

There are approximately 230,000 people employed—directly and indirectly—in the petroleum industry in Canada, many of them working in positions where they need to wear protective clothing. There are thousands of municipal and rural firefighters across the country, as well as workers in a variety of industries involving chemical and hazardous materials, who will benefit from the research. “There are so many sectors that can benefit from protective clothing that I am sure it will be in the millions of people,” she says. And what about the added cost to industry? Crown says that’s even harder to calculate because it depends on what’s included in the cost/benefit analysis. “How do you value a person’s life, or calculate the cost to individuals who are disfigured badly for life?”

THE RESEARCH IS CRITICAL FOR THE OIL AND GAS INDUSTRY, SAYS BOB CUNNINGHAM, FORMER EXECUTIVE DIRECTOR OF THE CANADIAN PETROLEUM SAFETY COUNCIL. “THE RESEARCH INTO WHAT WORKS, WHAT DOESN’T WORK, AND WHAT STANDARDS WE NEED, IS VITAL TO OUR INDUSTRY FROM THE PERSPECTIVE OF SAVING LIVES,” HE SAYS.

BUILDING INTELLECTUAL CAPITAL

The CFI's funds are set up to finance infrastructure—the equipment, laboratories, and facilities that researchers need to help them dig deeply into the realms of human endeavour, and to forge beyond the boundaries of existing knowledge. But the funds are really about people: the bright minds and creative individuals who bring both passion and compassion to the problems they are working to solve. Funding from the CFI supports these talented researchers by providing them with the tools they need to move ahead.

Since our last annual report (2000–2001), the CFI has allocated more than \$874 million to 799 projects. That includes \$53 million in support for the recipients of 362 Canada Research Chairs, as well as contributions allocated through the Infrastructure Operating Fund.

In addition to the two International Funds and the Infrastructure Operating Fund, the CFI has funded research infrastructure via three other funds—each devoted to a separate purpose.

The Innovation Fund

The CFI's emphasis on co-operative planning and multi-disciplinary work is benefitting institutions as well as Canadian society. By focusing their planning and strategic goals to maximize the impact of contributions from the CFI, universities, colleges, hospitals, and not-for-profit institutions are shaping their own vision. In the process, they're laying the groundwork for new clusters of excellence—or reinforcing existing clusters—that are emerging all around the country.

The Innovation Fund—the CFI's flagship funding program—is helping institutions to strengthen their presence in all disciplines. As they identify priority areas, the institutions can apply for funds that enable them to do work currently beyond their reach, or to build the expertise they need to become international leaders in their highlighted fields.

Throughout this process, the fund has helped institutions to attract and retain researchers in areas of vital interest to Canada. This year, the CFI had planned to invest about \$350 million through the Innovation Fund. However, because of the high quality and strategic importance of the proposals that were put forward to the CFI, the Board of Directors awarded \$589 million to 208 infrastructure projects at 65 large and small research institutions across the country. This brings the total investment to date under this fund to \$1.3 billion.

Starting in 2001, the CFI has integrated into the Innovation Fund the support it previously provided under the University Research Development Fund and the College Research Development Fund. As our many success stories illustrate, ground-breaking research is occurring at colleges and smaller universities all across Canada. Often, that research is community-based or is addressing needs with highly practical and social applications.

The results of the last separate competition under the College Research Development Fund were announced in July 2000. The final competition results under the University Research Development Fund were announced in June 2001 with \$2.4 million allocated for nine projects at seven universities. Since 1998, the CFI has contributed \$50.5 million to support smaller universities and colleges through the Research Development Funds.

INNOVATION FUND – DISTRIBUTION (CUMULATIVE)

| CFI Contribution \$ | No. of projects | Contribution \$M | Project % | Contribution % |
|---------------------|-----------------|------------------|--------------|----------------|
| <200k | 102 | 12.1 | 17.4 | 0.9 |
| 200k to 1M | 189 | 102.6 | 32.3 | 7.8 |
| 1 to 2M | 105 | 149.9 | 17.9 | 11.4 |
| 2 to 5M | 129 | 420.5 | 22.0 | 31.9 |
| 5 to 10M | 40 | 256.8 | 6.8 | 19.5 |
| >10M | 21 | 377.0 | 3.6 | 28.6 |
| Total | 586 | 1,318.9 | 100.0 | 100.0 |



INNOVATION FUND – DISTRIBUTION BY PROJECT (FISCAL YEAR 2001–2002)

| CFI Contribution \$ | No. of projects | Contribution \$M | Project % | Contribution % |
|----------------------------------|-----------------|------------------|--------------|----------------|
| <200k | 13 | 1.6 | 6.3 | 0.3 |
| 200k to 1M | 66 | 37.1 | 31.7 | 6.3 |
| 1 to 2M | 45 | 64.3 | 21.6 | 10.9 |
| 2 to 5M | 55 | 191.1 | 26.4 | 32.4 |
| 5 to 10M | 16 | 105.3 | 7.7 | 17.9 |
| >10M | 13 | 190.0 | 6.3 | 32.2 |
| Sub-total | 208 | 589.4 | 100.0 | 100.0 |
| Adjustments to prior year awards | | 9.1 | | |
| Total | 208 | 598.5 | 100.0 | 100.0 |

The New Opportunities Fund

A decade ago, researchers interested in careers at Canadian universities and colleges were competing with each other for the rare faculty positions that were available. Today, the atmosphere and the challenge for Canada's research institutions have both changed dramatically. Universities and other institutions now find themselves competing with their counterparts around the world for the same researchers. As demographics begin to dictate the speed at which institutions must replace retiring faculty members, Canadian institutions need every possible advantage to ensure that the next generation of students, researchers, and teachers continues to excel.

The New Opportunities Fund offers a major advantage to Canadian universities in the global race to recruit top-notch research talent. The fund is also helping Canada reverse the brain drain by enabling universities to attract and retain leading researchers. Since the fund was launched, it has helped to jump-start the careers of over 1,200 new and talented faculty members. This past year, the fund allocated \$37.4 million to 220 projects at 48 universities. This brings the total contribution to date to \$136 million.

The Canada Research Chairs Infrastructure Fund

To enhance the Canada Research Chairs Program, and to ensure that our country's leading researchers have access to world-class facilities, the CFI has allocated \$250 million to support the recipients of these prestigious academic awards. Chairholders, both at senior levels and in career-building opportunities, use CFI contributions to acquire the laboratories, facilities, and equipment they need to carry out their research at Canadian universities. This year, the fund allocated \$53.1 million to support 362 chairs at institutions of all sizes and interests all across the country. To date, the CFI has invested \$58.6 million to support 402 research chair recipients.



AT 76, RETIRED BELL CANADA EMPLOYEE **KATHRINE GAYMAN** IS HEALTHY, ACTIVE, AND LIVING IN HER MISSISSAUGA, ONTARIO CONDOMINIUM.

After raising four daughters and working as a service manager, Gayman often helps other seniors who need more assistance than she does. But without a computer or the training to use it, she feels isolated from a world that increasingly relies on digital technology to connect people.

“I really feel left out of things,” says Gayman. “On television, they’ll say: ‘For more information, go to the Web.’ Or in advertisements, they’ll refer you to the Web site for more information.”

LIVING IN ONE OF THE MOST CONNECTED NATIONS, CANADIANS BENEFIT FROM THE WIDESPREAD AVAILABILITY OF COMPUTERS AND EASY ACCESS TO INFORMATION. YET, GAYMAN FEELS ELECTRONICALLY DISENFRANCHISED.



CFI INVESTMENT BY PROVINCE (CUMULATIVE)

| Province | No. of projects | Total awarded \$M |
|-------------------------------|-----------------|-------------------|
| British Columbia | 229 | 212.3 |
| Alberta | 213 | 163.9 |
| Saskatchewan | 58 | 41.5 |
| Manitoba | 81 | 26.9 |
| Ontario | 731 | 532.0 |
| Quebec | 509 | 425.5 |
| New Brunswick | 39 | 8.7 |
| Nova Scotia | 73 | 23.3 |
| Prince Edward Island | 9 | 4.6 |
| Newfoundland | 26 | 11.2 |
| Canada – national projects | 7 | 114.1 |
| Infrastructure Operating Fund | n/a | 184.0 |
| Total | 1,975 | 1 748.0 |

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CFI INVESTMENT BY PROVINCE (FISCAL YEAR 2001–2002)

| Province | No. of projects | Total awarded \$M |
|-------------------------------|-----------------|-------------------|
| British Columbia | 95 | 102.2 |
| Alberta | 101 | 105.1 |
| Saskatchewan | 30 | 21.1 |
| Manitoba | 24 | 10.7 |
| Ontario | 297 | 220.3 |
| Quebec | 194 | 194.8 |
| New Brunswick | 13 | 3.6 |
| Nova Scotia | 26 | 7.4 |
| Prince Edward Island | 7 | 3.9 |
| Newfoundland | 9 | 5.2 |
| Canada – national projects | 3 | 16.4 |
| Infrastructure Operating Fund | n/a | 184.0 |
| Total | 799 | 874.7 |



PAT SPADAFORA IS DIRECTOR OF THE NEW SHERIDAN ELDER RESEARCH CENTRE WHERE STUDENTS WILL LEARN TO PROVIDE TECHNOLOGY SUPPORT AND TRAINING FOR SENIORS IN THEIR OWN HOMES.

The unique facility, located on the Sheridan College campus, is set to begin operating in September 2003. It will include an Internet café with 12 computer stations and will house research projects designed to improve the quality of seniors' daily lives. To do that, students and researchers will help seniors in a variety of ways—including helping them access information through technology, and exploring the relationship between appearance and self-esteem. They'll also provide day program services for elders with Alzheimer's.

Researchers at Sheridan have already begun asking seniors, including Gayman, to identify their needs. "This will be applied research that will directly benefit older adults and improve and enhance their quality of life," says Pat Spadafora, director of the Sheridan Elder Research Centre.

Funded in part by the CFI, the centre will house an Alzheimer's day program—the first of its kind on a post-secondary campus in Canada. The centre will be operated by the Halton chapter of the Victorian Order of Nurses. But it will allow Sheridan's social service worker-gerontology students, as well as others, to work directly with people with Alzheimer's disease.

Spadafora says the centre will also combine inter-disciplinary research in some unusual combinations, like social work and interior design. An interior design studio at the centre will equip students to find ways to help seniors stay in their own homes longer—by making the homes more senior friendly. And through the centre's specialized cosmetics laboratory, students in Sheridan's Cosmetics Management and Techniques Program will conduct research on the importance of self-image and self-esteem to seniors.

AS CANADA'S POPULATION AGES, THE PRACTICAL APPLICATION OF THE RESEARCH THAT SPADAFORA AND HER TEAM DEVELOP WILL BECOME INCREASINGLY IMPORTANT. "ONE OF THE PRIMARY ROLES OF SOCIAL WORK IS ADVOCACY," SAYS SPADAFORA. "I AM DRAWN TO ADVOCATING ON BEHALF OF, AND FOR, OLDER ADULTS."

COMMERCIALIZING RESEARCH RESULTS

Canadian universities are experiencing a significant shift in the way knowledge is being transferred to users in all sectors of our society. From environmental information critical to policy-making, to medical breakthroughs and technology development, Canadian institutions are becoming more entrepreneurial, more innovative, and more connected to the economy and the people who benefit most from the research.

This shift is often described as the “commercialization of university research.” It is beginning to have a significant impact and is resulting in financial benefits—not only for the institutions but for the local economies. This encouraging trend is not limited to large universities. It is also well entrenched in the culture and performance of colleges and smaller institutions in every province.

When the CFI first developed its funding programs and was determining the selection criteria for funding, it adopted “potential benefits to Canada” as one of its key criteria. As part of this, expert committees review the potential of each application to generate benefits to Canada, in terms of job creation and economic growth, and/or improvements to our health, society, and environment.

Through various evaluations of its programs, as well as its annual independent analysis of the progress reports submitted by researchers, the CFI is identifying evidence that knowledge is being successfully transferred and commercialized in every region. The following stories illustrate this success:

- **Researchers all around the world are engaged in a race to transform the potential of human genomics into a reality that can cure disease. A researcher at the University of Calgary, Dr. Derrick Rancourt, has teamed up with two other researchers to form a small company called NeuroStasis. The company creates models to help scientists study the role of genes in neurological disorders and in triggering brain repairs. In 2001, the company hired eight scientists on either a full- or part-time basis.**
- **A CFI-supported research facility at Queen’s University may radically improve patient care by providing clinicians with access to real-time patient information, decision support, and alert—all at the patient’s bedside. Dr. David Goldstein is leading the research team whose work has led to the creation of a new company called Portable Health Intelligence. The company is developing alliances with other companies in Canada and abroad and is offering complementary technologies.**
- **At the University of Waterloo, CFI support for the Bell Emergis Labs helped launch four spin-off companies in 2001. Located in the Waterloo area, the companies—Bioinformatics, Ignis, Sirific, and 3C Infotech—created 35 jobs and submitted five patent applications in 2001.**
- **An optoelectronics facility at Laval University has helped to attract four postdoctoral fellows from abroad, and has provided a cutting-edge training environment for eight graduate students. In 2001, a license was awarded to a Quebec City start-up company to exploit and commercialize the technology developed by Dr. Sophie Larochelle and her team. This technology transfer has led to the creation of 30 new jobs in the region.**

**“THE NEW OPPORTUNITIES FUND IS WELL DESIGNED AND IS SEEN BY
MANY UNIVERSITY ADMINISTRATORS AS A MODEL PROGRAM.”**

**—THE FIRM OF HICKLING ARTHURS LOW IN THEIR 2002
NEW OPPORTUNITIES FUND EVALUATION**



SELECTING THE BEST

The CFI application and selection process is designed to produce results that stand the test of international excellence. Canadians can be satisfied that the rigorous demands of the selection process result in awards that are incontestable when it comes to demonstrating the quality of research at institutions across the country.

The CFI selection process is widely accepted and respected by both the academic community and the research users who recognize its fairness and integrity.

The CFI's Multidisciplinary Assessment Committees review each proposal independently against a strict standard that considers:

- the quality of the research and the need for the infrastructure;
- the project's contribution to strengthening the country's capacity for innovation; and
- the potential benefits for Canada.

Depending on the scope and nature of the proposal, the Multidisciplinary Assessment Committees may also seek advice from:

- external reviewers who provide their individual expert opinion, and who take into account the suitability, budget, and management of the proposed infrastructure and the quality of the research that will be done with it; or
- expert committees that review a number of infrastructure projects in areas such as imaging, water, and high-performance computing.

This thorough assessment of each proposal ensures that only the best infrastructure projects, in a broad range of areas and disciplines, are recommended for funding.

External reviewers and members of the Multidisciplinary Assessment Committees come from every region of Canada and from abroad. They are comprised of a balanced combination of men and women who are selected for their professional or academic stature, and who are recognized for their expertise in research, research management, and research use. In addition, the committees provide balanced linguistic representation to ensure the fair review of proposals submitted in either official language.

All CFI committee members and reviewers adhere to the highest ethical standards and sign a confidentiality and non-disclosure agreement. They also agree not to represent the interest of any institution, individual, discipline, or organization.

The final decision to approve projects is made by the CFI Board of Directors.



WHEN **LILIANA FEDIN'S** CONTRACTIONS STARTED, THE FIRST-TIME MOTHER WAS PETRIFIED.

Fedin knew her baby was coming much too early. She was only in her 25th week of pregnancy—more than three months before the average 39 weeks that results in a full-term infant. Rushed to a Montreal hospital, Fedin took medication designed to stop her contractions. “I tried everything to keep the baby from coming,” Fedin remembers. But it didn't help. Five days after the contractions began, she gave birth to a tiny baby girl, weighing less than two pounds.

THE NEWBORN COULDN'T BREATHE ON HER OWN. SHE WAS HOOKED UP TO AN INCUBATOR. BABY LAURA HAD A 50-50 CHANCE OF SURVIVING HER FIRST WEEK.



ACCOUNTABILITY

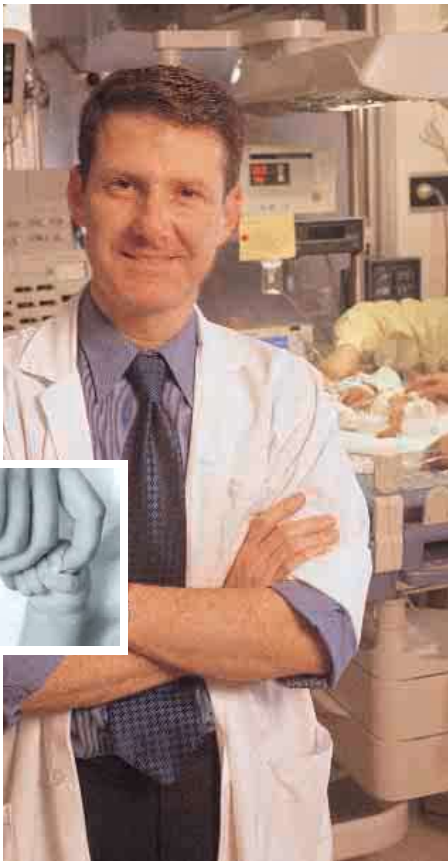
The CFI operates in a fair and transparent manner in all its programs and financial operations, and at all levels of its decision-making process. Although the Foundation is not subject to a formal, annual parliamentary appropriation process, it is fully committed to public accountability for both its finances and the policy goals for which the CFI was established. The CFI regularly makes presentations to parliamentary committees and provides briefings to Members of Parliament regarding the Foundation's activities and impact.

Research institutions that receive CFI support are required to submit annual progress reports. These reports describe the impact of each project and the overall effect of the funding on the institution. They also document the benefits for Canadians that the CFI research has helped to finance. Institutional reports are posted on the CFI's Web site for public access.

Institutions are also required to demonstrate their financial accountability. All institutions that receive CFI funding must submit yearly financial reports. They must also undergo financial audits. Any project that receives \$4 million or more from the CFI is automatically audited by Ernst & Young LLP, which samples other projects as well. This system of financial and policy accountability ensures that the CFI investment and its matching funds are used as they were originally intended. Other non-audit services provided by Ernst & Young LLP during the year include an in-kind contribution study.

External reviews and evaluations are also conducted so that Canadians can be confident that their tax dollars are being put to good use. In January 2002, the firm of Hickling Arthurs Low completed an evaluation of the New Opportunities Fund. In its report, the firm stated that:

- **The New Opportunities Fund is a timely initiative that has enabled universities to recruit and retain outstanding researchers.**
- **The fund provided new investigators with access to state-of-the-art equipment and facilities that have accelerated their careers.**
- **For two-thirds of researchers, the new infrastructure is a major factor in attracting more high-quality graduate students and providing them with better training.**
- **Canada should continue its infrastructure investments so the country can attract new talent and upgrade the scientific equipment necessary to maintain and improve research competitiveness.**



DR. SYLVAIN CHEMTOB IS A NEONATAL SPECIALIST AT THE UNIVERSITÉ DE MONTRÉAL. HE SPECIALIZES IN THE PREVENTION OF PREMATURE AND IN THE TREATMENT OF ITS COMPLICATIONS.

For the last 20 years, Dr. Chemtob says the rate of premature births has been rising in North America for reasons that are still unclear. What researchers do know is the toll that it can take on the children: visual disorders, respiratory problems, and neurological complications. Prematurity and its complications, as well as the follow-up treatment for these children, also has an economic cost—about \$10 billion US each year in the United States and Canada.

Thanks in part to a contribution from the CFI, Dr. Chemtob and his team of investigators at the university have taken a giant step forward in developing a new drug to stop contractions and prevent premature births. The drug, which has been purchased by a pharmaceutical company, is now in the pre-clinical testing stage.

The holder of a Canada Research Chair, Dr. Chemtob is also a world leader in the area of retinal vasculature and functional disorders of the retina in premature infants. Dr. Chemtob says his team's identification of the physiological factors that result in hemorrhages and too much blood flow to a premature infant's brain has also made the team's researchers leading experts in this area.

TODAY, LILIANA'S DAUGHTER LAURA IS ONE OF THE LUCKY ONES. DESPITE HER PREMATURE BIRTH, SHE HAS NO SERIOUS COMPLICATIONS. ONCE DR. CHEMTOB AND HIS TEAM ARE ABLE TO IDENTIFY THE PHYSIOLOGICAL FACTORS CAUSING THE NEUROLOGICAL COMPLICATIONS IN OTHER PREMATURE INFANTS, THEY HOPE THOSE BABIES WILL BE AS LUCKY AS LAURA.

The firm's report concluded that the objectives of the New Opportunities Fund "are realistic, reasonable, and are being reached." According to the review, 41 percent of the researchers were located outside the country prior to accepting their first faculty appointment. Of these researchers, 30 percent were from the United States. Since 1998, 1,200 researchers have benefited from the New Opportunities Fund.

In 2001, The Royal Society of Canada—the Canadian academy for the sciences and humanities—was mandated to review the impact of CFI investments in research infrastructure at Canadian universities, hospitals, colleges, and not-for-profit research organizations. An international panel was appointed by the society to conduct the review. Among the panel's key conclusions:

- The CFI will have a long-term positive impact on the institutions' research and training capacity.
- The CFI programs provide a major incentive to nurture a culture of strategic planning of research activities among institutions.
- The CFI has shown a capacity to progressively introduce novel frameworks for its funding.
- The CFI is recognized for the flexibility and sensibility of its programs, and is expected to continue to meet the infrastructure needs of innovative Canadian research.

The report also recommends that the CFI reinforce its policy to work in close co-operation with the research granting councils—to ensure the maximum benefits to Canadian universities and research institutions. The panel's full report is available on the CFI and Royal Society Web sites.

REMUNERATION OF THE BOARD OF DIRECTORS

Directors who opt to receive remuneration from the CFI are entitled to an annual retainer of \$5,000. They are also entitled to receive a per-meeting fee of \$500 for attending Board or committee meetings, and a \$250 fee for attending a committee meeting associated with a Board meeting.

This policy respects the guidelines established by the Government of Canada entitled, "Remuneration Guidelines for Part-Time Governor in Council Appointees in Crown Corporations."

COMPENSATION OF SENIOR MANAGEMENT

Compensation of the CFI's senior management for the fiscal year ending March 31, 2002, was within the annual salary ranges listed below. These ranges were approved following a 2001 benchmarking exercise by external consultants to ensure comparability with equivalent positions in similar organizations and in the federal public service.

| Name and position | Annual salary range |
|---|----------------------------|
| David W. Strangway <i>President & CEO</i> | \$166,800 to \$196,300 |
| Denis Gagnon <i>Senior Adviser to the President</i> | \$119,100 to \$151,000 |
| Carmen Charette <i>Senior Vice-President</i> | \$119,100 to \$151,000 |
| Manon Harvey <i>Vice-President, Corporate Services</i> | \$103,600 to \$126,700 |
| Suzanne Corbeil <i>Vice-President, External Relations</i> | \$103,600 to \$126,700 |

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VOLUNTEERS

The CFI benefits from the support of a network of Canadian and international researchers, administrators, and research users who volunteer their time and expertise to ensure that the Foundation funds world-class projects that benefit Canadians.

Since 1998, more than 2,000 experts have served on CFI committees—or as reviewers—and have assessed over 2,800 infrastructure proposals submitted by universities and research institutions in every province.

More than one-third of these volunteer experts are from prestigious research institutions in other countries. Their knowledge and contribution play a critical role in ensuring that the projects funded are internationally competitive and help to strengthen Canada's scientific reputation.

Each year, the CFI conducts a survey of its multidisciplinary assessment committee members. The Foundation was pleased to discover that 91 percent of them indicated their willingness to serve in the same capacity again. Among experienced members, 86 percent reported that the quality of the proposals they reviewed in 2001 was as good or better as that of proposals submitted in previous years.



CELEBRATING SUCCESS

UNIVERSITY OF MANITOBA

FRANK BURCZYNSKI

“Slip, Slap, Slop.” That’s the slogan the Canadian Cancer Society uses to promote the use of sunscreen to protect the skin from harmful ultraviolet rays that can ultimately cause skin cancer. The slogan stands for “slip” on a shirt, “slap” on a hat, and “slop” on the sunscreen. Equally widespread advice prompts parents to slather insect repellents on their children and on their own skin. But despite all the emphasis on health and safety, a serious question lingers. What if current sunscreen products and insect repellents aren’t as safe as consumers believe?

At the University of Manitoba, **Frank Burczynski** and his research team are working at the new Skin Research Facility to test the long-held assumption that sunscreen and insect repellents are safe and effective. Recent research has established that instead of staying on the skin and acting as a barrier to the sun, some of the chemicals in sunscreen, such as oxy benzene, penetrate the skin and are absorbed into the bloodstream. That may seem innocent enough, but the long-term effects that those chemicals have on the body are largely unknown.

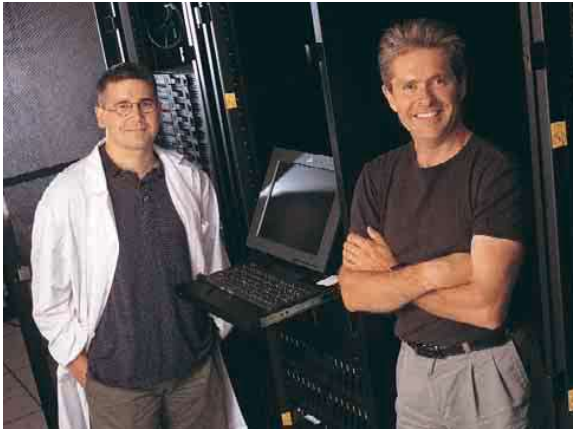
With a contribution from the Canada Foundation for Innovation, the University of Manitoba researchers have renovated laboratories in the Faculty of Pharmacy to create a state-of-the-art skin research facility. The focus of their research? They are investigating new ways to formulate sunscreen and other cosmetic products so that potentially harmful chemicals aren’t absorbed by the skin. They’re also documenting the effects of the absorption of existing products by both children and adults.

In addition, the facility gives scientists the tools and opportunities they need to develop new ways of delivering drugs—for example, through patches and lotions that can be applied to the skin. New drug-delivery systems hold the potential to deliver treatments more effectively. They also have a tremendous commercial application, with the potential for major economic benefits for Canada. Scientists at the Skin Research Facility are also working to provide safer, more effective alternatives to existing sunscreen and insect repellents, preventing possible toxic consequences for people in Canada and around the world.

XIAOCHEN GU

FRANK BURCZYNSKI





UNIVERSITY OF SASKATCHEWAN

ANTHONY KUSALIK

Finding patterns among gene sequences is a lot like looking for a needle in a haystack.

It's a particularly frustrating task for researchers who want to find those patterns so they can one day develop new drugs or better treatment therapies for patients with acute adult leukemia.

With the help of a new supercomputer that can process and store immense amounts of data, **Anthony Kusalik** and his team at the University of Saskatchewan are getting a step closer to finding the patterns they seek. The computer—affectionately nicknamed GNOME—is the star attraction at the university's Bioinformatics and Computational Biology

Research Laboratory. The CFI's contribution to the lab was augmented by IBM Canada, which supplied the computer equipment. Researchers from many disciplines—probability and statistics, chemistry, biochemistry, medicine, computer science, and genomics—are using the computer to solve complex calculations that would otherwise have taken literally centuries to complete.

One of the key projects relying on the bioinformatics lab for help is a study that compares samples from more than 100 patients with adult acute leukemia. Researchers have long wondered why some patients with this disease respond well to conventional chemotherapy, while others do not respond at all, and yet another group responds initially but then relapses. By using the supercomputer to analyze and compare tens of thousands of DNA "spots" from each patient, the scientists hope to find patterns in the gene sequences that will help them predict which patients will respond to what drugs.

John DeCoteau is the hematopathologist who is taking the leukemia samples and profiling them. "You can imagine that you get a huge amount of information that you have to be able to manage," he says. "If you look at 19,000 genes at a time in 100 patients, you've got 1.9 million pieces of data to try to sort out—to find recurring patterns that are meaningful."

Without the bioinformatics lab, DeCoteau says he couldn't do the work. If his team had to try to compare gene sequences by eye alone, they'd be "chasing their tail most of the time."

DeCoteau works with Anthony Kusalik, the director of the new laboratory. Kusalik, in turn, has access to IBM software that is helping to refine the gene sequencing comparison. Together, the marriage of biology, computer science, probability, and statistics—as well as private/public sector co-operation—is working towards life-saving discoveries.

UNIVERSITY OF NEW BRUNSWICK

PEARL SULLIVAN

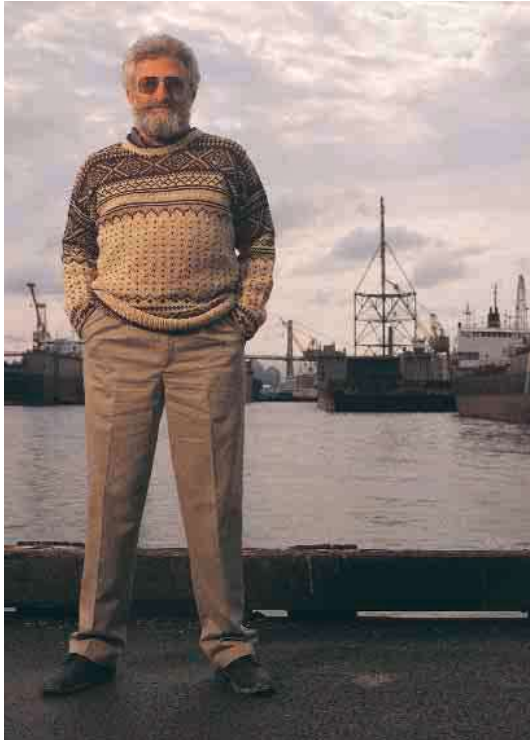
A multi-disciplinary team of researchers led by **Pearl Sullivan** at the Department of Mechanical Engineering, University of New Brunswick (UNB), is honing a technology that is looming large in the aerospace industry. The team is developing "smart structures" that can detect changes in materials as they occur in service and then take action. This new and innovative technology will enable aircraft manufacturers to better understand how design and manufacturing can affect aircraft structure performance to prevent damage and accidents that can cost lives.

Researchers are embedding fibre-optic sensors within graphite-epoxy composite laminates, now used extensively in military aircraft, and increasingly in the manufacture of civilian aircraft.

Developed by **Xiaoyi Bao**, a physicist at the University of Ottawa, the unique aspect of this sensing system is the ability of a single fibre to perform two functions at the same time—to detect both temperature and strain. By *in-situ* monitoring of the composites during manufacturing and subsequently under in-service load, researchers hope to learn how cracks initiate and grow, even in structures apparently defect-free after manufacturing.

Using a contribution from the Canada Foundation for Innovation, UNB has acquired equipment to process composite materials and to characterize the "cure" process. The existing sensing system has also been upgraded and adapted accordingly. Ultimately, the team hopes their technology will allow detection of otherwise invisible sub-surface damage in aircraft structures before catastrophic failure occurs. Once implemented, this technology—unique in the world—will give Canada a major competitive advantage in the highly specialized aerospace industry.





DALHOUSIE UNIVERSITY

JOHN CULLEN

When the gales of November blow over the Atlantic Ocean, the residents of Prince Edward Island, Canada's smallest province, have learned to take heed. On more than one occasion, coastal residents have found themselves fleeing their flooded homes in fire department boats. They have watched as Charlottetown's aptly named Water Street is submerged under several metres of water. And they have evacuated their communities for higher ground—if they've had enough time before the storm hit.

With the help of a contribution from the CFI, **John Cullen** and a team of researchers at Halifax's Dalhousie University are developing an innovative Marine Environmental Prediction System that will give the people of low-lying coastal communities in P.E.I. the warning they need to evacuate safely before storms hit. The system can be deployed in coastal inlets and carries with it sensors that measure velocity, waves, ocean bottom stress, and other data from the ocean and its shelves. The details are then transmitted in real time, over high-speed data links, to the Centre for Marine Environmental Prediction at Dalhousie. There, researchers analyze the information, which enables them to predict and warn residents about storm surges and flooding.

Dalhousie University's researchers will also use their Marine Environmental Prediction System to collect data about the physical, chemical, and biological changes that take place in the marine environment. That information will help them assess the impact of climate change and coastal development. Being able to systematically observe and predict changes is essential for the conservation of fish stocks, protection from flooding, and the planning of coastal development. Dalhousie's one-of-a-kind concept, design, and execution have placed the university at the forefront of this emerging field. Since other coastal areas around the world are even more vulnerable to climate change than Canada, the researchers hope to export their knowledge and technology to help other countries.

MEMORIAL UNIVERSITY OF NEWFOUNDLAND

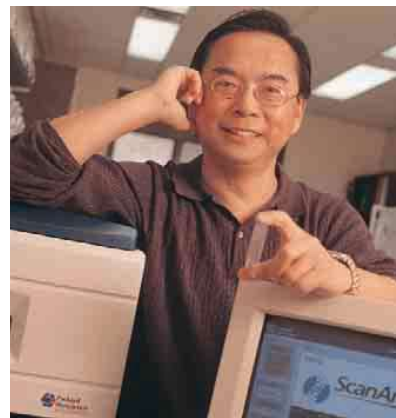
GUANG SUN

In the rural outposts of Newfoundland, Memorial University researchers have discovered an exceptional opportunity to identify the genes that contribute to obesity, diabetes, and hypertension. Most of Newfoundland's 550,000 people are descendants of 25,000 immigrants who arrived on the Rock between 200 and 300 years ago. The province's geographic isolation has contributed to the formation of this unique gene pool—an intriguing and vital source of information for geneticists.

With the help of a contribution from the CFI, **Guang Sun** and his research team at Memorial University have acquired the tools they need to create a laboratory that will facilitate advanced research in genetic and molecular epidemiology. They are studying pairs of siblings to find the answers to questions such as: Why does one sibling suffer from obesity while the other does not? They are also conducting family studies to try to identify the gene or genes causing Type 2 diabetes, hypertension, and other complex diseases.

As many as 35 percent of Canadian men and 26 percent of women are obese, according to the National Population Health Survey of 1994. The number of obese children more than doubled from 1981 to 1996. Obesity brings with it the risk of heart attack, stroke, and diabetes, as well as the social stigma and blame attached to those suffering from obesity.

Identifying the genes linked to obesity is the first step towards diagnosis and treatment. The Memorial University researchers believe their work will also form the basis for the discovery of gene therapy or new drugs to treat obesity. The people of Newfoundland who contribute to the research are playing a crucial role in the breakthroughs that could revolutionize the way these diseases are treated, improving and saving lives not only in Canada but around the world.



**UNIVERSITY OF
PRINCE EDWARD ISLAND**

FREDERICK KIBENGE

In 1996, a devastating viral disease known as infectious salmon anemia (ISA) struck New Brunswick's farmed salmon industry. A tricky virus, ISA is capable of frequently changing, and the disease was initially diagnosed as hemorrhagic kidney syndrome. In order to contain the spread of the disease, the province instituted disinfection measures. Eventually, New Brunswick ordered one-third of its annual salmon production destroyed—a total of about two million fish. The outbreak cost the province \$16 million in compensation to salmon farmers. Although a vaccine was later developed and used, in 1999 the virus was again found in both wild salmon and farmed salmon that had escaped their pens.

Scientists led by **Frederick Kibenge** at the University of Prince Edward Island (UPEI) believe Canada needs a reference centre for fish pathogens such as viruses, bacteria, fungi, and parasites. They also want a greater knowledge base so that when an outbreak like the 1996 infection occurs, they can quickly diagnose and treat it. Delays in isolating and identifying the cause of fish deaths in 1996 and 1997 were partly due to this lack of infrastructure and knowledge.

At the new Centre for Marine and Aquatic Resources at UPEI, researchers are using a CFI contribution to develop the critical mass of expertise required to safeguard the marine resources that make up a major portion of Atlantic Canada's economy. The centre positions UPEI as a national and international leader in aquatic biology and fish health research, and enhances the institution's ability to respond to emerging infectious diseases.

In addition to studying the genetic makeup of aquatic species and the genomes of emerging pathogens, researchers at the Centre for Marine and Aquatic Resources will set up and maintain a national reference centre for viral, bacterial, and parasitic pathogens. They'll also investigate the way that climate change, pollution, over-exploitation, and management practices are affecting marine species. On a land-based model farm, researchers testing their discoveries will be able to develop best practices and then apply them to real-life situations.



“THE CFI AND THE CANADA RESEARCH CHAIRS PROGRAM ARE GOOD INITIATIVES. THEY MAKE IT DIFFICULT EVEN FOR THE UNITED STATES TO COMPETE FOR TOP POST-GRADUATES.”

—DR. SYLVAIN CHEMTOB, UNIVERSITÉ DE MONTRÉAL



RESPONSIBILITY FOR FINANCIAL REPORTING

The financial statements of the CFI were prepared by CFI management, which is responsible for the integrity and fairness of the data presented. In certain cases, the data may include amounts that are based on best estimates and judgment. The financial statements were prepared in accordance with generally accepted accounting principles, including the accounting recommendations for not-for-profit organizations in Canada. Financial information appearing throughout this annual report is consistent with the financial statements.

In discharging its responsibility for the integrity and fairness of the financial statements, and for the accounting systems from which they are derived, management maintains the necessary system of internal controls. This system is designed to provide assurance that transactions are authorized, assets are safeguarded, and proper records are maintained. The CFI's external auditors who periodically review and evaluate the accounting records and related internal controls, and who report any findings to management, further validate the system. The external auditors' findings and recommendations are reported to the CFI's Audit and Finance Committee and to the Board of Directors.

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The Board of Directors oversees management's responsibilities for financial reporting through the Audit and Finance Committee. The committee reviews the financial statements and recommends them to the Board for approval and submission to the Members. The committee's other key responsibilities include reviewing the budgets, internal control procedures, investments, and advising the Directors on auditing matters and financial reporting issues.

Ernst & Young LLP, independent auditors appointed by CFI Members on the recommendation of the Audit and Finance Committee, have examined the financial statements and their report follows. The independent auditors have full and unrestricted access to both the Audit and Finance Committee and the Board of Directors—to discuss their audit and the related findings about the integrity of the financial reporting, and the adequacy of the system of internal controls.

Lorne A. Babiuk
Chair,
Audit and Finance Committee

Manon Harvey, CA
Vice-President,
Corporate Services



CFI FINANCIAL STATEMENTS

AUDITORS' REPORT

CFI 25

To the Members of the
Canada Foundation for Innovation

We have audited the balance sheet of the Canada Foundation for Innovation as at March 31, 2002 and the statements of operations and cash flows for the year then ended. These financial statements are the responsibility of the Foundation's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Foundation as at March 31, 2002 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

Ernst + Young LLP

Ottawa, Canada
May 9, 2002

Chartered Accountants

BALANCE SHEET (AS AT MARCH 31)

| ASSETS | 2002 \$ | 2001 \$ |
|--------------------------------------|----------------------|----------------------|
| Cash | 12,740,774 | 16,009,840 |
| Interest and other receivables | 53,361,864 | 36,267,053 |
| Investments [note 2] | 2,896,421,310 | 1,739,836,187 |
| Prepaid expenses | 150,010 | 2,400 |
| Capital assets [note 3] | 1,766,002 | 259,089 |
| | 2,964,439,960 | 1,792,374,569 |
| LIABILITIES AND NET ASSETS | 2002 \$ | 2001 \$ |
| Accounts payable and accrued charges | 497,625 | 238,380 |
| Deferred contributions [note 4] | | |
| Expenses of future periods | 2,962,176,333 | 1,791,877,100 |
| Capital assets | 1,766,002 | 259,089 |
| Sub-total - Deferred contributions | 2,963,942,335 | 1,792,136,189 |
| Commitments [note 6] | — | — |
| Net assets [note 5] | — | — |
| | 2,964,439,960 | 1,792,374,569 |

See accompanying notes

STATEMENT OF OPERATIONS (YEAR ENDED MARCH 31)

| REVENUES | 2002 \$ | 2001 \$ |
|--|--------------------|--------------------|
| Recognition of deferred contributions relating to amounts granted to eligible recipients | 231,350,443 | 183,201,622 |
| Recognition of deferred contributions relating to current year operations | 7,510,395 | 4,828,043 |
| Amortization of deferred contributions relating to capital assets | 262,974 | 138,570 |
| | 239,123,812 | 188,168,235 |
| EXPENSES | 2002 \$ | 2001 \$ |
| Grants to eligible recipients | 231,350,443 | 183,201,622 |
| General and administration | 7,510,395 | 4,828,043 |
| Amortization of capital assets | 262,974 | 138,570 |
| | 239,123,812 | 188,168,235 |
| Excess of revenues over expenses | — | — |

See accompanying notes

STATEMENT OF CASH FLOWS (YEAR ENDED MARCH 31)

| OPERATING ACTIVITIES | 2002 \$ | 2001 \$ |
|---|------------------------|----------------------|
| Excess of revenues over expenses | — | — |
| Items not involving cash: | | |
| Amortization of capital assets | 262,974 | 138,570 |
| Amortization of deferred contributions related to capital assets | (262,974) | (138,570) |
| Net increase (decrease) in deferred contributions related to expenses of future periods | 1,170,299,233 | (80,902,900) |
| Change in non-cash operating working capital | (16,983,176) | (18,473,412) |
| Cash provided by (used in) operating activities | 1,153,316,057 | (99,376,312) |
| FINANCING AND INVESTING ACTIVITIES | 2002 \$ | 2001 \$ |
| Purchase of capital assets | (1,769,887) | (272,432) |
| Increase in deferred contributions related to capital assets | 1,769,887 | 272,432 |
| Net purchase of investments | (1,156,585,123) | (787,569,312) |
| Cash used in financing and investing activities | (1,156,585,123) | (787,569,312) |
| Net decrease in cash | (3,269,066) | (886,945,624) |
| Cash, beginning of year | 16,009,840 | 902,955,464 |
| Cash, end of year | 12,740,774 | 16,009,840 |

See accompanying notes

GENERAL

The Canada Foundation for Innovation ["the Foundation"] was incorporated under Part 1 of the Budget Implementation Act, 1997 on April 25, 1997 for the purpose of making research infrastructure grants to Canadian universities, colleges, hospitals, and other not-for-profit research institutions to increase the capability of carrying on high quality research.

1. SIGNIFICANT ACCOUNTING POLICIES

The financial statements have been prepared by management in accordance with Canadian generally accepted accounting principles.

a) Revenue recognition

The Foundation follows the deferral method of accounting for contributions which include government grants and, potentially, donations from other sources.

Under the Budget Implementation Act, 1997 [“the Act”], the Foundation received a grant from the Government of Canada in the amount of \$800 million plus accrued interest of \$964,384 to be held, invested, administered and disbursed in accordance with the Act and the related funding agreement between the Foundation and the Government of Canada. An additional grant of \$200 million was committed to the Foundation in the 1999 federal budget and a grant of \$900 million was committed in the 2000 federal budget. Both amounts were received in the fiscal year ended March 31, 2000. As well, an additional grant of \$500 million was committed to the Foundation in the October 2000 federal Economic Statement and Budget Update, and the Government of Canada announced, in March 2001, a further \$750 million investment in the Foundation. The total funding of \$1,250 million announced in the fiscal year ended March 31, 2001 was received and recorded in the fiscal year ended March 31, 2002.

Grants received, together with future investment revenue, are directed to the granting of amounts to eligible recipients and the payment of the Foundation’s operating expenses and acquisition of capital assets in accordance with the requirements of the Act and the terms of the funding agreement. Grants received and future restricted interest earned on the invested amounts will be deferred and recognized as income as expenditures are incurred by the Foundation.

Contributions applied toward the purchase of capital assets are deferred and amortized to revenue on a straight-line basis, at a rate corresponding with the amortization rate for the related capital assets.

b) Grants to eligible recipients

Grants to eligible recipients are recognized as expenses as the awarded funds are disbursed.

c) Investments

Investments are recorded at cost. Premiums or discounts are amortized over the remaining term of the investments. If the market value of investments becomes lower than cost and this decline in value is considered to be other than temporary, the investments are written down to market value.

d) Capital assets

Purchased capital assets are recorded at cost. Contributed capital assets, if any, are recorded at fair value at the date of contribution. Repairs and maintenance costs are charged to expense. When a capital asset no longer contributes to the Foundation’s ability to provide services, its carrying amount is written down to its residual value.

Capital assets are amortized on a straight-line basis using the following annual rates:

| | |
|-------------------------------|----------------------------|
| Leasehold improvements | Over the term of the lease |
| Furniture and other equipment | 20% |

2. INVESTMENTS

Investments comprise the following financial instruments:

| | March 31, 2002 | | March 31, 2001 | |
|--------------------------------|----------------------|----------------------|----------------------|----------------------|
| | Cost \$ | Market Value \$ | Cost \$ | Market Value \$ |
| Money-market funds | 138,936,132 | 138,893,578 | 50,996,069 | 51,031,682 |
| Bonds | 2,436,171,510 | 2,456,901,830 | 1,462,467,541 | 1,492,802,115 |
| NHA Mortgage backed securities | 321,313,668 | 327,012,274 | 226,372,577 | 232,534,863 |
| | 2,896,421,310 | 2,922,807,682 | 1,739,836,187 | 1,776,368,660 |

3. CAPITAL ASSETS

Capital assets consist of the following:

| | March 31, 2002 | | March 31, 2001 | |
|-------------------------------|------------------|-----------------------------|----------------|-----------------------------|
| | Cost \$ | Accumulated Amortization \$ | Cost \$ | Accumulated Amortization \$ |
| Leasehold improvements | 1,254,621 | 60,146 | 111,393 | 66,863 |
| Furniture and other equipment | 950,646 | 379,119 | 444,738 | 230,179 |
| | 2,205,267 | 439,265 | 556,131 | 297,042 |
| Accumulated amortization | (439,265) | | (297,042) | |
| Net book value | 1,766,002 | | 259,089 | |

4. DEFERRED CONTRIBUTIONS

a) Expenses of future periods

Deferred contributions related to expenses of future periods represent unspent externally restricted grants, together with investment revenue earned, for the purpose of providing grants to eligible recipients and the payment of operating and capital expenditures in future periods.

| | 2002 \$ | 2001 \$ |
|--|----------------------|----------------------|
| Balance, beginning of year | 1,791,877,100 | 1,872,780,000 |
| Add grants received [note 1a] | 1,250,000,000 | — |
| Add restricted investment revenue earned | 160,929,958 | 107,399,197 |
| Less amount recognized as revenue | (238,860,838) | (188,029,665) |
| Less amount applied toward capital assets acquired | (1,769,887) | (272,432) |
| Balance, end of year | 2,962,176,333 | 1,791,877,100 |

b) Capital assets

Deferred contributions related to capital assets represent the unamortized amount of restricted grants received and applied toward the purchase of capital assets. The amortization of capital contributions is recorded as revenue in the statement of operations on the same basis as the amortization of the related capital assets.

| | 2002 \$ | 2001 \$ |
|---|------------------|----------------|
| Balance, beginning of year | 259,089 | 125,227 |
| Restricted grants applied toward the purchase of capital assets | 1,769,887 | 272,432 |
| Less amount amortized to revenue | (262,974) | (138,570) |
| Balance, end of year | 1,766,002 | 259,089 |

5. RESTRICTED CONTRIBUTIONS AND NET ASSETS

All of the net assets of the Foundation are subject to externally imposed restrictions as per the requirements of the Budget Implementation Act, 1997 which governs the Foundation and the terms of the related funding agreement between the Foundation and the Government of Canada. Investment revenue to be earned on the grants received from the Government of Canada is also restricted. Accordingly, the entire net assets of the Foundation are deferred and taken into revenue as expenditures are made with no net asset balance outstanding at any time. A statement of changes in net assets has therefore not been prepared since it would not provide additional useful information.

6. COMMITMENTS

During the year, the Foundation awarded grants for a maximum amount of \$874.7 million [2001 - \$408.8 million]. Total disbursements to eligible recipients during the fiscal year were \$231.4 million [2001 - \$183.2 million]. To date, the Foundation has awarded grants for a maximum amount of \$1,748 million, of which \$556 million has been disbursed as of the end of the fiscal year. The balance of the awarded grants will be recorded as expenses in subsequent years as funds are disbursed.

The Foundation entered into a lease agreement in 2001 for its premises at 230 Queen Street, Ottawa for a ten-year period starting August 2001. The minimum annual lease payments related to these premises are approximately \$1,020,000. The Foundation sublets part of its current premises for an annual amount of approximately \$228,000.

7. PENSION PLAN

The employees of the Foundation may elect to become members of the Association of Universities and Colleges of Canada [AUCC] Pension Plan, a defined contribution plan managed by Clarica Life Insurance Company. The employer contributions made to the Plan during the year ended March 31, 2002 amounted to \$38,076 [2001 - \$28,305].

8. FAIR VALUE OF FINANCIAL INSTRUMENTS

The carrying value of amounts receivable and payable approximate their fair value given the relatively short period to maturity of the instruments. The fair values of the investments, which are based on the year end quoted market prices, are disclosed in note 2.

9. TAX STATUS

The Foundation is a non-taxable entity under paragraph 149(1)(1) of the Income Tax Act.