

# **Centres of Excellence for Commercialization and Research (CECR)**

## **REPORT OF THE NCE STEERING COMMITTEE**

## Remarks from the Chair

As a result of the call for applications for new Centres of Excellence for Commercialization and Research (CECR) in June 2007, the Networks of Centres of Excellence (NCE) Secretariat received 110 eligible Letters of Intent.

In a first phase, in September 2007, the Private Sector Advisory Board (PSAB) reviewed the Letters of Intent and recommended that twenty five applicants be invited to submit full proposals. In a second phase, in November 2007, the twenty five full proposals underwent an in-depth peer review evaluation. Taking into consideration the expert panel reports prepared on each submission, the PSAB made its funding recommendations to the NCE Steering Committee which approved funding for eleven new Centres of Excellence for Commercialization and Research. In accordance with Budget 2007 intent, this entire process, from the announcement of the competition to the announcement of the new centres, occurred over a period of a little more than 8 months.

Considerable interest in this inaugural competition from all regions of the country was clearly evident as was the participation of industrial, commercial and community sectors in proposed CECR submissions.

The NCE Steering Committee is confident that the recommended centres will all deliver significant economic, social and environmental benefits to Canadians. As well, we anticipate that Canadian leadership within the world community will be enhanced through the recommended awards.

As chair of the NCE Steering Committee, I am grateful to the members of the Steering Committee, the PSAB and the Expert Panels for their efforts, dedication, collegiality and commitment to the goals of the program.

## Background

The goal of the CECR program is to create internationally recognized Centres of commercialization and research expertise in four priority areas in order to deliver economic, social and environmental benefits to Canadians. As established in the federal government's 2007 Science & Technology Strategy, the priority areas are:

- Environmental science and technologies;
- Natural resources and energy;
- Health and related life sciences and technologies;
- Information and communications technologies;

The Program is expected to maximize the benefits of government investment in R&D and encourage the private sector to increase its investment in Science & Technology.

Funded centres shall be world-class and expected to:

- Attract and retain top talent (including internationally recognized researchers, business leaders, post-graduate and post-doctoral students);
- Open up new opportunities for Canadian firms and researchers to access world-class equipment, facilities and research capacity;
- Create, grow and retain companies in Canada that are able to capture new markets with breakthrough innovations;

- Accelerate the commercialization of leading edge technologies, goods, services in priority areas where Canada can significantly advance its competitive advantage;
- Attract investment (including foreign direct investment and venture capital).

Centres with a strong commercialization orientation will be expected to become self-sufficient by the end of the funding period.

Organizations eligible to receive funds are not-for-profit corporations created by universities, colleges, not-for-profit research organizations, firms, and other interested non-government parties.

The CECR program follows a rigorous peer-review process to evaluate, first the Letters of Intent, and later on the full proposals, against the three criteria of the program:

- Benefits to Canada
- Track Record and Potential of the Applicants
- Strength of the Business Plan

Each group that submitted a full CECR proposal met with an Expert Panel responsible for performing an in-depth evaluation of the strengths and weaknesses of the proposed Centre. The individual Expert Panel reports were submitted to the PSAB and used in elaborating its final recommendation to the NCE Steering Committee. A consultation was carried out with the provinces and key federal science based departments and agencies (SBDAs) to seek their views and priorities on the proposals within their jurisdiction and areas of interest. A total of 10 organizations submitted such comments which were also submitted to the PSAB.

The CECR Program Criteria are detailed in Appendix I. The biographical notes of the PSAB members can be found in Appendix II.

### **Steering Committee Decision**

The 11 new Centres of Excellence for Commercialization and Research are hereby listed in alphabetical order of the Centre's official name:

- Advanced Applied Physics Solutions, Richmond, BC
- Bioindustrial Innovation Centre, London, ON
- Centre of Excellence in Personalized Medicine , Montréal, QC
- Centre for Drug Research and Development, Vancouver, BC
- Centre for Probe Development and Commercialization, Hamilton, ON
- IRIC/ CECR in Therapeutics Discovery, Montréal, QC
- MaRS Innovation, Toronto, ON
- Ontario Centres of Excellence/Centre for Commercialization of Research Toronto, ON
- Pan-Provincial Vaccine Enterprise Inc., Saskatoon, SASK
- Prevention of Epidemic Organ Failure, Vancouver, BC
- The Vancouver Prostate Centre's Translational Research Initiative for Accelerated Discovery and Development, Vancouver, BC

## **Appendix I -- CECR Program Criteria**

To ensure that the program objectives are met, proposals are assessed against the three criteria outlined below:

### **I - Benefits to Canada**

- The extent to which the Centre's commercialization and/or research program addresses issues of high priority for Canada;
- The potential for the Centre's commercialization and/or research activities to yield significant economic, social, health or environmental benefits to Canadians;
- The likelihood that the Centre will create sufficient scale and focus to brand Canada as the host of an internationally recognized Centre of excellence in the area;
- The likelihood that the Centre will strengthen domestic collaboration and ensure that benefits spill over to a wide array of firms, sectors and regions of the country;
- The opportunity to optimize resources, drawing on existing national and international commercialization and/or research strengths, world-class infrastructure, facilities and funding sources to enhance Canadian capacity.

#### **Elements to consider when Commercialization is involved:**

- The opportunity to create, grow and retain companies in Canada that are able to capture new markets with breakthrough innovations;
- Evidence that the Centre will help accelerate the commercialization of leading edge technologies, goods, services in priority areas where Canada can significantly advance its competitive advantage.

### **II - Track Record and Potential of the Applicants**

- The achievements of the applicants and their ability to contribute to the Centre's commercialization and/or research program;
- The proven ability of the applicants to train and retain innovative and internationally competitive researchers in areas and technologies critical to Canadian productivity, economic growth, public policy and quality of life;
- The likelihood that the Centre will attract top talent from around the world (researchers, post-graduate and post-doctoral students and internationally recognized business leaders, in the case of Centres with a commercialization mandate);
- The ability of the applicants to attract investment (including, in the case of Centres with a commercialization mandate, foreign investment and venture capital); .

### **III - Strength of the Business Plan**

- Excellence, focus and coherence of the commercialization and/or research program;
- The extent to which the partnerships involve various levels of government and the private sector to complement the funding available through the granting agencies and the Canada Foundation for Innovation;
- The effectiveness of the plan to manage, protect and exploit intellectual property resulting from Centre-funded research;
- The likelihood for this investment to result in the creation of a sustainable, productive Centre of excellence;

- The quality of the proposed organizational structure with appropriate representation on the Board of Directors and management team;
- Evidence that the applicants have in place an accountability framework likely to result in effective leadership and sound financial decision-making.

## Appendix II – Biographical Notes of the Private Sector Advisory Board

**The Honourable Perrin Beatty (Chair):** President and Chief Executive Officer (CEO) of the 170,000 member Canadian Chamber of Commerce. Prior to joining the Canadian Chamber in August 2007, Mr. Beatty was President and CEO of Canadian Manufacturers & Exporters (CME). He was President and CEO of the Canadian Broadcasting Corporation (CBC) and has held portfolios in Progressive Conservative governments, including Treasury Board, National Revenue, Solicitor General, National Defence, Health and Welfare, Communications, and Secretary of State for External Affairs. Mr. Beatty serves on a number of Canadian Government advisory committees covering issues that include national security, border management, privacy and international trade. He is also a member of the Advisory Council of the Canadian Defence and Foreign Affairs Institute and served for five years as Business Co-Chair of the Canadian Labour and Business Centre.

**Sue Abu-Hakima:** co-founder, President and CEO of Amika Mobile Corporation, her second startup, launched in 2007. She is an Adjunct Professor at the University of Ottawa. She sits on the Board of Directors of the Ontario Centres of Excellence and is Chair of the Board of Management for the Center of Excellence for Communications and Information Technology. She is also on the Board of the Ottawa Software Cluster. In 2003 she contributed to the Prime Minister's Task Force on Women Entrepreneurs. Dr. Abu-Hakima holds 19 international patents in messaging and content analysis, with a 20th pending. She has published and presented over 100 papers. Dr. Abu-Hakima holds Masters and Doctorate degrees from Carleton University in Ottawa, with a specialization in artificial intelligence.

**Alan Bernardi:** Director of Bell University Laboratories (BUL). He manages over 60 research and development projects in the BUL initiative in Canada. In 2005, he received the First Invention Award which recognizes and rewards BCE innovators for creating and developing their first patentable invention. Since 1984, he has worked at CAE Electronic, Bell-Northern Research (BNR), Nortel, Bell Emergis and Centre de Recherche Informatique de Montréal (CRIM) as a Director for research teams in telecommunications, software engineering and knowledge-based systems. At CRIM he established two international partnerships. From 1993-1996, he taught in the McGill University MBA program, and currently teaches in the Department of industrial engineering at École Polytechnique de Montréal. Mr. Bernardi is a member of the scientific committee for the Mathematics of Information Technology and Complex Systems (MITACS) Networks of Centres of Excellence.

**James E.C. Carter:** served Syncrude Canada Ltd. for more than 27 years, including 10 years as President and 18 years as operations chief. He played a prominent role in a variety of initiatives to enhance safety, reliability, production, unit costs and product quality. Prior to joining Syncrude, Mr. Carter held senior management positions at McIntyre Mines Ltd. and the Iron Ore Company of Canada. Mr. Carter serves on the Boards of Directors of EPCOR Inc. and Careers: The Next Generation. He is a director and past chair of the Mining Association of Canada and was also a member, director, and executive member of the Alberta Chamber of Resources. In 2005, he was named Resource Person of the Year by the Alberta Chamber of Resources and was inducted as a Fellow of the Canadian Academy of Engineering.

**J. Haig de B. Farris:** President of Fractal Capital Corp., a private venture capital company financing high technology start-ups and resource services technology companies. A former Adjunct Professor at the University of British Columbia (UBC), he is a founder and director of two UBC spin-off companies: D-Wave Systems Inc., a quantum computing company; and Zymeworks Inc., a biosciences and enzyme engineering technologies company. Mr. Farris is a Council Member at the Natural Sciences and Engineering Research Council and is past Chair of

the Science Council of British Columbia. He co-founded a financial consulting firm and was co-founder of the largest venture capital pool in western Canada. Mr. Farris has received a Friend of Science World award, the Bill Thompson Award for career achievement from the BC Technology Industries Association, and the Pioneer of Innovation Award from the Vancouver Board of Trade.

**Kevin O'Brien Fehr:** Since 1992, Dr. Fehr, who has a background in pharmacology, has managed basic research and genetics studies conducted in Canadian companies and universities on behalf of GlaxoSmithKline (GSK). She also works to attract funding from GSK's international sources to support Canadian researchers. She serves in an advisory capacity on several Boards of Directors, including the AllerGen Network of Centres of Excellence and the Canada Foundation for Innovation. After working for 10 years at the Addiction Research Foundation of Ontario as a scientist and educator, Dr. Fehr joined the staff of the Medical Liaison Service of Sandoz Canada. There, she spent five years liaising between the company and the Canadian medical research community in the areas of psychiatry and neurology.

**Fred Hemphill** has played a key role in transformation of Alberta's oil sands industry. He spent his entire career at Syncrude Canada Ltd., retiring from the position of Vice President, Technology Project Development and Research. He was responsible for the research and development of new technological innovations and for the engineering and construction of these technologies. During his long and distinguished career at Syncrude, he held many senior management positions including Vice President, Bitumen Process and Vice President, Human Resources and Support Services. Mr. Hemphill is a past-president of the Fort McMurray United Way and has served on boards and committees of Keyano College, the Alberta Science Centre and the Oil Sands Discovery Centre.

**Francine Laurent** has 20 years of experience in technology, management and financing. In 1996, joined Innovatech Québec, a \$125 million early-stage venture capital fund, as an investment analyst, and became president in 1998. She has overseen more than \$100 million worth of investment in technology and has served on the boards of numerous private companies and public organizations. In 2008, M<sup>me</sup> Laurent resigned from Innovatech to take on a role as Advisor on investment and economic development to the office of the Mayor of Quebec City She is a member of the Quebec Science and Technology Council.

**Raymond Leduc** heads IBM's largest semiconductor assembly and test site in Bromont, QC, which produces microelectronic components for all of IBM's leading products as well as the microprocessor components for the Nintendo Wii, Microsoft's XBox 360, and Sony's Playstation 3. Mr. Leduc joined IBM in 1981. He has held various management positions in the engineering and finance departments before being named Director of the Bromont plant in 2003.

**Donald Lush:** President of Environmental Bio-detection Products Inc. in Mississauga, ON. EBPI develops and manufactures biologically based testing kits for evaluation of toxicity of contaminants in environmental media and the evaluation of chemicals and environmental samples. During his 30 years in the environmental consulting business, Mr. Lush has served in technical, management and advisory roles as founder, president and chairman of a number of environmental and technology focused companies in Canada, the U.S. and Europe. He spent most of his consulting career with Beak International as a senior principal and board member and acted as Chairman of the Board for 15 years. He is Chair of the Board of Microbial Insights, located in Knoxville, TN.

**Keith Stoodley:** Senior Vice President of Marketing with the Provincial Aerospace Group of Companies, based in St. John's NL, which specializes in fixed wing aircraft based maritime surveillance modifications and operations. Mr. Stoodley also chairs a public-private partnership focused on the development of the ocean industry cluster in Newfoundland and Labrador. Prior to 2005, he was Vice President and Director, Oceans, with the Lotek Group. Under his stewardship, Lotek received Canada Exporter Awards in 2002 and 2003 and the National Research Council's Innovation Award in 2004. He has served as a director and a member of the Environmental Export Council of the Canadian Environmental Industry Association, the Atlantic Chamber of Commerce Innovation Council, Memorial University of Newfoundland and Labrador's Genesis Centre and International Business Advisory Council and the National Round Table on the Environment and the Economy.

**Jeff Turner:** CEO of Tissue Regeneration Therapeutics Inc. Dr. Turner is a biotech industry executive and entrepreneur with 20 years of experience in life science product development and commercialization. He is also an Adjunct Professor in the Faculty of Dentistry at the University of Toronto. He holds 34 domestic and international patents and has published more than 100 peer-reviewed articles, book chapters and abstracts. As President and CEO of Nexia Biotechnologies Inc., the world's second-largest transgenic animal company, Dr. Turner managed 124 employees in Canada and the U.S and raised \$67 million in private and public funds. In 2006 he completed a \$20-million licensing agreement for the company's stem cell technology.