

Industrial Research and Development Internship (IRDI) program 2011

REPORT OF THE NCE STEERING COMMITTEE

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Natural Sciences and Engineering Research Council of Canada
Canadian Institutes of Health Research
Social Sciences and Humanities Research Council of Canada

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Remarks from the Chair of the NCE Steering Committee

The 2011 Industrial Research and Development Internship (IRDI) competition was launched to identify and select one or more recipient organizations to deliver the IRDI program. These organizations will match graduate students and post-doctoral fellows with private sector organizations over the next five years, with \$34.4 million of available funds to cover both the stipends paid to interns and the administrative expenses of delivering the program.

The call to submit applications for the 2011 IRDI competition went out in May 2010. The Networks of Centres of Excellence (NCE) Secretariat received the expression of interest letters by the September 1, 2010 deadline, letters that were used to help recruit members for the IRDI Selection Committee—a peer-review committee made up of Canadian and international experts. The letters were also used for administrative purposes.

The deadline for full applications was October 13, 2010. The IRDI Selection Committee reviewed these proposals and met with representatives from each applicant organization in November 2010. Based on the information provided in the proposals and in the meetings, the IRDI Selection Committee provided detailed assessments and funding recommendations to the NCE Steering Committee. In December 2010, the NCE Steering Committee approved funding to two organizations to deliver the IRDI program, CONNECT Canada and MITACS-Accelerate.

The NCE Steering Committee is confident that both of these recipient organizations will deliver the IRDI program effectively and create a vehicle to increase private sector investment in research and development.

As Chair, I am grateful to the members of the NCE Steering Committee and the IRDI Selection Committee for their efforts, dedication, collegiality and commitment to the goals of the IRDI program.

Dr. Suzanne Fortier
Chair, NCE Steering Committee
President, Natural Sciences and Engineering Research Council of Canada

Background

The goals of the IRDI program are to introduce graduate students and post-doctoral fellows to practical business problems, to provide them with the opportunity to apply their scientific and technical expertise to address the needs of participating businesses, and to create a vehicle that will facilitate increased private sector investment in research and development. The overall result of this program is an increase in the science and technology activities of businesses, with a corresponding increase in knowledge-based jobs for trained graduates. The IRDI program is open to all research areas and it is expected that recipient organizations will collectively deliver approximately 1,000 full-time internships (four to six months per internship) per year.

The specific outcomes of this program include:

Immediate outcomes (during award period):

- S&T graduates exposed to real-world business problems;

- private sector exposure to S&T benefits;
- new S&T solutions developed for business needs;
- strengthened linkages between business and universities;
- more graduates with research and user-sector skills;
- enhanced use of S&T graduates by the private sector; and
- new positions for S&T graduates.

Intermediate/long term outcomes:

- increased private sector investment in S&T;
- longer-term S&T positions created by business, i.e. more job opportunities in Canada for S&T graduates; and
- change in business culture that will lead to increased and sustainable business S&T activities and long-term university-private sector collaborations.

To ensure alignment with the goals of the IRDI program, eligible recipient organizations must be not-for-profit corporations, including existing Networks of Centres of Excellence, non-governmental organizations, universities, and consortia of firms and universities.

The Selection Committee followed a rigorous peer-review process to evaluate the proposals against the two criteria of the IRDI program:

- Benefits to Canada
- Strength of the business plan

The IRDI program criteria are detailed in Appendix I. The biographical notes of the IRDI Selection Committee are in Appendix II.

Steering Committee Decision

The two recipient organizations chosen to deliver the IRDI program are:

- **CONNECT Canada – Linking Graduate Research Interns and Industry**

CONNECT Canada Initiative, AUTO 21, Windsor, Ontario - \$5,045,000 to deliver 150 internships per year for five years.

Scientific Director: Dr. Peter Frise

From their application:

CONNECT Canada will enable AUTO21 to greatly expand and enhance the effectiveness of graduate internships in the manufacturing, green technology and other key economic sectors. The integrity, credibility and industry connections of AUTO21 and the Windsor Centre for Career Education will benefit students from across Canada, including the 46 institutions that belong to the AUTO21 research community.

The CONNECT Canada initiative will be built on the strength of the University of Windsor's cooperative education/internship program and the research management processes, including comprehensive industrial, academic and government connections of the AUTO21. The processes to deliver the

initiative, including matching the interns with employers, are already established within Windsor's Centre for Career Education.

- **MITACS-Accelerate Industrial R&D Internship Program**

MITACS-Accelerate, MITACS, Vancouver, British Columbia - \$29,355,000 to deliver 850 internships per year for five years.

Scientific Director: Dr. Arvind Gupta

From their application:

MITACS-Accelerate is a national research internship initiative that advances Canada's innovation agenda by linking graduate students and postdoctoral fellows with the industry through collaborative research projects. This initiative provides Canada's best and brightest with industrial research experiences while simultaneously creating receptor demand for them in strategic Canadian sectors. MITACS-Accelerate promotes industrial R&D by proactively connecting industry and academia, and seeding lasting partnerships. Through effective technology and knowledge transfer, this initiative gives the Canadian industry access to leading edge technologies with massive commercialization potential.

APPENDIX I – IRDI *Evaluation Criteria*

To ensure that the program's objectives were met, the proposals were assessed against the two evaluation criteria outlined below.

Benefits to Canada:

- likelihood of greater and more productive involvement of graduates in research and innovation conducted by the private sector;
- more graduates with both research and business skills; and
- the potential for strengthened collaboration between university and industry, beyond the term of the internship.

Strength of the business plan:

- track record of the applicant organization in delivering similar programs;
- evidence of innovative and successful university-private sector partnerships [between the organization managing the internships and the proposed private sector partner(s)];
- strong delivery model that should include the following:
 - robust recruitment strategy for private sector hosts and interns;
 - efficient process for the management of the initiative;
 - experienced professionals identified to ensure strong management and leadership;
 - description of an effective match-making process;
 - well-articulated internship selection process;
 - plan to collaborate with other organizations and granting agencies to offer a coherent portfolio of services and programs;
 - description of a governance structure accountable for the progress and monitoring of the initiative;
 - well-defined process for handling intellectual property and other policies that respects the policies of the universities the interns are affiliated with; and
 - evidence of a sound financial management and accounting framework in line with generally accepted accounting principles.
- clear and attainable objectives and milestones;
- cost-effective management of the internship initiative;
- ability to attract new private sector funding partners; and
- demonstrated readiness to collaborate with other potential IRDI delivery organizations.

APPENDIX II – Biographical notes of the IRDI Selection Committee

The IRDI Selection Committee was established by the NCE Secretariat in order to assess the proposals against the program's evaluation criteria.

The IRDI Selection Committee's role was to provide the NCE Steering Committee with their expert advice and recommendations. The NCE Steering Committee is made up of the deputy ministers of both Industry Canada and Health Canada and the presidents of the three granting agencies, the Natural Sciences and Engineering Research Council (NSERC), the Canadian Institutes of Health Research (CIHR), and the Social Sciences and Humanities Research Council (SSHRC).

The members of the IRDI Selection Committee were the following:

CHAIR

Kevin Keough

Kevin Keough Consulting Inc.

Dr. Kevin Keough is the principal of Kevin Keough Consulting Incorporated and is a founder and chief scientific officer of NovaLipids Inc. He is currently executive director of the Alberta Prion Research Institute. Dr. Keough is past-president and CEO of the Alberta Heritage Foundation for Medical Research. Before joining AHFMR, he had been the first chief scientist at Health Canada in Ottawa. Prior to his federal appointment, he was the first vice-president of Research and International Relations at Memorial University in Newfoundland. He headed an active biochemical research laboratory at Memorial for more than three decades. He is professor emeritus of biochemistry at Memorial University and a fellow of the Canadian Academy of Health Sciences. Dr. Keough is currently a member of the Boards of Directors of PrioNet Canada, Genome Alberta, Genome Atlantic, the Alberta Health Industry Association, Dalhousie University's Life Sciences Research Institute, the Science Media Centre of Canada, and, ex officio of the management board of the Alberta Prion Research Institute.

Dr. Keough has been president of the Canadian Federation of Biological Societies, the Canadian Society of Biochemistry, Molecular and Cellular Biology, and the Canadian Association of University Research Administrators. Dr. Keough was deputy chair and operational chair of the Council of Science and Technology Advisors, an external science advisory body to the Cabinet of the Government of Canada. He is a former vice-president of the Medical Research Council, and member of the Canadian Institutes of Health Research (CIHR) Governing Council. Dr. Keough was the Canadian co-Chair of the Canada-European Union Science and Technology Agreement, and he has twice served as the head of the Canadian delegation in international negotiations on country contributions to the Human Science Frontiers Program. He was a founding member of the Board of Directors of Genome Canada, and has served on the Boards of the Genesis Group Inc., the Canadian Centre for Fisheries Innovation, the Canadian Centre for Marine Communications, the Centre for Cold Ocean Resources Engineering, Operation ONLINE, the Newfoundland and Labrador Science Centre, and three Networks of Centres of Excellence.

Dr. Keough frequently serves as a consultant to national and international research organizations, the pharmaceutical industry and to various levels of government. He continues to actively participate in research activities and is frequently consulted on

issues of science and innovation policy and management by academia, government and industry.

MEMBERS

Vishwanath Baba

McMaster University

Dr. Vishwanath Baba joined the DeGroot School of Business at McMaster University in January 2000 as dean and professor of management. Prior to coming to McMaster, Dr. Baba was professor of management at Concordia University in Montreal where he held the positions of Chairman of management and associate dean of Graduate Studies. From 1991 to 1996, Dr. Baba has been the editor-in-chief of Canadian Journal of Administrative Sciences and co-editor of International Journal of Comparative Sociology. He now sits on the editorial boards of International Journal of Business Advancement in South Asia, Metamorphosis: Journal of Management Research, and the Journal of Organizational Behaviour.

A mechanical engineer by training, Dr. Baba obtained his PhD in organizational behaviour from the University of British Columbia in Canada. He has a keen professional interest in management training in the developing world and has been an active consultant to the Canadian International Development Agency, the Swedish International Development Agency, and the International Development Research Centre of Canada. In this context, he has offered management-training workshops in China, Egypt, Kenya, India, and Vietnam. His most recent consulting work involved management training for a large multinational in their China office. He is widely published in Canada and abroad. He has also been a visiting professor at ESSEC, France, the People's University in China, the University of the West Indies in Trinidad, National Economic University in Vietnam, University of Alexandria and Al Ahram Canadian University in Egypt, National Chengchi University in Taiwan, University of Otago in New Zealand, and the Indian Institute of Management in Lucknow.

Dr. Baba has published extensively in the area of work and mental health. His research has been funded by both levels of government over the past 20 years. He was recently the principal investigator on a program or research on Work and Mental Health funded by the Social Sciences and Humanities Research Council of Canada. He has also served as the president of the International Society for the Study of Work and Organizational Values (ISSWOV). He has been on the executive board of the Research Committee on Mental Health and Illness of the International Sociological Association and is currently on the Scientific Committee of the International Association of Chinese Management Research.

Louis Buck

Western Carolina University

Dr. Louis Buck is the Wesley Elingburg Distinguished Professor of Business Innovation and the interim dean in the College of Business at Western Carolina University.

Dr. Buck has more than 25 years of business experience in the areas of finance, accounting, risk management and information systems. Prior to assuming his role as director of the CEI in August of 2007, Dr. Buck was the chief financial officer for the

competitive businesses of Consolidated Edison, Inc. in New York. Previously he had served as the senior director of the Business Solutions practice for Walker Interactive Systems, Inc., the chief accounting officer for Entergy Corporation, chief financial officer for the North Carolina Electric Membership Corporation and in various management capacities at TXU Corporation.

Dr. Buck received a BS degree from the United States Naval Academy, a MBA from the University of Houston / CLC and a PhD in finance from Texas A&M University. Dr. Buck is a retired captain in the U.S. Naval Reserve. He and his wife Nancy have two grown sons who reside in Baltimore and Washington, D.C.

Edward Caner

Case Western Reserve University

Mr. Edward Caner has served for nearly five years as a lecturer in the Department of Physics and as director of the Science and Technology Entrepreneurship Masters Programs (STEP) at Case Western Reserve University. Under his leadership, STEP has become one of the leading entrepreneurship programs in the world in terms of capital raised through the critical efforts of students for the purposes of high-tech commercialization endeavors in start-ups and research organizations (\$30 million since 2005). Outside of CWRU, Mr. Caner has assisted several colleges and universities in the US, Europe, and Africa with curriculum development in the area of innovation and entrepreneurship, particularly for physicists. Mr. Caner is an investor in several high-tech start-ups and he serves on several advisory boards. He holds a master of science in physics, entrepreneurship track from CWRU, a master of art in violin performance from Cleveland State University, and a BS in physics from Miami University.

Gwendolyn Davies

University of New Brunswick

A graduate of Dalhousie-King's, the University of Toronto, and York University, Dr. Gwendolyn Davies was dean of Graduate Studies and associate vice-president of Research at the University of New Brunswick from 2000-08, including a period as acting vice-president Research. She has served on the executive of the Canadian Association for Graduate Studies, the Board of the Northeastern Association of Graduate Schools (U.S.), the Academic Advisory Committee of the Maritime Provinces Higher Education Commission, and various SSHRC committees. Dr. Davies is currently on the Selection Board of the Vanier Canada Graduate Scholarships. The author/editor/co-editor of five books and numerous articles, she is a member of the Royal Society of Canada (where she is currently Chair of the Selection Committee, Division 1, Academy 1, & Chair of the Atlantic Provinces Steering Committee). Dr. Davies received a DCL honoris causa from the University of King's College in 2006, was made professor & dean emeritus at the University of New Brunswick in 2008, and spent the 2008-09 academic year as a visiting fellow/visiting senior resident at Massey College, University of Toronto, and as an academic visitor at St. Hilda's, Oxford. She continues to write and teach.

Thérèse Laferrière

Université Laval

Dr. Thérèse Laferrière is full professor of pedagogy at Laval University. She was the leader of the research theme "Educating the Educators" within the TeleLearning

Network of Centres of Excellence. Her research activities focus on networked learning environments and especially teacher-student(s) interactions and peer interactions as electronically linked classrooms become reality in elementary and secondary schools as well as in faculties of education and post-secondary education in general. She is an associate researcher at the Institute for Knowledge Innovation and Technology (IKIT) at the University of Toronto.

Dr. Laferrière is the director of CRIRES, a multi university research center on successful schooling. She served as dean of education (1987-95). She was president of the Canadian Association for Teacher Education (CATE/CSSE), and was the president of the Canadian Education Association (2001-02). She was also dean of education at Laval University (1987-95) as well as president of the Association francophone des doyennes et doyens, directeurs et directrices d'éducation du Canada. Recently, she was the coordinator of CATE SIG Technology and Teacher Education.

Faye West

F West Consulting Ltd

Ms. Faye West has been in the information technology profession for over forty years. She is an independent consultant in Edmonton, Alberta having retired as director of Information Systems at the Alberta Research Council in 2006. Since 2003, Ms. West has been Chair of the Board of Directors of the Information and Communications Technology Council (ICTC). She was active on local and national boards of CIPS from 1992–2002, including a term as national president in 2000-01. Ms. West was named a Fellow of CIPS in 2006. In 2001, she received the YWCA Women of Distinction award for Business, Management and the Professions, and in 2002 she was named a Woman of Vision by Global Television.

Steven Xanthoudakis

Merck Frosst Canada Ltée

Dr. Steven Xanthoudakis earned his doctoral degree from the Department of Microbiology and Immunology at McGill University in 1990. Following his post-doctoral training at the Roche Institute for Molecular Biology in New Jersey, he assumed a faculty position as a research investigator in the Department of Neurogenetics at Hoffman La Roche. He was recruited back to Montreal in 1996 to join Merck Frosst Canada as a senior research scientist where he focused on advancing several early stage drug discovery programs in the neuroscience, respiratory and cardiovascular disease areas. Since early 2007, Dr. Xanthoudakis has been involved in coordinating Merck and Co's Canadian, South East/North Central US R & D outreach program. In his current position as director, Licensing and External Research for Merck Research Laboratories, Dr. Xanthoudakis's primary role is to build lasting relationships with both the biotechnology and academic research communities and to help foster partnering opportunities which fit with Merck's strategic research and development goals across all therapeutic and technology areas. Dr. Steven Xanthoudakis is based out of the Merck Frosst Centre for Therapeutic Research in Montreal, Canada.