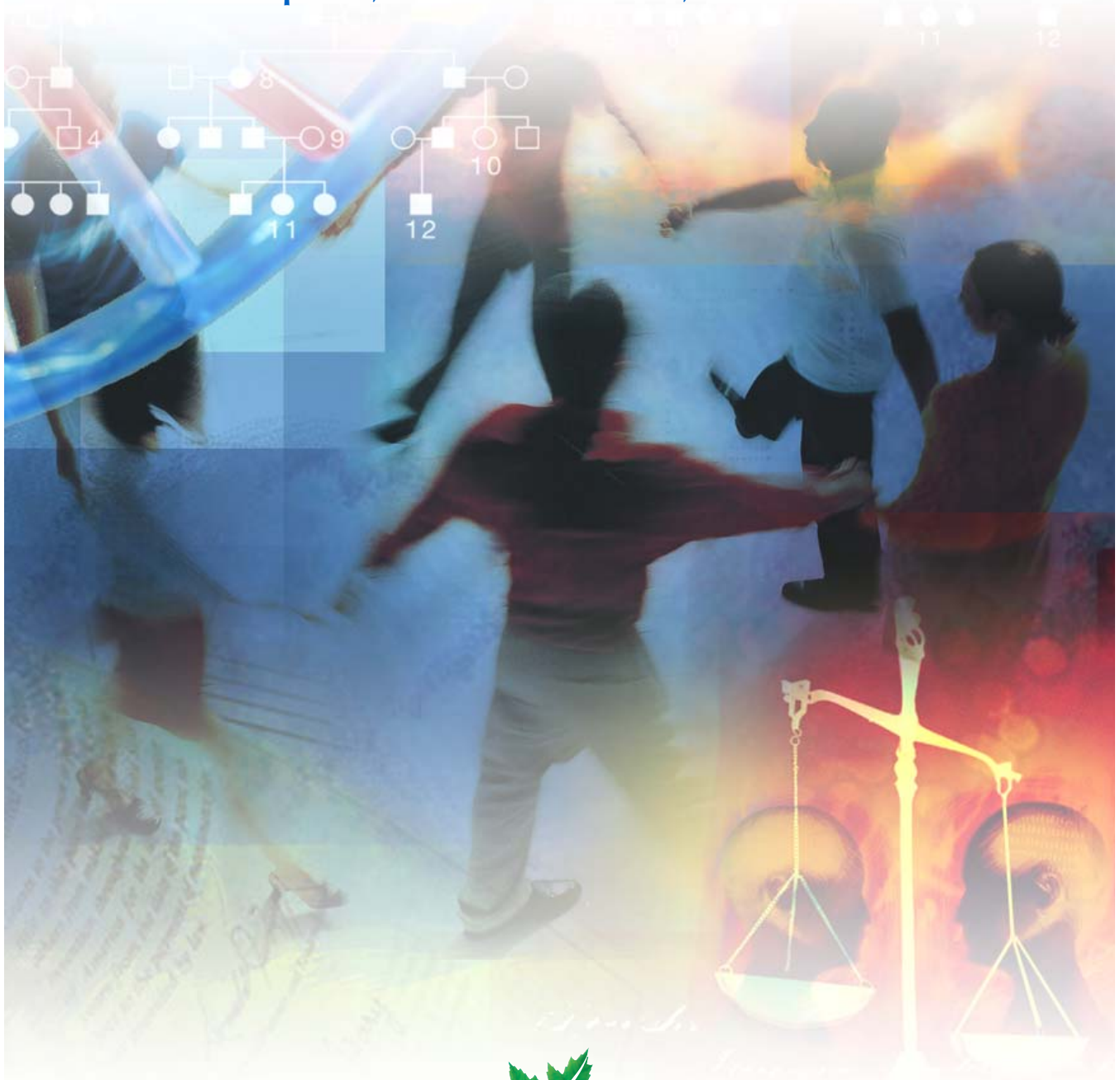




Institute of Genetics

Annual Report

April 1, 2004 – March 31, 2005



CIHR IRSC
Canadian Institutes of Health Research / Instituts de recherche en santé du Canada

Institute of Genetics



CIHR Institute of Genetics
123 Edward Street, Suite 1211
Toronto, ON M5G 1E2
www.cihr-irsc.gc.ca

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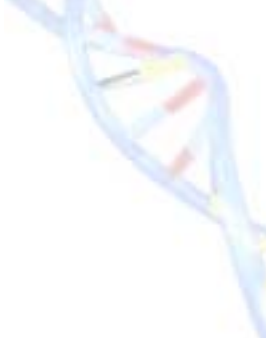


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Message from the President

The CIHR Institute of Genetics (IG) is leading a national research agenda in the area of genetics, basic biochemistry and cell biology related to human health and disease, including the interaction of genes with physical and social environments. It is also strongly committed to supporting research on the ethical, legal and social implications of genetic discoveries.

The challenging and complex process that takes research to its ultimate integration into clinical practice requires the active participation and collaboration of many research disciplines and partners. To facilitate this process, IG supports research that extends from fundamental research to its clinical application. In particular, the Institute's Genomic Medicine and Human Development Request for Application, a program that will capitalize on Canadian strengths in developmental genetics and clinical research. This initiative is the first of a series of funding opportunities falling under the umbrella of "From Genes to Genomic Medicine", designed to address the increasing need to translate scientific advances into medical practice.

The IG recognizes that new fields of health research are continually emerging. Investigators working in these nascent, leading-edge fields will require support to develop their programs and bring the significance of their work to the attention of other disciplines. The rapidly expanding science of bioinformatics, for example, has a central role in integrating the massive amount of new information flowing from the genome project into more established fields. The Institute supports this community through Training Program Grants. Research in mathematics, physics, chemistry and engineering is also of increasing relevance to biology and medicine, and, through New Emerging Team grants, the IG is bringing these research communities together.

I am extremely pleased by the commitment that the IG has made to support excellent research, in particular through its suite of Regular Funding Programs. These nine programs are open to all researchers working within the Institute's mandate, and range from One-Year Bridging Operating Grants to the Maud Menten New Principal Investigators Prizes.

As the following pages show, the activities of the IG reflect a balanced effort of support for both scientific excellence and for strategic research that addresses important national health issues. In closing, I would like to acknowledge the exceptional leadership of the Scientific Director, Dr. Roderick McInnes and the outstanding work of the members of the IG's Advisory Board and staff.

A handwritten signature in black ink, appearing to read "Alan Bernstein". The signature is fluid and cursive, with a long horizontal stroke at the end.

Alan Bernstein, OC, FRSC
President
Canadian Institutes of Health Research



Message from the Scientific Director

As Scientific Director of the Institute of Genetics (IG), it continues to be a great pleasure to work with the talented Canadian health research community. Under the outstanding Chairship of Dr. Joel Weiner (University of Alberta) and Vice-Chairship of Dr. François Rousseau (Université Laval), the IG's Institute Advisory Board (IAB) has shown great leadership and judgement in advising me on the directions of the Institute should take. I would like to express particular gratitude to the more than 90 members of the 12 Priority and Planning (P&P) Committees and Voluntary Health Organization (VHO) working group that advise the Institute about their areas of research. These P&P Committees provide enlightened guidance to the IAB on the approaches we should use to support individual investigators and to fulfill the strategic mandate of the Institute.

Over the past year, we have continued to make funds available to individual investigators through grants and awards offered in our *Regular Funding Program*. There has been one major addition to the Program: the Maud Menten New Principal Investigator Prizes. These prizes were developed to honour New Principal Investigators, working within the IG's mandate, whose grants ranked highest in the CIHR Operating Grant competition. Named after a Canadian who was the co-discoverer of one of the most famous equations in biochemistry (the Michaelis-Menton equation), a \$30,000 prize will be awarded in each of the following categories: biomedical research, clinical research, and health services/population health research, including genetic, legal and social issues.

In addition to its Regular Funding Program, the IG has funded or posted several large *Strategic Requests for Applications (RFAs)* that fall under one or more of our six Research Priority Themes. It is our hope that these strategic RFAs, outlined below, will have an important impact on Canadian health research over the next 5-10 years.

A major goal of the IG since its inception has been to develop a strong community of investigators to examine the impact of genetic discoveries on health policy and services. The *Addressing Health Care and Health Policy Challenges of New Genetic Opportunities Operating Grant* RFA provides operating funds (\$1.89 million over three years) to two Canadian research teams who will address some of the major issues in health services related to genetic disease. The importance of this topic is highlighted by the fact that the IG received support for this RFA from the CIHR Institute of Health Services and Policy Research, the CIHR Institute of Population and Public Health, the Canadian Coordinating Office for Health Technology Assessment and the Heart and Stroke Foundation of Canada.

A major investment by the IG in the “Integrating the Physical and Applied Sciences into Health Research” Theme has been to co-lead the *Regenerative Medicine and Nanomedicine* initiative with the CIHR Institute of Neurosciences, Mental Health and Addiction. This initiative supports research in a wide range of basic/applied sciences and its application to the restoration of health, including not only nanomedicine but also stem cell research and gene therapy. For the RFA launched under this initiative in 2004, the IG committed \$1.25 million over 5 years. This reflects the importance we attach to this theme, which brings together basic scientists, such as chemists, physicists and engineers. A third RFA will be launched in June 2005.

It is the intent to use the From Genes to Genomic Medicine as a major IG “umbrella theme”, under which we will launch RFAs that will foster the application of new genetic knowledge to medicine. The first RFA in this series, *Genomic Medicine and Human Development*, was launched in December 2004. The goal of the RFA is to bring together developmental biologists and clinical researchers, to allow them to elucidate the genetic component of human developmental diseases, such as malformations of the heart. To date, more than \$14 million has been committed to this RFA which will support grants as large as \$500,000 per annum for a term of 5 years. Our funding partners include The Foundation Fighting Blindness – Canada, the Heart and Stroke Foundation of Canada and five CIHR Institutes.

In addition to funding RFAs, the IG also supports the research community by sponsoring important national meetings. Co-sponsored with the Institute of Cancer Research (ICR), the *3rd Annual New Principal Investigator (PI) Meeting* was regarded as outstanding by the more than 100 new PIs and the eight research leaders who attended this meeting. The *4th International Conference of the Canadian Proteomics Initiative (CPI)*, was co-sponsored by the IG and ICR. More than 350 researchers attended this meeting, which is becoming an obligatory highlight of the Canadian biochemistry research year. Finally, more than 250 investigators were present at the *2nd Biennial Canadian Developmental Biology Symposium*, organized and sponsored by the IG.

In conclusion, I am delighted to acknowledge that I have been blessed with a remarkable staff who invariably give me thoughtful advice and who skillfully manage the programs of the Institute. These staff are: the Assistant Directors Milka Popov (Toronto) and Stephanie Robertson (Ottawa), the Executive Assistant and Project Manager, Jennifer Jennings, the Administrative Assistant, Esther Berzunza and the Project Officer, Amanda Devost. Their enthusiasm and their commitment continue to make my job a pleasure.

Sincerely,



Roderick R McInnes, MD, PhD, FRSC
Scientific Director
Institute of Genetics, CIHR



PROFILE OF THE INSTITUTE

Established in December 2000, the Institute of Genetics (IG) is one of the 13 Institutes of the Canadian Institutes of Health Research (CIHR). The IG is based at The Hospital for Sick Children in Toronto, the home institution of its Scientific Director, Dr. Roderick R. McInnes.

Our Mandate is to support research on the human and other genomes and on all aspects of genetics, basic biochemistry and basic cell biology related to health and disease, including the translation of knowledge into health policy and practice and the societal implications of genetic discoveries.

Organizational Structure

The leadership of the IG is shared among the Institute Advisory Board (IAB), 12 IG Priority and Planning (P&P) Committees and a Voluntary Health Organizations Working Group, whose areas of focus, together, embrace the IG mandate.

Our Institute Advisory Board (IAB) is composed of 15 research leaders with exceptional qualifications, from Canada and abroad, under the guidance of the Chair, Dr. Joel Weiner, and the Vice-Chair, Dr. François Rousseau (Appendix 1). IAB members provide invaluable assistance and advice in the development and implementation of the IG’s research priority-setting process. In addition to participating actively on P&P committees, IAB members meet at least twice a year to review the management of the IG budgets and to discuss the activities carried out under the IG’s research priorities.

Our Priority and Planning Committees (P&P) are led, or co-led, by distinguished Canadian researchers with expertise and a strong commitment to advancing research in their specific areas, along with five to eight additional members. The P&P Committees (Appendix 2) foster the development of their research communities; provide a forum for the identification of critical issues and opportunities; facilitate continuous input from and with the research community; and make recommendations to the IAB. Through this process, more than 90 leading researchers and committed stakeholders regularly inform and advance the IG’s genetic, basic biochemical and cell biology research agenda.



Figure 1: Priority and Planning Committees and Working Group of the IG

Figure 1 illustrates the 12 Priority & Planning Committees and the Voluntary Health Organization Working Group. The blue circles indicate P&P Committees that support the IG Research Priority Themes. The white circles indicate P&P Committees that support the IG Enabling Strategies. Through these committees the leadership of the IG is distributed throughout the community.

Strategic Plan

The IG defined its strategic directions through a consultative process involving researchers, academics, clinicians, policy makers, voluntary health organizations, government, companies and other stakeholders with an interest in the mandate of the IG. As a result, the IG has been well recognized as a “bottom-up organization”, by responding to the needs of individual investigators and ensuring that its strategic goals and research priorities are defined by the research community and other stakeholders.

A Strategic Planning Retreat, held in September 2002 (Aylmer, Quebec), led to the refinement of the IG’s research priority themes and strategic goals. A copy of the Strategic Plan (2004-2009) is available on the IG website (www.cihr-irsc.gc.ca).

Our Strategic Goals, as outlined in the Strategic Plan, are to:

- Support investigator-initiated research and strengthen the IG community
- Advance research and build capacity within the six Research Priority Themes of the Institute:
 - *Integrating the Physical and Applied Sciences into Health Research*
 - *Proteomics and Bioinformatics*
 - *Population Genetics, Genetic Epidemiology, and Complex Diseases*
 - *From Genes to Genomic Medicine (including Clinical Genetics Research)*
 - *Health Services for Genetic Diseases*
 - *Genetics and Ethical, Legal and Social (GELS) Issues*
- Establish strategic partnerships
- Facilitate the knowledge transfer of genetic discoveries, including their ethical, legal and social implications



IG staff are responsible for the implementation of the Strategic Plan under the guidance of the Scientific Director and the Institute Advisory Board. The Strategic Plan and the six Research Priority Themes will be re-evaluated on a regular basis, to best reflect changing research needs and emerging priorities.

Knowledge Translation

The IG recognizes the enormous disparity between extant and expanding knowledge in genetics and the biomedical sciences, and the highly imperfect level of awareness of this knowledge and its applications. In response, the IG has made a major commitment to supporting the translation of new knowledge into health benefits for the Canadian public. All six IG Research Priority Themes directly facilitate knowledge translation by enabling the active exchange between the creators and users of knowledge to accelerate its capture into the next generation of health policy, medical practices and biotechnology products.

Evaluation

The IG is committed to measuring and reporting on the effectiveness and impact of all programs and activities undertaken by the Institute. Most notably, the IG participated in the development of the design for the Institute Performance Reports. The Institute Performance Reports are being used as a key piece of evidence for the evaluation of the Institute, and as a 'report card' for future Institute Advisory Board meetings to assess on-going performance. The IG Performance Report contains 15 common indicators, adopted for all Institutes, and one indicator unique to the IG – i.e., reporting on the IG's support for investigator-initiated research. During this reporting period, the IG Performance Report (2000-04) was compiled and submitted to CIHR.

Funding Mechanisms

The IG's funding mechanisms include both a suite of Regular Funding Programs and Strategic Requests for Applications (RFAs).

Our Nine Regular Funding Programs have a continuous launch cycle, and are a constant feature in the IG research funding landscape. Subject to an annual review by the Institute Advisory Board, these programs are designed to facilitate training and/or research within the IG's mandate:



Awards:

- Career Transition Awards
- Clinical Investigatorship Awards
- Maud Menten New Investigator Prizes
- Walter and Jessie Boyd & Charles Scriver MD/PhD Studentship Awards

Grants:

- One-Year Bridging Operating Grants
- Invention and Technology Application: Tools, Techniques and Devices for Research and Medicine
- New Discoveries: High-Risk, High-Benefit Grants
- Short-Term Research Visit Grants
- Workshops and Symposia Support Grants

Our Strategic Request for Applications (RFAs) are aligned with our Research Priority Themes.

Examples of strategic RFAs funded during the reporting period include:

- Addressing Health Care and Health Policy Challenges of New Genetic Opportunities Grants
- Regenerative Medicine and Nanomedicine Initiative: New Emerging Teams (NETs) and Interdisciplinary Capacity Enhancement (ICE) Research Teams
- Facing our Future: Human Genetics, Ethics, Law and Society Operating Grants

Financial Resources

CIHR is funded entirely through federal government appropriations. The CIHR Governing Council delegates financial authority to each Institute for managing a portion of these funds, as described below:

Institute Support Grant. Each Institute receives \$1 million annually to operate and to support the research communities that it represents, through an array of collaborative activities, such as workshops and national meetings (Table 1).

Strategic Initiatives Budget. These funds comprise the great majority of the Institute funds, and are used to support strategic research initiatives through peer reviewed grants and research personnel awards (Table 2).

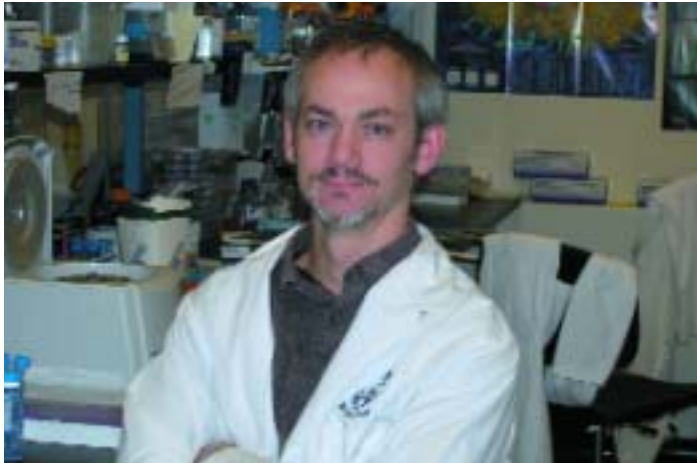
OUTSTANDING RESEARCH

Strategic Requests for Applications

During the reporting period, the IG launched and/or funded seven Strategic Requests for Applications (RFAs) designed to facilitate research within the IG's Research Priority Themes:

Integrating the Physical and Applied Sciences into Health Research

Regenerative Medicine and Nanomedicine RFAs: Team Grants and New Discoveries: High-Risk, High-Benefit Grants. Regenerative medicine and nanomedicine have the potential to improve the health of Canadians and change the way our health care system protects, maintains and restores health. Through this initiative – co-led by the CIHR Institute of Neurosciences, Mental Health and Addiction and the IG – CIHR and its partners are helping to support the growth of a critical mass of talent that will take the next steps forward in these new and exciting areas of research. For the February 2004 New Emerging



Dr. William Stanford and his team from the University of Toronto are studying the behaviour of stem cells at the molecular level by use of sophisticated nanotechnologies such as microfabrication, quantum dots, and scanning probe microscopies. This novel research may have important implications towards the advancing stem cell-based therapies in the future.

Team competition deadline, the IG allocated \$2.5 million over five years in support of six teams. For the second RFA launched under the umbrella of this initiative (June 2004), the IG has allocated \$1.25 million over a five year term in support of Team Grants. Results of this competition will be available in November 2005. Planning is underway for the third RFA, anticipated to be launched in June 2005.



**Regenerative Medicine and Nanomedicine Team Grants:
February 2004 competition**

Principal Investigator(s)	Project Title
BRUNETTE, Isabelle Université de Montréal	Femtosecond laser assisted corneal posterior lamellar transplantation with endothelial enhancement: Technological development and socioeconomic impact
CHAN, Warren University of Toronto	Quantum dot-based biomolecular imaging
DAAR, Abdallah University of Toronto	Regenerative medicine: Ethical, environmental, economic, legal and social issues network
DE KONINCK, Yves Centre de recherche Université Laval	Nanotools for neuropharmacology
FEHLINGS, Michael University of Toronto	Regenerative medicine strategies for spinal cord injury repair: Integration of stem cell biology, nanotechnology, bioengineering approaches and neurosurgical application
STANFORD, William University of Toronto	Stem cell fate analysis and manipulation

Population Genetics, Genetic Epidemiology, and Complex Diseases

Population Genetics and Genetic Epidemiology of Complex Diseases RPA. Complex diseases are multifactorial in nature and result from the combined effects of variation at multiple genetic loci and environmental influences manifested over the life course. The elucidation of interactions between an individual's genetic endowment and the complex sequence of environmental exposures that occur over the life-course – physical, chemical, biological, developmental and social – are expected to provide the greatest insight into our understanding of the etiology of human disease. In December 2003, the IG and the CIHR Institute of Population and Public Health (IPPH) issued a Research Priority Announcement (RPA) to provide support for investigators in this developing area of research through jointly funded operating grants. The RPA process enables Institutes to fund highly rated applications responsive to their priorities submitted to the CIHR open competitions. One grant from the December 2003 competition was supported in the amount of \$427K over three years by the IG and IPPH.

**Population Genetics and Genetic Epidemiology of Complex Diseases Operating Grants
December 2003 Competition**

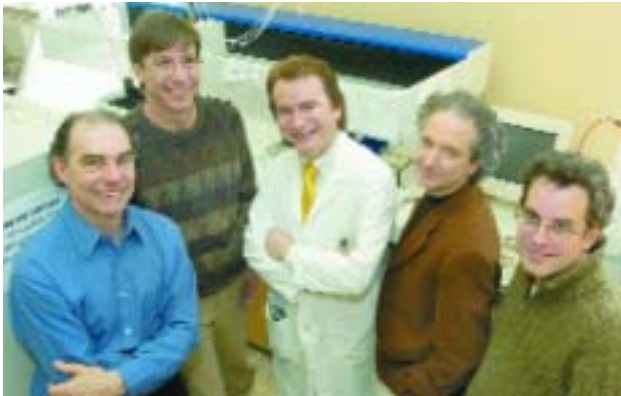
Principal Investigator(s)	Project Title
PATERSON, Andrew Hospital for Sick Children	Genetics of type 1 diabetes in Newfoundland

From Genes to Genomic Medicine (including Clinical Genetics Research)

Genomic Medicine and Human Development RFA. Important advances have been made with respect to our understanding of the genetic factors governing normal and abnormal developmental processes, but the impact on medical practice to date has been limited. Launched in December 2004, the purpose of this RFA is to provide operating grants in support of projects that bridge clinical investigation and more basic scientific research to address an important problem in human development. In partnership with The Foundation Fighting Blindness – Canada, the Heart and Stroke Foundation of Canada, the CIHR Institute of Aboriginal Peoples' Health, the CIHR Institute of Circulatory and Respiratory Health, the CIHR Institute of Gender and Health, the CIHR Institute of Human Development, Child and Youth Health and the CIHR Institute of Musculoskeletal Health and Arthritis, more than \$14 million dollars - over a term of five years - has been secured for this RFA. Results of this competition will be available in the fall of 2005.

Health Services for Genetic Diseases

Addressing Health Care and Health Policy Challenges of New Genetic Opportunities RFA. The purpose of this program is to provide operating grant funds in support of research projects, the results of which will better equip health care providers, administrators and policy makers to improve the health of populations and strengthen the health care system in Canada. In partnership with the CIHR Institute of Health Services and Policy Research, the CIHR Institute of Population and Public Health, the Canadian



The Canadian Consortium on Genetic Laboratory Services. From left to right: Drs. Michel Labrecque, François Rousseau, Jean-Claude Forest, Yves Giguère (four of the Consortium's 17 Principal Investigators) and Dr. Marc Charland (Scientific Coordinator).

Coordinating Office for Health Technology Assessment and the Heart and Stroke Foundation of Canada, two Canadian research teams will share \$1.89 million over three years. These teams will examine how health care providers, administrators and policy makers can improve the health of Canadians and strengthen the Canadian health care system through improved integration and use of information about the genetic causes of disease.

Addressing Health Care and Health Policy Challenges of New Genetic Opportunities Operating Grants June 2004 Competition

Principal Investigator(s)	Project Title
ESPLEN, Mary Jane University Health Network CAPPELLI, Mario University Health Network	Addressing the psychosocial health care of patients and families obtaining genetic services: Identification, disposition and outcome
ROUSSEAU, François Université Laval (Nominated PI)	Health care and health policy challenges in genetic laboratory service

Genetics and Ethical, Legal and Social (GELS) Issues

Facing our Future: Human Genetics, Ethics, Law and Society

RFA. The objectives of this program are to: (i) address ethical, legal and social issues relevant to the design and conduct of population-based genetic epidemiological research, including implications for future studies in Canada; and (ii) build research capacity in this field by providing an opportunity for new investigators to develop and demonstrate their independence in initiating and conducting health research. For the May 2004 competition, five research projects were supported – for a total of \$248K for a term of one year – by the IG and the CIHR Institute of Population and Public Health. This program was relaunched in December 2005.



A team of researchers led by Dr. Fiona Miller is considering the implications of the molecular re-definition of disease, including the examination of the social, ethical and health system implications. From left to right: Fiona Miller, Catherine Ahern, Bob Christensen and Sonya de Laat.

Facing our Future: Human Genetics, Ethics, Law and Society Operating Grants May 2004 Competition

Principal Investigator(s)	Project Title
AVARD, Denise Université de Montréal	Pharmacogenomics with children: Towards a healthier future
BRUNGER, Fern Memorial University of Newfoundland	Protecting communities in population-based genetic research: A cultural analysis of a Canadian policy dilemma
FOSKET, Jennifer McGill University	Genetic testing for Alzheimer's disease in Canada and the US: A comparative study of meanings of risk, aging and normalcy
GODARD, Beatrice Université de Montréal	Consulting cultural communities for large-scale genomic databases: An analysis of interests and values
MILLER, Fiona McMaster University	Re-defining disease: Mapping the contours of genomic medicine

Regular IG Grant Programs

The *Suite of Regular IG Grant Programs* has a continuous launch cycle. These programs are a constant feature of the IG funding landscape. Subject to an annual review by the Institute Advisory Board, these grant programs are designed to facilitate research within the IG's mandate.

One-Year Bridging Operating Grants

Objective: To provide one-year operating funds (up to \$100K) to support highly rated CIHR operating grant applications that just missed the cut-off for funding; i.e., affording Principal Investigators the opportunity to resubmit their research proposal without the loss of momentum, staff or trainees

Competitions: March 2004 and September 2004

IG financial commitment: \$1.12 million over one year (for both competitions specified above)

One-Year Bridging Operating Grants

Principal Investigator(s)	Project Title
September 2004 Competition:	
AYERS, Paul McMaster University	Predicting the products and mechanisms of enzymatic reactions: Development, implementation, and application of a novel computational approach
BUREAU, Alexandre Université Laval	Study designs and statistical methods for the detection of disease-associated polymorphisms and estimation of gene-gene and gene-environment interactions
DAVIDSON, Alan University of Toronto	Structural, biophysical, and genetic studies on bacteriophage morphogenesis
GENDRON, Robert Memorial University of Newfoundland	Tubedown-1 in blood vessel health and disease
HU, Jim Hospital for Sick Children	Role of epithelium-specific ets-like transcription factors in airway gene regulation
ROBERTS, Robert University of Ottawa Heart Institute	Treatment and mechanisms of sudden death in heart failure

Principal Investigator(s)	Project Title
March 2004 Competition:	
BOISSONNEAULT, Guylain Université de Sherbrooke	Transient DNA strand breaks in spermatids
DOBSON, Melanie Dalhousie University	A yeast system for analysis of intracellular trafficking defects in niemann-pick C disease
DROUIN, Régen Université de Sherbrooke	Formation and repair of NNK-induced DNA damage
DUNN, Sandra BC's Research Institute for Children's and Women's Health	Phosphorylation of YB-1 by akt enhances the malignant potential of breast cancer cells by altering the expression of genes involved in drug resistance
HAUGHN, George University of British Columbia	TILLING in <i>C. elegans</i> : An alternative reverse genetic approach for genome analysis in worms
KING, William University of Guelph	Telomere length and chromosome stability in domestic animal clones and their offspring
MCBURNEY, Michael Ottawa Regional Cancer Centre	Sir2 alpha: A nuclear modulator of growth factor signaling

Invention and Technology Application: Tools, Techniques and Devices for Research and Medicine Grants

Objective: To enable the development of tools, techniques and devices facilitating health research and the diagnosis or treatment of patients

IG financial commitment: \$1.20 million over three years

Partners: CIHR Institute of Neurosciences, Mental Health and Addiction

Invention and Technology Application: Tools, Techniques and Devices for Research and Medicine Grants February 2004 Competition

Principal Investigator(s)	Project Title
DE KONINCK, Yves Université Laval	Novel microprobes for combined optical and electrical recording in vivo
EMILI, Andrew University of Toronto	Bioinformatic tools for proteomic profiling and biomarker discovery resistance mutations in <i>Escherichia coli</i>
MCCONKEY, Brenda University of Waterloo	In silico cell cycle modeling: A new approach integrating mathematics of dynamical systems, proteome analysis and molecular genetics techniques
YIP, Christopher University of Toronto	Integrated functional imaging tools for membrane protein structure-function determination





New Discoveries: High-Risk, High-Benefit Grants

Objective: To encourage researchers to undertake high-risk, high-benefit research

IG financial commitment: \$357K over two years

Partners: CIHR Institute of Neurosciences, Mental Health and Addiction

New Discoveries: High-Risk, High-Benefit Grants February 2004 Competition	
Principal Investigator(s)	Project Title
JEFFERIES, Wilfred University of British Columbia	Delivery of therapeutic proteins across the blood-brain barrier
PROVOST, Patrick Université Laval	Elucidation of a key step in the RNA interference pathway
SATTAR, Syed University of Ottawa	Environmental stressors as modulators of bacterial mutation rates in drinking water distribution systems: A preliminary investigation on antibiotic resistance mutations in <i>Escherichia coli</i>

Workshops and Symposia Support Grants

Objective: To provide partial support for workshops and scientific symposia held in Canada

Competition: Applications are accepted throughout the year (Appendix 3)

IG financial commitment: \$124K

Short-Term Research Visit Grants

Objective: To enable developing or established researchers to spend up to three months in a specific training environment, focusing on the acquisition of new concepts, knowledge and/or techniques to broaden their research perspectives and skills

Competitions: February 2004, June 2004 and October 2004

IG financial commitment: \$123K over a term of one year (for all competitions specified above)

Short-Term Research Visit Grants	
Principal Investigator(s)	Project Title
February 2004 Competition:	
CHHABRA, Neetu University of Toronto	CARS microscopy
EVERITT, Rebecca University of Calgary	Analysis, management, and dissemination of sequences from mouse embryonic stem cells
FAINMAN, Joshua McGill University	Canadian bioinformatics workshop
GRANT, Jason University of British Columbia	Canadian bioinformatics workshop
GROS-LOUIS, Francois McGill University	Canadian bioinformatics workshop
KIM, Taeho University of Calgary	Energetic and structural implications for protein-protein and ligand-receptor interactions: Molecular dynamics studies of insulin

Principal Investigator(s)	Project Title
February 2004 Competition (Continued):	
LEE, Chow University of Northern British Columbia	Canadian bioinformatics workshop
NEIRA, Mauricio University of British Columbia	Canadian bioinformatics workshop
PELLEGRINI, Luca Université Laval	A comparative-genomic approach to predict new systems of regulated intramembrane proteolysis
SWANSON, Magdalena University of Calgary	Bioinformatic analysis and functional characterization of novel transcription factors isolated via ES cell neural differentiation
TARAILO, Maja University of British Columbia	Interactors of mdf-1, spindle assembly checkpoint in <i>Caenorhabditis elegans</i>
VERLAAN, Dominique McGill University	Canadian bioinformatics workshop
WOODS, Michael Memorial University of Newfoundland	Canadian bioinformatics workshop
June 2004 Competition:	
ARBOUR, Laura University of British Columbia	Laboratory and statistical analysis of complex traits
CLEARY, John Douglas Hospital for Sick Children	Dynamic molecular combing, DNA replication and repeat instability
DARLINGTON, Gerarda University of Guelph	Genetic analysis workshop 14 and IGES meeting
HOWARD, Heidi University of British Columbia	Canadian bioinformatics workshop
HSIAO, William Simon Fraser University	Canadian bioinformatics workshop
SWANSON, Magdalena University of Calgary	Bioinformatic analysis and functional characterization of novel transcription factors isolated via ES cell neural differentiation
TAYYARI, Farnoosh University of British Columbia	Use of applied proteomics for discovery of cell surface receptors to viruses
October 2004 Competition:	
CHANG, Michael University of Toronto	DNA combing: Analyzing DNA replication fork progression in genome integrity mutants
DIMARAS, Helen University Health Network	Canadian bioinformatics workshop
LIANG, Binhua University of Manitoba	Canadian bioinformatics workshop

Recognizing the Research Excellence of New Principal Investigators

Maud Menten New Principal Investigator Prizes. This program is designed to recognize and support the research excellence of New Principal Investigators working within the IG’s mandate. The Maud Menten New Principal Investigator Prizes consist of a one-year, non-renewable \$30,000 operating grant in each of the three following research areas: (i) biomedical; (ii) clinical; and (iii) health services/population health research including genetic ethical, legal and social issues. The New Principal Investigator with the highest rated CIHR Operating Grant application in each research area will be the recipient of one of the three prizes. Results of the 2005 prizes will be available in the fall of 2005.

OUTSTANDING RESEARCHERS IN INNOVATIVE ENVIRONMENTS

Strategic Requests for Applications

Building researcher capacity is a key goal for the IG. In 2004-05, the IG launched and/or funded six strategic RFAs designed to facilitate training and career development within the IG’s Research Priority Themes.

Population Genetics, Genetic Epidemiology, and Complex Diseases

Population Genetics and Genetic Epidemiology of Complex Diseases Doctoral Research Award and Fellowship RFAs. To increase research capacity in this area, the IG and CIHR Institute of Population and Public Health (IPPH) issued a Research Priority Announcement (RPA) to fund Doctoral Research Awards and Fellowships from the fall 2003 and spring 2004 CIHR competitions. From these competitions, the IG and IPPH have committed a total of \$467K over three years in support of two Doctoral Research Awards and three Fellowships. This initiative was relaunched in June 2004 to fund Fellowships from the fall 2004 CIHR competition. Results of this competition will be available in the spring of 2005.

Population Genetics and Genetic Epidemiology of Complex Diseases: Doctoral Research Awards October 2004 Competition

Awardees	Project Title
BOURGEOIS, Stephane Hôpital Sainte-Justine	Genetic structure of amerindian populations
XU, Wei University of Toronto	New adaptive methods for genetic linkage analysis of multivariate phenotypic data of human complex disease



Population Genetics and Genetic Epidemiology of Complex Diseases: Fellowships October 2004 Competition

Awardees	Project Title
Fall 2003 Competition:	
DALEY, Denise University of British Columbia	Investigation of epistasis and genetic susceptibility to hypertension in men and women
GAGNON, Cynthia Université Laval	Functional and social consequences of myotonic dystrophy: Impact of personal and environmental factors on social participation
April 2004 Competition:	
BIRCA-PODUBNAIA, Ala Hôpital Sainte-Justine	Relationship between electroclinical phenotypes and the genotype of children experiencing febrile seizures

From Genes to Genomic Medicine (including Clinical Genetics Research)

Clinical Genetics Research Strategic Training Program Grant RFA. This program was designed to increase the number of clinical genetics investigators in Canada, by providing specialized clinical genetics research training opportunities. A total of two applications were received to the May 1, 2004 deadline, but unfortunately no applications were approved for funding. In consultation with the research community, discussions are underway to determine when this program will be relaunched and whether programmatic modifications are required.

Biochemical Genetics Fellowship RFA. Representing a joint effort between Genzyme Canada, the Canadian College of Medical Geneticists, CIHR and IG, the goal of this program is to build Canadian capacity and expertise in the area of biochemical genetics. Results of the April 2005 competition will be available in the summer of 2005.

Genetics and Ethical, Legal and Social (GELS) Issues

Genetics and Ethical, Legal and Social Issues Doctoral Research Award RPA. The overarching objective of this initiative is to support trainees whose research addresses ethical, legal and social issues relevant to the design, conduct and dissemination of genomic and genetic research. In June 2004, the IG and the CIHR Institute of Population and Public Health launched a Research Priority Announcement (RPA) to build capacity in this area of investigation. Results of this competition will be available in the spring of 2005.

Health Research Partnership Fund

The Health Research Partnership Fund is CIHR's primary vehicle for fostering partnerships with small not-for-profit agencies to support training awards. For the fall 2003 program announcement, the Canadian Fanconi Anemia Research Fund and the Fragile X Research Foundation of Canada targeted areas of health research within the IG's mandate. In the spring of 2004, a total of two Fellowships were announced from the fall 2003 competition.



Regular IG Award Programs

The *Suite of Regular IG Award Programs* is a constant feature of the IG funding landscape. These programs are designed to facilitate training and career development within the IG’s mandate.

Clinical Investigatorship Awards

Objective: To provide two years (renewable once) of protected research time for clinical genetics investigators to pursue clinical or translational research

IG financial commitment: \$720K over two years

Clinical Investigatorship Awards June 2004 Competition	
Awardees	Project Title
ARBOUR, Laura University of British Columbia	The genetic and environmental bases of select complex diseases in aboriginal populations
GIBSON, William Centre for Molecular Medicine & Therapeutics (BC)	Central and peripheral regulation of stearoyl CoA desaturase-1 activity
RAJCAN-SEPAROVIC, Evica University of British Columbia	Detection of novel microdeletions and microduplications in persons with intellectual disability using whole genome microarrays



Dr. Evica Rajcan-Separovic is using whole genome micorrays to study children with congenital intellectual disability. Since receiving the IG Clinical Investigatorship Award, Evica has gone on to receive two CIHR Operating Grants to continue her research on early identification of subtle chromosomal abnormalities for improving health outcomes of individuals with developmental disorders.

Career Transition Awards

Objective: To support the career transition of faculty members who are planning to undertake rigorous training outside their primary research training and expertise

IG financial commitment: \$80K over one year

Career Transition Awards February 2004 Competition	
Awardee	Project Title
CANTY, Angelo Hospital for Sick Children	Statistical analysis of multifactorial disease: Functional genomic strategies to identify genetic variants conferring risk for type 1 diabetes

Walter and Jessie Boyd and Charles Scriver MD/PhD Studentship Awards

Objective: To support students enrolled in Canadian MD/PhD training programs

IG financial commitment: \$528K over six years

Partners: Canadian Gene Cure Foundation and the Canadian Genetics Diseases Network

Walter and Jessie Boyd and Charles Scriver MD/PhD Studentship Awards June 2004 Competition	
Awardees	Project Title
CARTER, Jodi University of Alberta	Role of phosphatidylcholine biosynthesis in axon growth and repair
CHOWDHURY, Jeeshan University of Alberta	Development of microfluidic devices for analysis of gene polymorphisms for pharmacogenetics
MERANI, Shaheed University of Alberta	Strategies in tolerance induction in experimental islet transplantation
WALDKIRCHER DE OLIVEIRA, Roberta McMaster University	Identification of genes promoting glioma invasion using novel genetic screening assay



Jeeshan Chowdhury (University of Alberta), a Walter and Jessie Boyd and Charles Scriver MD/PhD Studentship awardee, has been focusing his research on the utilizing microfluidics technology to develop clinical pharmacogenetic tests on a handheld system. Such technologies would make individualized therapies a reality.



Strengthening Opportunities for Scientific Collaboration

Conferences and Meetings

The IG is committed to sponsoring and facilitating, on a continuous basis, the following conferences and meetings designed to support research, knowledge translation, networking and collaboration.

Annual New Principal Investigators (PI)

Meeting. Designed, sponsored and organized by the IG, the overall goal of the annual New PI meeting is to facilitate the career development of new faculty members (i.e., in their first four years) at a Canadian university, including new scientists and clinician scientists in the genetics and biochemistry, developmental biology, bioinformatics, cell biology, health policy and ethics communities.

The meeting fosters the formation of peer networks between the New PIs working in these areas of research. In addition, a significant portion of the meeting is devoted to mentoring, through formal presentations by “star” senior investigators and through informal interactions between these research leaders and New PIs. New PIs are counselled on grant and paper writing, running a laboratory, managing budgets, and managing trainees and staff.

The 3rd Annual New PI meeting took place on November 12-14, 2004 (Jackson’s Point, Ontario) in partnership with the CIHR Institute of Cancer Research. This cancer research-themed meeting was attended by more than 100 outstanding new researchers. Planning is currently underway for the fourth annual meeting in partnership with the CIHR Institute of Human Development, Child and Youth Health (November 4-6, 2005, Jackson’s Point, Ontario).



Group photo taken at the 3rd annual New Principal Investigator (PI) meeting in Jackson’s Point, Ontario. Each year the CIHR Institute of Genetics invites newly appointed Principal Investigators to come together with the goal of facilitating Canada’s next generation of leading researchers to develop important peer networks and mentoring relationships within the genetics community.

Guidebook for New Principal Investigators

Authored by Drs. Roderick McInnes, Brenda Andrews and Richard Rachubinski, this guidebook is directed to all researchers (new and experienced). It provides tips on:

- Applying for a grant as a Principal Investigator
- Writing papers
- Building and managing your research team and laboratory
- Managing your time

This guidebook is available on the IG website: www.cihr-irsc.gc.ca



Annual International Conference of the Canadian Proteomics Initiative (CPI). The CPI is a national effort to build on Canada's growing strengths in the field of proteomics and protein chemistry. The international conference provides a general forum for disseminating the latest developments in proteomics and protein chemistry to Canadian researchers. The IG sponsored and participated at the 4th International Conference held on May 14-16, 2004 in Montreal, Quebec. More than 350 researchers – with expertise in all areas of proteomics, including functional proteomics, structural proteomics, protein display, protein expression, protein chemistry and protein interaction - participated at this event. Planning is underway for the 5th International Conference scheduled for May 13-14, 2005 in Toronto, Ontario.

Biennial Canadian Developmental Biology Symposium. More than 250 researchers attended the 2nd



Biennial Canadian Developmental Biology Symposium held on April 1- 4, 2004 in Banff, Alberta. This symposium included sessions focused on the mechanisms of patterning, organogenesis, neuronal determination and synaptogenesis, stem cells and molecular mechanisms of human disease. Planning is underway for the 3rd Biennial Canadian Developmental Biology Symposium on April 6-7, 2006 in Mont Tremblant, Quebec.

Photo of the 2nd Canadian Developmental Biology Symposium Organizing Committee Chair, Dr. James McGhee (University of Calgary, Left), with the 3rd Canadian Developmental Biology Symposium Organizing Committee Chair and IG IAB member, Dr. Jaques Drouin (Institut de recherches cliniques de Montréal).

Genomics, Genetics and Society: Bridging the Disciplinary Divides Workshop

The IG sponsored and hosted the "Genomics, Genetics and Society: Bridging the Disciplinary Divides" Workshop held on April 15-17, 2004, in Toronto, Ontario. This workshop was designed to foster an exchange of knowledge and perspectives among basic scientists, clinicians, social scientists and bioethicists whose research is involved with one or more aspects of genomics and genetics. A series of papers, developed as a result of this workshop, will be published in *Community Genetics*. The IG will be featured in the publication.



Dr. Margaret Lock, IG Genetics and Ethical, Legal, and Social Issues Priority & Planning Committee Co-Chair, addresses participants at the "Genomics, Genetics, and Society: Bridging the Disciplinary Divides" workshop in Toronto, Ontario.

Developing and Supporting New National Platforms and Initiatives

Canadian Multigenerational Birth Cohort (CMBC). The CMBC, as a component of the Canadian Lifelong Health Initiative, is intended to facilitate the establishment of a research program to conduct large multi-centred longitudinal cohort studies of Canadians. The IG has continued to foster the development of the CMBC with the CIHR Institute of Population and Public Health and the CIHR Institute of Human Development, Child and Youth Health. This also includes a contribution to the analysis of cohort-related Genetic, Ethical, Legal and Social (GELS) issues, in partnership with the CIHR Ethics Office. During the period under review, CMBC planning meetings, with international representation, included the Genetics Interest Groups Meeting (November 1, 2004, Toronto, Ontario) and the Genetics First Scientific Advisory Committee (November 2, 2004, Toronto, Ontario).

International Regulome Consortium (IRC). The overarching goal of the IRC is to utilize the tools of proteomics and genomics to characterize the protein components of transcriptional complexes containing all potential transcription factors, and to identify and validate the complete set of their binding sites and corresponding target genes. The project team is a Canadian-led international research effort involving 37 investigators in 17 institutions in six countries. The IG and CIHR co-funded an application submitted to the CIHR International Opportunity Program in support of this effort, in the amount of \$200K for a term of one year.

Canadian Mouse Consortium (CMC). The goals of the consortium are to integrate the strengths of mouse research technologies in Canada to enable Canadian-led research programs that rely on mouse genetics, and to lead and participate in international efforts to establish a publicly available mutant mouse resource. The IG supported the workshop designed to establish the consortium held on September 9, 2004 in Winnipeg, Manitoba.

EFFECTIVE PARTNERSHIPS AND PUBLIC ENGAGEMENT

Interactive Involvement by Partners

The IG Voluntary Health Organizations (VHOs) Working Group's mandate is to cultivate a full partnership between VHOs and the IG. The VHO Working Group will influence the development of the IG as an integrative health research institute, and promote public engagement among the stakeholders in the work of CIHR.

During the reporting period, planning was underway for the Genetics Research Partnership Roundtable, scheduled for October 6 - 7, 2005 in Toronto, Ontario. The primary objective of this roundtable is to determine how VHOs interested in funding research in genetic diseases can create collaborations within CIHR around the funding of a strategic research initiatives that demonstrate relevance to donors and families impacted by genetic diseases.

Engaging in International Partnerships

The International Collaborations in Human Genetics Priority & Planning Committee's mandate is to identify areas of research that are synergistic between Canada and other countries, and that will lead to meaningful research collaborations. This is a joint committee with the Canadian Genetic Diseases Network. An example of a key activity during this reporting period was the Italian/Canadian International Collaborations in Genetics Workshop held on October 25, 2004 in Toronto, Ontario.

American Society for Human Genetics (ASHG) Annual Scientific Meeting

Visibility at the American Society for Human Genetics (ASHG) Annual Scientific Meeting (October 26-30, 2004 in Toronto, Ontario) included:

- Providing an overview of the IG to the ASHG Board of Directors by the Scientific Director
- Hosting IG and Canadian College of Medical Geneticists reception
- Co-organizing a symposium with Robert Nussbaum, President of the ASHG: "The Human Genome Project in Medicine: A Joint Canadian-US Perspective"
- Hosting of an informational booth

Promoting Science to Canadian Youth

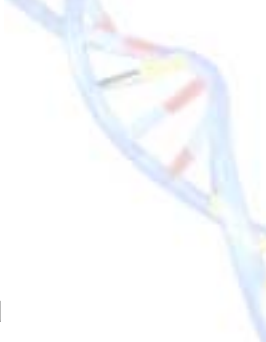
Be a gene researcher for a week - the Rt. Hon. Ramon Hnatyshyn Youth in Science Initiative.

The 2004 spring break program was sponsored by the IG in partnership with the Canadian Genetic Diseases Network. This program placed 30 high school students (grades 11 and 12) in the research laboratories of Canada's top genetic scientists. Students worked side-by-side with researchers, graduate students and technicians to plan and carry out experiments. Arrangements are underway for the 2005 spring break program.



The Geee! In Genome. This travelling museum exhibit is an innovative, multi-dimensional public education project developed by the Canadian Museum of Nature in partnership with Genome Canada and CIHR. During the period under review, the IG supported the Public Forum on Genomics at the Ontario Sciences Centre in Toronto, in partnership with the CIHR Institute of Infection and Immunity and the Ontario Genomics Institute.

The GEEE! in Genome exhibit in Toronto, opened on October 31, 2004. The GEEE! in Genome is an innovative project designed to inform Canadians about the study of genes and their functions.



LOOKING FORWARD

The IG Strategic Plan provides a framework to advance the mandate of the Institute. It has been designed to provide a clear vision and sufficient direction for its highly dispersed and independent research community, while being flexible enough to respond effectively to the many opportunities and challenges that may present themselves to the IG. The IG is committed to the continual advancement of the goals outlined in this plan, including an unwavering support for independent investigators, as evidenced by the activities referenced throughout this report.

For the upcoming year, the IG is proud of the following 2005-06 planned activities that highlight our balanced efforts to support scientific excellence while encouraging emerging areas of investigation.

Event Highlights:

- Genetics Research Partnership Roundtable (October 6-7, 2005 in Toronto, Ontario)
- 4th Annual New Principal Investigators Meeting (November 4-6, 2005 in Jackson's Point, Ontario)
- 3rd Biennial Canadian Developmental Biology Symposium (April 6-7, 2006 in Mont Tremblant, Quebec)
- Canadian Proteomics Initiative 2005 (May 13-14, 2005 in Toronto, Ontario)

Funding Announcement Highlights:

- Maud Menten New Principal Investigator Prizes are scheduled to be announced in October 2005
- Regenerative Medicine and Nanomedicine Team and New Discoveries competition results will be available in October 2005
- Genomic Medicine and Human Development Operating Grant competition results are anticipated to be released in November 2005



FINANCIAL STATEMENTS

Table 1

IG Institute Support Grant

For the year ended March 31, 2005		
Available Funds		\$1,029,772
Expenses		
Institute Development		
Conference, symposia and workshops	\$ 176,300	
Institute Advisory Board	61,715	
Professional services	3,860	
Travel expenditures	1,530	
Other costs	<u>77,012</u>	\$ 320,417
Institute Operations		
Salaries and benefits	\$ 418,506	
Office accommodations	12,099	
Telephone and communication services	10,063	
Supplies, material and other services	7,854	
Computer equipment and IT support	12,866	
Professional services	700	
Travel expenditures	44,734	
Other expenditures	3,116	\$ 509,938
Total Expenses		\$ 830,355
Unspent Balance*		\$ 199,417

* Note: The unspent balance as of March 31, 2005 is carried forward to the subsequent fiscal year

Table 2

IG Investments in Strategic Initiatives

For the year ended March 31, 2005

	Contributions through Grants and Awards					Total
	Number	2004-05	2005-06	2006-07	2007 and beyond*	
STRATEGIC INITIATIVES						
Addressing Health Care and Health Policy Challenges of New Genetic Opportunities	2	143,360	352,785	357,969	200,705	1,054,819
Career Transition Awards	1	41,250	13,750	-	-	55,000
Clinical Investigatorship Awards	5	300,000	360,000	180,000	-	840,000
Compelling Values: Privacy Access to Data and Health Research Grants	2	65,672	9,381	-	-	75,053
Doctoral Research Awards and Fellowships	16	282,294	238,750	104,667	21,042	646,753
Facing our Future: Human Genetics, Ethics, Law and Society Grants	5	118,014	-	-	-	118,014
Interdisciplinary Capacity Enhancement (ICE) Teams	2	107,753	230,614	230,496	180,556	749,419
International Opportunity Program	1	-	100,000	-	-	100,000
Invention and Technology Application Grants: Tools, Techniques and Devices for Research and Medicine	8	627,572	570,179	235,370	-	1,433,121
Knowledge Translation Grants	3	63,926	8,334	-	-	72,260
NET: Gene-Environment and Obesity	1	25,000	25,000	25,000	25,000	100,000
NET: Genomics and Aging	1	25,000	25,000	25,000	25,000	100,000
NET: Integration of Fundamental Bioengineering into Health Research	1	300,000	300,000	300,000	300,000	1,200,000
NET: Integration of Mathematics, Statistics and Biophysics into Health Research	1	300,000	300,000	300,000	300,000	1,200,000
New Discoveries: High-Risk, High-Benefit Grants	7	353,959	147,814	-	-	501,773
Novel Population Genetics and Genetic Epidemiological Methods for Studies of Complex Diseases	4	144,353	128,608	30,710	-	303,671
One-Year Bridging Operating Grants	36	2,194,773	370,329	-	-	2,565,102
Population Genetics and Genetic Epidemiology of Complex Diseases: Operating Grants	1	35,596	71,189	71,189	35,595	213,569
Regenerative Medicine and Nanomedicine	6	250,000	500,000	500,000	1,250,000	2,500,000
Short-Term Research Visit Grants	23	119,486	-	-	-	119,486
Strategic Training Program Grants	14	950,850	1,692,867	1,675,616	1,751,069	6,070,402
Walter and Jessie Boyd and Charles Scriver MD/PhD Studentship Awards	12	110,501	138,209	118,250	235,376	602,336
	152	\$6,559,359	\$5,582,809	\$4,154,267	\$4,324,343	\$20,620,777

* Note: Grants and awards in respect to these programs are approved for 1 to 6 years. Figures displayed represent financial commitments for these programs in 2004-05 and subsequent years. Availability of these funds in future years are subject to funding appropriations by Parliament.

APPENDICES

Appendix 1

Institute of Genetics Advisory Board Membership (As of September 1, 2004)



Joel Weiner, PhD
(Chair)
University of Alberta



François Rousseau, MD
(Vice-Chair)
Université Laval



Judith Allanson, MD
Children's Hospital of
Eastern Ontario



Michel Bouvier, PhD
Université de Montréal



Teren Clarke, RN, BN, MM
Canadian Paraplegic
Association (Alberta)



Jacques Drouin, DSc
Institut de recherches
cliniques de Montréal



Peter Hackett, PhD
Alberta Ingenuity Fund



Michael Hayden, MB,
ChB, PhD
University of British Columbia



Philip Hieter, PhD
University of British
Columbia



Tom Hudson, PhD
McGill University



Josée Lavoie, PhD
Université Laval



Margaret Lock, PhD
McGill University



Daryl Pullman, PhD
Memorial University of
Newfoundland



Janet Rossant, PhD
University of Toronto



Rob Shipman, PhD
Director, Genomics
NoAb BioDiscoveries



Michael Snyder, PhD
Yale University



Caroline Weber
Director General, Policy,
Planning and Priorities
Directorate, Health Canada

Former Members

Term ending: August 2005



Jane Green, PhD
Memorial University of
Newfoundland



Andrew Storer, PhD
National Research Council of
Canada



Philippe Gros, PhD
McGill University



Joseph Rotman
CIHR Governing Council

Ex officio Members

Appendix 2

Institute of Genetics Priority and Planning Committee Membership

A. Committees Supporting the IG Research Priority Themes

Bioinformatics

Francis Ouellette, University of British Columbia
(Chair)
Fiona Brinkman, Simon Fraser University
Gertraud Burger, Université de Montréal
William Crosby, University of Windsor
Steven Jones, British Columbia Cancer Agency
Paul Kearney, Caprion
François Major, Université de Montréal
Andrew Roger, Dalhousie University
Christoph Sensen, University of Calgary
Chris Upton, University of Victoria

From Genes to Genomic Medicine (including Clinical Genetics Research)

Jan Friedman, University of British Columbia
(Co-Chair)
Peter St. George-Hyslop, University of Toronto
(Co-Chair)
Jane Evans, University of Manitoba
Blair Leavitt, University of British Columbia
Alex MacKenzie, Children's Hospital of Eastern Ontario
Jacques Michaud, Hôpital Ste-Justine
David Rosenblatt, McGill University
Jacques Simard, Université Laval
Rosanna Weksberg, The Hospital for Sick Children

Population Genetics, Genetic Epidemiology, and Complex Diseases

Shelley Bull, University of Toronto *(Co-Chair)*
France Gagnon, University of Ottawa *(Co-Chair)*
Jinko Graham, Simon Fraser University
Andrew Paterson, The Hospital for Sick Children
John McLaughlin, University of Toronto
Ken Morgan, McGill University
Bruce Rannala, University of California

Genetics and Ethical, Legal and Social Issues

Tim Caulfield, University of Alberta *(Co-Chair)*
Margaret Lock, McGill University *(Co-Chair)*
Laura Arbour, University of British Columbia
Michael Banner, ESRC Genomics Policy & Research Forum (ex officio)
Teren Clarke, Canadian Paraplegic Association
Susan Cox, University of British Columbia
Jane Evans, University of Manitoba
Daryl Pullman, Memorial University of Newfoundland

Health Services for Genetic Diseases (with IHSPR)

Judith Allanson, Children's Hospital of Eastern Ontario *(Co-Chair)*
Eva Grunfeld, CancerCare Nova Scotia *(Co-Chair)*
Denise Avard, Université de Montréal
Mario Cappelli, Children's Hospital of Eastern Ontario
June Carroll, Mount Sinai Hospital
Christine Kennedy, University of Calgary
François Rousseau, Université Laval
Brenda Wilson, University of Ottawa



Appendix 2 (cont'd...)

A. Committees Supporting the IG Research Priority Themes (cont'd...)

Integrating the Physical and Applied Sciences into Health Research

Philip Hieter, University of British Columbia
(Co-Chair)
Christopher Yip, University of Toronto *(Co-Chair)*
Brenda Andrews, University of Toronto
John-Bruce Green, University of Alberta
Charles Haynes, University of British Columbia
Yves de Konick, Université Laval

Proteomics

Joel Weiner, University of Alberta *(Chair)*
Brenda Andrews, University of Toronto
John Bergeron, McGill University
Mirek Cygler, National Research Council of Canada
Michel Desjardins, Université de Montréal
Mike Moran, University of Toronto
Natalie Strynadka, University of British Columbia
Hans Vogel, University of Calgary
David Wishart, University of Alberta

B. Committees Supporting the IG Enabling Strategies

Cell Biology (under development)

Richard Rachubinski, University of Alberta *(Chair)*

Developmental Genetics and Birth Defects

Jacques Drouin, Institut de recherches cliniques de Montréal *(Chair)*
Paul Lasko, McGill University
Howard Lipshitz, The Hospital for Sick Children
James McGhee, University of Calgary
Jacques Michaud, Université de Montréal
Janet Rossant, Samuel Lunenfeld Research Institute

International Collaborations in Human Genetics (with CGDN)

Stephen Scherer, The Hospital for Sick Children *(Chair)*
Diane Cox, University of Alberta
Philip Hieter, University of British Columbia
Bartha Knoppers, University of Montreal
Robert Korneluk, Children's Hospital of Eastern Ontario
François Rousseau, Université Laval
Ron Woznow, Canadian Genetic Diseases Network

New Principal Investigators

Geoff Hicks, University of Manitoba *(Chair)*
Victoria Allen, Dalhousie University
Jean-Francois Bilodeau, Université Laval
Andrew Boright, Toronto General Research Institute
Nancy Hawkins, Simon Fraser University
Jason Robert, Arizona State University
Jane Roskams, University of British Columbia
Fay Warnock, University of British Columbia

Public Engagement and Knowledge Exchange

François Rousseau, Université Laval *(Chair)*
Jane Green, Memorial University of Newfoundland
Michael Hayden, University of British Columbia

Voluntary Health Organizations Working Group

Teren Clarke, Canadian Paraplegic Association *(Chair)*
Sharon Colle, Foundation Fighting Blindness - Canada
John Davidson, Jesse's Journey/ The Foundation For Gene and Cell Therapy
Judi Farrell, Lupus Canada
Isla Horvath, Huntington Society of Canada
Nicola Lewis, Heart and Stroke Foundation of Canada
Doretta Thompson, ALS Society of Canada

Appendix 3

Workshops and Symposia Support: 2004-05 Events

Date & Location	Event	Financial Contribution (\$)
April 1-4, 2004 (Banff, Alberta)	2nd Canadian Developmental Biology Meeting	11,084
May 3-5, 2004 (Ottawa, Ontario)	International Regulome Consortium Workshop	10,000
May 14-16, 2004 (Montreal, Quebec)	4th International Conference of the Canadian Proteomics Initiative (CPI)	10,000
May 25-29, 2004 (Toronto, Ontario)	3rd International Conference on Metals and Genetics: Metals and Biochemistry, Disease, Environment: A Tribute to Bibudhendra Sarkar	2,500
May 27-29, 2004 (Montreal, Quebec)	The Canadian Society for Biochemistry, Molecular and Cellular Biology (CSBMCB) 47th Annual Symposium "Cellular Signalling: From the Membrane to the Nucleus"	2,500
May 28-30, 2004 (Kimberly, Ontario)	Expanding Genetic Research in Canada Workshops - Canadian Genetic Diseases Network (CGDN)	10,000
June 16-20, 2004 (Vancouver, British Columbia)	Northern Lights Summer Conference: The Interface of Cancer and Development/Nutrition and Genomics Joint Satellite Meeting	10,000
June 17-20, 2004 (Boston, Massachusetts)	Genetics Society of Canada Annual Meeting	1,000
June 18-22, 2004 (Banff, Alberta)	2nd International E. Coli Alliance Conference on Systems Biology	10,000
June 25-26, 2004 (Whistler, British Columbia)	1st Canadian Educational Symposium on von Hippel-Lindau Disease	2,500
September 9, 2004 (Winnipeg, Manitoba)	Canadian Mouse Consortium Workshop	2,500
September 19-21, 2004 (Orford, Quebec)	5th Symposium on Molecular Biology of RNA	5,000
October 7-8, 2004 (Montreal, Quebec)	Oncogenetics: Achievements and Challenges Workshop	5,000
October 17-22, 2004 (Banff, Alberta)	8th International Conference on the Chemistry and Biology of Mineralized Tissues	2,500
October 22-23, 2004 (Montreal, Quebec)	Enjeux sociaux, éthiques et légaux de la médecine prédictive génétique sur la pratique clinique	10,000
October 26, 2004 (Toronto, Ontario)	New Avenues in Autosomal Recessive Spastic Ataxia of Charlevoix-Saguenay (ARSACS) Research Workshop	7,500
October 29, 2004 (Toronto, Ontario)	The Human Genome Project in Medicine: A Joint Canadian-US Perspective	1,000
November 4, 2004 (Ottawa, Ontario)	GoC Biotechnology Conference - Pharmacogenomics: The Public Policy Implications	502
February 5-6, 2005 (Montreal, Quebec)	Citizen Conference on Genomics during the "Putting The Geee! In Genome" Exhibit at the Montreal Science Centre	2,500
March 4-6, 2005 (Toronto, Ontario)	25th Annual Great Lakes Mammalian Development Meeting	10,000
March 16-20, 2005 (Banff, Alberta)	48th Canadian Society for Biochemistry, Molecular and Cellular Biology (CSBMCB) Annual Meeting	8,000
Total Contribution in Fiscal Year 2004-2005		\$124,086

Appendix 4

Scientific Director and IG Staff

Operationally, the IG is supported by teams based at The Hospital for Sick Children in Toronto and the CIHR Secretariat in Ottawa.

TORONTO



Scientific Director

Roderick R. McInnes,
MD, PhD, FRSC
Tel: (416) 813-7671
Fax: (416) 813-7673
rodig@sickkids.ca



Assistant Director

Milka Popov, PhD
Tel: (416) 813-7670
Fax: (416) 813-7673
milkaig@sickkids.ca



**Executive Assistant
and Project Manager**

Jennifer Jennings, BA
Tel: (416) 813-7400
Fax: (416) 813-7673
jennig@sickkids.ca



**Administrative
Assistant**

Esther Berzunza, BA
Tel: (416) 813-7671
Fax: (416) 813-7673
estherig@sickkids.ca



**Research
Student**

Linda Kocovski, BSc
Tel: (416) 813-7672
Fax: (416) 813-7673
adminig@sickkids.ca

OTTAWA



**Assistant Director,
Ottawa**

Stephanie Robertson, MA
Tel: (613) 954-0533
Fax: (613) 941-1040
srobertson@cihr-irsc.gc.ca



**Institute Project
Officer**

Amanda Devost
Tel: (613) 941-0997
Fax: (613) 941-1040
adevost@cihr-irsc.gc.ca

www.cihr-irsc.gc.ca

Mailing Addresses:

CIHR Institute of Genetics

123 Edward Street, Suite 1211
Toronto ON M5G 1E3

CIHR Secretariat

160 Elgin Street
9th Floor, Address locator 4809A
Ottawa ON K1A 0W9