GenomeQuébec
The Future has Begun

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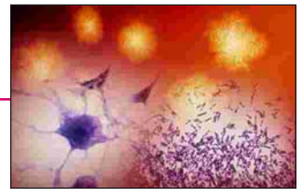
GenomeQuébec
The Future has Begun

Creation of Génome Québec.

- Génome Québec invests $46 million with McGill University for the realization of three genomics research projects and a science and technology platform.
- Publicly announces the construction of the *McGill University and Génome Québec Innovation Centre*.
- Implements Partners' Forum: a roundtable of research vice rectors with Génome Québec.

- Inauguration of the *McGill University and Génome Québec Innovation Centre*.
- Génome Québec and CGI sign new agreement for the design of a bioinformatics platform.
- Génome Québec receives $4 million in funding from Valorisation-Recherche Québec, the Fonds de la recherche en santé du Québec (FRSQ) and the Fonds québécois de la recherche sur la nature et les technologies (FQRNT) for bioinformatics projects with universities in Québec.



- Research scientists at the *McGill University and Génome Québec Innovation Centre* break the genetic code of *C. difficile*.
- The International HapMap Consortium announces the completion of the first full catalogue of the human genetic variations, a historic accomplishment that is already accelerating research into the genes related to such common diseases as asthma, diabetes, cancer and heart disease.

- Génome Québec, the Fonds de la recherche en santé du Québec (FRSQ) and the Fonds québécois de la recherche sur la nature et les technologies (FQRNT) sign a partnership agreement.

- During BIO 2006 in Chicago, Jean Charest, the Premier of Québec, announces a $50.4 million investment in Génome Québec for the development of genomics research.
- Génome Québec and Merck Frosst Canada Ltd. announce a joint investment of nearly $20 million to develop new treatments for potentially fatal fungal infections.
- Génome Québec announces the creation of the *Génome Québec and Université de Sherbrooke RNomics Platform*.
- Génome Québec announces the creation of the *Génome Québec and Montreal Heart Institute Pharmacogenomics Centre*.

- CARTaGENE launches its project optimization phase.
- The federal government announces a $22 million investment to create the Génome Québec and Montréal Heart Institute Centre of Excellence for personalized medicine.
- GÉNOME QUÉBEC IS FOCUSING ON GENOMICS IN QUÉBEC...

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- Génome Québec appoints Paul L'Archevêque as President and Chief Executive Officer.
- Genome Canada Competition I: Génome Québec receives $80 million for genomics and proteomics research for five large-scale projects and a science and technology platform, the Génome Québec Innovation Centre.
- Génome Québec signs an agreement with the Université de Montréal for the genetics, ethics, law and society (GELS) project.
- Génome Québec signs an agreement with the Centre hospitalier universitaire de Québec (CHUQ) for more than $20 million for the Atlas of Transcriptums Linked to Steroid Action project.

- Genome Canada announces results of Competition II: Génome Québec awarded $92 million for 10 approved projects.
- Creation of the International HapMap Consortium.
- Génome Québec makes first investment in a private enterprise, Alethia Biotherapeutics Inc.

- Applied Genomics and Proteomics Research in Human Health Competition: Genome Canada invests $42 million for four approved projects at Génome Québec.
- Creation and rollout of the Institut de populations et de génomique (IPEG), in collaboration with the Fonds de recherche en santé du Québec and the Université de Montréal.

- Genome Canada announces results of Competition III: Génome Québec receives $34 million for seven approved projects.
- Nearly 100,000 people visit "The GEEE! in Genome" exhibition when the Canadian exhibition on genomics comes to Québec, presented by Génome Québec.

From left to right:
Bartha Maria Knoppers, Martin Godbout, the Honourable Maxime Bernier, Raymond Bachand, Claude Laberge, Paul L'Archevêque and Luc Vinet

- Launch of the P3G/CARTaGENE Consortium.
- Génome Québec presents The Mysterious Gnome Case ongoing activity at the first Festival Eurêka, the first science festival held in Montréal.
- Announcement of the creation of an international-scope Biobank in Saguenay.
- Results of the PRIVAC competition: Génome Québec and the ministère du Développement économique, de l'Innovation et de l'Exportation announce a $21.3 million investment in three collaborative research projects in genomics.
- Research scientists at Génome Québec and Héma-Québec develop a unique automated genotyping platform to facilitate compatible-blood screening.
- In collaboration with the Université du Québec network, Génome Québec organizes the first *J'explique la génomique* competition.

GenomeQuébec
The Future has Begun

2007 / 2008 activity report

Jean-Marc Proulx
Chairman of the Board

“Although the vision behind the strategy may seem ambitious, we believe it must be upheld if we want to see Québec maintain its competitiveness…”

message from the Chairman of the Board

To better meet the competition, increase investments and accelerate results – these are the main challenges for the future of genomics in Québec. In this perspective, Génome Québec has worked hard this past year to develop a focused new strategy for genomics in Québec.

This exercise led us to submit a business plan covering the period from 2008 to 2011. Essentially, the strategy aims to structure, direct and accelerate the development of the genomics sector in order to reinforce the competitiveness of the system of innovation and to maximize its impact on Québec's economy. Génome Québec wants to expand the bridges between Québec's scientific potential and the dynamic economy of Québec-based enterprises. To do so, we are proposing a mobilizing approach that promotes the concentration of efforts on actions that have a strong potential for innovation.

After seven years and several major accomplishments, including the establishing of a state-of-the-art infrastructure and the reinforcing of technical and scientific expertise, Génome Québec is undertaking an important new direction this year. To reflect this change, we have prepared a new mission statement:

Through partnerships with key players in life sciences on national and international levels, Génome Québec contributes to strengthening the competitiveness of the system for innovation in genomics in order to maximize the socioeconomic impact in Québec, by funding major genomics research initiatives and putting in place the tools necessary for scientific and strategic development in the field.

The management team at Génome Québec has been intensely involved in the design of this strategic plan. I want to underscore the thoroughness and dedication members of the team displayed during their work. Although the vision behind the strategy may seem ambitious, we believe it must be upheld if we want to see Québec maintain its competitiveness, both nationally and internationally.

To conclude, I would like to thank all my colleagues – members of the Board of Directors – who, over the years, have contributed to making Génome Québec an organization at the service of the development and reach of genomics. Two of them left us this year: Sylvie Dillard and Dr. Alain Beaudet, respectively the President of the Fonds québécois de recherche sur la nature et les technologies (FQRNT) and the President of the Fonds de recherche en santé du Québec (FRSQ). To you both, good luck in your new assignments and many thanks for the years devoted to the development of genomics. As these departures have led to the recruiting of new members, I salute the arrival of Jean-Paul Gagné, Publisher Emeritus of the *Journal Les Affaires*, and Dr. Jacques Remacle, Principal Scientific Officer, Genomics and Systemic Biology Unit, European Commission, who have generously accepted to put their expertise at the service of genomics in Québec.

Jean-Marc Proulx
Chairman of the Board

Paul L'Archevêque
President and Chief Executive Officer

"Together, we will continue to advance genomics in Québec!"

message from the President and Chief Executive Officer

Only seven years and already Génome Québec has a sizeable portfolio of accomplishments. Solid infrastructures, a distinguished team and partners who believe in our future. That is what marks the year 2007-2008: reaching maturity and beginning a new era.

This year, our efforts were focused on establishing the new directions for the development of genomics in Québec. Making history for Génome Québec was our objective. After several months of intense work, an innovative and, above all, mobilizing strategy was born – a strategy aimed at strengthening the competitiveness of Québec, enriching the numbers of research scientists, developing high-potential niches and increasing the understanding of the contributions of genomics.

The business plan we refer to throughout this report constitutes a vital step in both the short and the long term. It proposes a major change *from Génome Québec to genomics in Québec*. From fundamental research to applications... From an idea to results... It is an ambitious plan, for which we are extremely proud because it compiles seven years of experience and transforms it into applications!

I would like to thank the team at Génome Québec for their patience, their talent and above all for their constructive energy. The realization of this plan is the fruit of hard labour and required major efforts. Meanwhile, there was everything else – the everyday work, reaching the objectives in different departments – that had to be done. Many thanks to you all, you are outstanding collaborators. As always, you have delivered far beyond expectations.

And there were plenty of deliverables, as you will see in this report, from the departments concerned. For instance, there was PRIVAC, a competition that gave birth to projects of which we are particularly proud, as they allow us to build a bridge between the academic and industrial environments, and serve as an accelerator for the transfer of knowledge and technology. The year was also marked by the launch of the P^{3}G/CARTaGENE Consortium, an initiative that confirms the leadership of Québec on the international level. This project would not have been possible without the determination of our scientists and our partners, Genome Canada and the ministère du Développement économique, de l'Innovation et de l'Exportation du Québec. To date, there are about 41 member countries, spread over five continents. As for our technological park, it was enriched with a new platform that will be established in the Saguenay region. With great pride, we announced the signing of a partnership agreement between Héma-Québec and Génome Québec – a first for our technological platforms as the services rendered will be utilized directly to facilitate the screening of compatible blood. Because the future of genomics also depends on human resources available, Génome Québec pursued its educational activities aimed at generating a passion for science. As an organization is nothing without the people who work in it, we have set up a training and development program for the managers.

I could continue to enumerate our prolific accomplishments, but as space is limited, I will conclude by thanking all those without whom none of this would have been possible. Thanks go to all the employees of Génome Québec, to the Board of Directors and the management team. All this success belongs to you and together we will continue to advance genomics in Québec!

Paul L'Archevêque
President and Chief Executive Officer

VISION

To put genomics at the heart of the scientific and socioeconomic development of Québec.

MISSION

Through partnerships with key players in life sciences on national and international levels, Génome Québec contributes to strengthening the competitiveness of the system for innovation in genomics in order to maximize the socioeconomic impact in Québec, by funding major genomics research initiatives and putting in place the tools necessary for scientific and strategic development in the field.

4 STRATEGIC GOALS

1

Reinforce the competitiveness of the genomics innovation system in Québec.

2

Develop the high-priority strategic sectors in order to maximize wealth creation.

3

Mobilize public agents to implement an integrated strategy for developing genomics.

4

Increase awareness and understanding of the contributions genomics make.

From left to right: Caroline Plourde, Pierre Francœur, Daniel Tessier, Carole Jabet, Paul L'Archevêque, Raymond Castonguay and Andrea Smith.

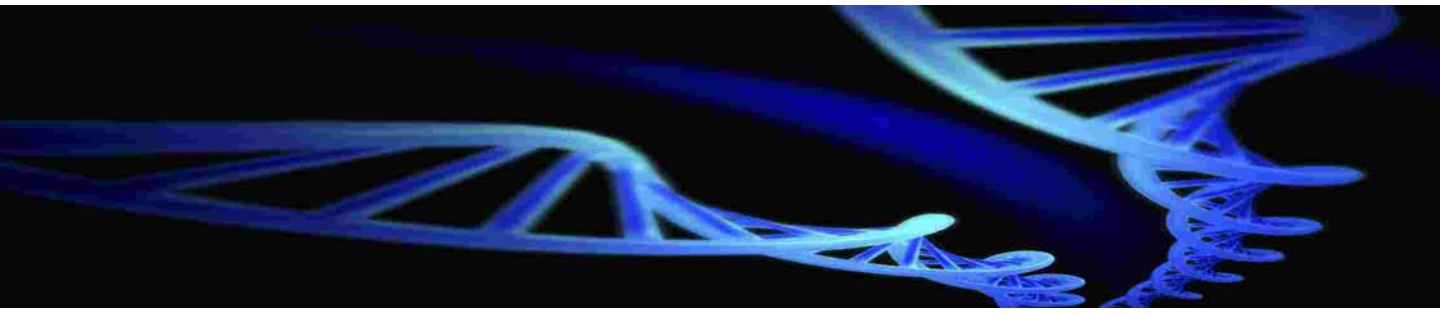
"A year that will mark the transition from Génome Québec to genomics in Québec."

Capitalizing on seven years of constructive efforts, the management team at Génome Québec prepared a new business plan during 2007-2008. Major efforts were invested in this strategic exercise, which concluded with the adoption of the proposed plan by the Board of Directors, and the endorsement of the principal partners. Developed with a three-year horizon, the business plan is noteworthy for the scope of the proposed new direction. From a strategy focused on establishing the credibility of Génome Québec, we will now direct our sights on promoting genomics in Québec. To achieve this, we intend to focus on the four main strategic goals on which the business plan is based:

- Reinforce the competitiveness of the genomics innovation system in Québec
- Develop the high-priority strategic sectors to maximize wealth creation
- Mobilize public agents to implement an integrated strategy for developing genomics
- Increase awareness and understanding of the contributions genomics makes.

The first two goals aim at increasing competitiveness and developing strategic niches, the third aims at mobilizing and building information networks and strategic alliances, while the fourth goal is making communications and education a priority.

On page 7, the scientific activity report will delve into the issues and actions resulting from the first two goals. As for the third – the mobilization of public agents – we are pleased to confirm that the partnership with the Fonds de la recherche en santé du Québec (FRSQ) and the Fonds québécois de la recherche sur la nature et les technologies (FQRNT) has led Génome Québec to play a growing role supporting research projects and infrastructures. Strengthened by this experience, we hope to enhance our efforts by enlarging the number of partnerships.



Sensitive to the problems caused by the dearth of specialized workers and the needs for the next generation of scientists, Génome Québec is involved with the public on several levels. For the past few years, the organization has been associated with educational activities aimed at making young people and their families aware of scientific issues, and at generating passion for careers in the field. During the year, Génome Québec was a proud partner of the *Expo-Sciences*, the sanofi-aventis BioTalent Challenge, the Festival Eurêka, the *"J'explique la génomique"* competition, the Association francophone pour le savoir (ACFAS) congress, and more.

In addition, because we care about communicating the ramifications of investments in genomics, press conferences were held with partners and dignitaries. For instance, there was a launch of the P^{3}G/CARTaGENE projects, held with the federal Industry Minister and the Minister of Développement économique, de l'Innovation et de l'Exportation du Québec. A joint announcement with Héma-Québec also deserves mention, as does the news, in October 2007, of the results of the PRIVAC competition. Each of these activities was an opportunity to capture the attention of the media, resulting in print articles, television and radio coverage.

Note, in terms of human resources, setting up a training and development program for all the managers at Génome Québec constitutes a major accomplishment. Not only were people trained in best practices for management, this program was an opportunity to spread the message in order to harmonize the efforts of our organization with the strategic objectives of Génome Québec. This realignment is even more important considering that the organization operates at several different sites concurrently.

Clearly, the year was full of promising achievements leading us to foresee the future with optimism!

Raymond Castonguay
Vice President
Finance and Investments

Pierre Francoeur
Director
Human Resources

Carole Jabet
Vice President
Scientific Affairs

Paul L'Archevêque
President and CEO

Andrea Smith
Director
Business Development

Daniel Tessier
Senior Director
Operations and
Business Development

“The year 2007-2008 is noteworthy for the outstanding leadership of Québec scientists, whose expertise is going around the world.”

Carole Jabet
Vice President
Scientific Affairs

First, we salute the major performance of key partners of Génome Québec – the genomics scientists and researchers – who once again this year received numerous accolades. For example, the Interim Review of Competition III closed with unparalleled success, confirming the scientific excellence of the experts who participated.

Despite their extremely full days, the scientists continue to contribute to the influence of Québec in many regards. Their involvement goes far beyond their own research projects, as was the case as part of the exercise, initiated by Genome Canada, which led to the tabling of the Position Papers. Once again, thank you for having answered this invitation, which allowed Québec to position itself in regards to such international issues as the optimization of healthcare, the exploitation of bioproducts and sustainable development. More specifically, we draw attention to the excellent performance of Adrian Tsang, PhD, and his collaborators who helped make bioproducts a Canadian priority for 2008.

International leadership

As the success of this community of scientists far exceeds their commitment and involvement, we must note certain major publications, whose impact allowed Québec's expertise to go around the world. Recognized by their peers, these articles influence – and even change – the approach of genomics in the context of complex diseases, forestry resources, etc. These major publications include:

- The publication of the findings of the phase II HapMap project in *Nature*, 2007 – Dr. Thomas J. Hudson, McGill University and Génome Québec Innovation Centre.
- The publication of a major discovery that can explain up to 70 per cent of heredity for type 2 diabetes in *Nature*, 2007 – Rob Sladek, McGill University and Génome Québec Innovation Centre.
- The significant media coverage for the Arborea project, in *L'actualité*, 2007, and the reporting that was part of *Le Code Chastenay* television program, 2008 – John MacKay and Jean Bousquet, Université Laval.

A look at the future

We are starting 2008-2009 full of energy. All our efforts during this period will focus on two main priorities in the 2008-2011 business plan: increase the competitiveness of Québec, and develop strategic sectors. In this perspective, collaborations are already underway with new key players associated with the Montreal Heart Institute and the Research Centre at the Sainte-Justine University Hospital Centre. Note that it is thanks to such initiatives that Québec could join such major projects as the 1000 Genomes Project.

In addition, the achievements of the nature of the partnership with Héma-Québec, an agreement aimed at optimizing blood donations, and the partnership with the Montreal Heart Institute, which aims at promoting personalized medicine at a Centre of Excellence for Commercialization and Research, assists us in our capacity to develop applications in such strategic fields as diagnostics, therapeutic optimization, forestry and the environment.

To conclude, I would like to draw attention to the quality of the expertise brought together in the Scientific Affairs department. While making it a point of honour to pursue what has become the branding of Génome Québec – high-level project management – the team has mobilized key players in genomics. None of these accomplishments would have seen the light of day without the commitment of every member of this team.

A big thank you to all.

Carole Jabet
Vice President, Scientific Affairs

ongoing projects

P3G/CARTaGENE

Under the management of professor Bartha Maria Knoppers, P3G/CARTaGENE is a research project in the genomics of public populations and is part of Genome Canada's International Consortium initiatives. Its funding was officially announced on May 22, 2007, in the presence of the Honourable Maxime Bernier, federal Minister of Industry, and Raymond Bachand, Minister of Développement économique, de l'Innovation et de l'Exportation du Québec. The launch was held during a press conference, as part of the Human Genomics Organization (HUGO) meeting held in Montréal. Totalling $34.5 million, the funding announced constitutes the most important sum invested in genomics research to date.

The International P3G Consortium

At P3G, the consolidation of the Observatory and the recruiting of members for the scientific committees characterize 2007-2008. Regarding membership, the objectives were exceeded, guaranteeing the consortium a presence on every continent. The network continues to grow. To date, there are more than 40 charter members. During the year, two successful major international meetings were held: the Montréal meeting in May 2007, to which 60 members came to share their progress and future projects, and the October 2007 meeting in San Diego, attended by 70 members.

In a perspective of collaboration and harmonization, the international task forces broadened their discussions by creating more than seven committees to look into the specific issues of biobanks. This work is carried out under the scientific direction of Dr. Thomas J. Hudson.

CARTaGENE

Having benefited from the very positive repercussions subsequent to announcing the project in May 2007, CARTaGENE, under the leadership of Dr. Claude Laberge, set up an infrastructure and a team made up of experts from scientific and social sectors. In January 2008, CARTaGENE launched its optimization phase by announcing in a press release the recruiting of candidates in the Montréal, Montérégie and Estrie regions. Some 223 people answered the call, allowing CARTaGENE to successfully complete its optimization phase. An international scientific advisory board (ISAB), an epidemiology orientation group and a user committee were struck, as well as a committee to ensure the liaison between CARTaGENE and the ministère de la Santé et des Services sociaux du Québec. In short, the team at CARTaGENE is contributing significantly to the development of expertise in the genomics of public populations in Québec. This project is also an important resource for validating the work of genetics researchers and clinicians who explore complex diseases.

ongoing projects

Pharmacogenomics and Cardiovascular Disease

This major research project utilizes the pharmacogenomics technique to study medications utilized in the treatment of cardiovascular disease. This project has two goals:

1. To evaluate the side effects of statins on groups of treated patients. Although statins can induce serious side effects, such as myotoxicity (muscular pain), the medication studied has been on the market for several years and is widely prescribed.

2. To conduct research, in collaboration with Pfizer, aimed at understanding the genetic basis of the response to an innovative new drug therapy for cardiovascular disease.

Under the direction of Dr. Jean-Claude Tardif and Michael Phillips, PhD, this year the team focused primarily on recruiting patients treated with statins and presenting, or not, side effects. More than 10 recruiting centres were set up throughout Québec. To date, nearly 40% of the patients necessary for the study have been recruited. We hope to have completed the recruiting phase by March 31, 2009.

The year 2007-2008 also saw the finalization of plans for the Centre de pharmacogénomique Beaulieu-Saucier, which will be located on the site of the Montreal Heart Institute. This will allow the team to move into new offices this year. The Centre will be built according to standards in the pharmaceutical industry, but in an academic setting.

The Centre will therefore be very strategically positioned at the heart of operations in the midst of hospitals, universities and industries. No doubt, this specificity will make the Centre a leader in the integration of innovations in personalized medicine into clinical medical practice.

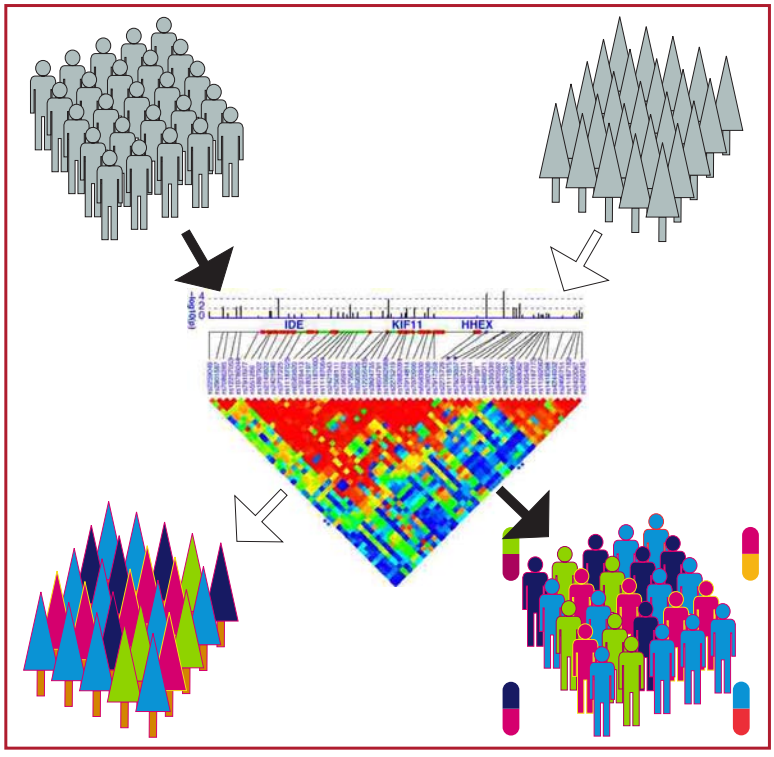
Beyond the regular scientific activities, Dr. Tardif is involved in the community through activities aimed at better explaining the impact of pharmacogenomics on the general population. As a case in point, last February Dr. Tardif was the subject of a report on the science-oriented television program *Le Code Chastenay*. This segment focused on the beginnings of pharmacogenomics and the possibility of reducing the undesirable side effects of medications through personalized medicine.

Arborea Project

Arborea is a research project into the genomics of forestry, whose mission is to contribute to the sustainable development of forests through innovative solutions. Its objective is to identify the genes associated with the natural variability in the growth and wood formation properties of spruce trees. This type of conifer is widespread in Canadian forests and has major economic importance. Through its scientific approach, the project could contribute to finding solutions for certain problems related to the forestry crisis. Concerned with being efficacious, the Arborea team has an advisory board that regularly provides advice in terms of ethics, the environment, economics and technological transfer.

We can qualify 2007-2008 as a year rich in accomplishments. The team has completed the inventory of the spruce genes and has begun producing the expression and genotyping microarray, as well as the genetic maps, which will allow us to develop a tool for the rapid and effective identification of high-yield trees. To that end, they have already begun pilot studies to test their technology. To date, results have been very promising. Thanks to the pan-Canadian collaboration with the University of British Columbia, they have inventoried a catalogue of more than 25,000 genes, reinforcing the quality of the data that will serve to develop the marker-assisted selection tool.

Under the direction of John MacKay, the Arborea team also distinguished itself several times in the public arena, notably as part of the "Carrefour de la recherche forestière" (forestry research hub) on the *Le Code Chastenay* television program, and in various newspapers and magazines, including *L'actualité*.



The genomics of populations leads us towards optimal medicine.
The genomics of forestry leads us towards productive and sustainable forests.
The common point: Genomics technology.

“As we can now rely on our solid foundations, the finance department at Génome Québec is making a major change towards being proactive.”

Raymond Castonguay
Vice president
Finance and Investments

This year, the finance department has worked diligently to meet the numerous challenges that face a quickly growing business. Indeed, considerable effort was expended on such issues as information technology, risk management, the increasing complexity of operations, and the need for alignment.

Information Technologies

One of the main accomplishments during the year 2007-2008 in the area of information technology (IT) is without a doubt the implementation of the financial modules of the new Enterprise Resource Planning (ERP) software – an integrated information system that increases internal control, the effectiveness of the accounting department, and supports financial analysis.

Risk Management

This year, we completed the first phase of identifying the risks that could keep the organization from reaching its strategic objectives.

During the coming year we will roll out the second phase, which aims to identify, evaluate and prioritize the main risks. A cost compliance audit was also carried out, as part of a large-scale project, selected subsequent to an in-depth risk analysis. Several recommendations resulting from this analysis will contribute to improving future processes and, consequently, to optimizing the financial information submitted by our partners.

The Growing Complexity of Operations

The number and diversity of our partners (in the private sector, in hospitals and universities, as well as international players, etc.), along with the growth of the volume of transactions, generate major management challenges. To increase our efficiency we are positionning the financial and legal department to be involved at the startup phase of a project. The goal is to put the department’s resources to work, notably during discussions around aspects related to the design of the projects. Ultimately, becoming proactive will simplify, even lighten, project management.

The Need for Alignment

During the year, Génome Québec acquired a plan for the standardization of the processes common to all Technological Centres. For example, the preparation of submissions for our services will now be integrated into a single department for all Centres. With this new approach, we will significantly improve the quality of customer service, present a consistent image of Génome Québec, and optimize internal efficiency.

The finance and legal team see the year to come as one of harmonizing and optimizing current resources. In addition to all current business, the department will focus primarily on the following three objectives:

1. To financially and legally support the implementation of all aspects of the business plan.
2. To complete the plan for the integration of common processes for all the Technological Centres, including the standardization of the budget process and funding renewal for the McGill University and Génome Québec Innovation Centre.
3. To finalize the design and implementation of the governance and risk management model for Génome Québec.

To conclude, making the change from Génome Québec to genomics in Québec could not happen without major investments. The aligning of operational processes, increasing efficiency in the financial management of the projects and professionalism in setting up agreements are all actions that allow us to envision these investments with confidence.

Raymond Castonguay
Vice President, Finance and Investments

Génome Québec Technological Centres

Together with our partners, Génome Québec continues to make available to the Québec and Canadian research community our cutting-edge and high-performance technological platforms. They continue to multiply throughout Québec following our management model for these platforms. For example, a biobank was created in the Saguenay region in August 2007.

The professionalism of the technical personnel and the management of our centres is equalled by the quality of the services we provide for research scientists and the genomics and proteomics innovation system as a whole. The sustained growth in the demand for services in our network of platforms testifies to the special relationship we maintain with each of our clients.

McGill University and Génome Québec Innovation Centre

The McGill University and Génome Québec Innovation Centre, one of the technological platforms in Genome Canada's portfolio, has just completed a record year. We can confirm a significant increase in our production capacity and the operational effectiveness of all our technological platforms. We have also implemented the 454 (Roche GS-FLX) technology, which allows ultra high-speed sequencing throughput. To date, Génome Québec remains the only organization in Canada to provide scientific, academic and industrial communities full access to this technology.

Thanks, notably, to this state-of-the-art technology, it was possible to sequence the complete genome of several isolates of the *C. difficile* bacteria and therefore deliver conclusive results regarding the virulence of the strain in less than a month, a project piloted by Ken Dewar, PhD, Interim Scientific Director at the Innovation Centre. This is an extraordinary accomplishment, considering that the sequencing of a bacterial strain can now be completed in a week, when only two years ago it would have taken six months.

From offer to demand

Regarding the growing numbers of clients, we note, once again this year, a considerable increase, from 532 clients in 2006-2007 to nearly 580 in 2007-2008, an increase of 9%.

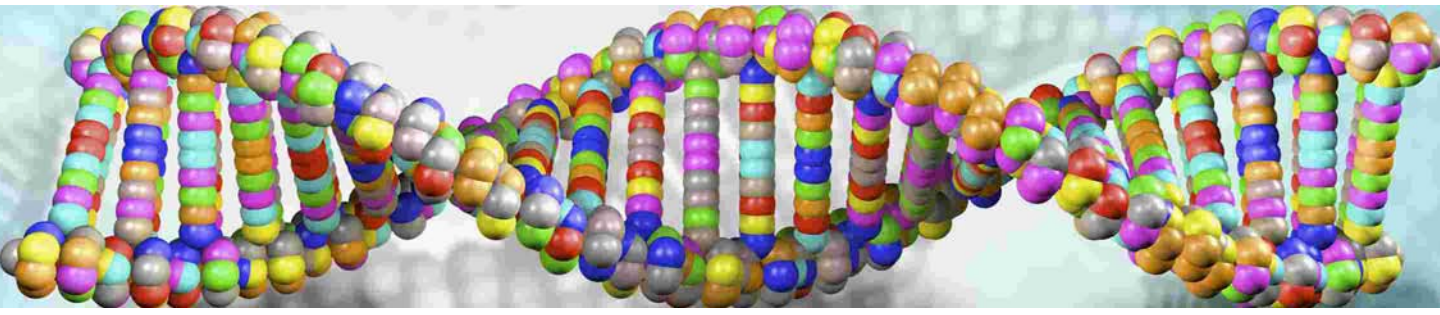
This growth in demand has had a positive impact on the deployment of robotization strategies, thereby increasing production capacity and triggering a significant increase in traffic on these platforms. Consequently, we are pleased to confirm the following increases over 2006-2007:

- A 136% increase in sequencing, to 2.2 million reactions.
- A 67% increase in functional genomics, to more than 2,000 microarrays.
- A 33% quarterly growth rate for revenues from the proteomics platform.
- A 220% increase in revenues for the genotyping platform.

Combined with more efficient operations, this growth generated overall revenues of $9.2 million for the year 2007-2008.

There will be numerous challenges to meet in the coming years. Of course, we must maintain the same high levels of quality and customer satisfaction, but we must also remain at the cutting edge of technology. Equipment such as the high throughput sequencers evolves rapidly, with multiple applications, and requires extraordinary human expertise and the highest performing computer support – ready to transform all this data into tangible results. And that means our keyword, for now and in the future, is "analysis"!

Daniel Tessier
Senior Director
Operations and
Business Development



The Génome Québec and Université de Sherbrooke RNomics Platform

The Génome Québec and Université de Sherbrooke RNomics Platform has continued to expand its technology and client bases. Increased visibility of the platform services and technology has been obtained through presentations at several scientific conferences, and the publication of research done using our technology in the journal *Cancer Research* in February 2008. The platform continues to provide unique technology and expertise in the field of RNA biology.

The RNomics Platform offers services for the analysis and validation of the transcribed genome. The platform has developed automated computational and experimental systems for the detailed analysis and quantification of RNA expression and splicing. These tools are used for the characterization of many complex diseases, such as cancer.

Highlights of 2007-2008

- Web interface development. Clients have secure remote access to experimental designs, raw data and processed results.
- Quantitative PCR integration. Installation of a new qPCR instrument, and integration of data processing software to the database and web interface.
- Recruitment of an additional technician in November 2007. A third technician was added to handle the increased throughput of the platform.
- Installation of a Beckman GeXP instrument. Novel and cost-effective technology for the quantitation of gene expression.
- Complementarity with the McGill University and Génome Québec Innovation Centre for quantitative PCR services.
- Currently the platform has many academic and industrial clients from across Canada, the United States, Argentina and Europe.

Roscoe Klinck
Director

The Génome Québec and Montreal Heart Institute Pharmacogenomics Centre

In the past year, the Pharmacogenomics Centre upgraded its service offering by adding a clinical genotyping laboratory to its Good Laboratory Practices (GLP) capabilities. In addition to providing DNA extraction, quantification and bio-banking services, the Centre has successfully passed pharmaceutical clients' audits on its clinical genotyping of in-house produced pharmacogenomics panels.

This new capability was demonstrated through the transfer of an in-house developed blood antigen test into the clinic laboratory with the successful ongoing genotyping of approximately 1000 Héma-Québec donors a month.

The Pharmacogenomics Centre also benefited from a successful project in the PRIVAC competition, which will involve a pharmacogenomics substudy with VIA Pharmaceuticals and collaborations with Illumina, Agencourt and Invitrogen. This project also features the development of a Pharmacogenomics Health Information Management System that will enable the Centre to provide a data link from genomic information to clinically–relevant knowledge and delivery at the point of care.

The next year will prove to be a banner year for this emerging Centre. The operations will move into the newly-built Université de Montréal Beaulieu-Saucier Pharmacogenomics Centre on the Montreal Heart Institute campus. The state-of-the-art clinical laboratory in this building will allow for the acceleration in the transfer of in-house developed panels into clinical production, with projects expected with several high-profile customers (Pfizer, Astra Zeneca, etc.). As part of the Centre of Excellence in Personalized Medicine, the Pharmacogenomics Centre hopes to leverage this designation by building its clientele and GLP capabilities.

Andrea Smith
Director Business Development

APRIL

Publication of an article in *Nature* on a major scientific discovery that led to the identification of four genes that can explain up to 70% of the heredity of **type 2 diabetes**. The research was conducted by teams based mainly in Canada and France.

MAY

Rob Sladek

JUNE

The Mysterious Gnome Case… Participation of Génome Québec in the first Festival Eurêka in the Old Port of Montréal.

JULY

Génome Québec, in collaboration with the Centre de santé et de services sociaux (CSSS) in Chicoutimi, announces the creation of an international level **Biobank** in the Saguenay region.

AUGUST

From left to right: *M^e Richard Bergeron, Dr. Daniel Gaudet, Paul L'Archevêque, Raymond Bachand, the Honourable Jean-Pierre Blackburn, Réal Lallier, Dr. Claude Laberge and Dr. Richard Lemieux.*

SEPTEMBER

Unveiling of the results of the **PRIVAC** competition – $21.3 million in investments in three collaborative research projects in genomics will allow this strategic sector to contribute to major scientific advances.

OCTOBER

From left to right: *Pierre Arcand and Paul L'Archevêque*

NOVEMBER

End of the sequencing of eight epidemic and non-epidemic strains of the ***C. difficile*** **bacteria**, including five that were completely sequenced thanks to the ultra high-speed throughput 454 (Roche GS-FLX) sequencing technology at the McGill University and Génome Québec Innovation Centre. This accomplishment, which aims at developing vaccines and diagnostic tools, was carried out in collaboration with the FRSQ.

DECEMBER

Ken Dewar

JANUARY

Sherif Abou Elela

FEBRUARY

Publication in *Cancer Research* – Research scientists at the Génome Québec and Université de Sherbrooke RNomics Platform discover a new method to diagnose **ovarian cancer**. This discovery opens the way to a better evaluation of ovarian cancer treatments and the application of this diagnostic method to other types of cancer.

MARCH

Launch of the optimization phase for the **CARTaGENE** project in the Montréal, Montérégie and Estrie regions – An initiative that permits the setting up of one of the biggest databanks on health in Québec.

Launch of the **P3G/CARTaGENE Consortium** – Initiated and chaired by professor Bartha Maria Knoppers, P3G is an international consortium whose head office is located in Montréal. This consortium, which has 41 member countries, intends to be an interface for the harmonization of research tools in the genomics of populations. The inclusion of the CARTaGENE project in the consortium puts Québec and Canada on the frontline of research into the genomics of populations.

Bartha Maria Knoppers

Publication in *Nature Genetics* of the results of the discovery of a new marker associated with **colorectal cancer**. The expertise of the team at the McGill University and Génome Québec Innovation Centre and their state-of-the-art equipment contributed to this discovery.

Alexandre Montpetit

Publication in *Nature* of the results of **phase II of the HapMap**. This publication illustrates the dominating role that the HapMap project continues to have on our understanding of the human genetic variations and their links to disease.

Unveiling of the winners of the **"J'explique la génomique"** science communication competition organized in collaboration with the Université du Québec network.

From left to right: *Pascal Landry, Louis-Antoine Larose, Marie Glorieux, Daniel Coderre, Lyès Belhocine, Ignacio Romero, Michel Jébrak and Michel Leblanc.*

A major first in Québec – The development of a unique platform for automated genotyping by research scientists at Génome Québec and Héma-Québec allows the creation of **a register of 22,000 genotyped donors** to facilitate the screening of compatible blood at Héma-Québec.

Michael Phillips

Publication in *Nature Medicine* – **Breakthrough in the field of HIV**: Research scientists in Montréal identify a protein that protects against such deadly immunodeficient diseases as HIV/AIDS. This discovery is a major advance in our understanding, for the first time in humans, of the immunity response to the infection and will contribute to the development of a vaccine against HIV/AIDS.

Rafick-Pierre Sékaly

John MacKay
Jean Bousquet

Report on the sustainable development of forests in the magazine *L'actualité* entitled "**Arborea** trace l'atlas génétique d'une épinette améliorée" (Arborea tracks the genetic atlas of an improved spruce).

Arborea: A report on the science-oriented television program *Le Code Chastenay,* entitled "La science génomique pourrait venir en aide à l'industrie du bois d'œuvre" (genomics science could help the lumber industry).

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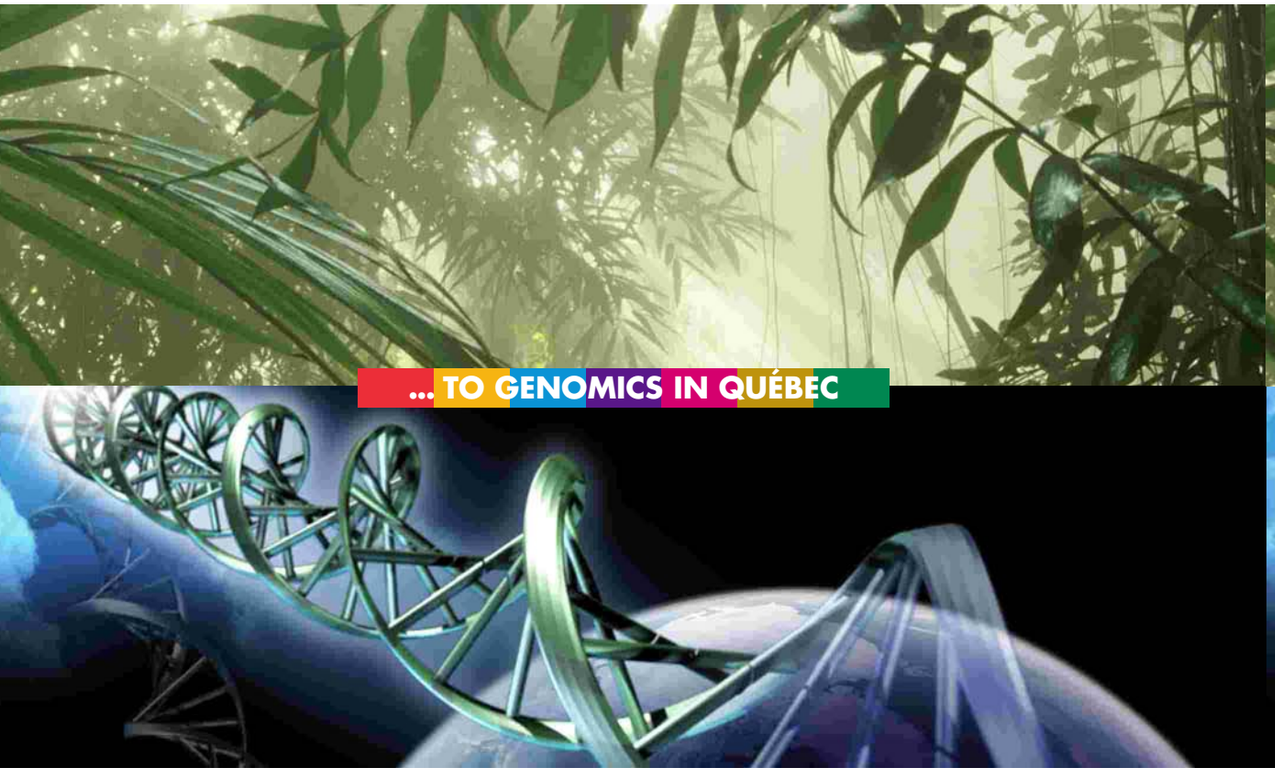

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2008 - 2011 BUSINESS PLAN

VISION

To put genomics at the heart of the scientific and socioeconomic development of Québec.

MISSION

Through partnerships with key players in life sciences on national and international levels, Génome Québec contributes to strengthening the competitiveness of the system for innovation in genomics in order to maximize the socioeconomic impact in Québec, by funding major genomics research initiatives and putting in place the tools necessary for scientific and strategic development in the field.

4 STRATEGIC GOALS

From Génome Québec...

GOAL 1

Reinforce the competitiveness of the genomics innovation system in Québec.

GOAL 2

Develop the high-priority strategic sectors in order to maximize wealth creation:

a. Diagnostics
b. Optimization of therapeutic treatment
c. Protection/remediation of forestry resources
d. Exploitation of natural resources.

GOAL 3

Mobilize public agents to implement an integrated strategy for developing genomics.

GOAL 4

Increase awareness and understanding of the contributions genomics makes.

... to Genomics in Québec

GenomeQuébec
The Future has Begun