



Montreal boasts quality of research

City continues to draw companies, cutting-edge research, funding...and attention

By Céline Clément

With the highest number of research centres in Canada, not to mention the most academic research funding in the country (since 1999), there's little wonder Montréal was recently chosen as the host city to kick off Canada's 2008 National Biotechnology Week (NBW).

"We're delighted to be launching the week-long event," says Carl Viel, president of Montréal In Vivo, adding the opening event will be complemented by several other local events over the week, not least of which will include Montreal's annual career fair. "Part of why Montreal garners so much attention—and draws companies to establish here—is because of the opportunities and resources it offers: a company can carry out every step in the creation of a new drug, from basic research to marketing."

Indeed, the region is home to a critical mass of world leaders in life sciences and health technologies, including Abbott, Charles River Laboratories, Johnson & Johnson, Novartis, Roche

Diagnostics, sanofi aventis, and Pfizer. Also, five global companies have their own research centres: AstraZeneca, Boehringer Ingelheim, Merck Frosst, GlaxoSmithKline and Wyeth.

Viel believes companies are attracted to greater Montréal because of its excellence in research, its access to resources, its talent pool and its fiscal advantages. Since 2000, the Montréal InVivo cluster seeks to establish conditions enabling the life sciences and health technologies industry to make a significant contribution to the economic and social vitality of Greater Montréal. Its mission is to identify levers that can accelerate the development of life sciences and health technologies in the region, to work as a network to position the cluster among world leaders in the sector, and to support and take positions on key government initiatives to maintain Montréal InVivo's leadership.

With 21 Contract Research Organisations (CRO), such as Algorithme Pharma, Anapharm, Cato Research, CIRION

BioPharma Research, ClinTrials BioResearch, Covance, ethica Clinical Research, MDS Pharma and Quintiles, the region is an international leader in this field, attracting many foreign biotech firms. Québec already has the fourth highest number of biotechnology companies in North America. Montréal is also renowned for its strong and growing medical devices sector, with 342 companies employing 10,250 persons.

Research infrastructure

Greater Montréal boasts a truly integrated life sciences and health technologies complex: The Biotech City (City of Biotechnology and Human Health of Metropolitan Montréal), in Laval, just north of Montréal. It is a science and high technology park developed to meet the needs of companies and institutions with a strong science and technology orientation, and to promote interdisciplinary dynamics in a campus-like environment.

The region has numerous specialized research centres and institutes. Recognized as one of the top-performing research centres in the country, the Montréal Clinical Research Institute (IRCM) currently houses 37 specialized research laboratories. Nearly 450 people work at the institute. Research focuses on six major themes: systems biology and medicinal chemistry, cancer, immunity and viral infections, cardiovascular and metabolic diseases, neurobiology and development, and clinical research and bioethics. It trains more than 150 young scientists every year.

Devoted to patient care, research, teaching, and the evaluation of new technologies in cardiology, the Montréal Heart Institute (MHI) has the reputation of providing quality care that rivals that of leading facilities around the world. Patients of the Institute can find, all under one roof, renowned specialists, expertise and cutting-edge technology focused on strategic areas.

Considered one of the leading international biotechnology centres, the Biotechnology Research Institute of Canada's National Research Council (NRC-BRI) promotes, assists and performs cutting-edge R&D in biochemical engineering and molecular-level biology closely linked to the needs of industries in the pharmaceutical and environmental sectors. In the field of life sciences, their expertise forms a continuum that includes drug discovery, bioprocess development and scale-up. An Industrial Partnership Facility was set-up by BRI to provide a unique work environment, where innovative biotech-driven companies can establish successful partnerships with the Institute's multidisciplinary teams and link up with the life sciences and health technologies cluster.

The INRS-Institut Armand-Frappier Research Centre, a component of the Institut national de la recherche scientifique (INRS), uses its extensive expertise in immunology and microbiology to determine the impact of infectious pathogens, cancer cells or organ transplants on the immune system. The credibility of the centre's doping control laboratory played a key role in the World Anti-Doping Agency's decision to establish its headquarters in Montréal. The INRS-Institut Armand-Frappier research centre is also one of the cornerstones in the development of the City of Biotechnology and Human Health of Metropolitan Montréal.

The McGill University and Genome Quebec Innovation Centre is a world-class research facility for genomics and proteomics. Initially focused on complex genetic disorders such as cardiac disease and asthma, the centre has become a networking site for various research initiatives. Large-scale projects include haplotyping of the human genome and defining the regulatory mechanisms of gene expression. Genomics research is supported by three essential platforms: genotyping, sequencing and functional genomics. The proteomics platform provides high quality protein analytical services. These platforms and the available facilities at the Innovation Centre will form the core of a fifth platform's content and development activities, pharmacogenomics, an extension of the Genome Quebec and University of Montréal Pharmacogenomics Centre at the Montréal Heart Institute.

The Montréal Neurological Institute and Hospital (MNI) is a unique academic medical centre dedicated to neuroscience. In 2007, the Canadian government named the MNI as one of seven Centres of Excellence in Commercialisation and Research in recognition of its innovative and outstanding work as an important partner in reaching Canada's goal of producing world-class science. With 11 research units closely integrated with clinical activities, the MNI is engaged in the full spectrum of contemporary neuroscience research and patient care. Among the MNI's internationally recognized strengths are the groups in epilepsy research and treatment, the McConnell Brain Imaging Centre, cognitive neuroscience, neuroimmunology, complex neural systems, and neuromuscular disease. Extensive molecular and cellular biology is also carried out in the Centre for Neuronal Survival and the Cell Biology of Excitable Tissues Group, while researchers in the Brain Tumour Research Centre work closely with colleagues in the Neurosurgical Research group. **EB**



Theratechnologies received the 2008 Genesis Innovation Award by BIOQuébec. Each year, the award recognizes a company with an innovative approach in the life sciences industry, which contributes to the notoriety of Quebec's biotechnology sector. Earlier this year, the company also received the National Biotechnology Company of the Year award by BIOTECCanada. Theratechnologies is most noted for its clinical trials of a drug to treat a serious metabolic disorder known as HIV-associated lipodystrophy.



Some Quebec-based health technology companies have recently enjoyed considerable success overseas. The Hôpitaux de Paris has chosen Opera operating room software developed by Laval-based **CHCA Computer Systems** for its surgical process management. And Montreal firm **Noveko** recently made inroads into China when China National Service Corporation, a large state-owned company, agreed to market Noveko's anti-microbial filtration technology.