



## **Ontario Building One of the World's Largest Brain Research Databases**

*Ontario Brain Institute collaboration helps scientist streamline brain research*

**NEWS**

April 5, 2012

The Ontario Brain Institute (OBI) is creating an extensive brain research database called the Brain-CODE (Centre for Ontario Data Exploration) that will allow researchers to work faster and more efficiently, bringing Ontario closer to the goal of personalized medicine for people with brain disorders.

This is an exciting opportunity for researchers to interact and share information to affect our brain health over time, as they investigate common risk factors for different brain diseases and disorders. Brain-CODE will bring together key information from many different neurological databases to help leading neuroscientists, here in Ontario and world-wide, to develop strategies for prevention, early diagnosis and treatment of brain-related illnesses.

The OBI is partnering with four organizations to create a single Brain-CODE database, which will enable researchers to make a vast array of comparisons across a range of brain-related diseases. Consolidating all the data in one platform will help researchers find patterns and trends they otherwise may never see when reviewing data housed in different organizations. This will minimize duplication in both research efforts and data storage systems. At the same time, it will assist in creating much larger patient populations for clinical trials, offering new perspectives that can lead to new discoveries.

What sets this database apart from others is that the OBI has tapped into existing infrastructure and expertise where possible, rather than incurring the expense of building a complex database from scratch. Each of the following four partner organizations brings complementary capabilities to the Brain-CODE platform:

- Heart and Stroke Foundation Centre for Stroke Recovery (CSR) with high-performance computing hardware and stat storage
- Rotman Research Institute (RRI) at Baycrest Hospital with neuroimaging infrastructure
- Applied Health Research Centre (AHRC) at the Li Ka-Shing Knowledge Institute of St. Michael's Hospital with clinical trials support
- Ontario Cancer Biomarker Network (OCBN), and the High Performance Computing Virtual Laboratory (HPCVL) at Queen's University with management of molecular data and the overall Brain-CODE platform

In 2010, the Government of Ontario created the Ontario Brain Institute as an independent, not-for-profit corporation. Its goal is to bring together the province's top brain researchers and business experts who can turn their discoveries into products and services.

## QUOTES

“Brain-CODE will reinforce Ontario’s reputation as one of the world’s leaders in brain research and diagnosis. By amalgamating data that was previously siloed within different organizations, scientists can gain important new insights that previously eluded them.”

— *Dr. Donald T. Stuss, President and Scientific Director, Ontario Brain Institute*

“Brain-CODE represents a pragmatic yet powerful approach to understanding the highly complex data being produced in contemporary studies of the brain. Data management capabilities have already been built from the ground up by various research teams to address their specific needs, and Brain-CODE pulls these powerful platforms together under one umbrella.”

— *Dr. Ken Evans, Executive Director of Brain-CODE and CEO of the Ontario Cancer Biomarker Network (OCBN)*

“HPCVL is pleased to be able to provide the secure environment and resources needed for this innovative research. Through Brain-CODE we look forward to enabling ground breaking research that holds so much promise of helping so many people.”

— *Dr. Ken Edgecombe, Head of the High Performance Computing Virtual Laboratory (HPCVL) at Queen’s University*

“The ability to seamlessly integrate data from a variety of sources such as clinical, genomics, and imaging databases is unprecedented in Ontario. Brain-CODE will provide researchers with the ability not only to quickly and efficiently access data in ways that will rapidly advance new discoveries to improve patient care, but it will provide a new resource for innovative collaborations. This will allow researchers in different disciplines to work together more closely, and facilitate the interaction among Ontario researchers and pharmaceutical companies.”

— *Dr. Muhammad Mamdani, Director for the Applied Health Research Centre (AHRC) at the Li Ka-Shing Knowledge Institute of St. Michael’s Hospital*

“In essence, with Brain-CODE, we are trying to create a ‘Google’ for neuroscience. The RRI’s experience with our own Stroke Patient Recovery Research Database will let us help the Ontario Brain Institute bring together the information in key neurological databases and make it more accessible to researchers. Better, faster access to this data will help them find ways to treat brain conditions more effectively.”

— *Dr. Stephen Strother, Senior Scientist and neuroinformatics expert at Rotman Research Institute (RRI) at Baycrest Hospital*

## QUICK FACTS

- In Ontario, the economic impact of brain diseases and disorders is estimated to be \$39 billion annually.
- The global market for central nervous system diagnostics and therapeutics is estimated at \$130 billion and is growing by 10 per cent per year.
- Canada is among the top five countries in the world in neuroscience research, and the province is a leader in Canada, with a number of world-recognized strengths.
- Ontario is home to more than 500 top neuroscientists.

## LEARN MORE

About the [Ontario Brain Institute](#).

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