

# Canada's Genomics Innovation Network



Genome Canada supports 10 “Nodes” that together form **Canada’s Genomics Innovation Network (GIN)**. Each Node provides researchers across Canada and internationally with access to leading-edge technologies used in genomics, metabolomics, proteomics and other related areas of research. They also assist researchers in the development of research proposals by providing advice on appropriate technologies, study design, data analysis, and bioinformatics that improve the quality of the research. As a Network, the Nodes collaborate and harness their collective power for the advancement of genomics research.

## 1 The Proteomics Centre

The Proteomics Centre is a central hub for proteomics research in Canada, providing a “one-stop” shop for an expansive range of high-quality proteomics services.

## 2 Sequencing Platform at the BC Cancer Agency Genome Sciences Centre

Since 2001, the sequencing platform at the Michael Smith Genome Sciences Centre at the BC Cancer Agency has been providing large-scale DNA sequencing data and supporting the rapid translation of research outcomes into healthcare and other applications.

## 3 The Metabolomics Innovation Centre

The Metabolomics Innovation Centre is Canada’s national metabolomics core facility and technology development centre, providing researchers with world-class resources for studying the thousands of small molecule metabolites that play key roles in biological pathways.

## 4 The Centre for Applied Genomics

The Centre for Applied Genomics provides genome sequencing and analysis, and other genomics services, to the Canadian and international research communities. Its development of new algorithms and methods for the analysis of whole genome sequence data underpin major, international research collaborations.

## 5 Toronto Centre for Phenogenomics

The Toronto Centre for Phenogenomics is the largest research facility in Canada designing, producing, and studying more than 250 mouse models each year with specific genetic mutations that allow researchers to learn more about the causes of disease and develop improved treatments.

## 6 Network Biology Collaborative Centre

The Network Biology Collaborative Centre provides services to Canadian scientists with a focus on functional understanding of the role of genes and gene products in human health and the impact of their alteration on the initiation and progression of disease.

## 7 Canadian Data Integration Centre

The Canadian Data Integration Centre offers bioinformatics services to researchers by providing the software and analytic systems for collecting, harmonizing, analyzing and electronically publishing data to assist researchers in understanding the causes, prevention and treatment of human diseases.

## 8 McGill University and Génome Québec Innovation Centre

The Innovation Centre provides complete DNA and RNA analysis services, using the latest available sequencing and other technologies. The Centre also maintains full bioinformatics support for all its sequencing activities, using web-based user interface software.

## 9 Centre for Advanced Proteomics Analyses

The Centre for Advanced Proteomic Analyses (CAPA) is a multi-disciplinary facility that provides state-of-the-art proteomics technology services to researchers in support of areas such as the development of immunotherapies to fight cancer and the discovery of cellular regulatory mechanisms based on protein interactions and post-translational modifications.

## 10 Canadian Centre for Computational Genomics

The Canadian Centre for Computational Genomics facilitates access to bioinformatics and computing resources for researchers in the life sciences, helping them realize the potential of genomic research.