



Canadian Epigenetics, Environment and Health Research Consortium (CEEHRC) Network: enabling and advancing Canadian epigenetics research

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Abstract

The Canadian Epigenetics, Environment and Health Research Consortium (CEEHRC) initiative represents a multi-stage funding commitment by the Canadian Institutes of Health Research (CIHR), with an overall aim to position Canada at the forefront of international efforts to translate new discoveries in the field of epigenetics into improved human health. The first phase of CEEHRC funding established the Epigenomics Mapping Centers and Epigenomics Data Coordination Centres at Canada's Michael Smith Genome Sciences Centre and the University of British Columbia (Vancouver) and McGill University (Montreal). The two sites currently focus on sequencing human reference epigenomes and developing new technologies/protocols.

The next phase of the CEEHRC initiative aims to establish a pan-Canadian network that links together existing CEEHRC components with Nodes of Genome Canada's Genomic Innovation Network (GIN) and other research labs to drive Canadian epigenomic research forward. The over-arching objectives of this consortium project are to promote human health through:

- Facilitating and expanding the coordination of epigenetics research activities across Canada
- Integration of current epigenomic expertise with the broader "omic" infrastructure and resources, including those developed through the GIN
- Promoting and enhancing international coordination of epigenetic research, while expanding Canadian leadership in these areas

To accomplish these objectives, a two-streamed approach has been taken. The Program aspects of the initiative facilitate networking and expanding of the currently supported CEEHRC research projects. Specific program aims include:

- Organizing an annual Canadian epigenomics meeting
- Website development and associated communications
- Promoting new clinical applications
- Outreach to stakeholder
- Distributing validated technologies through GIN centers and other channels
- Provide access to validated analysis pipelines
- Awarding international travel scholarships
- Sustaining IHEC leadership
- EpiGE3LS leadership and outreach

The Project aspects take advantage of the resources and expertise developed by the established CEEHRC National Platform and GIN centers. Project components include the following pilot projects:



- Enhancing Canadian leadership in translational and population epigenomics
- Enhancing Canadian leadership in personal epigenomics
- Incorporation of new technologies with CEEHRC epigenomic reference mapping

The CEEHRC Network is a collaborative effort with principal applicants and collaborators from the University of British Columbia, McGill University, Canada's Michael Smith Genome Sciences Centre and University of Toronto. This wide-spread network will ensure that Canada remains a world leader in epigenomics by giving Canadian researchers knowledge of, and access to, emerging epigenomic technologies and data that are essential to realize the promise of epigenomics research for future generations of Canadians.