

CANADIAN BRAIN RESEARCH STRATEGY

The CBRS is a pan-Canadian grassroots initiative uniting over 30 world-leading neuroscience and mental health institutes to advance Canada as a world leader in collaborative, transdisciplinary, open, and ethical brain research. The CRBS aims to bring together the diverse neuroscience ecosystem - brain research initiatives and projects, public and private funders, health charities, as well as communities and patient organizations across the country - in a uniquely collaborative effort that will push the frontiers of brain science, for the benefit of all Canadians.

Mission: To build on Canada's strengths and current investments in neuroscience to transform neurological and mental health for Canadians.

Vision: Innovative and collaborative brain science driving policy, social, health and economic advancement for Canada and the world.

Objective: The CBRS is not seeking to become a parallel funding stream, but rather to inspire decision makers and funders to further invest in programs that foster collaborative, transdisciplinary and open approaches to move Canada toward a big-science model for brain research.

Transformative Initiatives

The areas of research strength in Canada listed below have been gathered over multiple meetings in consultation with neuroscience and mental health leaders and key stakeholders across the country. They are representative of Canada's collaborative, transdisciplinary and open approach to brain research that allow us to be a leader and role model on the international stage. Building on these strategic initiatives have the potential to transform neuroscience and mental health research by bridging scales of complexity across the brain, behaviour, and society.

Open Neuroscience

There is growing recognition across the health sciences that sharing of scientific research and health care data can dramatically accelerate research progress. The importance and opportunities of an open science approach are particularly recognized in the neurosciences, where data are collected across multiple levels of analysis and the most interesting insights come from combined analyses of these multivariate data sets. Canada has already demonstrated leadership in the international open science movement.

Diversity & Team Science

Equity, diversity and inclusivity (EDI) best practices strengthen the validity and impact of scientific research and are integral to innovation and scientific excellence. A data-driven approach is needed to identify and implement best practices in EDI, at all levels of career progression, in research teams and in research design.

Neuroethics

Canadian neuroethicists provide global leadership in aligning ethical, social, legal and policy considerations with advances in neuroscience. Canada's neuroethics programs span neurodevelopmental disorders, neurodegenerative disease, traumatic brain injury, regenerative medicine, mental health, and addiction, and the intersections of these conditions with research, Canadian healthcare and policy, commercialization, and online health information.

Platform Science

Distributed national infrastructure is needed to break down geographic and institutional barriers to developing and disseminating new brain research tools, technologies and methods. Beyond providing access to shared tools, these platforms will be dynamic, collaborative hubs that connect technology developers, testers and users, to accelerate the development and open dissemination of new tools.

Transdisciplinary Training

Now more than ever, breakthroughs in neuroscience depend on the combined efforts of scientists from many fields. To make breakthrough discoveries, Canada needs to equip a new generation of scientists to do transdisciplinary neuroscience and mental health research.

Neuroscience-AI Interface

A few years ago, the human brain served as the inspiration for building the first synthetic neural networks, one of the types of artificial intelligence (AI). Now AI is generating new knowledge that is consolidating our understanding of how the brain works—knowledge that in turn is proving useful for improving AI. Bringing together AI and neuroscience promises to yield benefits for both fields.

Foundational Infrastructure

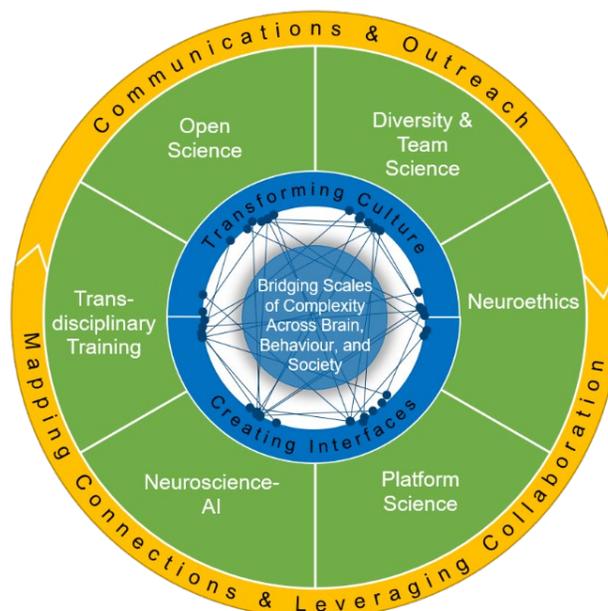
These infrastructural pieces allow us to build a case for investment in neuroscience and mental health research in Canada.

Communications & Outreach

Bi-directional dialogue with non-expert audiences, the community at large and decision makers to maximize dissemination of information and networking power across stakeholders.

Mapping: Connecting Initiatives & Leveraging Collaboration

Mapping of the neuroscience and mental health research ecosystem will illustrate collaboration, avoid duplication of efforts, and allow for better collaboration in the future.



CBRS ORGANIZATIONAL STRUCTURE AND STAKEHOLDER MAP

